

STATIC FROM HQ

Was great once again to see everyone in St. Louis (or whereever it was they really had us staying!) and for those who didn't make it, you missed a good time, but we hope to see you next year in Los Angeles! On other matters, those who did not buy them at the auction, can still get a taped copy of the special report about WFAT/WCPR that was on National Public Radio awhile back. Carl Mann says he'll be glad to send you a dub of the tape he has, if you will send him a cassette or reel and return postage. The address is c/o KCRG, Cedar Rapids, Iowa 52401...Don Erickson has more info on the 1980 WRTVH inside...For those of you looking in this issue for a convention report—keep looking in your mailbox instead for the next issue (Oct. 8), as the report and a report of the business meeting will be in the next issue. Some Convention photos are inside, so look at them and laugh, hi! If you were in St. Wherever and have some photos you want included in the next issues, please send them to HQ immediately and we'll credit you! Finally, our best wishes to Norm Maguire who we understand is on the road to recovery from an emergency eye operation that canceled his plans to be in St. Louis! Now, on with the show...

CPC TESTS

Members getting DX News on Sat. may be able to use the first two tests, which arrived too late for last issue. Special thanks to Bruce Portzer for sending us the three IRCA tests! Also, we are searching for a CPC Chairman, to take over December 1st. If interested, contact HQ! Now the tests.

- 9/24 KSRA-960 Salmon, Idaho 0300-0330 ELT, 1 kw non-directional. Prepaid Mon. calls to 208/756-2216. No other details avail. Arr: McMillan/IRCA
- 9/24 KPRK-1340 Livingston, Mont. 0600-0700 ELT. Will use 1000 cycle tone, Mon. IDs every 5-10 minutes. Prepaid calls to 406/222-2841. Reports to: Kent L. Colby, Box 691, Livingston 59047. Arr: McMillan/IRCA
- 10/1 WYFA-1580 Patchogue, N.Y. 0100-0300 with 10 kw. Test to include music, Mon. tones, voice IDs, Prepaid calls to 516/475-1580. Reports to: Gene Healy, CE, WYFA, 45 Pennsylvania Ave., Medford, NY 11763. Arr: Steve Ehrbar and Ian Meyers/IRCA
- 12/2 WVLC-1170 Orleans, Mass. 0400-0530 ELT, 1 kw D-3. Will be NRC and Sun. PoP test during WWVA's silent period. More details later. Arr: Ernie Cooper/NRC

LOOK INSIDE

We end the year with another big issue. Look for the same next time as we start a new season off right!!!

Los Angeles in 1980Look Out California-Here We Come
Domestic DX Digest3
International DX Digest6
More on the 1980 WRTVH
On the Trail of DavidCésar Objío
Domestic DX Achievements15
Terminator Transit Mechanix-Part III-Ron Schatz
Antennas for AM Broadcasting-Steve Kennedy22
Convention Photos (St. Louis Revealed)23
Afr Graph-Russ Edmunds30
World Waits for Sunspots (clip)31
Graveyard DX AchievementsThe Rules32
Football Station List-Bill Hardy
Musings of the Members36
Verie Signers46/47



Well, they said it couldn't be done, but John Clements did it. Did what, you ask? Managed to get enough support for a west coast convention, which is our way of saying that we'll have to pull up the anchor on Noah's Ark and sail 'er west to Los Angeles, which will be the site of the 1980 NRC convention! For those of you interested in statistics, the last time NRC was out west was 1971, when we (or rather you guys) met in West Sacramento, California. Before that, we were in Eugene, Oregon in 1967, which means that a western convention is a rare bird, and we hope that many of you will take this rare opportunity and begin planning now to be with us.

Since NRC's largest single state membership is in California, with something over 75 members, the potential is there for us to have not only the first western convention in almost a decade, but the largest convention the club has ever had!

Though it is a bit early to forecast all of what we'll be doing, according to John Clements bid, convention activities will include tours of NBC, a Disneyland DXpedition (somehow that seems appropriate, hi!), and a special guest appearance by KGIL disc jockey Sweet Dick Whitington! It should be a great time, and even though Los Angeles is somewhat further west than we've been in years, we hope that you'll start saving the pennies now and join us. Afterall, there are even some possibilities that DXers in an area could get a group charter plane, or something like that, so call your friends and start planning!

For those who were wondering, the other bid for the 1980 convention came from Russ Edmunds, who sent in his bid for the 1980 meeting on tape. We hope that Russ and the rest of the folks up east will join us in LA and also that they'll bid again sometime. By the way, the final vote tally was 32-22, so we'll see you in Los Angeles next Labour Day!

Before we go on totally to next year, though, we do owe a special thanks to the folks who hosted this year's St. Louis convention--Lou Buehler and his family, especially his wife and son Mike, who deserves a real special NRC thanks and will get it when and if he remembers to send those photos he took of the girl lifeguard at the hotel pool to HQ, hi!

Also, there are some photos elsewhere in this week's DX News from the convention, but we hope to have more, along with a complete convention report in the next issue--watch for them! The only tip we will give you early is that a great time was had by all, and as usual Don Erickson was taken to K Mart for a suitcase!

LOOK OUT CALIFORNIA - HERE WE COME !!!!!

DOMESTIC DX DIGEST

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

Had a nice visit from Chris Hansen and Neil Kazaross the afternoon of 9/8. A hearty welcome goes out to Craig Cook, Ed Mitkus and J. Hunter. Deadlines are Saturdays. Now let's get to the business at hand.....

SPECIAL

540	WGTO	FL	CYPRESS GARDENS - 9/2 thru 9/4 on after SS & AN w/day pattern due to hurricane. (EM-FL) (KAZ-RI) (ERS-NJ) (RA-MA)
660	KCRO	NE	OMAHA - 9/1 EX-KOWH, Christian Radio in Omaha, apparently no more Black programming. (DB-IA)
710	WGBS	FL	
780	UNID		9/4 1955-2145 w/SOUL mx, hurricane info, barely audible most of time w/QRM from WBBM/SS station, maybe NC or ZBVI? (BC-RI)
920	WIRD	NY	
1290	WCCC	CT	HARTFORD - 9/6 xlnt around 1400 w/WICE knocked out by Hurricane David. (KAZ-RI)
1370	KLBA	IA	
1540	WLIC	TN	ADAMSVILLE - 8/22 2045 very clear ID @ s/off, this is a new station now on the air. (SEM-TN)
1570	WYHI	FL	FERNANDINA - 9/3 2100 on after SS w/nx & emergency reports due to hurricane. (EM-FL)
1580	WGTW	FL	MT. DORA - 9/3 2100 also on late w/emergency broadcast mixing w/WSRF due to hurricane. (EM-FL)

SUNSET TO MIDNIGHT

SUNSE	T TO M	MIDNI	<u>GHT</u>
750	WPDX	MA	
730	WPIT	PA	reading by male DJ, good signal. (WPT-DC) PITTSBURGH - 8/15 good w/REL to 2015 s/off, new. (BC-RI)
100			8/23 2015 s/off noted u/CKAC, no SSB. (BR-NY) Out
790	WTAR	VA	of ordersorry gang! (RA-MA) NORFOLK - 9/7 1530-1535 heard in WEAN null w/nx. (KAZ-RI)
800	WCHA	PA	CHAMBERSBURG - 8/21 2005 fair u/CJBQ/CJAD w/nx,
000			ID/mx jx, s/off 2015 w/no SSB. (BR-NY)
860	WTEL	PA	PHILADELPHIA - 8/15 w/SS show followed by 2000 s/off mixing w/CJBC, new. (BC-RI)
920	WMEL	FL	MELBOURNE - 9/3 2030 very weak w/T40 mx & hurricane
920	Marram	1.1	update info. (EM-FL)
960	WHYL	PA	CARLISLE - 6/20 2046 s/off noted atop CKWS/WEAV/WELI. (BR-NY
970	WCSH	ME	PORTLAND - 8/28 2004 fair o/WWDJ/WANV w/VID, mx. (BR-NY)
1050		PA	WILLIAMSPORT - 6/15 2045 s/off u/WHN, no SSB. (BR-NY)
	WBRG	VA	LYNCHBURG - 6/15 2046 noted s/off right after WLYC. (BR)
1070	WKDR	NY	PLATTSBURGH - 7/20 2030 fair/good w/ID & ABC Nx program w/Frank Reynolds. (SM-MA)
1080	WVCG	FL	CORAL GABLES - 8/30 2000 heard w/BFL mx u/WTIC before
			pattern change. (KAZ-RI)
1110	WTBQ	NY	WARWICK - 8/21 2018 w/local spots, s/off @ 2030, fair w/WBT, new. (BC-RI)
1180	VOA	FL	MARATHON KEY - 8/30 1958 xlnt w/EE s/on w/IDs,
1100			"Yankee Doodle" etc. into SS program @ 2001. (KAZ-RI)
1220	CJSS	ON	CORNWALL - 8/22 2055 w/concert promo. phone 938-1220.
	MOMO	ME	then T40/Rock mx, good o/CKSM, new. (BC-RI)
1230	WBME	MIE	BELFAST - 9/1 1930 w/"Radio 1-2-3" ID, good signal.
			Another try later that night attempted w/no success,
			guess they s/off as authorized by their "specified
	WCMA	MS	hours" certification. (BC-ME) CORINTH - 8/27 1818 in good w/mx & ID. (SEM-TN)
	WMNB	MA	NORTH ADAMS - 6/30 2300 fair w/ID & wx. (BR-NY)
	WTIV	PA	TITUSVILLE - 7/1 0000 poor @ s/off w/SSB. (BR-NY)
	WCBT	NC	ROANOKE RAPIDS - 8/20 2019 spot for Labor Day Auto
	HODI		Race in Richmond, VA, good, then QSBed into GY slop. (WPT-DC
	MY DD	mi	TERMINAL OF THE SOUR THE STORE WITE DO

1270 WLBR PA LEBANON - 8/15 1301 good w/ID, nx. (WS-NJ)

)				
	1300	WEZQ	AL	WINFIELD - 8/28 1959 strong "5000 watts, WEZQ, Winfield"
	1320 1330	WNAE WFTP	PA FL	ID, into mx. (SEM-TN) WARREN - 6/15 good @ 2100 s/off w/FM promo. (BR-NY) FT. PIERCE - 9/3 2130 w/500W & hurricane nx, weak,
	1340	CJLS	NS	1st time heard. (EM-FL) YARMOUTH - 9/1 1905 w/ID after CBC nx & sx, xlnt,
	1500	WBFN	MS	QUITMAN - 8/22 2032 clear signal w/political spot
	1510	WITS	MA	then ID. (SEM-TN) BOSTON - 9/1 noted w/xlnt signal by day, but almost totally wiped out by Canada @ night. (BC-ME)
	1520	WJIC WTGR	NJ SC	SALEM - 8/16 1814 fair w/mx, ID. (WS-NJ) MYRTLE BEACH - 8/24 ID @ 1930, Pop mx, promos o/u
	1530	WOBR	NC	WKBW, my best SSS catch this summer! (BC-RI) WANCHESE - 9/3 1913 weak but steady w/ID, probably groundwave as I'm @ coastal QTH & WOBR gets to
	1550	LPRT	PQ	Cape Cod u/WDJZ. (KAZ-RI) 9/1 one of the LPRTs here in FF 1907-1910
	1570	WPGM	PA	w/fair/poor signal in fades, looped NE so I suspect one of CBGA relays as NS loops NE. (KAZ-RI) DANVILLE - 8/23 2010 s/off by OM w/ments. of 96.7 FM
	1580	WYFA	NY	then choral SSB, fair/poor, #21 on 1570. (WPT-DC) PATCHOGUE - 8/23 1938 in strong w/Suffolk Cty. wx. (BC-RI)
		WPGC	MD	morningSIDE - 8/23 2000 s/off w/FM Stereo 95 ments. no SSB, new. (BC-RI) (BC-ME)
	1590	Adda	CT	WATERBURY - 9/1 2200 w/"Q-Q Radio 16" ID u/WSMN, fair.
	MIDNI	GHT AT	THE	OASIS
	570	WKBN	ОН	YOUNGSTOWN - 8/30 0358 fair w/C&W mx, into local nx w/WIND splatter. (CC-WI)
	580	UNID		8/13 OC/TT from 0215-0310+ who wuzit? (BR-NY)
	590	WKZO	IL	KALAMAZOO - 8/30 0115 s/off noted w/NA, good signal. (CC-WI WOOD RIVER - 8/30 0359 w/MoR mx then PSA, good signal
		WOW	NE	w/Cuban way under. (CC-WI) OMAHA - very good 8/30 @ 0440 w/Rock & ID. (CC-WI) 8/24 0125 strong w/mx, ID. (SEM-TN)
	610	WTVN	ОН	COLUMBUS - 8/30 ending nx @ 0405 then ID/jx, then Disco mx, good signal. (CC-WI)
		MIOD	FL	MIAMI - 9/3 0030 way atop w/hurricane info. (KAZ-RI)
	710	UNID		8/27 0207-0307 fair u/WOR w/TT/OC, no ID. (R-NY)
	730	CHIR	ON	LEAMINGTON - 8/30 0121 fair/poor in fades w/ID, local wx, then Rock mx. (CC-WI)
	740	CBL	ON	TORONTO - 8/27 0104-0110 clear to s/off w/detailed wx rpts, program notes & ID. (SEM-TN)
	790	WTAR	VA	NORFOLK - 8/30 0445 fair/good w/slight WBBM splash w/jx, MoR mx. (CC-WI)
	850	WEAT	FL	WEST PALM BEACH - 9/3 noted w/phone in show because of hurricane David 0125 w/HJKC & WKIX. (KAZ-RI)
	860	UNID	PQ	8/27 0435 good w/TT til 0545, no IDs. (BR-NY)
	920	WYLD	LA	LEVIS - 8/16 0040 FFC w/good signal, WJAR off. (BC-RI) NEW ORLEANS - 8/30 0030 in good w/mx, then ID. (SEM-TN)
	960	WSBT	IN	SOUTH BEND - 8/10 0115 good W/contest promo. TC ID (CC-WI
	990	WZZD	PA	PHILADELPHIA - 7/29 0032 fair w/R&B mx, new. (SM-MA)
	1050	RNIN	TX	PHILADELPHIA - 7/29 0032 fair w/R&B mx, new. (SM-MA) WICHITA FALLS - 8/30 0106 strong w/TC/ID/mx. (SEM-TN) NEW YORK - 9/3 noted off in passing 0332 leaving OC
	1060	WNOE	LA	NEW ORLEANS - 8/30 0140 heard very well in KYW null
		CJRP	PQ	w/theatre promo, jx ID, Rock mx. (CC-WI) QUEBEC - 7/29 0045 fair mixing w/KYW. (SM-MA)
	1070	CHOK	ON	SARNIA - 7/29 xlnt w/mx. ID @ 0100. (SM-MA)
	1240	KAKE	KS AR	WICHITA - 8/27 0130 very good w/ID, mx. (SEM-TN) ARKADELPHIA - 8/27 0805 very good w/end of ARN Nx, TC/ID. (SEM-TN)
		WMPA	MS	ABERDEEN - 8/27 0842 w/ID, spot for Western Auto. (SEM-TN)
	1260	WNDR WHBF	NY	SYRACUSE - 7/30 0212 fair/good w/mx, ID. (SM-MA) ROCK ISLAND - 8/25 0207-0215 fair/good w/C&W mx
	1280	WGBF	IN	"Country Sunshine Radio WHBP" IDs. (JH-GA) EVANSVILLE - 8/30 0145 w/mx & "Tri-State Wx, good
				signal even the slight QRM from UNID SS station. (CC-WI) That UNID SS just may have been WADO New York City, Craig. (RA-MA)
	1290	WHIO	ОН	DAYTON - 8/25 0208-0210 fair/poor w/TD then gone (IN CA)
	1310	WCAM WTTL	NJ KY	MADISONVILLE - 8/31 0301 a surprise, in fair w/nx.
	1320	WILS	MI	ID. (WS-NJ) LANSING - 8/30 ID @ 0200, CBS Nx, good signal. (CC-WI)

1330	WFBC WASA	SC	GREENVILLE - 9/1 0200 good w/ID for #2 SC in two days. (WS-NJ) HAVRE DE GRACE - 6/22 0005-0029 poor on ET/TT/IDs. (BR-NY)
1340	WALL	NY	MIDDLETOWN - 8/13 0515 fair w/complete ID. (BR-NY)
-5.0	WXOR		FLORENCE - 8/25 faded in @ 0243 w/ID after long period of monitoring. (JH-GA)
1360	WSAI	ОН	CINCINNATI - 8/30 0205 end of Mutual Nx, ID, C&W mx, fair w/fading @ times. (CC-WI)
1380	WBNX	NY	NEW YORK - 7/23 0214 noted fair w/ID. (SM-MA)
1390	WCSC	SC	CHARLESTON - 8/31 0149 good w/many IDs, mx, no sign of WFBL. (WS-NJ)
1430	WEAM	VA 	ARLINGTON - 8/31 0200 w/ID & nx, no WFBL. (WS-NJ)
1450	WFTR	VA	no IDs. (BR-NY) FRONT ROYAL - 6/20 0506 all alone w/ID briefly. (BR-NY)
1460	WSNO WBRN	MI	BARRE - 8/5 0255 heard briefly w/ID ments. in promo. (KAZ-RI) BIG RAPIDS - 8/30 0610 fair/poor in strong KSO
1470	WRGA	GA	QRM w/Farm Nx, ID. (CC-WI) ROME - 8/29 0751 good w/spot, ID & mx. (SEM-TN)
1480	WABB	AL	MOBILE - 8/30 0717 in good w/mx, ID. (SEM-TN)
1490	KBIX	OK	MUSKOGEE - 8/19 0059 s/off very clear w/IDs. (SEM-TN)
	WJNL	PA	JOHNSTOWN - 8/31 0231 good w/mx, ID in WBCB null. (WS-NJ)
1500	WVSM	AL	RAINSVILLE - 8/24 0759 strong w/bank spot, ID. (SEM-TN) DETROIT - 8/30 0600 fair w/local spots, nx @ top of
	UNID		hr, then faded into mess. (CC-WI) 8/27 0411 weak but alone w/talk/some EZL,
1530	WMBT	PA	maybe WDEE? (BR-NY) SHENANDOAH - 7/2 0053* xint on ET w/WCKY off, VIDs, TT/Pop mx. (BR-NY)
1560	KDDA	AR	DUMAS - 8/25 0729 good w/mx/ID. (SEM-TN)
108	WPAD	KY	PADUCAH - 8/30 0545 good @ s/on despite lightning/static crashes. (CC-WI)
1570	CKLM	PQ	MONTREAL - 8/30 0505 w/FF anner playing US Rock mx, several jx, good signal w/faint SS station way under.(CC) 8/25 0301-0307 good in FF w/male anner, IDs in FF, CFOR QRM. (JH-GA)
1580	WYFA	NY	PATCHOGUE - 8/13 0158-0205* good on ET/TT/ID: "Where Your Friends Are, WYFA Patchogue." (BR-NY)
1590	WETT	MD	OCEAN CITY - 8/25 0257-0259 very poor w/500W w/ments. of Oc an City, and gave address. (JH-GA) 7/30 0254
	WCBG	PA	fair w/ID, but QSBing. (SM-MA) CHAMBERSBURG - 7/30 0257 poor but audible mixing with WETT. (SM-MA)
T go	my bo	ottle	of "white-out" so I guess I'm ready to take on
anoth	ner sea	ason	editing this column, hit Reports have been of
exce.	llent o	quali	ty. Please use ELT when reporting times in each of veries fell out of the sky recentlyWZZD-990
and I	nuch wa	anted	WKGX-1080 NC. See you all next time. 73
			Ray
THE I	BIG 13		the state of the s
nn T		D.	and Cominguilla TA Managagania BCA TW

DB-IA BC-RI BC-ME	Doug Beard, Springville, IA Transoceanic, RCA, LW Bruce Conti, West West Warwick, RI Heathkit SW-717, SM2 Camden, ME Heathkit GR-151B Portable
CC-WI JH-GA KAZ-RI SEM-TN	Craig Cook, Milwaukee, WI Rcvr? Antenna? J. Hunter, Rossville, GA TRF, 150° LW Neil Kazaross, Narragansett, RI HQ-180A, Sanserino Loop Sidney E. Marshall, Millington, TN RF-2200, SM2
SM-MA EM-FL BR-NY WS-NJ	Steven Miller, Boston, MA Ed Mitkus, Tampa, FL Bill Regan, Syracuse, NY Walt Sharp, Cinnaminson, NJ TRF, ICF-5900 S40-B, LW TRF, Loop
ERS-NJ WPT-DC	Elliot R. Straus, West Orange, NJ R-390A w/brand new set of tubes William P. Townshend, Washington, & dial lights DC TRF
RA-MA	Raymond J. Johnson, Jr "Well now you can call me Ray, or you can call me J, or you can call me sonny, or you can call me junior"

BEFORE YOU MOVE

Send Address to HQ P.O. Box 32125 Louisville, KY 40232

) INTERNATIONAL DX DIGEST

CHUCK HUTTON
P. O. BOX 2087
DECATUR, GA 30030
(404) 633-1198
BEFORE 2300 ELT

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

535	GRENADA Radio Free Grenada very poor to poor with disco mx at
540	0107 on 8/17. (Stover) NEXICO XEWA San Luis Potosi good with "La Hora Racional" pgm
540	9/2 at 0420. (Maxwell) VENEZUELA YVOV Villa del Rosario fair w/two Perija mentions 0715
548	8/30. (Kazaross) ALGERIA Oran still on old channel, some AA violin mx heard-mostly just a het on powerhouse CFNB 550, 0441 8/17. 531 noted as just a carrier in storm QRN.(Connelly)
550	CUBA Q'AN Pinar del Rio atop the jumble w/SS talk about Nicaragua //600. 0456 8/16. (Connelly)
555	ST. KITTS ZIZ Basseterre fair at 0014 with EE nx 9/5. (Stover) Noted w/strong carrier 0445 8/17. (Connelly)
F7F	1000 miles
575 580	COSTA RICA TIRN San Jose loud w/cl march mx 0458 8/16. (Connelly) PUERTO RICO WKAQ San Juan well o/WTAG w/SS nx, ID "WKAQ Radio Reloj", then ads 0501 8/16. (Connelly)
580	VENEZUELA Maracaibo YMJ here w/lively mx and Maracaibo mentions
	u/WTAG 0320 9/4. This was soon lost to WKAQ which looped more easterly and had usual nx. (Kazaross)
590	CUBA CMRV San Cerman loud o/WEEI w/man in SS; CMRV about 40 Hz off channel, yielding a bone rattling growl 0503 8/16. (Connelly)
600	COLOMBIA HJHJ Barranquilla noted w/R. Libertad o/another LA w/ Cuba nulled; the Cuban, by the way, has found its way back on
	to 600, 0505 8/16. (Connelly)
610	TRINIDAD VPL6 Port of Spain fair w/accented EE talk 0010 8/31. (Kazaross)
612	MOROCCO Sebaa-Aioun poor-fair w/chanting and big het on WIOD 0125 8/30. 621 het in too. (Kazaross) Poor w/AA chanting, chopped
620	up by Nantucket Loran-C harmonic "ticks", 0453 8/17. (Connelly) TAIWAN Voice of Asia heard to closing in Chinase at 1900. (Also on 5980 closing at same time. Is heard on 5980 with EE 1030-1110 when CC-EE language lessons start.) (Crawford)
620	UNID SS heard u/WVNJ in null of WPRO slop 0115 9/1. (Kazaross)
630	CUBA CHAO Santa Clara steamrolling WPRO w/usual SS political rambling 0509 8/16. (Connelly)
640	CUBA/UNID C:Q in w/usual talk o/unid LA which played a lot of ragtime piano mx and had occasional SS announcements. The unid
	may have been Guatemala as it looped in the same direction as
640	Cuba (thus ruling out YV and HJ); reception at 0515 8/16. (Con) GUADELUPE Arnouville xint on tape in FF way o/Surinam 0013 on
650	DOWINICAN REPUBLIC HIAT Santo Domingo good w/disco version of
	"Light My Fire" w/lots of "boop and beep" electronic sounds, then SS talk and R. Universal ID 0520 8/16. (Connelly)
666	DOTTION Links poor is also 0/56 9/17 (or the link)
666	PORTUGAL Lisboa poor in slop 0456 8/17. (Connelly)
670	CUBA CMRP San Pedro de Cacocum bombing in w/lush Muzak-jazz, then woman in SS //690 0523 8/16. (Connelly)
670	VENEZUELA YVLL Caracas heard w/Rumbos de Vevezuela ID, well be- hind the Cuban 0457 8/17. (Connelly)
680	PUERTO RICO WAPA San Juan (tentative) w/LA mx way u/WRKO looping PR 0610 9/3. (Kazaross)
690	CUBA CMBC La Habana loud/totally dominant w/light jazz and SS talk 7/670 0523 8/16. (Connelly)
	Continued next page

MORE ON THE 1980 WRTVH

The \$11 pre-publication price for the WRTVH 1980 will expire on October 20. After that date, the price will be \$13. A number of copies of the 1979 edition of WRTVH are still available at \$14 postpaid. Any copies that remain after Nov. 1, 1979, will be closed out at \$9 each postpaid, first come, first served. All orders should contain a SASE for confirmation after shipment has been made and should be mailed to: Don Erickson, 6059 Essex St., Riverside, 2A 92504. Delivery of the 1980 edition, to be air freighted from the London printers and re-shipped UPS from Riverside, CA, is expected between March and Xay 1980; all profits will be turned over to the Handicapped Aid Program.

VENEZUELA YWMH Maracaibo fair/fadey but totally dominant w/R. Popular ID 0050 8/17. (Connelly) ST. VINCENT Kingstown presumed w/OC 0524 8/16 and 0503 8/17. (Con) 705 CUBA CMGN Colon totally atop w/SS vocal mx during short skip LA 720 opening; WGN audible barely in null of Cuba along with Portugal 719 het 0533 8/16. (Connelly) SURINAM SRS noted at 0125 in language, calypso type mx 9/6. 725 (Stover) Paramaraibo very good w/female vocal version of the Beatles' hit "Yesterday" 0053 8/17. (Connelly) COLOMBIA HJCU Bogota noted w/R. Melodia ID and Bogota mention then SS ballad briefly surfacing o/a graveyard of at least 3 other SS LA's plus FF CKAC 0513 8/17. (Connelly) MEXICO XEX Mexico DF strong w/"La Hora Nacional" 0420 9/2. (Maxwell) COLO BIA/UNID Valledupar HJNS surfaced o/ratpack w/R. Guatapuri 740 and Todelar net ID's, after that another stn w/ID sounding like R. Nicaragua came to to the fore briefly 0520 8/17. (Connelly) PUERTO RICO WIAC San Juan suspected here per loop w/SS talk 740 on tape from 0755-0820 8/30. GT-4 TC's. Possibly this was AN for hurricane warnings. MoR SS mx w/occasional US song. (Kaz) VENEZUELA YVKS Caracas good w/R. Caracas ID, then Beatles oldie o/second LA and WSB 0540 8/16. Loud w/Donna Summer segued into another disco song, overdubbed Caracas ID given 0524 8/17. (Con) Booming in on 8/17 with SS news and ads for a bank and a local disco at 0102. (Stover) COLO:BIA HJAJ Barranquilla clearly dominant w/ad for firm in Bogota, then LA disco mx 0541 8/16. (Connelly) UNID TA (probably Spain) carrier w/SAH about equal in strength to TLW 775, 0530 8/17. (Connelly) 774 BRITISH VIRGIN ISLANDS Roadtown ZBVl fair w/Cuba nulled; Wolf-780 man Jack style announcer heard at 0039 8/17. (Connelly) CUBA CAJN Camaguey killing WBRM, "Guantanamera" instrumental 780 followed by woman in SS 0544 8116. (Connelly) PORTUGAL Porto poor w/YL in PP in WEAN null 2327 9/6. (Kazaross) 782 790 COLOWBIA/VENEZUELA two SS'ers, HJDC Medellin and YVKC Caracas were here somewhat seperable by the loop, 0455-0502 9/3. (Kaz) METHERLANDS ANTILLES PJB loud/alone on channel w/man in SS 0108 3/17. (Connelly) 800 PANAMA (tentative) Chitre HO?? poor-fair w/LA mx 0605-0620 9/1. Terrible noise prevented ID but loop said Panama or HJ. (Kazaross) BAHAMAS Freeport ZNS3 was very good M: 9/3 w/WGY off. R. Ba-810 hamas ID 0516. Catch this one early if you live in the NE 'cause MGY usually tests at 0530. (Kazaross) MOROCCO Rabat very poor w/AA mx just barely making it thru het and WBAP 0602 8/28. This may s/on at 0600 today as was not noticed before 0600 when 864 was in. (Kazaross) Poor to fair in ORN w/AA chants, Andorra occasionally audible w/FF talk, 0535 8/17. (Connelly) CUBA CADT fair //670 Progresso 0140-0141 8/30. (Kazaross)
VENEZUELA YVSH Upata fair and separable by loop from HJED w/"en Upata" mention 0305 and "Amigos en Upata" 0308 9/1. (Kazaross) COSTA RICA TIOS San Jose fair w/disco 0552 8/16. (Connelly) 825 828 MOROCCO Oujda crushing WNYC w/het, mx heard at 2320. FF at 2331. Lousy modulation on this one. Other usual lowband TA's were in but only 765 was good enough for audio, 9/6. (Kazaross) HAITI 4VEH Cap Haitien nicely atop channel at 0025 in presumed 840 Creole (sounded like FF but wasn't) on 9/5. (Stover) VENEZUELA YV.Y Barquisimeto must be the SS here w/Venezuela mention 0230 and 0251 9/1 w/HJBI partly nulled. No sign of Haiti 840 due to David. (Kazaross) PERU OAXAA Lima w/audio (finally) and mx garbled by WHDH OC 0440-0530 9/3. A weak 855 het was also noticed. Country #73. 854 (Lazaross) There is (or was until recently) another LA on 854. Without an ID I would never count this-CH RAZIL Rio de Janeiro to good peaks, dominating the channel: 860 US disco mx at 0555, several Mundial ID's by man in PP at 0600, more disco at 0602 8/16. (Connelly) ZYD68 poor w/Mundial ID in C.JY null. 0558 8/28. This was better in early July. (Kazaross) WHED looping Panama/Colombia w/lively LA mx 0605 9/3 w/Cuba, 860 in severe QRN. Any ideas? (Razaross) Yes, Panama and Colombia-CH ARGENTINA LRAI Suenos Airos 4 (Razaross) (Razaross) (Razaross) ARGINTINA LRAI Buenos Aires-I thought I heard a R. Macional ID 5/31 here during what appeared to be nx at 0034. By 0040 this 870 was pretty well buried by YV.P and HJLA (both ID'ed), but I stayed on the frequency and at 0100 after a static crash I

	(870, continued) caught four of what are supposedly the six LRA
	pips w/the last pip prolonged to clinch this catch. Country 69 logged thanks to MEOA being knocked off by Eurricane David.
	Luch checking this and 1070 finally paid off. (Kazaross)
٤70	CUBA C.HE Sancti Spiritus noted //690 Progresso fair w/NWL 0610 5/28. (Razaross)
885	10 TSERRAT ZJB Plymouth fair in some WCBS slop w/Caribbean mx
590	0035 9/1. (Kazaross)
0,0	COLONBIA HJCE Bogota good w/LV de Bogota ID, then romantic LA mx. Atop another LA and MLS 0607 8/16. (Connelly)
890	DOMINICAN REPUBLIC HIJP Santo Domingo good w/RTVD ID o/YVLW 0031
895	HAITI 4VB Gonaives fair w/Island mx 0033 8/31. (Kazaross)
900	SARBADOS Bridgetown good w/reggae mx and accented ON annor 0004-0008 when SS QRM showed up, 8/31. (Kazaross)
900	COLOUBLA HJEY Call suspected here mentioning Colombia way u/ CRL at 0408 9/4. (Razaross)
900	VEREZUELA YVAD Maracaibo fair o/mess w/ID 0028 8/31. (Kazaross)
910	VENEZUELA YVRQ Maiquetia o/u domestics; brassy LA mx noted at 0605 8/16. (Connelly)
914	SURINAM Nieuw Nickerie good w/very strange mx 2340 8/30. (Kaz)
930	VENEZUELA YVLI Maracay suspected here w/lively LA mx 0157 8/31 u/WWH and WPAT. (Mazaross)
940	CUBA Reloj outlet w/usual pgm o/HJGB and a mishmash of other LA's-low rumble present 0608 8/16. (Connelly)
940	MEXICO MEQ Nexico DF fair w/"La Hora" pgm 0420 9/2. (Maxwell)
940	PUERTO RICO WIPR San Juan suspected here poor-fair w/OR: w/cl
	mx 0820-0850 8/30. Noted again in mess next evening. Maybe
950	this was AN for hurricane. (Kazaross) MEXICO unid La Hora pgm fading in and out. Any ideas on the
	stns? 0420 9/2. (Maxwell) XEYJ easily the most likely-CH
960	BERMUDA Hamilton fair to good in WELI null w/disco and T40 mxx,
	taped "Zed-F-B Music Radio Bermuda" ID at 2334 9/1 and logged for country #72. In mess w/YVSR and u/HJHN w/ID 0352 9/4. (Kazaross)
960	VENEZUELA YVSR San Cristobal fair w/San Cristobal, Venezuela
	mention 0404 shortly after HJHN s/off. This must be AN as I
963	believe all of the new Mundial net is. (Kazaross) TUNISIA Tunis w/good carrier and AA mx at poor level in slop
	at 0022 9/6. Newly acquired Q-multiplier helped a bit. (Kazaross)
970	UNID SS noticed in growl way u/two domestics 0026 8/31. I had no luck w/this one during the next days of AU cx. (Kazaross)
975	ECUADOR HCAW2 Guayaquil (pentative) weaker than 995 but along same bearing w/LA mx in slop 0205 9/4. (Kazaross)
980	MEXICO XETU R. Tampico heard to s/off at 0600 with a fair signal.
	S/off annot had slogan, call and frequency given. Very little
980	splash from the NZ'er on 980. Heard 7/9. (Crawford) NEXICO unid "La Hora" pgm on top of channel, no ID hrd. 0420
	on 9/2. (Maxwell)
995	ECUADOR HCEW2 Guayaquil noted in 3 kHz bandpass at 0202 9/4 during great HJ-HC cxx. (Kazaross)
1000	U.S. VIRGIN ISLANDS WWWI St. Thomas in w/fair signal. I taped a spot for "The Top of the Reef" at 2318 9/1. (That's a famous
	night club in St. Thomas) Bfl cl mx was heard earlier Lost to
	YVM and CFLP at 2320. Thanks to early September s/off of
1010	locals this frequency was open. Country #71. (Kazaross) COLOMBIA/VENEZUELA at 0129 9/4 a SS w/very lively mx was noticed
1010	here u/WINS GW (?? CH). This was not //4770 SW so not YV)F.
	At 0132 HJOP Barranquilla //960 faded up. I checked at 0355
	and heard lively LA mx way u/a stronger WINS. At 0359 the YV anthem was heard so this must be YVPC Cagua unless somebody else
	is here. (Kawaross)
1020	VENEZUELA YVRS La Ascuncion in the clear w/equal strength KDKA
1030	nulled; Mundial Margarita ID, LA mx good at 0444 b/16. (Connelly) MEXICO XEOR Mexico DF w/"La Hora", strong and steady 0420 9/2.
	(Maxwell)
1035	PORTUGAL Porto Alto fair w/s/on taped 0556-0601 9/3 w/WBZ off. At 0600 4 pips then pause then i pip covered by Radiodifusao
1040	Portuguesa ID. (Kazaross)
1040	COLONBIA HJAI Barranquilla atop jumble w/soft mx then CARACOL net ID 0436 8/16. (Conelly)
1050	MEXICO XEG Monterrey heard w/hymns, XEG ID, and EE preaching
	strong Signal 0420 9/2, but audio is distorted and fugue
1050	
1030	UNID SS in WHN fade 0007 9/1. Any ideas-Caracas?? (Kazaross)

COLOGBIA HJFJ Manizales heard during fair opening during KYW 1060 fade 0056 9/6 w/Transmisoras Caldes ID. (Kazaross) CUBA CMKG Baracoa poor-fair (tentative) w/a speech 0102-0104 1060 9/4. (Kazaross) AUSTRALIA 4TI Thursday Island (between Queensland and Papua New 1062 Guinea) heard at 1300 with news. Has a s/off time of 1400 and power of 2 kw. Not long on the air. Verified in a week from ABC in Queensland for first report they received. Is mixed here with HLKQ South Korea. (Crawford) Would this possibly count as a new country using the ARRL definitions? CH FRENCH GUYANA Cayenne noticed poor to fair w/oM in FF at 2313½ and by 2315 I had the tape running and a YL anner was speaking 1070 in definite FF (I took FF in junior high). Faded u/an increasingly strong low het at 2318 9/3. Back again poorly from 2319-2321. This was in again though weak u/domestic QRM w/QM and YL just barely recognizable as FF at 2313 9/5. Country #74. (Kaz) 1070 PUERTO RICO WAIA Arecibo fair w/"Radio Arecibo" ID and PR mention looping a bit west of French Guyana 2327-2328 9/3. (Kaz) 1070 VENEZUELA YVMA Maracaibo good w/R. Mundial Zulia ID o/u CBA OC and HJAG 1071 het 0426 8/16. (Connelly) COLOMBIA HJAG Barranquilla loud w/ID as R. Atlantico, then 1071 festive SS mx; whipping fierce het on 1070 0425 8/16. (Connelly) 1090 COLOMBIA HJBC Cucuta x1nt w/"Esta es La Voz de Cucuta, 1090 KHZ, Cucuta, Colombia, CARACOL" 0252 9/4 o/2 SS'es. (Kazaross) 1090 VENEZUELA YVSZ Caracas good w/screaming "Exitos Mil Noventa" ID w/weak WBAL nulled 0053 8/30. (Kazaross) 1100 BRAZIL Sao Paulo ZYK64 fair to good w/definite PP looping east of Caribbean. 2326-2329 fade, then briefly at 2333 then mostly u/the HJ from 2336-2337. At 2340 the HJ took over the channel, 9/2. This was in again w/fair sigs 2320 9/5. Sao Paulo was mentioned at 23212 soon before the HJ faded in. This is a wide open frequency at sunset as 9/5 was only semi-auroral. WRTH lists this as having different powers but I deel this is 50 kw since Globo is much stronger. (Kazaross) 50 kw is correct-CH COLOMBIA (HJCN or HJAT) R. Reloj ID good 0413 8/16. (Connelly) 1100 1100 COLOMBIA HJAT Barranquilla good w/R. Reloj IB followed by a Barranquilla mention and "la hora official" 0418 8/28. (Kaz) 1100 COLO:BIA unid LA mx and ID's as R. Reloj. Mentioned Colombia on a newscast after WWWE s/off, 0420 9/2. (Maxwell) MEXICO XERED "La Hora" pgm after WBT s/off 0420 9/2. (Maxwell) 1110 VENEZUELA YVQT Carupano good w/many ID's 2345 8/31. Rumbos 1110 chimes also heard. (Kazaross) Likely the Venezuelan here w/ Venezuelan NA at s/off heard u/WBT 0358 8/16. (Connelly) VENEZUELA YVZX Maturin suspected looping eastern Venezuela 1120 like YVOR 1180. I thought I caught "Estacion Felize" at 2355 8/31. At 0010 recheck this was somewhat separable from stronger YVMF by loop. HICN was off because of David. (Kazaross) 1130 COLOMBIA Em. Rio-Mar, Barranquilla at 0630 7/1 with Todelar and Rio-Mar ID's. KWKH faded over at times but for most part of twenty minutes it was in the clear. (Crawford) HJAC u/WNEW w/SS talk, several mentions of Barranquilla 0539 8/17. (Con) 1150 VENEZUELA YWW Punto Fijo u/WHUE bfl mx 2358 8/31. This is sometimes heard in AU cx. Dominica was not heard, probably because of storm damage. (Kazaross) I was listening to the ham hurricane net on 14329 as David passed over Dominica. The prime minister said all radio was off the air-no towers survived-CH 1160 COLOTBIA HJBL Barranquilla dominant o/bad growl; SS ballad. Aeropuerto ID, then uptempo LA mx 0343 8/16. (Connelly) 1165 ANTIGUA St. John's CRL good w/EE preaching 0127 8/17. (Connelly) At 0040 with usual EE religious pgm, very good, a recheck at 0150 found it booming in, 9/5. (Stover) 1180 CUBA Isla de Pinos good w/WHA: nulled; usual Reloj pgm (SS talk o/clock ticks, TC and tone once a minute), 0403 8/16. (Connelly) VELEZUELA Maturin YVOR fair w/several "Maturin" SID's by YL 2342 8/31 before YVNJ fade-in. There was no trace of HIBE or 1180 any other DR stations on this and several following nights due to the hurricane. (Kazaross) 1190 CUBA Yaguajuay C:?? briefly //1180 w/slow LA mx 0247 8/30. (Kaz) CAY:A: ISLANDS Georgetown poor to fair w/woman in EE o/feeble 1205 low pitched het (about 200 Hz), chewed up by WCAU slop 0321 6/16. (Connelly) COLOMBIA L.V. de Monteria is back here as of 9/5 (CH) **1091

1220	BRAZIL ZYJ458 Rio de Janeiro xlnt w/PP taped 0015-0020 9/3. Klnt again 2344 w/two O: anners for a soccer match. Many "Clobo ID's and Brazil mention on tape 2358-2401 9/5. While this was in I noticed a SAH (about 100 per minute) on 1280 looping the
	same direction. I suspect this was from Tupi but I couldn't
	pull any audio (PP) out from under three domestics. Does this
	have an unfavorable DA like 1040? (Kazaross) No idea-CH
1220	CUBA CIGY Perico fair o/GY'ish LA mess w/ID after slow mxx
	0044 8/30 followed by Q: and YL anners. Typically sedate
	Cuban type SS. (Kazaross)
1220	MEXICO XEB Mexico DF. ID as Raddo Cuatro and SS talk strong.
	like a local 0420 9/2 (Caxwell)
1240.4	VENEZUELA (tentative) YSCF Cariputo, this is listed here. I
	VENEZUELA (tentative) YSCF Cariputo, this is listed here. I heard SS through the low het 0020 9/2. (Kazaross)
1250	COLOMBIA HJOK Barranquilla suspected here w/3 Todelar chimes
	(not Rumbos ding-dong) 0058 9/3. (Kazaross)
1250	COLOMBIA HJCA Bogota fair u/CBGA w/R. Capital en Bogota ID
	0402½ 9/3. (Kazaross)
1250	VENEZUELA YVPZ Puerto Ordaz suspected here w/WMBR. The typical
	Rumbos ding-dong chimes were heard 0350-0355 here and on 1180.
	I believe they use this ding-dong between nx items. (Kazaross)
1260	VENEZUELA Caracas YVRN: fair in growl w/screaming R. Impacto ID
	during WEZE fade in semi-AU cx 0052 8/30. I strongly suspect
	this is everybody's unid noted last winter between 1260.5 and
	1260.8. Format bearing are the same (very lively mx) and no-
	thing is noted several hundred Hertz high anymore. (Kazaross)
1265	ST. KITTS R. Paradise loud w/fire and brimstone preacher 0254
	8716. (Connelly)
1270	COLONBIA HJAQ weak w/R. Miramar ID 0315 w/G:JG 8/31. Was better
	0030 9/1 w/another non-Cuban SS underneath. (Lazaross)
1280	COLOMBIA HJKN Bogota at 0123 9/1 I heard "en Bogota, la hora,
	la hora" (the SS in New York was nulled). Somebody w/siren 3
	times was heard underneath. I taped some "Musical" ID's here
	on 9/2 at 0006. Is this siren a Colombian network ID? (Kaz)
	I don't know. I heard this siren thing on a couple of freqs
	last year (including 1400) but no one has been able to tell
	me who it belongs to-CH
1280	VENEZUELA YVOF Trujillo likely the one here w/a sporting event
	(probably BB) like many other YV's at the time, 0122 9/6. This
	was lost to EJKN who ID'ed at 0124. Cx were not nearly as AU
	as the previous days. The strongest domestics on 1280 were
	looped. (Kazaross)
1300	COLOMBIA/VENEZUELA YVNS Maracaibo battling w/HJOG Cartagena in
	null of weak domestic w/radio theater 0338-0348 8/31. YVNS was
	nx, HJOG was lively mx and ID "LV de las Antilles". (Kazaross)
1305	SENEGAL poor-fair w/African mx and FF talk 0635-0640 in some
	slop. (Kazaross)
1310	COLO BIA HJAK noted weakly u/domestics w/lively annot and
	Barranquilla mention 0148 9/2. ID as "LV de la Patria". (Kaz)
1310	COLOMBIA HJJZ Bogota fading o/HJAK w/Colombia mention and R.
	Vision ID 0225 9/4 during AU cx and the best cx to Colombia
* 0 * 5	ever mentioned. (Nazaross)
1315	DOMINICAN REPUBLIC HIAV Bani noted in passing fair w/SS mx in
* 200	3 kHz bandpass 0244 8/31. (kazaross)
1320	UNID SS in growl 0353 8/31, frequency is no good until semi- local WARA s/off at 0300. (Mazaross) UNID lively SS noted 2356 9/2. Any ideas? (Mazaross) LV de las
1330	Tocal ward syou at 0500 (Lazaross)
1330	U.ID lively 55 noted 2500 7/2. Any ideas? (kazaross) LV de las
1332	Fuerzas Armadas, DR and R. Vigia, Colombia likely-CH ITALY Rome poor w/YL in II and then mx 0424 9/7. (Razaross)
1332	I'm I have and corrier fairly strong but I contain (Lazaross)
1332	U:ID het and carrier fairly strong but I couldn't get audio 0410-0415 9/6. Likely Rome. (Kazaross)
1225	0410-0415 970. Likely Roller (Razaluss)
1335	CCLUINIA Cartagena (or whoever is here-hi) fair-good w/little splash 0042-0044 9/3. (Kazaross)
1341	UNID het here 0430 8/28. (Nazaross)
1341	MAURITATIA Rouakchott W/strange mx in slop w/big het 0632 8/31.
1349	Still detectable at 0653. (Kazaross)
1350	VENEZUELA YVTG noticed here often and taped w/slow LA mostly
1550	vocal mx and R. Vision ID's. There's another SS under sometimes
	ID 0058 9/3. (Razaross) How did you know this is Cumerebo and
	not one of the other R. Visions on the freq-CH
1360	VENEZUELA YVII Maracaibo fair in WDRC null w/"Catumbo" mention
1300	0037 9/4. SS NoR mx. I suspect this is the one here w/lively

m: 0403 8/31. I think they are Al. (Lazaross)

```
HOWDURAS HRTR Danli noticed fair w/SS mx 0053 9/2. (Kazaross)
         COLO BIA LJBO Barranquilla heard w/R. Piloto ID u/NFEA fade in
1370
        auroral cx. Time was 02382 w/lively annor. (Kazaross)
        ST. PIERRE ET MIQUELON good w/violin mx 0040-0045 9/6 then it
1375
         faded some, shortly after 0145 recheck a strong OC was noted;
         this was cut at 0201. I feel the OC was from a stronger xmtr
         they were testing. I will ask this stn what's up. (Kazaross)
         They are scheduled for a more powerful xmtr soon-CH
         FRANCE Lille poor-fair at s/on 0500 8/28 w/"Ici Radio France"
1377
         by YL and into mx by CM. Soon faded. (Kazaross) Fair w/OC 0341
         8/17. (Connelly)
         VENEZUELA YVJD Puerto Cabello poor w/"Ondas del Mar" ID heard
1380
         above growl. The AU zapped WBNX, 0256 9/2. (Kazaross)
         HAITI 4VARH Port-de-Paix in w/mx in slop 0134 9/2. (Kazaross)
1385
         VENEZUELA YVZA poor w/ID u/WPLM bfl mx 2354 9/1. (Kazaross)
1390
         :EXICO XETO Radiorama heard 0745 with mx pgm and many Radiorama
1400
         ID's. Some days it is mixed with Universal in Colombia. (Crawford)
        GUINEA Conakry here (not 1403); potent w/instrumental guitar mx reminiscent of Segovia 0248 8/16. (Connelly) In briefly at
1404
        0045 at fair level with vernacular talks by Q' and YL, over-
         taken by QRM at 0050 8/18. (Stover) Apparently off the air
         9/11-not heard at all from 0330-0625. France was left but the
         signal was absolutely lousy. (Hutton)
         DOMINICAN REPUBLIC HIAE Santo Domingo (tentative) per loop w/
1410
         slow LA ballad type mx (mostly vocal) like often hrd on HICN
         1120. This was way u/WPOP's Radio Theater 0215-0235 8/30. (Kaz)
         UNID SS w/lively mx 0052 9/4. (Kazaross)
1410
         COLO:BIA HJAP Cartagena (tentative) I think this is the SS here
1420
         0625 8/31 u/WBS:. Sirems were heard. YVZO is not AN? (Kazaross)
1420
         VENEZUELA YVZO Maracaibo fair in growl in WBSM null w/full ID
         2348 9/1. (Kazaross)
        UNID but Thule, Greenland suspected; carrier and bits of talk resembling a US BB game, very poor in storm QRN bursts 0242 8/16. Lost to noise by 0243-carrier only discernable w/BFO.
1425
        Looped N-S axis w/MWl loop. (Connelly)
         CUBA Moron CM?? suspected here 0040 9/2 w/not lively type
1430
         Cuban anner. (Kazaross) Heard with LV de Cuba and Radio Habana
         ID's 0730 on 7/17...Good signal. (Crawford)
         UNID SS noted way u/domestics 0130 9/6. (Kazaross)
UNID SS noticed way u/WFTQ in growl 0105 9/2. (Kazaross)
1440
         UNID carrier detected very weakly here 0207. 100 watt Haitian
1455
         is the only thing listed here. A beverage would have done the
         job. This shows how good the cx was. 9/2. (Kazaross)
         COLOMBIA Radio Narino heard 0515 with fair signal and some
1460
         splash from the NZ'er on 1458. Big RCN ID at 0545 and some
         Marino ID's at times. Heard 7/1. (Crawford)
         UNID SS here 0225 8/31 and a few more times during next AU days.
1460
1461.7
         DOMINICAN REPUBLIC HIAR San Cristobal is supposed to be the one
         here w/raucous het and SS mx and talk thru slop 0210-0215 8/31.
         Frequency is approximate as measured w/vernier. (Kazaross)
1467
         MONACO Monte Carlo fair w/OC and occasional TT'ing prior to
         normal programming 0418 8/17. (Connelly)
         UNID SS noticed in growl 0208 8/31. (Kazaross)
1470
1493
         UNID TA carrier noted 0549 9/10. I hung around but it didn't. (CH)
         Oops, Morocco and Ivory Coast are both still here-CH
         UNID SS audio thru loud growl w/WTOP 0120 9/2, I think this may
1500
         be the YV. It loops YV or HI and the growl disappears about
         0400. Any ideas here? (Kazaross) R. Tigre, Colombia most often
         heard-CH
        ANGUILLA The Valley taped w/an unbelievably loud signal 0057-0102 9/2 when it faded into some slop. (Kazaross)
1505
         UNID carrier and het on 1510 here 0435 8/28. Is Belgium on w/400
         kw yet? (Kazaross) Check recent IDXD's, I mentioned somewhere
         the operational date for Belgium-CH
         PUERTO RICO MRAI San Juan good from 2340-2350 9/3. No ID but
1520
         this looped same as other PR's. (Kazaross)
         SAUDI ARABIA really good het against MIBW and decent audio de-
1521
         tectable on peaks, first noticed 0025 8/13, obviously on late
         sked for Ramadan. Was definitely able to parallel piercing
         flute mx at 0052 against SW 15060 which is listed in NASWA as
         a Domestic Service relay. However the audio between 1521 and
```

15060 while definitely established as identical, varied from

1566

KHLO

(1521, continued) from 1 to 2 seconds out of sync with 1521 ahead, so probably playing tapes at each site (much too big a delay for satellite link). At 0208 the SW carrier was off but 1521 remains as het against WLBW. Feak reception of KW occured around 0130 and no other easterly signals were heard with just 1539 and 1593 BFO able. Hoped for Sharjah on 1575 but not even a BFO, id on at all. (Foxworth) I remember from somewhere that Sharjah 1575 was supposed to go off the air earlier this year-CH

1521 UNID and a really interesting one. Wicked het on 1520 first noticed around 0520 9/11; pops pierced through at times. Way too late for the Czech or Arab. I wonder who in the world this was.... (Eutton)

1525 COSTA RICA TIJJC Turrialba pesumed at poor to fair level w/man and woman in SS, slopped by WKEW 0235 8/16. (Connelly) Suspected here w/weak audio in WHEW slop looping CA 0307 9/2. (Kazaross)
1530 PUERTO RICO LUPPE Bitudo very good w/several LDFs and Poerty. The

PUERTO RICO WUPR Utuado very good w/several ID's and Popeye The Sailor Kan jingle 0010-0015 9/4. ID sounds like Rrad-yoo-BURR; during AU and fantastic cx. (Kazaross)

1548 UNID noted w/soft orchestral mx thru CBE slop 0358-0359 when WPTR cranked up its modulation after its 0355 nx, thus wiping it out before 0400 ID 8/30. (Kazaross)

1554 GABON Libreville noted 0425 9/1 w/carrier and garbled audio heard a few minutes later in heavy splash. 1493, 1305, 1349 were in later. Country #70. (Kazaross) I'd be very hesitant to ever log any station on the basis of its supposed presence on a frequency plus garbled audio-CH

1555 CANNAN ISLANDS George Town xlnt w/EE religious discussion pgm about the Bahai Faith; an address in Illinois was given for further information 0227 8/16. (Connelly)

1557 MALTA Cyclops fair w/clear Deutsche Welle IS's alternating w/mushy audio annets 0358-then time tone at 0400 followed by man in AA on 8/17. (Connelly) Raising the roof and keeping neighbors awake with tremendous signal 0411 9/11 during AA pgm. (Hutton)

TUNISIA Sfaxx poor w/apparent female chanting in heavy CKIM Slop 0450 8/16. (Connelly) The leading TA on the band 9/11 from 0415 tune-in until faded out at LSR. Last year they were not signing on until 0430. This has been the loudest TA here since coming on the air; not as reliable as Guinea however. (CH)

1575 ITALY very nice with light mx pgm 9/11 around 0445 and in well until LSR fade. Spain conspicuous by its abscence. (CH)
1577.6 CUBA Cadena Agramonte outlet apparently the stn here poor to

fair w/festive LA mx 0231 8/16. (Connelly) Yep it's them-CH
PORTUGAL the best of the rest after Europe had mostly gaded
out 0613 9/11. Not a bad signal at all with man in non-atop
PP talk, destroying 1580 with the het. (CH)

1584 UNID carrier detected weakly 0505. I heard the Spanish IS here at 0600 last winter so this is probably not from Spain. Nuch better cx will be required to get audio out of this, 8/28.

(Kazaross)

A FILLION UNIDS noted here 9/11 from 0502 until I finally gave up and out at 0633. Shorlly after 0500 three carriers were noted-2 right on the channel and one measured on 1584.034 and drifting around some. One of the 2 on channel faded up several times in the next half hour producing audio which I think tapes will confirm is AA. Naturally no good AA prospects listed. Both of the other 2 stns seemed to be SS-one certainly was and prohably the other also but chasing the carriers with a penultiplier for exalted carrier reception created some confusion. At 0600 these three were joined by a hatful of others, with the resultant mess being penetrated by a couple of "LV de.."

ID's which will probably yield absolutely nothing, plus a set of six identical pips. Oh well.... (CE)

1593 WEST GERLATY Langenberg occasionally fair/good strength w/man in GG but badly carbled by severe auroral flutter-fading 0409 0/17. (Connelly)

1602 <u>UNID</u> het and carrier 0400 9/6. Usual highbanders in but none were even fair. (Kazaross)

-Out of Order Section

1160 COLO:BIA HJAZ Monteria xlnt w/"LV de Sinu" ID 0510 8/28. (Raz)

1562 PORTUGAL downg fair-poor 9/11 at 0604 w/pan in PF. Modulation not up to par. Poor RDP is having their troubles....(Cii)

HAWAII 8-50

l

ON THE TRAIL OF DAVID

César Objio

While some of you were at the St. Louis Convention, we in the Dominican Republic had to withstand the tremendous force of Hurricane David. We worked till Thursday noon in order to be prepared for the announced arrival of David Friday morning. Dominican stations were already part of a network under the direction of Civil Defense in order to keep the people informed of the situation. I preferred to listen to Puerto Rico's stations as they were ahead of us in the hurricane path. During Thursday afternoon WKJB-710-Mayaguez was the only P.R. station heard on the air as they were operating with their own generators. All electricity was cut off in P.R. in order to avoid more casualties. 930-Montserrat, was not heard in the afternoon. During the evening WKJB-710 was QRNed by Caracas station R. Capital, on the same frequency. Santo Domingo stations started to s/off and on Thursday evening only RTVD-620, R. Guarachita-690, R. Clarin-860 and R. Continental-890 were on the air. Then I heard R. Guayana-1590 on the air in the evening with news about the damage of the hurricane in their area. I kept tuned to them for the postiton of the hurricane. I went to bed around midnight.

Early Friday morning I tuned again to WKJB-710 for more news. New P.R. station on the air was WPAB-550-Ponce with news and announcing also to be on the air with their own generators as still there was no electricity in the island. Electricity was cut off at about noon and only RTVD-620 and R. Clarin-860 were on the air, at this time the hurricane was announced to be about only 100 kms south of Santo Domingo. When the strongest force of Hurricane David was hitting the capital from 3 to 5 p.m. in the afternoon RTVD-620 antenna tower could not withstand the mighty force of gales at 240 kms an hour and fell down Their transmitter went off and only R. Clarin-860 remained on the air. At this time I think Hurrican David was entering the island some 40 kms S.W. of Santo Domingo. I lost track of the hurricane as P.R. stations did not give any position as there was no immediate danger for their island and Dominican stations did not mention it. Violent gusts of wind hit the city for some two hours, meanwhile R. Clarin kept repeating the same warnings all the time. The darkest night fell over the city as there was no electric light anywhere and a curfew was decreed by the President to avoid disorders. P.R. stations 550 and 710 were still on the air, then Venezuelan and Colombian stations were heard easily as no other local stations were on the air. As there was no electricity, candles, flashlights and gas lanterns were used instead. Rain was still falling on the roof so I went to bed early this time.

Saturday morning brought the clear light of disaster. Trees, telephone and electric wires as well as big transformers were all over the streets and roofs and the city was half-destroyed. The Voice of America on short waves provided the first news of the hurricane in the morning program and the position was out in the sea but on the northern side of the island. So the hurricane had crossed the Dominican Republic right through. Still 550-WPAB-Once, 710-WKJB-Mavaguez and new 580-WKAQ-San Juan were heard. R. Clarin-860 was still the only Santo Domingo station on the air; later on RTVD-620 was heard but weaker than usual as they seemed to be operating with a transmitter of lower power and a different antenna. R. Santa María-590-La Vega and Radiolandia-1160-Santiago were new stations heard. Saturday afternoon added in Santo Domingo Onda Musical-1150, all of them with their own generators. AM stations with their antenna towers destroyed were 790-La Voz del Trópico, 830-HIJB both AM and FM, 1180-R. Mil, 690-R. Guarachita, 650-R. Universal, 1220-HIN. Other FM station antenna towers destroyed were R. HIGO, R. Cima and HILX as well as some others. Also TV towers destroyed were Rahintel-Ch. 7, Telesistema Ch. 11 Teleinde Ch. 13, Colorvisión Ch. 9, the highest TV antenna in Santo Domingo as it was situated on top of a 12-story building named "La Torre" (The Tower). Rahintel Ch. 7 studio-transmitter link tower situated at their studios also came down. The only antenna tower still standing after the hurricane was the newest, Tele Antillas Ch. 2. They were to be on the air September 3, then September 10, now we don't know when. On tests two weeks before the hurricane they had the best signal I had ever watched on TV in Santo Domingo. The above is only part of the damages known, not everything is described here. But the radio brought the news of still a new hurricane in the Eastern Carribean: Frederick.

During the following week everybodu started to clean up the streets, picking up treesm branches, wires, etc. Electricity was still off in about 90% of the capital and almost 100% of the rest of the country. In the meantime "Civi Defense Network" was kept in operation with only RTVD-620, still weak and R. Clarin-860. Then something happened that aroused public indignation. After the RTVD transmitter was put back on the air during the hurricane, Telecomunicaciones ordered R. Clarin off the air because they had failed to pay some dues for the relays installed at Alto Bandera high on the mountains. President

In a recent Musing, I commented that WQII has instituted a policy of not answering the majority of DX reports. Of course, this remark generated a number of responses from NRC members, questioning my logic and sanity. In the process of analyzing the subject, I decided that a number of points generally ignored by DXers should be brought into open discussion as part of the current questioning of the rate of verification returns.

With few exceptions, the radio stations in the Western Hemisphere are private, commercial enterprises. Their goal is to sell advertising and make a profit. In the United States, radio stations in all except the largest markets are small businesses. The average local McDonalds has a greater sales volume than the average local radio station. And a significantly high percentage of all U.S. radio stations are unprofitable or very marginally viable.

In a recent issue of Business Week, an analysis was made of the cost of the business letter (and a verification is a business letter). Counting supplies, filing, secretarial and management time, and corresponding overhead, the average letter costs in excess of \$10 to send.

Many of the less successful stations simply do not have the manpower to answer reception reports. Others, in a better financial environment, may correctly assume that the results of answering reports do not justify the related expenses. In either case, the end result is a station which does not verify.

Further, in an age where radio is a highly local medium (as opposed to the pre-television era when radio was a simultaneous, national medium), the value of a DX report to a station lies exclusively in its novelty. Now, I can get pretty wrapped up in a discussion of WQII's signal over the western section of Bayamón. But I (and this is still a DXer speaking) can not become excited over some guy's report from Norway. The report is of no practical value.

These are some of the facts. My own feeling is that the age of the Medium Wave verification is ending. The thrill of a distant reception is not shared by DXer and station alike. The "tape verification" is a good alternative, if proof of reception is required or desired. The basic fact is that the verification in written form from the station will become an increasingly hard item to secure in the future.

DAVID F. GLEASON

Continued from preceeding page

Guzmán ordered the station to be back on the air, payment or not, as they were only helping and advising the citizens to take care with proper instructions. As time passed every started to complain and ask the Civil Defense Network to end as the emergency was already over, but the government wouldn't hear the requests and complaints have increased. As of this date, Sept. 9, the Network is still on with stations RTVD-620, HIZ-730, R. Clarín-860 and La Voz de las Fuerzas Armadas-980. News is scarce and you have to read papers in order to be informed. Only messages from persons to relatives are aired and some obituaries are mentioned as well as government decrees and most of the time orchestra music is heard.

Note from HQ: We are very pleased to learn that César is safe. The death and destruction caused by Hurricane David was great in the Dominican Republic. We wish the Dominican people well as they struggle to overcome adversity.

DOMESTIC DX ACHIEVEMENTS

DON ERICKSON 6059 ESSEX STREET RIVERSIDE, CALIF. 92504 (714) 687-5910

DOMESTIC DX ACHIEVEMENTS for August 1, 1979

SETD GENERAL AREA 70 KARL FORTH, vic Chicago, Ill. 171 48+ 10 1088 48+ 10 62 RUSSELL J. EDMENDS, nc N.J. 1461 47+ 9 763 41+ 8 260 42+ 6 62 RUSSELL J. EDMENDS, nc N.J. 1461 47+ 9 763 41+ 8 260 42+ 6 63 RUSSELL J. EDMENDS, nc N.J. 1461 47+ 9 763 41+ 8 260 42+ 6 64 RUSSELL J. EDMENDS, nc N.J. 150 ERNIS PIMPER, nc Nebr & nr S.L.C., Utah 1417 47+ 7 740 45+ 6 7 7 7 651 40 5 400 45+ 6 65 BERNIS PIMPER, nr Salt Lake City, Utah 160 ERNIS PIMPER, nr Salt Lake City, Utah 161 47+ 7 760 46+ 65+ 60 5 400 45+ 6 66 BERNIS PIMPER, nr Salt Lake City, Utah 161 47+ 7 760 46+ 65+ 60 5 400 45+ 6 67 RICHARD M. KERNEALLY, Cincinnati, Ohio 162 BILL WHITACRE, Lansing, Michigan 163 BILL WHITACRE, Lansing, Michigan 175 TROBERLER, nr Salt Lake City, Utah 175 HOBERT FOXWORTH, vic New York City 175 TROBERT FOXWORTH, vic New York City 176 ROBERT FOXWORTH, vic New York City 177 ROGER A. MORBY, vic Albany, N.Y. 178 SALL SMERINGEN, se Kansas 178 LANS HARRY J. HAYES, nc Pa. 178 FALL SMERINGEN, se Kansas 178 LANS HARRY J. HAYES, nc Pa. 179 FARRY J. HAYES, nc Pa. 170 HARRY J. HAYES, nc Pa. 170 HARRY J. HAYES, nc Pa. 171 SERTI HANNVAN, vic San Diego, Calif. 172 BERT HANNVAN, vic San Diego, Calif. 173 PAUL R. MOUNT, nc N.J. 174 BOB MALKER, nr Louisville, Kentucky 175 FALL SMERHSWICK, nr Louisville, Kentucky 176 BOB CHARCHWSKI, nr San Francisco, Calif. 177 SHARRY J. HAYES, nc Pa. 178 HAYES, Nc Pa. 179 LINC TRURK, Louisville, Kentucky 179 HAYES ANDERSON, Louisville, Kentucky 170 HAYES ANDERSON, Louisville, Kentucky 171 HAYES ANDE		DONESTIC DX ROTTEVE			agast				1.052		
70 MARL FORCH, vic Chicago, Ill. 710 ABL FORCH, vic Chicago, Ill. 711 ABL FORCH, vic State City, Utah 73 MANNE D. MIRPHY, Louisville, Kentucky 74 MANNE D. MIRPHY, Louisville, Kentucky 75 MANNE D. MIRPHY, Louisville, Kentucky 75 MANNE D. MIRPHY, Louisville, Kentucky 76 BEDENIS PIMPER, nr Salt Lake City, Utah 76 BEDENIS PIMPER, nr Salt Lake City, Utah 76 BEDENIS PIMPER, nr Salt Lake City, Utah 76 BILL WHITACER, Lansing, Michigan 76 MARLHARD W. KENNEALLY, Cincinnati, Ohio 77 BE MICHARD W. KENNEALLY, Cincinnati, Ohio 78 BILL WHITACER, Lansing, Michigan 78 MANNE D. WENNEALLY, Cincinnati, Ohio 79 BILL WHITACER, Lansing, Michigan 79 CAD LANN, Cedar Rapids, Iowa 79 TO LOU BURHER, nr Salt Lake City, Utah 79 TO CAD LANN, Cedar Rapids, Iowa 79 TO RABRRY J. MANNES, Nr. 70 HARRY J. HAYES, ne Pa. 71 BORD WALKER, nr Louisville, Kentucky 71 BORTT HANAVAN, vic San Diego, Calif. 72 BORTT HANAVAN, vic San Diego, Calif. 73 PAUL SHERKER, nr Louisville, Kentucky 73 BORTT HANAVAN, VIC SAN DIEGO, Calif. 74 BOR WALKER, nr Louisville, Kentucky 75 BOR KARCHEVEKY, nr San Francisco, Calif. 75 HORD WALKER, Louisville, Kentucky 76 BOR KARCHEVEKY, Nr San Francisco, Calif. 76 HARRY AND HAYER, Nr LOUISVILLE, Kentucky 77 MIRE ANDERSON, Louisville, Kentucky 78 HARRY AND HAYER, NR LOUISVILLE, Kentucky 79 MIRE ANDERSON, Louisville, Kentucky 70 MIRE ANDERSON, Louisville, Kentucky 70 MIRE ANDERSON, Louisville, Kentucky 71 MIRE ANDERSON, Louisville, Kentucky 71 MIRE ANDERSON, Louisville, Kentucky 72 MIRE ANDERSON, Louisville, Kentucky 73 MIRE ANDERSON, Louisville, Kentucky 74 MIRE ANDERSON, Louisville, Kentucky 75 LOUIS MARKS, Colubbus, Chio 76 LOUIS MARKS, Colubbus, Chio 77 LOUIS MARKS, Colubbus, Chio 78 MARKS STRICKERT, Chicago, Ill. 78 TEPHER PONDER, Fort Wo			HEARD		70.00	*TAPED*		D.M.			D17
GR BUSSELL J. EDMINDS, nc N.J. 7 NAVNE D. MIRTEN, LOUISVILLE, Kentucky 107 NAVNE D. MIRTEN, LOUISVILLE, Kentucky 107 NAVNE D. MIRTEN, LOUISVILLE, Kentucky 108 DEBNIS PIRMER, nr Salt Lake City, Utah 107 September, nr Salt Lake City, Utah 107 September, nr Salt Lake City, Utah 107 Navne D. Mirten, nr Salt Lake City, Utah 107 September, nr Salt Louis, Missouri 108 September, nr Salt Louis, Missouri 109 September, nr Salt Louis, Missouri 109 September, nr Salt Louis, Missouri 100 September, nr Salt Louis, Missouri 101 September, nr Salt Louis, Missouri 102 September, nr Salt Louis, Missouri 102 September, nr Salt Louis, Missouri 103 September, nr Salt Louis, Missouri 103 September, nr Salt Louis, Missouri 104 September, nr Salt Louis, Missouri 105 September, Nr Salt Lake City, Salt September, Nr Salt September,					-						
10 10 10 10 10 10 10 10											6
39 DEINTS PIMPER, ne Nahr & nr S.L.C., Utah 1914 47											0
50 DENNIS FIMEER, nr Sail Lake City, Utah 1375 45 7 651 40 5 400 45 67 8 RICHARD W. KERNELLY Cincinnati, Onlio 581 384 5 572 384 5 22 0 68 131 11174 FR. Lansing, Michigan 800 49 7 500E 49 6 250 49 7 500E 49 10 400E 44 9 270E 49 10 400E 44 10 400E 44 9 20 40 10 400E 44 9 20 40 10 400E 44 9 20 40 10 400E 44 10 40											6
Section Sect											6
S BILL WINTEACRE, Lansing, Michigan Sep 40 5 478 398 5 54 26 250 49 7 7 500E 49 6 250 49 7 7 500E 49 6 39 23 23 23 23 23 23 23					7 7 7 7						0
10					100000						7
75 HOMAS H. BULL, Washington, D.C. 764 43+ 6 460 43+ 6 39 23 75 TORAL MANN, Cedar Rapids, Iowa 450E 45 7 410E 45 7 76 77 KOBERT FORWORTH, VIC New York City 1000E 49+ 10 400E 40+ 9 270E 48+ 61 JOSEPH FELA, C. N.J. 76 38+ 8 320E 32+ 8 21 14 75 PAUL SWEARINGEN, se Kansas 582 40+ 6 280 36 3 70 HARRY J. HAYES, ne Pa. 8 HANDLEN, LINES, SALLE, Washington 1233 A4 7 256 41 7 471 8 GRET A. HAYES, ne Pa. 8 HANDLEN, R. LINES, SALLE, Washington 1233 A4 7 256 41 7 471 8 GRET A. HAYES, ne Pa. 8 HANDLEN, R. LINES, SALLE, Washington 1233 FARTH MANUAN, VIC SAN Diego, Calif. 663 39 5 221 29 4 39 33 8 FRANK WHEELER, M. PA. 99 50 41+ 6 275E 35E 4 60E 23 74 BOB WALKER, NT LOUISVILE, Kentucky 503 35+ 6 218 31 4 168 33 8 FRANK WHEELER, M. PA. 99 50 5 197 35 5 198 36 9 BOB KARCHEVSKI, NT SAN FRANCISCO, Calif. 249 36 5 197 35 5 198 36 9 BOB KARCHEVSKI, NE SAN DIEGO, CALIF. 72 DICK TRUAX, LOUISVILLE, Kentucky 935 46+ 6 120 35+ 5 20 17 73 MIKE ANDESON, LOUISVILLE, Kentucky 935 46+ 6 120 35+ 5 20 17 73 MIKE ANDESON, LOUISVILLE, Kentucky 935 46+ 6 120 35+ 5 20 17 74 SHARON WATERMAN, W MASS. 721 39+ 8 114 33+ 4 198 39+ 91 LINNEA BRODSKY, VIC New York City 91 A174 BOB SANCHEVSKI, NE SANCH CITY 92 ERIC FADER, New York City 93 6 1 260 41+ 95 28 3 987 46+ 96 24 28 36 5 100 29+ 2 33 32 96 6 44 32 64+ 97 102 36 1 260 41+ 98 24 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 54 28 28 36 5 100 29+ 2 33 32 96 24 28 28 38 3 5 20 2 3 3 32 96 24 28 28 38 3 5 20 2 3 3 32 96 24 28 28 38 3 5 20 2 3 3 32 96 24 28 28 28 28 28 28 28 28 28 28 28 28 28											1
75 TORLM MANN, Cedar Rapids, Iowa 76 TORLM MANN, Cedar Rapids, Iowa 77 TORLM MANN, Cedar Rapids, Iowa 78 TORLM MANN, Cedar Rapids, Iowa 79 TORLM MANN, Cedar Rapids, Iowa 70 MARRY J. HAVES, Ne Pa. 80 TORLM MARY J. HAVES, Ne Pa. 81 TORLM MARY J. HAVES, Ne Pa. 82 TORLM MARY J. HAVES, Ne Pa. 83 TORLM MARY J. HAVES, Ne Pa. 84 BRUCE PORTZER, Sastle, Washington 85 TORLM MARY J. HAVES, Ne Pa. 85 TORLM MARKELER, NE Pa. 86 TORLM MARKELER, NE Pa. 86 TORLM MARKELER, NE Pa. 86 TORLM MARKELER, NE Pa. 87 SPALL R. MOUNT, Ne N.J. 88 SPALL R. MOUNT, NE N.J. 89 SET MARKENAN, NE MASS. 80 SPALL R. MOUNT, NE N.J. 81 SPALL R. MOUNT, NE N.J. 81 SPALL R. MOUNT, NE N.J. 82 SPALL R. MOUNT, NE N.J. 82 SPALL R. MOUNT, NE N.J. 83 SPALL R. MOUNT, NE N.J. 84 SHADON MARKENAN, NE ONLY 85 SPALL R. MOUNT, NE N.J. 86 SPALL R. MOUNT, NE N.J. 86 SPALL R. MOUNT, NE N.J. 87 SPALL R. MOUNT, NE N.J. 87 SPALL R. MOUNT, NE N.J. 88 SPALL R. MOUNT, NE N.J. 89 LILLA J33 H. J34 H. J38											0
57 ROBERT FOXWORTH, vic New York City 61 JOGEPH FELA, c N.J. 716 38+ 8 320E 32+ 8 221 14 75 PAUL SWEARINGEN, se Kansas 76 RATEY J. HAYES, ne Pa. 80 SA SA SA SE SE SA SE										-	-
100ERR FORMARY Not with Other Color 1861 49+ 10									270E	48+	7
73 ROCER A. MORBY, vie Albany, N.Y. 716 38+ 8 320E 32+ 8 21 14 75 PAUL SWEARINGEN, se Kansas 582 40+ 6 280 36 3 70 HARRY J. HAYES, ne Pa. 950 41+ 6 275E 35E 4 60E 23 70 70 70 70 70 70 70 7		The state of the s									9
70 HARRY J. HAYES, ne Pa. 70 HARRY J. HAYES, ne Pa. 70 HARRY J. HAYES, ne Pa. 71 HARRY J. HAYES, ne Pa. 71 HARRY J. HAYES, ne Pa. 72 HARRY J. HAYES, ne Pa. 73 HERT HANYAN, vic New York City 74 HOBO WALKER, nr Louisville, Kentucky 75 HARRY J. HAYES, ne Pa. 75 PAUL R. MOUNT, ne N.J. 76 BOB WALKER, nr Louisville, Kentucky 77 HARRY J. HAYES, ne Pa. 78 PAUL R. MOUNT, ne N.J. 79 HOLE R. MOUNT, ne N.J. 70 HARRY J. HAYES, ne Pa. 70 HARRY J. HAYES, ne Pa. 70 HARRY J. HAYES, ne Pa. 71 HAYE ANDERSON, Louisville, Kentucky 71 HAYE ANDERSON, Louisville, Kentucky 72 HAYE ANDERSON, Louisville, Kentucky 73 HAYE ANDERSON, Louisville, Kentucky 74 HAYE ANDERSON, Louisville, Kentucky 75 HAYE ANDERSON, Louisville, Kentucky 76 HAYE J. HAYE ANDERSON, Louisville, Kentucky 77 HAYE ANDERSON, Louisville, Kentucky 78 HAYE ANDERSON, Louisville, Kentucky 79 HAYE ANDERSON, Louisville, Kentucky 70 HAYE J. HAYE ANDERSON, Louisville, Kentucky 70 HAYE J. HAYE ANDERSON, Louisville, Kentucky 70 HAYE J. HAYE ANDERSON, Louisville, Kentucky 71 HAYE ANDERSON, Louisville, Kentucky 72 HAYE ANDERSON, Louisville, Kentucky 73 HAYE ANDERSON, Louisville, Kentucky 74 HAYE ANDERSON, Louisville, Kentucky 75 HAYE ANDERSON, Louisville, Kentucky 76 HAYE ANDERSON, Louisville, Kentucky 77 HAYE ANDERSON, Louisville, Kentucky 78 HAYE ANDERSON, Louisville, Kentucky 79 HAYE ANDERSON, Louisville, Kentucky 70 HAYE ANDERSON, Louisville, Kentucky 70 HAYE ANDERSON, Louisville, Kentucky 71 HAYE ANDERSON, Louisville, Kentucky 72 HAYE ANDERSON, Louisville, Kentucky 73 HAYE ANDERSON, Louisville, Kentucky 74 HAYE ANDERSON, Louisville, Kentucky 75 HAYE ANDERSON, Louisville, Kentucky 76 LOUIS BRICK, Columbus, Ohio 77 HAYE ANDERSON, Louisville, Kentucky 78 HAYE ANDERSON, Louisville, Kentucky 79 HAYE		DOCED & MODEY wie Albany N V	716		100.00						1
10 HARRY J. HAYES, ne Pa. 950 41+ 6 275E 35E 4 60E 23 64 64 64 64 64 64 64 6		ROGER A. MORBI, VIC ALDRIN, N.I.	582						SECOND TO	-	_
10					100				60E	23	2
STATES STATE STATES ST								7			7
1										33	2
30 FRANK WHEELER, nw Pa. 69 BOB KARCHEVSKI, nr San Francisco, Calif. 249 36 5 197 35 5 198 36 73 PAUL R. MOUNT, ne N.J. 486 36+ 7 188 26+ 5 223 33+ 72 DICK TRUAX, Louisville, Kentucky 935 46+ 6 120 35+ 5 20 17 73 MIKE ANDERSON, Louisville, Kentucky 600 38+ 5 120 29+ 2 33 22 74 SHARON WATERMAN, w Mass. 721 39+ 8 114 33+ 4 198 39+ 75 LINDA BRODEKY, vic New York City 374 35+ 7 108 26+ 6 43 26+ 76 2 GARY ARKINS, Louisville, Kentucky 1360 49+ 7 102 36 1 260 41+ 72 ERIC FADER, New York City 800E 38+ 9 100E 23+ 4 20E 7 8 PAUL R. MOUNT, se Ohio 838 36+ 3 59 25 1 2 2 76 2 RON MUSCO, vic Hartford, Conn. 1110 46+ 9 95 28 3 967 46+ 78 PAUL R. MOUNT, se Ohio 78 PAUL R. MOUNT, se Ohio 79 2 JERRY BOND, Rochester, N.Y. 795 43+ 8 50E 10E 2 0 0 70 ANDY RUGG, Montreal, P.Q. 1323 47+ 10 41 17 3 1302 47+ 10 72 MARK STRICKERT, Chicago, Ill. 337 35+ 5 40E 10E 3 35 17 76 DAVE KORINER, nr San Diego, Calif. 385 38+ 5 30E 20E 3 230 34+ 8 6 3 5 20E 32 230 34+ 8 6 3 6 E GERRINGER, West Lafayette, Ind. 300E 36+ 7 188 26+ 7 188 26+ 7 188 26+ 70 ERIN BURSACK, Columbus, Ohio 219 33+ 5 19 15 2 6 6 6 75 TEX STOUT, vic Louisville, Kentucky 477 32+ 4 15E ? 7 9 7 76 KEN ONYSCHUK, ne Ill. 5 STEPHEN RONDER, Fort Worth, Texas 396 35 4 4 2 2 151 30 76 DON DAVIS, Macon, Ga. 5 MICHAEL, C. Pa. 5 MICHAELL, C. Pa. 5 MICHAEL, R. C. 2050 49+ 9 7 STEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 44 2 2 151 30 76 DON DAVIS, Macon, Ga. 5 MICHAEL, C. Pa. 5 MICHAELL, C. Pa. 5 MICHAELL, C. Pa. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL, C. Pa. 5 MICHAEL, C. Pa. 5 MILERON, N. Sen Francisco, Calif. 5 MICHAELL, C. Pa. 5 MILERON, N. Sen Francisco, Calif. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL, C. Pa. 5 MARCHEN BROWN, Se R.I. 5 MICHAELL CARMER, PACON AND AND AND AND AND AND AND AND AND AN								4			4
98 BOB KARCHEVSKI, nr San Francisco, Calif. 249 36 5 197 35 5 198 36 73 PAUL R. MOUNT, ne N.J. 486 36+ 7 188 26+ 5 223 33+ 72 DICK TRUAX, Louisville, Kentucky 935 46+ 6 120 35+ 5 20 17 73 MIKE ANDERSON, Louisville, Kentucky 600 38+ 5 120 29+ 2 33 22 17 73 MIKE ANDERSON, Louisville, Kentucky 600 38+ 5 120 29+ 2 33 22 17 73 MIKE ANDERSON, Louisville, Kentucky 714 58+ 7 108 26+ 6 43 26+ 62 432 54+ 102 46+ 62 43 26+											9
18											5
72 DICK TRURX, Louisville, Kentucky 935 46+ 6 120 35+ 5 20 17 73 MIXE ANDERSON, Louisville, Kentucky 600 38+ 5 120 29+ 2 33 22 17 73 MIXE ANDERSON, Louisville, Kentucky 600 38+ 5 120 29+ 2 33 22 17 8 SHARON MATERMANN, W Mass. 721 39+ 8 114 33+ 4 198 39+ 9 100 100 100 100 100 100 100 100 100 1											
73 MIKE ANDERSON, Louisville, Kentucky 74 SHARON WATERMAN, w Mass. 721 39+ 8 114 33+ 4 198 39+ 75 LINDA BRODSKY, vic New York City 774 374 35+ 7 108 26+ 6 43 26+ 75 LINDA BRODSKY, vic New York City 774 39+ 8 114 33+ 4 198 39+ 76 CARY ATKINS, Louisville, Kentucky 775 LINDA BRODSKY, vic New York City 776 RPADLE, New York City 776 RPADLE, New York City 777 RPADLE, New York City 777 RPADLE, New York City 777 RPADLE, New York City 778 PADL R. MOUNT, se Ohio 789 PADL R. MOUNT, se Ohio 780 LINDA WATER BROWN, Se THE AND SHAP LINDA WATER BROWN, Se THE AND SHAPP LINDA WATER BROWN, Se THE AND SHAPP LINDA WATER BROWN, Se R. I. 789 PADL R. MOUNT, se Ohio 780 PADL R. MOUNT,											3
74 SHARON WATERWAN, w Mass. 721 39+ 8 114 33+ 4 198 39+ 59 LINDA BRODSKY, vic New York City 75 LINDA BRODSKY, vic New York City 76 C GARY ATKINS, Louisville, Kentucky 77 LINDA BRODSKY, vic New York City 78 ROM MUSCO, vic Hartford, Conn. 79 FAUL R. MCUNT, se Ohio 70 ROM MUSCO, vic Hartford, Conn. 70 R FAUL R. MCUNT, se Ohio 71 SHALL R. MCUNT, se Ohio 71 SHALL R. MCUNT, se Ohio 72 LIRCY BOND, Rochester, N.Y. 785 43+ 8 50E 10E 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0											1
Select Ministry, vic New York City 374 35+ 7 108 26+ 6 43 26+ 6 26 26 26 27 ATKINS, Louisville, Kentucky 1360 49+ 7 102 36 1 260 41+ 72 ERIC FADER, New York City 800E 38+ 9 100E 23+ 4 20E 7 102 36 1 260 41+ 72 ERIC FADER, New York City 800E 38+ 9 100E 23+ 4 20E 7 102 36 1 260 41+ 72 ERIC FADER, New York City 800E 38+ 9 100E 23+ 4 20E 7 102 36 1 260 41+ 72 ERIC FADER, New York City 800E 38+ 9 100E 23+ 4 20E 7 102 36 1 260 41+ 72 ERIC FADER, New York City 100E 34+ 100E											
1360 49+ 7 102 36 1 260 41+ 7 262 GARY ATKINS, Louisville, Kentucky 800E 38+ 9 100E 23+ 4 20E 7 2 2 2 2 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0								100000			
72 ERIC FADER, New York City 62 RON MUSCO, vic Hartford, Conn. 1110 46+ 9 95 28 3 987 46+ 1 78 PAUL R. MOUNT, se Ohio 383 36+ 3 95 25 1 2 2 62 JERRY BOND, Rochester, N.Y. 785 43+ 8 50E 10E 2 0 0 60 ANNY RUGG, Montreal, P.Q. 1323 47+ 10 11 1 7 3 1302 47+ 11 27 MARK STRICKERT, Chicago, Ill. 337 35+ 5 40E 10E 3 35 17 28 AGREY SIEGEL, Toledo, Ohio 2250 49+ 10 35 15 6 4 3 66 GARY SIEGEL, Toledo, Ohio 385 38+ 5 30E 20E 3 303 34+E 63 ED GEMRINGER, West Lafayette, Ind. 300E 36 7 30E 10E 5E 1 1	59	CARY AMETING Louisville Montucky									4
62 ROM MUSCO, vic Hartford, Conn. 1110 46+ 9 95 28 3 987 46+ 478 PAUL R. MOUNT, se Ohio 383 36+ 3 59 25 1 2 2 0 60 ANDY RUGG, Montreal, P.Q. 61 ANDY RUGG, Montreal, P.Q. 72 MARK STRICKERT, Chicago, Ill. 63 GARY SIEGEL, Toledo, Ohio 63 ANDY RUGG, Montreal, P.Q. 74 MARK STRICKERT, Chicago, Ill. 65 GARY SIEGEL, Toledo, Ohio 66 CARY SIEGEL, Toledo, Ohio 67 DAVE KORINEK, nr San Diego, Calif. 68 GARY SIEGEL, Toledo, Ohio 68 GARY SIEGEL, Toledo, Ohio 69 ANDY RUGG, Montreal, P.Q. 70 MARK STRICKERT, Chicago, Ill. 71 STED GERRINGER, West Lafayette, Ind. 72 MARK STRICKERT, Chicago, Ill. 73 ST 5 40E 10E 3 35 17 46 40 10E 3 35 17 40 10E 3 15 15 6 4 3 3 10E 20E 3 230 34+E 10E 20 10E 5E 1 1 10 10E 20 10E 5E 1 1 10E 20 10E 5E 1 10E 20 10E 5E 1 1 10E 20 10E 5E 1 1 10E 20 10E 5E 1 10E 20 10E 5E 1 1 10E 20 10E 5E 20 10E 2	70	GARI ATKINS, LOUISVILLE, KENEUCKY									2
78 PAUL R. MOUNT, se Ohio 383 36+ 3 59 25 1 2 2 0 0 2 0 2 1 2 2 0 0 2 1 2 2 0 0 0 1 2 1 2	12	PON WIGGO wie Hartford Conn						100			
62 JERRY BOND, Rochester, N.Y. 63 JERRY BOND, Rochester, N.Y. 64 ANDY RUGG, Montreal, P.Q. 65 ANDY RUGG, Montreal, P.Q. 66 ANDY RUGG, Montreal, P.Q. 67 ANDY RUGG, Montreal, P.Q. 68 ANDY RUGG, Montreal, P.Q. 69 ANDY RUGG, Montreal, P.Q. 60 ANDY RUGG, Montreal, P.Q. 61 ANDY RUGG, Montreal, P.Q. 61 ANDY RUGG, Montreal, P.Q. 62 ANDY RUGG, Montreal, P.Q. 63 ANDY RUGG, Montreal, P.Q. 64 ANDY RUGG, Montreal, P.Q. 65 ANDY SUGG, Montreal, P.Q. 66 ANDY SUGG, Montreal, P.Q. 67 ANDY SUGG, Montreal, P.Q. 68 ANDY SUGG, Montreal, P.Q. 69 ANDY SUGG, Montreal, P.Q. 60 ANDY SUGG, Montreal, P.Q. 61 ANDY SUGG, Montreal, P.Q. 62 ANDY SUGG, Montreal, P.Q. 63 ANDY RUGG, Montreal, P.Q. 64 ANDY SUGG, Bridgeport, Conn. 65 ANDY SUGG, Bridgeport, Conn. 66 ANDY SUGG, Bridgeport, Conn. 67 BERIAN BURSACK, Columbus, Ohio 67 ANDY SUGG, Bridgeport, Conn. 68 ANDY SUGG, Columbus, Ohio 69 ANDY SUGG, Bridgeport, Conn. 69 ANDY SUGG, Montreal, P.Q. 60 ANDY SUGG, ANDY SUGG, ANDY SUGG, P.Q. 60 ANDY SUGG, ANDY SUGG, ANDY SUGG, P.Q. 61 ANDY SUGG, ANDY SUGG, P.Q. 62 ANDY SUGG, ANDY SUGG, P.Q. 63 ANDY SUGG, ANDY SUGG, P.Q. 64 ANDY SUGG, ANDY SUGG, P.Q. 65 ANDY SUGG, ANDY SUGG, P.Q. 66 ANDY SUGG, ANDY SUGG, P.Q. 66 ANDY SUGG, ANDY SUGG, P.Q. 67 ANDY SUGG, P.Q. 68 ANDY SUGG, ANDY SUGG, P.Q. 69 ANDY SUGG, ANDY SUGG, P.Q. 69 ANDY SUGG, P.Q. 60 ANDY SUGG, P.Q. 60 ANDY SUGG, P.Q. 60 ANDY SUGG, P.Q. 60 ANDY SUGG, P.Q. 61 ANDY SUGG, P.Q. 61 ANDY SUGG, P.Q. 62 ANDY SUGG, P.Q. 63 ANDY SUGG, P.Q. 64 ANDY SUGG, P.Q. 65 ANDY SUGG, P.Q. 65 ANDY SUGG, P.Q. 66 ANDY SUGG, P.Q. 66 ANDY SUGG, P.Q. 67 ANDY SUGG, P.Q. 68 ANDY SUGG, P.Q. 68 ANDY SUGG, P.Q. 69 ANDY SUGG, P.Q. 60 ANDY SUGG, P.Q. 61 ANDY SUGG, P.Q. 61 ANDY SUGG, P.Q. 62 ANDY SUGG, P.Q. 62 ANDY SUGG, P.Q. 63 ANDY SUGG, P.Q. 64 ANDY SUGG, P.Q. 65 ANDY SUGG, P.Q. 66 ANDY SUGG, P.Q. 66 ANDY SUGG, P.Q. 67 ANDY SUGG, P.Q. 67 ANDY SUGG, P.Q. 68 ANDY SUGG, P.Q. 68 ANDY SUGG, P.Q. 68 ANDY SUG					7.12.00						0
02 ANDY RUGG, Montreal, P.Q. 1323 47+ 10 41 17 3 1302 47+ 10 72 MARK STRICKERT, Chicago, Ill. 337 35+ 5 40E 10E 3 35 17 66 GARY SIEGEL, Toledo, Ohio 2250 49+ 10 35 15 6 4 3 63 ED GEHRINGER, West Lafayette, Ind. 300E 36 7 30E 10E 5E 1 1 DAVE YOCIS, Bridgeport, Conn. 428 38+ 8 22 6 0 5 5 5 6 BRIAN BURSACK, Columbus, Ohio 219 33+ 5 19 15 2 6 6 6 75 TEX STOUT, Vic Louisville, Kentucky 477 32+ 4 15E ? ? 9 7 66 KEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 76 EVEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 75 STEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 4E 4E 386 35 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1410 35+ 75 MICHAEL GOOD, Boston, Mass. 334 33+ 8 6 3 1 8 5 76 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 69 RICHARD ALLEN, ne Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 3 75 JOHN CLEMMER, VE Pa. 5519 50+ 10 3659 50+ 36 36 SERNEST R. COOPER, tip of Cape Cod, Mass. 250 49+ 9 19 SEPILLA, c Pa. 3000E 48 8 50E KESTEVE BEZILLA, c Pa. 3000E 48 8 50E KESTEVE BEZILLA, c Pa. 3000E 47 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 1500E 49 58 BILL COLEMAN, e N.C. 2105 46 12 456 46 1 58 ERNIE J. WESOLOWSKI, e Nebr. 2000E 47 50 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 4 50 JOHN KROMKA, vic New York 2125 49+ 6 100 49 49+ 100 44 44 8 1 76 JOHN KROMKA, vic New York 2125 49+ 6 100 49					-			100			0
22 MARK STRICKERT, Chicago, Ill. 237 35+ 5 40E 10E 3 35 17 66 GARY SIEGEL, Toledo, Chio 2250 49+ 10 35 15 6 4 3 76 DAVE KORINEK, nr San Diego, Calif. 385 38+ 5 30E 20E 3 230 34+E 63 ED GEHRINGER, West Lafayette, Ind. 300E 36 7 30E 10E 5E 1 1 DAVE YOCIS, Bridgeport, Conn. 428 38+ 8 22 6 0 5 5 76 BRIAN BURSACK, Columbus, Chio 219 33+ 5 19 15 2 6 6 75 TEX STOUT, vic Louisville, Kentucky 477 32+ 4 15E ? ? 9 7 76 KEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 75 STEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 4E 4E 386 35 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 75 MICHAEL GOOD, Boston, Mass. 334 33+ 8 6 3 1 8 5 76 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 89 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 76 DOE BRAUNER, wc Pa. 31 ERNEST R. COOPER, tip of Cape Cod, Mass. 32 ERNEST R. COOPER, tip of Cape Cod, Mass. 33000E 48 8 50E 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 50 ED KREJNY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 24 STEVE BEZILLA, c Pa. 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 21 STEPHEN FRANCIS, e Tenn. 2000E 47 - 1500E 49 20 STEPHEN FRANCIS, e Tenn. 2000E 47 - 1500E 49 21 STEPHEN FRANCIS, e Tenn. 210 STEPHEN FRANCIS, e Tenn. 211 STEPHEN FRANCIS, e Tenn. 212 STEPHEN FRANCIS, e Tenn. 213 STEPHEN FRANCIS, e Tenn. 2141 49+ 1 215 STEPHEN FRANCIS, e Tenn. 215 STEPHEN FRANCIS, e Tenn. 216 STEPHEN FRANCIS, e Tenn. 2170 STEPHEN FRANCIS, e Tenn. 218 STEPHEN FRANCIS, e Tenn. 219 STEPHEN FRANCIS, e Tenn. 219 STEPHEN FRANCIS, e Tenn. 210 STEPHEN FRANCIS, e Tenn. 210 STEPHEN FRANCIS, e Tenn. 211 STEPHEN FRANCIS, e Tenn. 212 STEPHEN FRA									1302		
ANALY STREEL, Toledo, Chio 2250 49+ 10 35 15 6 4 3 76 DAVE KORINEK, nr San Diego, Calif. 385 38+ 5 30E 20E 3 230 34+E 3 26 GERRINGER, West Lafayette, Ind. 300E 36 7 30E 10E 5E 1 1 DAVE YOCIS, Bridgeport, Conn. 428 38+ 8 22 6 0 5 5 5 76 ERIAN BURSACK, Columbus, Chio 219 33+ 5 19 15 2 6 6 6 75 TEX STOUT, VIC Louisville, Kentucky 477 32+ 4 15E ? 7 9 7 76 KEN CONTSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 10 3 3 3 5 1 1 10 3 3 3 5 1 10 1 10 3 3 3 5 1 10 1 10											2
66 GARY SIGNER, Nor San Diego, Calif. 385 38+ 5 30E 20E 3 230 34+E 63 ED GEHRINGER, West Lafayette, Ind. 300E 36 7 30E 10E 5E 1 1 1					-						0
63 ED GEHRINGER, West Lafayette, Ind. - DAVE YOCIS, Bridgeport, Conn. - Columbus, Ohio - 219 33+ 5 19 15 2 6 6 - Columbus, Ohio - 219 33+ 5 19 15 2 6 6 - Columbus, Ohio - 219 33+ 5 19 15 2 6 6 - Columbus, Ohio - Columbus, Ohio - 219 33+ 5 19 15 2 6 6 - Columbus, Ohio - Columbus, Ohi										2276	
DAVE YOCIS, Bridgeport, Conn. 428 384 8 22 6 0 5 5 76 BRIAN BURSACK, Columbus, Ohio 219 33+ 5 19 15 2 6 6 6 75 TEX STOUT, vic Louisville, Kentucky 477 32+ 4 15E ? 2 9 7 7 66 KEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 75 STEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 4 1 410 35+ 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 76 DON DAVIS, Macon, Ga. 334 33+ 8 6 3 1 8 5 70 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 69 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 3 6 36 JOE ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 34 6 JOE BRAUNER, wc Pa. 5519 50+ 10 3659 50+ 32 ERNEST R. COOPER, tip of Cape Cod, Mass. 3601 48+ 1 2509 49 4 512 500 49 8 500 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 50 ED KREJNY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 2105 49+ 9 1950 49+ 1950											0
76 BRIAN BURSACK, Columbus, Ohio 219 33+ 5 19 15 2 6 6 75 TEX STOUT, vic Louisville, Kentucky 477 32+ 4 15E ? ? 9 7 66 KEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 75 TEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 4E 4E 386 35 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 75 MICHAEL GOOD, Boston, Mass. 334 33+ 8 6 3 1 8 5 76 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 76 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 75 JOHN SERVENER, Caperon, Serven Ser		ED GEHRINGER, West Latayette, Ind.							5		0
75 TEX STOUT, vic Louisville, Kentucky 477 32+ 4 15E ? ? 9 7 66 KEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 75 STEPHEN PONDER, FORT WORTH, Texas 396 35 4 10E 4E 4E 386 35 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 75 MICHAEL GOOD, Boston, Mass. 334 33+ 8 6 3 1 8 5 70 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 69 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 76 JOE BRAUNER, wc Pa. 5519 50+ 10 3659 50+ 78 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 79 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 70 GEORGE KESTEVEN, Calgary, Nic New York City 1256 44 9 84 37 70 STEPHEN FRANCIS, San Francisco, Calif. 1700E 50+ 10 10 10 10 10 10 10 10 10 10 10 10 10		DAVE YOURS, Bridgeport, comi.	219							-	0
66 KEN ONYSCHUK, ne Ill. 669 43+ 5 15E 12E 0 16 13 75 STEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 4E 4E 386 35 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 5 MICHAEL GOOD, Boston, Mass. 334 33+ 8 6 3 1 8 5 70 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 69 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 86 35 4 10E 4 1 2 10 30 80 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Wc Pa. 5519 50+ 10 3659 50+ 32 ERNEST R. COOPER, tip of Cape Cod, Mass. 23 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 4 STEVE BEZILLA, C PA. 50 ED KREINY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 58 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 31 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 68 RARL JETER, Atlanta, Ga. 1231 40+ 5 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40	76										0
75 STEPHEN PONDER, Fort Worth, Texas 396 35 4 10E 4E 4E 386 35 76 DON DAVIS, Macon, Ga. 580 39+ 3 10E 4 1 410 35+ 75 MICHAEL GOOD, Boston, Mass. 334 33+ 8 6 3 1 8 5 70 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 69 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 36 10E 4 1 1 0 3 3 36 10E 4 1 1 10 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 36 10E 4 1 1 10 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	15	TEX STOOT, VIC LOUISVILLE, Kentucky									0
76 DON DAVIS, Macon, Ga. 78 DON DAVIS, Macon, Ga. 78 MICHAEL GOOD, Boston, Mass. 79 GEORGE KESTEVEN, Calgary, Alberta 70 GEORGE KESTEVEN, Calgary, Alberta 70 GEORGE KESTEVEN, Calgary, Alberta 71 GEORGE KESTEVEN, Calgary, Alberta 72 GEORGE KESTEVEN, Calgary, Alberta 73 GEORGE KESTEVEN, Calgary, Alberta 75 JOHN CLEMMER, Peoria, Ill. 76 JOHN CLEMMER, Peoria, Ill. 77 JOHN CLEMMER, Peoria, Ill. 78 JOHN CLEMMER, Wc Pa. 78 JOHN MAGUIRE, Albuquerque, N.M. & Conn. 78 JOHN MAGUIRE, Albuquerque, N.M. & Conn. 79 LEY BEZILLA, C Pa. 79 JOHN MAGUIRE, Albuquerque, N.M. & Conn. 70 ED KREJNY, vic Cleveland, Ohio 70 ED KREJNY, vic Cleveland, Ohio 70 ED KREJNY, vic Cleveland, Ohio 70 STEPHEN FRANCIS, e Tenn. 70 STEPHEN FRANCIS, e Tenn. 71 JOHN STEPHEN FRANCIS, e Tenn. 72 JOHN KROMKA, vic New York 73 JOHN JOHN KROMKA, vic New York 74 JOHN KROMKA, vic New York City 75 JOHN JOHN JOHN JOHN JOHN JOHN JOHN JOHN	66	KEN UNISCHUK, BE III.	306								4
75 MICHAEL GOOD, Boston, Mass. 76 GEORGE KESTEVEN, Calgary, Alberta 77 GEORGE KESTEVEN, Calgary, Alberta 78 GEORGE KESTEVEN, Calgary, Alberta 79 GEORGE KESTEVEN, Calgary, Alberta 70 GEORGE KESTEVEN, Calgary, Alberta 71 GEORGE KESTEVEN, Calgary, Alberta 72 GEORGE KESTEVEN, Calgary, Alberta 73 GEN CLEMMER, Peoria, Ill. 75 JOHN CLEMMER, Wc Pa. 75 JOHN CLEMMER, Wc Pa. 75 SEPHEST R. COOPER, tip of Cape Cod, Mass. 76 GENEST R. COOPER, tip of Cape Cod, Mass. 76 GENEST R. COOPER, tip of Cape Cod, Mass. 76 GENEST R. COOPER, tip of Cape Cod, Mass. 76 GENEST R. COOPER, tip of Cape Cod, Mass. 76 GENEST R. COOPER, tip of Cape Cod, Mass. 77 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GENEST R. COOPER, Tip of Cape Cod, Mass. 78 GEORGE R.			590								
70 GEORGE KESTEVEN, Calgary, Alberta 212 33 6 4 2 2 151 30 69 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 6 JOE BRAUNER, wc Pa. 5519 50+ 10 3659 50+ 32 ERNEST R. COOPER, tip of Cape Cod, Mass. 3601 48+ 1 23 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 4 STEVE BEZILLA, c Pa. 3000E 48 8 502 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 2702 50+ 10 58 ENLE COLEMAN, e N.C. 2105 46 12 456 46 1 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 58 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 31 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 68 KARL JETER, Atlanta, Ga. 1231 40+ 5 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40			334								0
69 RICHARD ALLEN, nc Oklahoma 350 38 7 3 2 1 41 13 75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 26 JOE BRAUNER, WC PA. 35519 50+ 10 3659 50+ 3601 48+ 1 23 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 24 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 550E ASE 50E									The second second second		6
75 JOHN CLEMMER, Peoria, Ill. 334 36 2 1 1 0 3 3 26 JOE BRAUNER, WC Pa. 5519 50+ 10 3659 50+ 32 ERNEST R. COOPER, tip of Cape Cod, Mass. 3601 48+ 1 2509 49 24 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 50 ED KREJINY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 2105 46 12 456 46 12 456 46 158 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 1500E 49 1500E 49 1500E 49 16 1500E 49 16 16 16 16 16 16 16 16 16 16 16 16 16	70	DECURE RESIEVEN, Calgary, Alberta									7
26 JOE BRAUNER, wc Pa. 28 ERNEST R. COOPER, tip of Cape Cod, Mass. 29 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 48 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 50 ED KREINY, vic Cleveland, Ohio 2456 49+ 10 2702 50+ 1 28 BILL COLEMAN, e N.C. 2105 46 12 456 46 1 28 ERNIE J. WESOLOWSKI, e Nebr. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 45 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 1101 50+ 1 141 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 270 STEPHEN TRANCIS, experiments of the companies of											0
32 ERNEST R. COOPER, tip of Cape Cod, Mass. 33 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 24 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 3702 50+ 1 50 ED KREJNY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 2105 46 12 456 46 1 58 ERNIE J. WESCLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 58 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 1441 48 1 47 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 47 POTER TAYLOR, San Francisco, Calif. 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, s Wisc. 1247 50 10 75 40 68 RARL JETER, Atlanta, Ga. 61 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40						781					
23 GENE ALLEN, vic San Francisco, Calif. 3013 49 8 2509 49 24 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 2702 50+ 1 50 ED KREJNY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 2105 46 12 456 46 1 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 45 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 31 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 6 JOHN KROMKA, vic New York City 1256 44 9 84 37 76 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 68 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 66 CARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40			3313	30.	10						
24 STEVE BEZILLA, c Pa. 3000E 48 8 50E 45E 35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 50 ED KREJNY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 2105 46 12 456 46 1 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 54 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 31 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 6 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, s Wisc. 1247 50 10 75 40 68 KARL JETER, Atlanta, Ga. 1231 40+ 5 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40			3013	49	8						8
35 NORMAN MAGUIRE, Albuquerque, N.M. & Conn. 50 ED KREINY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, SE R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 58 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 11 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 76 JOHN KROMKA, vic New York City 1256 44 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 68 KARL JETER, Atlanta, Ga. 61 RAY ARRUDA, nr Boston, Mass. 1183 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40			NAME OF THE PARTY								
50 ED KREJNY, vic Cleveland, Ohio 2456 49+ 10 2141 49+ 1 58 BILL COLEMAN, e N.C. 2105 46 12 456 46 1 58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 45 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 47 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 67 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, s Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 667 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40			30002	40							
58 BILL COLEMAN, e N.C. 58 ERNIE J. WESOLOWSKI, e Nebr. 58 WARREN BROWN, se R.I. 70 STEPHEN FRANCIS, e Tenn. 55 EXENCE CLARIUS, nr Elizabeth, N.J. 47 PETER TAYLOR, San Francisco, Calif. 76 JOHN KROMKA, vic New York 76 RICH EDDIE, St. Louis, Missouri 1256 44 9 126 49 127 50 127 50 127 50 127 50 128 19 128 19 129 19 120 49 120 49 120 10 1	33	PD KDEINY, vic Cleveland, Ohio	2456	494	10						
58 ERNIE J. WESOLOWSKI, e Nebr. 2050 49+ 9 1950 49+ 58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 50+ 10 1101 50+ 1 31 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 6 10 1441 48 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	50	BILL COLEMAN. e N.C.									12
58 WARREN BROWN, se R.I. 2000E 47 - 1500E 49 70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 58 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 19 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 76 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 121 ROSS HANSCH, s Wisc. 1247 50 10 75 40 68 RARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40	50	EDNIE J. WESOLOWSKI, e Nebr.			7.7						
70 STEPHEN FRANCIS, e Tenn. 1942 46+ 7 36 35+ 45 KEN CHATTERTON, n New York 1845 50+ 10 1101 50+ 1 19 1 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 76 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 1 ROSS HANSCH, s Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40					_						-
45 KEN CHATTERTON, n New York 18 45 50+ 10 1101 50+ 1 31 PETER CLARIUS, nr Elizabeth, N.J. 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 76 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, s Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	70	CORPUEN EDANCIS e Tenn			7						- 0
31 PETER CLARIUS, nr Elizabeth, N.J. 1819 48 10 1441 48 1 47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 76 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	4E	VEN CHATTERTON, n New York		1000	20.00						
47 PETER TAYLOR, San Francisco, Calif. 1700E 50+ 10 946 50+ 1 76 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 555 40	23	DETER CLARIUS, nr Elizabeth, N.J.									10
76 JOHN KROMKA, vic New York City 1256 44 9 84 37 67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, s Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	17	DEMED MAYIOR, San Francisco, Calif				_	-				
67 RICH EDDIE, St. Louis, Missouri 1253 49+ 6 1008 49+ 21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	75	TOUN FROMEA, vic New York City								F 1000 A 1700 A	3
21 ROSS HANSCH, S Wisc. 1247 50 10 75 40 69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	67	PTOU EDDIE St. Louis. Missouri			-						
69 KARL JETER, Atlanta, Ga. 1231 40+ 5 830 40+ 63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	0/	POSE UNNECH & Wisc.									1
63 RAY ARRUDA, nr Boston, Mass. 1183 47 9 675 47 64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	60	MADE TOWER Atlanta, Ga.		1.0							
64 ELLIOT STRAUS, vic New York City 1126 44+ 9 565 40	63	DAY ADDUDA or Boston. Mass.									9
61 NEIL G. ZANK, Lincoln, Nebraska 1100 46 9 535 45	64	PILITOR CEPANS vic New York City									8
OI NELL G. AMNY, LINCOLN, NELLBOAR 1100 40 3 555 45	64	MET C MANY Tincoln Nebracka									9
	01	NEIL G. ZANK, BIRCOIN, NEBIASKA	1100	40	3				223	43	3

	HEARD			TAPED	VERIF		
STD GENERAL AREA	TDH	SH	PH		TDV	SV	PV
77 JOHN HOOGERHEIDE, Louisville, Kentucky	1083	42	4		671	42	4
62 MARC DeLORENZO, Cape Cod, Mass.	1033	46	9		378	46	9
38 ROGER A. ANDERSON, metro Washington, DC		48+	9		1017	48+	9
74 RICK CARR, Ill. and Texas combined	991	43+	6		774	43+	5
69 ROB KEENEY, nr Kansas City, Mo.	990	49	8		419	49	8
63 CHUCK HUTTON, Atlanta, Ga.	949	46	6		0	0	0
64 KELLY ANDREWS, N.C. & Va. combined	925E		7		692	44+	7
54 JOHN SAMPSON, Omaha, Nebr.	-	-	-		912	45+	
64 GREG HARDISON, Atlanta, Georgia	900E	36	6		42	19	5
65 WAYNE HEINEN, Colorado Springs, Colo.	885	49	8		724	49	8
MIKE HEPPE, Houston, Mississippi	850	48	6		45	-	-
72 JIM HOPKINS, s N.J.	850E		7		455E	43	7
73 DAN LUTZ, vic Lexington, Kentucky	827	39	4		200	_	
48 JOHN W. HOOGERHEIDE, vic Louisville, Ky	815	33	5		478	33	5
57 ART FREGEAU, Northford, Conn.	803	45+	11		214	41+	
32 MORTON D. MEEHAN, se Calif.	003	43.			800E		olic.
	795	41+	7		137	36+	3
69 JIM WALLACE, Columbus, Ohio					119	29	3
60 GEORGE GREENE, Akron, Ohio	743	45+	7				
FRANK S. JOHNSON, Belfast, Maine	714	48	10		127	28	9
60 BILL HARDY, coastal Washington	687	38	5		3	3	0
75 BRUCE WINKELMAN, Greensboro, N.C.	686	40+	4		0	0	0
64 JOHN HATHAWAY, c Illinois	666	42	5		309	40	5
76 ROBERT WIEN, vic San Francisco, Calif.	666	40	6		349	38	6
73 LYNN BURKE, tidewater Virginia	650	36+	6		18	7	1
69 NANCY HARDY, coastal Washington	626	39	5		2	2	0
75 DAN GRADIN, vic Portland, Oregon	589	39	6		16	15	1
70 WELDON T. CHILDERS, nw Alabama	587	32+	3		0	0	0
78 MIKE DEITZ, tidewater Virginia	528	37	2		-	-	-
73 PHILIP BOERSMA, w Michigan	520	41	6		50	24	3
77 BRYAN LEE, Brooklyn, Conn.	516	36	7		49	21	3
75 RANDY TOMER, nw Calif.	500E	-	-		20E	-	-
68 JOHN SAMPSON, Winston-Salem, N.C.	_	-	-		450	30+	1
73 MARTY WRIGHT, Springfield, Ill.	437	41+	5		406	41+	
78 BOB JINKERSON, JR., vic St. Louis, Mo.	366	33	2		9	8	1
	-	-	_		336	42	6
60 JOHN SAMPSON, Hutchinson, Minn.	270	33	3		20	16	1
75 GARY HOUDEK, nc Kansas	270	22	3		258	17	3
66 JOHN SAMPSON, vic San Jose, Calif.		39+	3		148	38+	
77 KURT BROWN, Bloomington, Ill.	249		5		126	22+	4
58 WILLIAM WURTZEL, New York City, N.Y.	236	30			4	3	
77 CHARLES McHARG, vic Seattle, Wash.	199	24	4		2		0
62 IRA GREEN, Cincinnati, Ohio	193	34+	4			2	
65 JOHN SAMPSON, New Providence, N.J.		-	-		181	33+	
75 RONALD F. KISER, vic Los Angeles, Calif.			6		45	27	5
78 STEVEN MILLER, Boston, Mass.	149	26	6		-	-	-
77 DONALD WOODS, vic Los Angeles, Calif.	139	21	1		0	-	-
72 WARREN GREENBERG, vic Boston, Mass.	125E	27+	6		99	26+	6
74 JACK WOODS, w Oregon	112	24	4		25	18	-
55 G. HARLEY DeLEURERE, Tucker County, W.V.	-	48+	10		-	48+	10
YR STARTED - Year Started TDH - Total Do		: Неа	ard	SH - States Heard			
PH - Provinces Heard TDT - Total Domestic	Taped	1 5	ST -	States Taped PT -	Provi	nces	
Taped TDV - Total Domestic Verified SV	- Stat	tes V	/erif	fied PV - Province	s Ver	ifie	d
+ indicates that, in addition to the number							
has been heard, taped, or verified. vic -	vicin:	ity		r - near c - cent			
n - northern s - southern e - eastern	w - v	veste		ne/nw/se/sw - nort		ern.	
etc. nc - north central nr/vic/metro were							
This edition of DDXA is dedicated to Paul F					i bete	te	
typing despite rather dismal show of interes	est and	1 who	se s	suggestion of arrang	Tement	-5	
by taped totals was used. What do you thin	k of 1	sino	two	-letter state abbre	owi ati	one	
to permit re-arranging format somewhat? If	F there	are	no	objections or the m	.viaci	bii b	
concurs, this will be done and there will be	on two	one-	diai	it columns to indica	ajori	Ly	
concurs, this will be done and there will a	hae he	one d	lone	and the section of	ite the	e	
total number of locations from which DXing	Vou	may	cond	d combined total	nose		
locations represented by that line's entry.	1000	rion	ac d	tone by 7-	or all		
locations or you may break out each & every	Tocal	ie w	as c	one by John Sampsor	1.		
E is used to represent any Estimated figure		LS US	ed 1	information is no)t		
available or if a count is not kept. 0 is	used 1	o re	pres	ent zero. Please s	send		
all updates for the next listing by October	1, 19	119.	DDX	A reporting form av	/ailab	le	
for self-addressed envelope. Thanks to all	those	e who	did	contribute informa	ition.		
-Don Erickson, 6059 Essex Street, Rivers	side, (JA 9	2504	(714-687-5910)			

TERMINATOR TRANSIT MECHANIX

RON SCHATZ

Part III - The Theory Behind TXM

Terminator Transit Mechanix (TXM) is the study of how sunrise and sunset affect ionospheric radio propagation. The information derived from the study can be of invaluable aid to the DX'er, who can use it to predict the exact times of station fade-ups and fade-outs, calculate the location in range of unknown or clandestine signals, and (hopefully) predict long-term fading on inter-continental signal paths (TA's, TP's, etc.). TXM calculations are very simple; and anyone with a world globe, this series of articles, and some common sense can perform them quickly and accurately. Only range calculations require a strip-chart recorder, such as the rustrak-88 or Heathkit IR-18M, the rest do not. § TXM should not be confused nor identified with E-20, an attempt back in 1965 by another DX'er to predict dawn fade-out times of trans-Atlantic signals; they are not the same thing. The two will be compared in a future article.

The above paragraph rightfully belongs in Part I of this series, where we introduced TXM and its parameters but failed to define it - at least not to the satisfaction of the "reprints" editor. Now that we finally know what TXM is, we can go cn.

The purpose of this article is to introduce the propagation theory that explains how TXM works. Standard magneto-ionic propagation theory, the one that radio amateurs and SWL's take as gospel, apparently only works for frequencies above 1500 kHz. MW DX'ers have long held the subconscious suspicion that MW propagation does not exactly behave according to the "books", but they just couldn't put a handle on it. Now the matter is settled, thanks to the chart recorder: It now seems that there are two separate mechanisms which operate to return skywave signals, one above - one below 1500kHz, with some overlapping in the transition area that proves them to be truely separate and not just different views of the same thing. Both, however, are magneto-ionic in physiology and operate by refraction, not reflection.

Standard magneto-ionic theory, for frequencies between 1.5 and 30 MHZ, states that solar ultraviolet radiation ionises the upper atmosphere by breaking up gas molecules into electrons and positive ions, thus forming a plasma. The ions, being far too heavy to have any appreciable effect on radic signals, are ignored by radio-physicists, who consider only the free electrons, measured in terms of electron density (N). These electrons align themselves with the incoming wavefront as well as with the earth's magnetic field. In this environment the electrons circle, spin, and spiral at the signal frequency, thereby acting as infinitessimal antennas that retransmit the signal. The net effect is that the signal energy vector is directed away from ionospheric regions of higher electron densities. If the density gradient is large enough, the signal will be returned to earth. As the electrons easily align themselves with the signal wavefront due to their low mass, the signal energy follows a parabolic curve through the ionosphere.

We should be cautious here in stating that theorists use so-called "Chapman layers", or an ideally smooth, regular model of the ionosphere for their explanations. Such perfect ionospheres are never found in the real world, so parabolic signal paths are far from geometrically perfect. Normally the path is split into several wandering sections paralleling the ideal route, the major cause of the rapid fading typical of short-wave reception (Figure 1).



In the lower regions of the ionosphere, the density of air molecules is so great that the electrons have little room to maneuver. As the signal frequency is lowered, they must "dance" about a larger area in order to keep in step with it. Soon they wind up knocking against adjacent molecules, losing their energy in the process. This is the non-deviative abscrption that precludes daytime skywave propagation of signals below GMHz under normal conditions. At higher frequencies the electrons require less room to dance about, so less "accidents" occur, and those signals get through.

Non-deviative absorption occurs in the D and E regions of the lower ionosphere. While the D region effectively exists only in daylight, the E layer continues on after dark. For this reason, "textbook" propagation rarely occurs on MW frequencies!

If that propagation mechanism were the only one available, BCB DX would resemble FM and TV DX; there would be no skywave reception except for rare "openings" on the higher end of the band, and WDR-1593 would be more widely and commonly heard than PJR-8001

To introduce the mechanism that makes skywave propagation possible on MW and LW frequencies, as well as to lend it some credibility, we can compare sunset fade-ups of two stations, one on MW, the other in the 60-meter SW band.



Figure 2 is the 60-meter fade-up. Note the shape of the curve as well as the time required for the signal increase. The MW fade-up (Figure 3) demonstrates a far different curve; the process taking at least six times as long! Fade-up charts of stations in the 1600-kHz area often show both curves superimposed on each other.

This new mechanism is identical in function to standard magneto -ionic theory, except that the positive molecular ions, rather than the free electrons, are the signal carriers. The major behavioral difference, except for the reversal of polarities and spin directions, is that these ions are worlds heavier than electrons, so they are subject to "dynamo" winds as well as other grossly physical effects, in addition to being far to sluggish to respond well to the earth's magnetic field and the signal wevefront. The inability of these heavy ions (protons, helium nuclei, etc.) to align with the wavefront means that they dance, like the gorilla, anyway they want to. The overall result is chaos, each ion refracting the signal in its own way. The signal winds up not following a parabolic curve but diffused all over the sky!

As we understand it, NASA scientists are also "on" to this new theory; they are calling it "ionospheric transfer propagation", and they are supposed to have a paper out on it scon. The term is preferred to "diffusive refraction", which is really a phenomena of higher frequencies. "Transfer" is an appropriate term, since traditional "ray tracing" is worthless where diffusion is involved; i.e., there can be no clear signal path to follow when the ionosphere "mixes it up" beyond recognition before sending it back to earth. The transmitted signal is simply "delivered" to the ionosphere, which then "transfers" the batch to the receiver. In more realistic terms, the transmitter "lights up" the ionospheric ceiling, and any receiver that can "see" it will receive the signal.

Again, ray tracing is useless with form of ionospheric propagation. What we use instead is a concept torrowed from Fresnel, which we call transfer zones. Figure 4 shows a transmitter and receiver, each surrounded by their average maximum. E-layer coverage of about 1000 miles. Where the two coverage areas intersect is the transferring area of the ionosphere that will effect propagation from T to R; the outside areas are literally beyond the horizon for each station respectively.



The ionospheric transfer zone should not be regarded as a uniform mirror; due to the fact that the transfer process involves an infinite number of signal paths of widely divergent lengths, not all of the signal arrives at the same phase and strength at the receiver. As portions of the return are out of phase with other portions, the maximum potential signal strength is not realised. The average received signal is only 70.71% of this potential maximum, the so-called "rms" value.

The geometry of the transfer structure causes the transfer zone to be proportioned into concentric interference zones, analogous to Fresnel zones, each succeeding zone returning signal that is out of phase with the two adjacent to it (Figure 5). The central positive zone, which we shall call the primary transfer zone (PTZ), is responsible for returning about 2/3'rds of the total signal. Of course, the maximum extention of the zones is limited by the mutual ionospheric horizon.

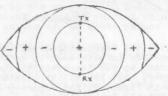
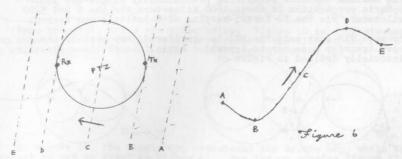


Figure 5

As Figure 5 suggests, the diameter of the PTZ is the signal path distance between transmitter and receiver; the width of the outer centroids is 29.29% of the PTZ diameter. This and other empirical information indicates that the ionospheric transfer zone is a complex tridiensional structure whose mathematical solution requires the factorial summation of multiple integrals, a subject that, mercifully, we will not go into this time!

Now that we have defined the transfer zone let us see what happens when it is eclipsed, or slowly covered up or exposed by the advancing D region at the time of terminator transit: Figure 6 shows a transfer area marked off by lines representing the sunset terminator at different stages of passage across it. Next to it is the corresponding curve that results from this eclipse. The signal path is in an E-W orientation.



At "A" the terminator has reached the second (negative) transfer zone just outside the PTZ; some reception, normally weak, may occur at this point. § The terminator reaches the perimeter of the PTZ at "B"; the weak signal disappears as positive and regative signal energy cancels out. § As the terminator arrives half-way through the PTZ ("C") the signal level shows a corresponding semi-linear increase in strength. § The opposite border of the PTZ is reached at "D", and the signal level rounds off as negative energy is reintroduced from the 2'nd transfer zone. § At "E" the mutual ionospheric horizon is normally reached by the terminator on E-W paths, and the fade-in process is complete.

At surrise these events occur in reverse order, meaning that a slight improvement in the signal ("D") forewarns its subsequent demise.

Referring back to Figure 5, note that the ionospheric trensfer area normally has the shape of an eye. In our previous example of an east-west terminator crossing, we eclipsed the area broadside; the resulting fade-up curve (Figure 6) turned out to be rather simple, since most of the outer interference zones were hit at once during the crossing. What happens, however, when the terminator crosses the transfer area lengthwise, as when sunset occurs at both the transmitter and receiver at the same time? In that case each of the outer zones will be eclipsed one at a time - first negative, then positive, then negative, etc. The fade-up curve for such a north-south path would reflect this, as shown in Figure 7:

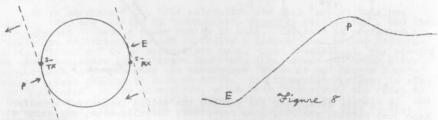


Such signals that parallel the terminator front (e.g., N-S paths in March and September) often fade in with weak to moderate signals twice before "officially" fading up for the evening, the reverse occurring at dawn. Note, however, that not all terminator-parallel signal paths yield the curve in Figure 7; the Figure-6 curve will often appear in its place, especially in tropical areas.

Our model of an ionospheric transfer area was necessarily extremely simplified. The <u>real</u> transfer area is a tri-dimensional structure with complex vertical, as well as horizontal, interference zones. I, myself, do not have a good comprehension of it. Possible clues to its nature may be gleamed from the following TXM theorems:

- The equivalent height of the E layer is that where sunrise or sunset respectively leads or lags ground sunrise or sunset by one PTZ radius.
- 2) The equivalent height of the F2 layer (ditto) by one PTZ diameter.
- The diameter of the PTZ at 5 MHz is exactly one-half that at MW frequencies.
- 4) The maximum distance permitting predominantly single-hop ionospheric propagation is about 1600 kilometers via the E and 3200 kilometers via the F2 layer, varying with latitude and season.

For most TXM work only the PTZ is considered; the rest of the eye-shaped transfer area may be ignored. Again, the PTZ is a circular area pictorially defined in Figure 8:



(From here on we will be using the parametric symbols previously given in Part I of this series on TXM; please review them if necessary). Time E, the most important temporal parameter in TXM, occurs when the terminator first contacts the PTZ at sunset or last touches it at sunrise - or - this is when the signal starts to fade up at sunset and finishes fading out at sunrise. Time F is the same thing, but the F2 layer is the propagation medium. When the terminator reaches the opposite side of the PTZ, that's time P - or - the end of the evening fade-up or the start of the dawn fade-out.

It is obvious from what we have seen so far that we must view MW signal paths from a new perspective. Many are in the habit of assuming that a sky-wave signal travels from transmitter to receiver bouncing off a small spot in the ionosphere at the half-way point.

While this assumption is rejected by standard magneto-ionic theory, let alone TXM, DX'ers with insufficient knowledge of propagation continue to hold this oversimplified view of things, some even going so far as to come up with "TXM" formulas of their own using this inaccurate premise (For an exemple cf. How to Listen to the World - 7'th Edition, page 111). This is not to say that such systems won't work part of the time, since temporal parameter E does give a powerful impression that there could easily be a midway "reflection point" in operation, but the phenomena of parameters F and P make no sense without the PTZ concept. Besides, anyone who has ever flown an airline at dawn or dusk knows that sunrise and sunset do not occur in the ionosphere and on the ground at the same time; that alone kills the "half-way" theory.

Nor do radio signals travel in narrow pencil-like beams, even in a parabolic curve. Diagrammes such as the one back in Figure 1 represent vectors or the center of the signal path, not the path itself. Transfer theory assumes that the entire sky within the aforementioned eye-shaped enclosure is the propagation medium for most signals below 1500 kHz. For practical purposes, we must think in terms of PTZ's, visualising circles on the map or globe rather than straight lines.

Practical ionospheric signal paths are seldom of the simple text-book variety; on long- and medium-wave frequencies they are quite complex: A single-hop signal; e.g., normally emsists of 1, 2, 3, 4, 5, etc., hops, each progressively weaker than the preceding one. The famous Austin-Cohen equations are based on this fact. For low-number hops the secondary paths are relatively too weak to be considered most of the time, but trans-oceanic paths are a different case, as we shall see.

Our empirical evidence indicates that multi-hop signal paths may be represented by PTZ's placed end-to-end on a great-circle route (Figure 9). According to the rules of TXM, reception should not occur unless all of the PTZ's are in complete or partial darkness, meaning that time E will not occur until the terminator has reached the eastern edge of the most westerly PTZ on the path. For trans-Atlantic signals reception is generally terminated once the PTZ touching the transmitter is completely in sunlight at local dawn.



More practical paths are shown below: Figure 10 is a single-hop path showing the double-hop secondary; compare the size of the PTZ's for each. Figure 11 is a 2 and 3 hopper; again compare the PTZ's.



In Figure 10, the single hop overwhelms the double hop, while the contrast is not so great in Figure 11. Now let us examine Figure 12, a 5 and 6 hopper typical of trans-oceanic paths:

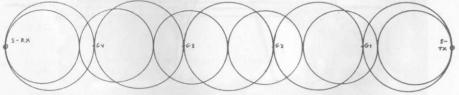


Figure 12

Figure 12 indicates how differences in the number of hops may become confused as the number of hops increase on long signal paths. Not

only are signal strengths almost equal, but accurate strip-charting is a must. On the longest possible paths, of the antipodal variety, temporal parameters 14E and 15E may only lie about three minutes spart on the chart! Fortunately (?) long hauls like that are seldom experienced these days in North America!

Another case involves north-south multi-hop paths: What happens when all or most of the PTZ's are eclipsed simultaneously? Frankly, these complex terminator-parallel paths are too rare to worry about. While the calculation of temporal parameter P becomes difficult, parameter E is figured as usual - the most westerly PTZ at dusk and the most easterly at dawn.

Finally, there are those paths that lie near the poles: How does one consider Murmansk-657 in December when the sun never rises? This special case will be covered in a future article.

This presentation of ionospheric transfer propagation theory brings us to Part IV of this TXM series, which will show how to calculate temporal parameters Er, Es, and Pe, extremely useful devices for anyone who works sunrise and surset skip (SRS and SSS) as well as early-morning TA's and TP's. Please review and know Part I and especially Part II (Tracking the Terminator) as a prerequisite, also have a world globe and kilometrage (mileage) tape at hand. Part IV-A, entitled TXM vs. E2O, will appear subsequently.

Comments and questions re this series of articles on TXM are requested and should be posted to the author's current address.

-30-

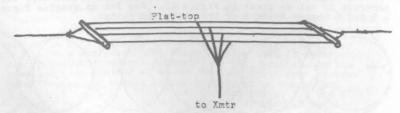
ANTENNAS FOR A.M. BROADCASTING

Steve Kennedy - NRC

The antenna is probably one of the most important components of any radio system. A MW DXer uses an efficient antenna for the DX receiver...loop, beverage, or even a longwire with a tuner. A good antenna is no less important for the station.

In the early days of AM broadcasting, up to the late 1920s; many stations used antennas unlike those in use today. Most stations where using transmitter powers of 100-200 watts...even the big city stations. Often the antenna was a simple wire strung between 2 masts on top of the building where the station was located. Almost anything that was tall and offered good support was used to hang the antenna on...even a water tower!

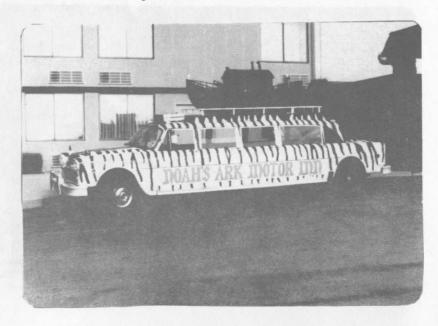
Most of these longwire antennas where in reality several wires errected so that it looked like a clothes line...6 wires parallel to to each other with a wooden spreader. The antenna was often fed at the center with a single lead which connected to the transmitter. Possibly the reader has seen old pictures of this type of antenna; here is a sketch of what one might have looked like.



The horizonal parallel wires tended to act as a capacitor, which helped to 'load' the antenna for a better match into the Xmitter. How well did this type of antenna work? For skywave radiation it worked pretty good, but it was a poor antenna for groundwave receiption. It would not radiate a decent signal to overcome dead spots from large buildings and overhead utility wires.

More on Pg. 27.

A. Our airport arrivals may have thought they had too many in-flight drinks when greeted by the motel courtesy car!



B. In St. Charles we found a lot of bull---bull elephant that is!



24 C. Our Sat. tour group prepares to enter a college E. Lou Buehler starts the banquet off. FM station.

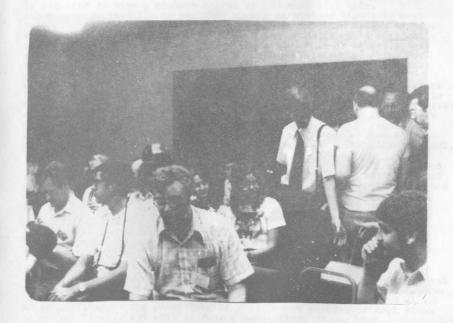


D. As always the motel pool was a popular attraction. Don Erickson has a ball!





A break in the auction action--part of the group is out seeking relief from Bavarian Club!



Chuck Rader's annual convention pose. Mike G. Buehler "aims" back.



H. Bill Block read DX News while Bruce Portzer posed for Ted.



The early engineers of most of these small stations where great experimenters; and often tried almost everything to get a strong signal out to listeners...even using railroad tracks as a ground! In fact, by 1922 or 23, many stations installed an additional wire which ran below the radiating antenna called a counter-poise which was actually part of the ground circuit of the transmitter-antenna. The counterpoise wire helped improve the efficency of the antenna, but untill someone finally out in a radial ground which really made a big

The first real significant improvement in AM antennas was in the late 20s. sometime about the time of the start of the Depression, when the idea came of using a vertical tower. Some of the earliest vertical antennas where tall wooden masts with a simple wire ran up the tower! These early antennas resembled oil derricks!

As the years of the Depression wore on into the Administration of FDR, steel towers where built. Probably one of the most famous is the 831 foot monster built for WLW. Those of us in the MW DX hobby who have a QSL from the mid-60s of WLW, can see the Blaw-Knox tower with it's famous diamond shape and the letters W-L-W across it's 40 foot wide middle! This huge affair weighs over 200 tons with all the weight supported on a glass insulator which is 6 feet high!

Almost every 1-A clear channel station had a tall half-wave tower to put out a powerful groundwave signal. It should be interesting to note that a tall tower radiates a better groundwave signal than a short one of quarter wave. But a quarter wave has a higher angle of depature for a better skywave. No wonder class IV graveyard stations are heard so well!

Almost all modern AM stations use a vertical antenna. There are a few left who errected a vertical tower on top of a building many years ago. This type of antenna is not efficent, but because of ecconomic reasons its the only thing which could be put up. The reason for poor efficency is a lack of a good ground system.

Let us look into modern AM antennas now, and see how much a good antenna can affect a station's coverage. A large majority of most stations use quarter-wave or half-wave towers. There are a few which employ five-eights-wave (.625) hights.

The actual hight of an AM tower Is dictated the class of station which will use it. For example, a 1 KW class IV graveyard station is required to have a minimum signal of 150 mv/m at 1 mile. FCC rules permit class IVs to use 150' towers as minimum hights to meet this requirement. At 1230 Khz, a 190' tower would be needed to have a .25-wave antenna. However, a .25-wave antenna is quite efficent - about 182 mv/m at 1 mile with 1 KW of power. This is actually more signal that is needed to satisfy the 150 mv/m requirment. The FCC intentually imposed the shorter antenna requirement to restrict the groundwave coverage of class IVs. So in reality, most class IV stations are using antennas shorter than .25 wave to permit more class IVs to be allocated to the graveyard channels. An interesting fact is in areas where class IVs are close spaced; many will use the short stick and actually radiate a potent skywave signal. There are several IVs built many years ago which use .5 antenna hight which can really get out. A fine example is WSPB-1150 in Sarasota, Fla which has a 285 foot tower ... not quite .5 wave ... but still radiates an excellent signal.

Class III stations must have a minimum of 175 mv/m at 1 mile, and usuily emoloy .25 wave towers in smaller stations, or if a directional array is used. .25-wave towers require less space to errect, and much easier to phase properly with spacing of .5 to .25-wave. Some N.D. class IIIs use .5-wave towers.

Like class III stations, class II stations generally are mixed with tower hights. A number of daytime-only class II-Ds use .25 wave towers ... especially when on a low dial position. Some mid-dial II-Ds use .5-wave towers, but a majority of them use .25-wave setups.

The largest users of the tall .5 wave and a few use .625 wavers are the class 1-As and 1-Bs. The .625 wave tower is the most efficient vertical antenna design. When coupled with an excellent ground system, this is the best single element antenna which could be employed at an AM transmitter. The power lobe of a .625-wave antenna is kept close to ground level...and will produce a very potent ground wave. At 540 Khz, a .625-wave tower is 1082.5 feet tall!

Some AM towers have a small metel projection at the top which looks like an old wagon wheel. This is a capacity hat which is sometimes used to make the tower act like it was taller. Some AM-FM towers use a capacity hat in the middle of the tower to keep it out of the RF field of the FM antenna at the top.

Finally, an important consideration for any AM broadcast tower is it's ground system. Not only does the ground drain off static from lightning, and offers protection from a direct strike. But the ground offers the other half of the antenna circuit for the transmitter. A good ground is so important, that without it, the signal of the station may be reduced back to nearly half of what could be expected with a good ground. Most AM antennas use about 120 quarter-wave radials, spaced about every 30 like the spokes of a wheel, with the tower in the center. If the tower is errected on swampy-marshy land, the ground connection could be just about the best which could be had. This is what is done when WOR-710 built it's new plant several years ago in the marshlands of the New Jersey shore across from NYC.

The ultimate AM site is directly on top of sea-water. The European 'pop' pirates of the mid '60s really knew what see water could do with an AM signal. A 10 KW rig in the middle of the English Channel could get out as well as a 100 KW rig on land! Salt water is the best propogator of AM groundwave signals.

WRHC-1550 Miami has it's AM transmitter offshore about 3 miles from the studio. It has one of the most potent ground wave signals of any station on the high end of the dial. WGAM-560 Miami has only a quarter-wave antenna at the water's edge on Biscayne Bay...but it's groundwave is heard clearly all the way to Cape Hatteras. NC! WWL-870 booms into the writer's home at midday ... thanks to the Gulf of Mexico. Until Radio Guama took over 1030, KCTA was heard daily at noon in Sarasota, Fla.

If the reader is interested in more information about AM antennas and AM station signal strength; it is reccomended to study the charts and graphs in the FCC rules pertaining to AM stations. There are instructions included to permit the reader to use the charts for signal prediction for almost any type of antenna used in AM radio.

Like the antenna on your receiver, the modern AM station needs an efficent antenna to cover it's primary and secondary coverage area ... and to become you next DX catch!

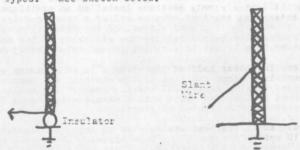
THEY: JOINED

We have several batches of new members this time. First off I misplaced Hank Schwartz's join notice back in August. So, better late than never! Welcome to all and contribute to the columns soon.

Hank Schwartz, WA6UWB, KXOA, P.O. Box 1677, Sacramento, CA 95808 John J. Knab, 6 Brighton Lane, Gaithersburg, MD 20760 Robert Kramer, 3406 West Pierce, Chicago, IL 60651 Hugh Montgomery, Jr., 1502 Highwood Drive, Arlington, VA 22207 Raymond J. Nemec, 1424 Heatherton Drive, Naperville, IL 60540 Harold Ringgenberg, 11495 Village Brooke Ct., #618, Cincinnati, OH 45242 Kiell Norman, PI 8026, S-941 00, PITEA, Sweden Kjell Arne Olsen, Box 180, N-2381 BRUMUNDDAL, Norway Edward F. Rebennack, WASEID, 4100 Academy Drive, Metairie, LA 70003 Peter Tworow, 21 Roseview Drive, Calgary, Alberta T2K 1N8

Recent renewals: Paul Wardell, Wayne Murphy, Michael Worst, Madalyn Boley John Clemmer, Richard Allen, Darryl Belanger, John Houghton, Michael Good, Jim Wallace, Richard Harrison, Kathy & Bill Phillipson, James Hoke, Tom Sundstrom, Gordon Anderson, W.R. Ritayik, Leonard Jozwiak, Al Jones, David Peters, Sr., Clayton Woodward, Tim Kerfoot, Gary Atkins, Robert Fischer, David Lewis, Bo Nensen, Robert Karchevski, Roger Giannini, Tom Farmerie, Phil Sullivan, Roger Anderson, Sam Dellit, Bryan Griffiths, John Parillo, Robt. Larseni Thomas Holmes, Ron Musco, John Buehler, Gregory Carrington, Russ Edmunds, Al Merriman, Richard Mozlack, Glen Thompson, Ken Lyon, Jim Gangler, Ethel & Norman Parsons, John Sampson, Randy Tomer, Peter G. Campbell, Frank Aden, Jr., Jerry Starr, Marc Kulbacki, David Whatmough, H. John Clements, Ronald Dennhardt, Sol Rundbaken, Bill Bergadano, Neil Kazaross, Morris Sorensen, Elliot Pollock, G. Paul Crowder, Terry Krueger, Brett Hanavan and a little late, that is if my check didn't bounc , your typist, Pat Hartlage.

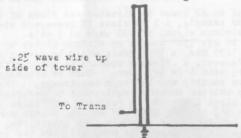
Antennas for AM broadcasting come in several designs. The 2 most popular types are insulated base-fed series fed towers; and the grounded shunt fed types. See sketch below.



The insulated base-fed series fed tower is the most common type in use. The antenna impedence or resistance will very from anywhere from a low 20 ohms to as high as 89-90 ohms. Most are simple to match to a coaxial 50 ohm line, by using a simple L or T tuner at the tower base. This type of tower is RF hot at the base with high current.

The shunt type is usuily a grounded type of tower often used when the station has both AM and FM facillities at the same site, and wish to use the same tower for both stations. It has a high impedence, and the transmitter is connected via a 'slant-wire' which is connected about .25 or up to .35 the hight of the tower. The slant wire may be conected to a tuner...or in some instances directly to the transmitter This type of antenna takes more care in design than the simple base fed tower because the feed point for the slant wire is quite critical: and is often a 'cut-and-try' proposition. There are few slant-wire systems being errected today. It is used in cases when more common series fed towers are impractical.

There are a few other interesting antenna designs which are used in AM stations. One of the most unusual is the 'voltage fed monopole' ... which is one of the most interesting.

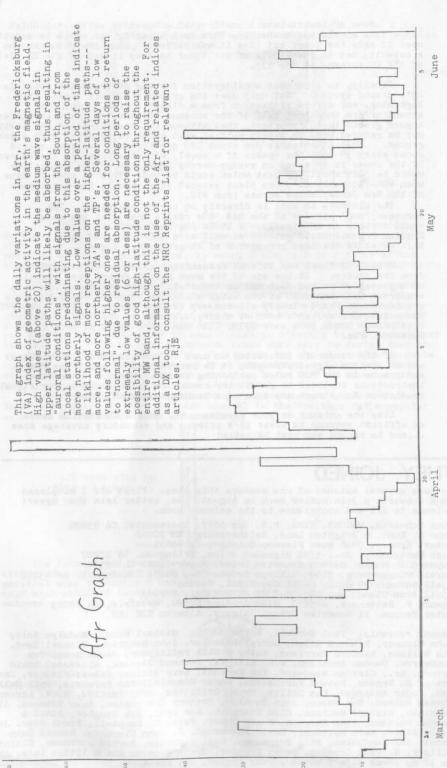


The Voltage Fed Monopole is a simple grounded quarter-wave tower with a wire which runs to the top and is connected to the tower. The parallel wire is usuily a cable which is insulated from the tower itself with standoff insulators. Although only .25 wave high...this antenna acts like a .5 wave antenna.

(this is somewhat exaggerated to show detail. In reality, top-hat is usuily 6 in diameter in most tower instellations.)







In the August, 1979 <u>QST</u>, an article titled "Propagation-Past and Prospects" discusses at length the expected effects of the Solar Sunspot Cycle 21 as it approaches it's peak, particularly the effects on high-frequency transmissions. However, several tables and graphs contained in the article are of interest to MW Divers. One such graph includes a prediction that the Cycle 21 peak will occur apparently in Nov. 1979.

A more general overview of the sunspot cycle appeared in the July 19, 1979 issue of <u>Electronics</u> magazine. Note that the predicted peak is given as March 1980. The article follows.

Several articles appeared in DX News last volume year Refer to issues 15, 25 and 26. The articles were "Comparative Measurements of Geomagnetic Indices", "Review of Solar Activity for the DXer" and "Sunspot Cycle 21" respectively. The first two are available through the NRC reprints service. These articles, with several others available as reprints will give the novice DXer a good background in propagation and the Sunspot Cycle effects. References are Vol. 45.

30

Ī

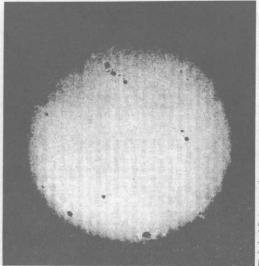
June

Communications

World waits for sunspots

Major disruptions, particularly in 3-to-30-MHz band, are expected next year, with satellites also affected

by Harvey J. Hindin, Communications & Microwave Editor



Blacked east. Dark areas on the sun, or sunspots, wipe out much radio communication in the 3-to-30-MHz range. The upcoming intense period of sunspots should peak early in 1980. Text of article from Electronics/July 19, 1979
follows on next page

The sunspots are coming, and for users of a good portion of the civilian, commercial, and military radio bands that means communicating in another way or learning to work with

different frequencies.

Actually, there are always sunspots, and they intensify periodically. The profound influence these dark areas in the sun's photosphere have on the earth's communication systems makes it significant that the National Oceanic and Atmospheric Administration predicts major disruptions in early 1980. The activity, most of it in the 3-to-30-megaherz range, is expected to peak in March.

The disruptions in communications will benefit some and hinder others. The more than 350,000 amateur radio operators in the U.S., for example, will be able to make extremely consistent, long-distance contact frequently and with relatively low power, says H. H. Sargent III of NOAA's Space Environment Laboratory in Boulder, Colo. But operators confined by law to specific frequencies may find them more heavily congested than usual. Such

reduced efficiency often accompanies increased solar activity, he adds.

Worse yet, if the cycle, the 21st since 1755, is as severe as Sargent and his colleagues - using a sophisticated statistical procedure called multiple regression analysis-predict, then related geophysical disturbances such as solar flares and ionospheric storms will occur. These will disrupt radio communications in both the 3-to-30- and 30-to-300-MHz bands for periods of time ranging from minutes to days.

Second worst. If the prediction is accurate, the 1979-80 cycle will be equal to the second most severe cycle observed over the past century. This disturbance, the 18th since 1755, occurred in 1947. Because of their serious effects many investigators have studied all available records of sunspot cycles, which average around 11 years each, in an effort to predict the impact of the phenomenon. However, the predictions by no means agree, and the lack of a reliable, long-term data base using modern measurement technology contributes to the disparity.

The present sunspot disturbance is in part responsible for the untimely demise of the Skylab satellite, as it caused molecules in the earth's atmosphere to rise, creating increased drag on the spacecraft. If opinions on the severity of sunspot activity had not varied so widely, it might have been possible to pinpoint Skylab's reentry more accurately. As it was, the National Aeronautics and Space Administration's estimates suggested less disruption than those made by the NOAA group.

Sargent's estimate is based on the work of a Russian physicist, A. I. Ohl, who predicts an extremely severe cycle ahead. Sargent's colleague. Joseph Hirman, thinks that Ohl's method of calculation should be taken seriously because it takes new factors into consideration, relying "not only on past sunspot cycles, but adding magnetic disturbances on earth caused by sunspots as a source of additional information. Statistically, this is very important because it takes into account something besides the sunspots themselves."

GRAVEYARD DX ACHIEVEMENTS

BILL HALE 1451-B FAITH DRIVE RANTOUL, ILL. 61866

VOL. 47 COLUMN RULES

1. Only current NRC members may participate.

2. That member submitting the most distant logging of each station on any of the graveyard frequencies will be listed as the current record-holder.

3. Only those stations operating (or have operated) on the commonly referred to "graveyard channels" will be listed. These frequencies are: 1230; 1240; 1340; 1400; 1450; 1490 khz.

4. Power limitations are 1000/250 watts.

5. The stations may be located anywhere in the world, so long as they meet the requirements set forth in rules 3 and 4.

Your DX location must be in the United States, a U.S. Possession, Canada, Mexico, The Bahamas, The West Indies, Cuba, or on a ship or boat registered to one of these, operating in the territorial waters of same. All U.S. Navy and Coast Guard vessels are accepted no matter where they are.

7. Loggings before January 1, 1960 will be listed separately. When reporting, please specify whether loggings were achieved before, or on or after Jan 1, 1960. If this information is not included, the data will automatically be placed in

the listings for Jan 1, 1960 or after. The Graveyard DX Achievements column is scheduled to be published in the first

Therefore, new data must be received by your issue each month. editor two weeks in advance so the column can be typed, mailed and received

by LPC for the publishing session.



RADIO 108 Post Office Box 1080 North Main Bypass Lenoir, N. C. 28645

FOOTBALL STATION LIST

Compiled and edited by Bill Hardy, 2301 Pacific Ave., Aberdeen, WA, 98520. Any and all additions/corrections/etc. are most welcome.

Format change for this column: At the request of NRC HQ, we will be using an "abbreviated" format for sports network listings henceforth. The city of license will be omitted but the two-letter state/province abbreviations will be used; on each frequency, the stations are listed in NRC Log order so that you may look up the cities if you wish. This is the same format I used in the "IRCA Almanac," so it should be less confusing. Besides, it takes up only by the space. Abbreviations and symbols used throughout these lists:

* Daytime-only station

** "Limited Time" station & Daytime station with CP to go fulltime soon

Specified Hours station % Share Time station

+ AM-FM simulcast of games The flagship station is underlined. Footnotes for each team are explained at the end of that team's listing. Any other symbols will be explained along the way!

CBS Radio. All regular-season NFL games that are not played on Sunday afternoon will be carried on the CBS Radio Network. This includes 16 Monday-night games (9/3 thru 12/17, at 2100 ELT), four other nighttime games (three on Thursdays 9/6 10/25 & 11/29, plus Sun. 10/14), and three daytime doubleheaders (Thanksgiving Day 11/22 and Saturdays 12/8 & 12/15). Jack Buck and Hank Stram will do all the Monday and Thursday night games, plus half of each doubleheader. Don Klein and Jim Kelly will do the Sun. nite 10/14 game. Lindsey Nelson and Jim Kelly will do the other half of the doubleheaders.

CBS will also cover all post-season playoffs, including the Super Bowl and Pro Bowl. Buck/Stram and Nelson/Kelly will be the announcer crews. Brent Musburger will do a half-time show on all CBS games.

Mutual Radio. Sunday afternoon games, 9/2 thru 12/16. If Mutual repeats its 1978 coverage, games will start at 1600 ELT each Sunday.

ATLANTA FALCONS Bob Neal, Harmon Wages 630 WNEG-GA* 1240 WBHB-GA 1400 WJHO-AL 1520 WXPQ-GA* 650 WSM--TN 1410 WLAQ-GA WDUN-GA 1530 WTTI-GA*+ 1250 WYTH-GA* 710 WUFF-GA* 1420 WRCG-GA WTHO-GA* 910 WGAF-GA 1260 WCRT-AL* 1560 WLEJ-GA* WPEH-GA* 1290 WTOC-GA+ 1450 WBHF-GA 920 WGST-GA 1590 WALG-GA 930 WJAX-FL 1300 WLOW-SC*+ WKEU-GA (plus 8 FM's) WSOC-NC 1340 WGAU-GA+ WMVG-GA 940 WMAZ-GA+ 1360 WAZA-GA& 1490 WMOG-GA 1130 WMGA-GA 1370 WLOP-GA* WSYL-GA 1380 WGUS-SC* 1230 WAYX-GA WMRB-SC 1390 WISK-GA* WDXB-TN Baltimore Colts ... no 1979 info available yet BUFFALO BILLS Van Miller, Stan Barron 1240 WJTN-NY 1450 WHDL-NY 1590 WWBK-NY1 950 WBBF-NY 1320 WHHO-NY* 1560 WWBK-NY*1 WGGO-NY* 1230 WENY-NY 1410 WDOE-NY

1. WWBK, Brockport NY, is currently daytime-only on 1560 kHz, but has a permit to go fulltime on 1590 kHz soon.

CHICAGO BEARS Joe McConnell, Brad Palmer, Virg Carter

780 WBBM-IL (no regional network) Cincinnati Bengals ... WLW-700 will be flagship; no other info yet CLEVELAND BROWNS Gib Shanley, Jim Mueller

1420 WHK--OH (plus a regional network to be announced later)

Dallas Cowboys ... KRLD-1080 plus the Mutual Southwest Radio Network; station lineup to be announced later DENVER BRONCOS Bob Martin, Larry Zimmer

550 KRAI-CO 1230 KBRR-CO 1340 KSID-NE 1410 KCOL-CO KBCR-CO 580 KUBC-CO 1360 KRKK-WY KAHL-NE 610 KRKE-NM KSTC-CO 1450 KGIW-CO 1390 KENN-NM 1240 KRDO-CO 850 KOA--CO 1490 KGUC-CO# 1400 KRLN-CO 920 KLMR-CO KGOS-WY KFBC-WY KFTM-CO KEVA-WY KBZZ-CO 1550 KRGO-UT 1030 KTWO-WY 1290 KOWB-WY 1060 KLMO-CO* KTRC-NM (plus 4 FM's) 1310 KFKA-CO* 1100 KREX-CO

Detroit Lions ... no 1979 info available yet Green Bay Packers ... WTMJ-620 will be flagship; no other info yet

While I've got a little room, I'll toss out the usual caution: Sometimes stations drop off the net, or join up late, between the time this is printed and the time the season actually starts. So, please don't assume that you are hearing the stations listed --- stay tuned for a firm station ID.

```
HOUSTON OILERS Ron Stone, Ron Franklin
   "Texas State Network" ... NFL lineup as follows:
                                                          1490 KBST-TX
     690 KPET-TX
                      1090 KKYN-TX&
                                        1340 WAML-MS
                                                               KNET-TX
     740 KRMG-OK
                      1130 KBGH-TX*
                                             KWKC-TX
                      1200 WOAI-TX
                                             KLBK-TX
                                                               KSAM-TX
     800 KDDD-TX*
                     1220 KVLL-TX*
                                             KTEO-TX
                                                          1500 KTX0-TX*
     840 WMOB-AL*
                      1230 KLVT-TX
                                        1390 KULP-TX*+
                                                         1510 KMND-TX*
     910 KNAF-TX*
                           KGRO-TX
                                        1400 KIUN-TX
                                                          1530 KGTN-TX*
         KRIO-TX
                      1240 KXYL-TX
                                             KDWT-TX#
                                                         1540 KGBC-TX
     920 KYXX-TX
                      1250 KPAC-TX
                                        1440 KETX-TX*
                                                          1550 KWBC-TX*
     930 WKY--OK
                      1260 KPSO-TX*
                                        1450 KMBL-TX
                                                          1580 KTLU-TX*
         KDET-TX*
                      1270 KFJZ-TX
                                             KMHT-TX
                                                          1590 WACA-SC*
     980 KFRD-TX*
                      1280 KTTX-TX*+
                                             KNET-TX
                                             KSNY-TX
    1010 KKIK-TX&
                           KLUE-TX*
                                                               KERC-TX*
    1050 KPXE-TX*
                      1290 KIVY-TX*
                                        1470 WWQT-FL*+
                                                          1600 KEWS-TX*
    1060 KCLT-TX*
                      1330 KVKM-TX
                                                               KXVI-TX&
                                                           (plus 13 FM's)
Kansas City Chiefs ... KCMO-810 will be flagship; no other info yet
LOS ANGELES RAMS Al Wisk, Dick Bass, Steve Bailey
     570 (Note 1)
                     1230 KGAM-CA2
                                      1340 KFBR-AZ
                                                          1440 KPRO-CA
     710 KMPC-CA1
                                                         1450 KOWN-CA+4
                           KWTC-CA
                                             KDOL-CA+
    1010 KCMJ-CA
                           KXO--CA
                                             KSFE-CA
                                                               KTIP-CA
                           KPRL-CA
                                        1400 KTUC-AZ
                                                           (plus 2 FM's)
                      1240 KSMA-CA
                                             KAAP-CA
                      1280 KKAL-CA
                                             KONG-CA
  1. The pre-season game 8/18 was heard in Los Angeles over KLAC-570 rather
     than KMPC-710, because KMPC needed to carry live Angels baseball.
  2. Formerly KGEE, Bakersfield CA.
  3. Formerly KFYV, Arroyo Grande CA.
  4. KOWN-1450 is on both the Los Angeles and San Diego NFL networks.
Miami Dolphins ... WIOD-610 will be flagship; no other info yet
Minnesota Vikings ... no 1979 info available yet
NEW ENGLAND PATRIOTS Gil Santos, Jon Morris
    1030 WBZ--MA (plus a regional network to be announced later)
NEW ORLEANS SAINTS Wayne Mack, Danny Abramowicz
                     1270 KVCL-LA*
                                       1420 WIGG-MS*
     710 WKRG-AL
                                                         1500 KQXL-LA*
     730 WARB-LA*
                           WMLC-MS*
                                       1430 KMRC-LA*
                                                         1510 KAGY-LA*
                     1280 WGSO-LA
    1050 KLPL-LA*
                                       1440 KMLB-LA
                                                         1520 KXKW-LA
                     1360 WFFF-MS*
    1110 KPAL-LA*
                                       1450 WNAT-MS
                                                         1570 KMAR-LA*
                     1400 WFPR-LA
                                       1470 WCHJ-MS*
    1230 WHSY-MS
                                                               WHII-MS*
    1250 WHNY-MS
                          KAOK-LA
                                        1490 WIKC-LA
                                                           (plus 13 FM's)
                                            WLOX-MS
                           WBIP-MS
    1260 WNSL-MS*
  Plus a mystery: "WVIL, Hernando MS." I can't find any station in
    Hernando MS, old or new, AM or FM!! Help!!
NEW YORK GIANTS Jim Gordon, Dick Lynch
1130 WNEW-NY (no regional network)
NEW YORK JETS Spencer Ross, Sam DeLuca, Ed Ingles
880 WCBS-NY (no regional network)
OAKLAND RAIDERS Bill King, Monty Stickles
810 KGO--CA (plus a regional network to be announced later)
PHILADELPHIA EAGLES Merrill Reese, Jim Barniak
                      1100 WGPA-PA*
                                      1400 WOND-NJ
     590 WARM-PA
                                                         1510 WJIC-NJ*
                     1260 WNRK-DE*
                                       1440 WMVB-NJ*+
                                                         1530 WCTR-MD*1
     610 WIP--PA
     850 WEEU-PA
                     1280 WBRX-PA*
                                       1450 WILM-DE
                                                         1580 WRDI-NJ*+
                      1330 WASA-MD&1
                                            WPAM-PA
     910 WSBA-PA
                                                         1600 WPDC-PA*+
                     1350 WHWH-NJ
                                       1480 WSHP-PA*
     940 WVLV-PA*
                                                          (plus 2 FM's)
  1. WASA-1330 and WCTR-1530 are also on the Washington NFL network.
                     Jack Fleming, Myron Cope
PITTSBURGH STEELERS
                     1250 WLEM-PA*
                                       1430 WVAM-PA
     850 WJAC-PA
                                                         1490 WOHI-OH
                           WTAE-PA
                                            WEIR-WV
                                                         1540 WPME-PA*
     860 WOAY-WV*
                      1280 WKST-PA
                                        1440 WHHH-OH
                                                         1570 WQTW-PA*
     920 WMMN-WV
     990 WVSC-PA*
                      1340 WCVI-PA
                                            WAJR-WV
                                                         1580 WANB-PA*
                           WOYL-PA%
                                       1450 WWGO-PA
    1050 WBUT-PA*
                                                           (plus 3 FM's)
                     1400 WBBN-WV
                                            WFRA-PA
    1110 WKEG-PA*
                           WKWK-WV
                                             WDAD-PA
    1230 WBVP-PA
                     1420 WCED-PA
                                             WPAR-WV
         WTIV-PA
St. Louis Cardinals ... no 1979 info available yet. Maybe some of you at
    the CONVENTION can come up with a listing for us!!
                    Tom Kelly, John DeMott
                                       1370 KWRM-CA
                      1300 KROP-CA
     620 KTAR-AZ
                                                         1450 KOWN-CA1
                     1320 KUDE-CA
                                       1400 KVOY-AZ
                                                          (plus one FM)
  1. KOWN-1450 is also on the Los Angeles NFL network.
SAN FRANCISCO 49ers Lon Simmons, Wayne Walker
                                        1230 KDAC-CA
     560 KSFO-CA
580 KMJ--CA
                       630 KOH--NV
                                                         1530 KFBK-CA
                                        1400 KQMS-CA
                       980 KINS-CA
                                                          (plus one FM)
     620 KWSD-CA*
                                        1490 KBLF-CA
                       990 KHVH-HI
```

SEATTLE SEAHAWKS Pe 560 KVOK-AK	920 KXLY-WA		1450 KLAM-AK#
	930 KTKN-AK		KONP-WA
		1340 KAIN-ID	1470 KSEM-WA
610 KONA-WA	1170 KPUG-WA		
630 KJNO-AK	1230 KIFW-AK		KLOG-WA
650 KYAK-AK		1370 KAST-OR	KTEL-WA
660 KFAR-AK	KOZI-WA	1380 KBCH-OR*	1520 KYXI-OR
7.10 KIRO-WA	1280 KITWA	1430 KBRC-WA	(plus one FM)
ampa Bay Buccaneers	no 1979 info	available yet	pastilia see le min et m
VASHINGTON REDSKINS	Frank Herzog, San	Huff	· Carlottalian has been
540 WETC-NC*	1010 WCST-WV*+		1450 WTHU-MD
550 WSVA-VA	1050 WWGP-NC*+		
560 WGAI-NC	1060 WQWX-NC*		WHIT-NC
590 WGTM-NC			WFTR-VA
630 WMAL-DC			
760 WCPS-NC*+		1370 WKIK-MD	
790 WSIG-VA*		1380 WRAQ-NC	
810 WCEC-NC*+	1220 WENC-NC*+	1400 WGBG-NC	
880 WRRZ-NC*+	WLSD-VA*+	WSHB-NC	
900 WIAM-NC*+	1230 WCBT-NC	WSIC-NC+	
930 WITN-NC		WHLF-VA+	
960 WBOC-MD	1240 WJEJ-MD	WINC-VA+	1570 WTLK-NC*
970 WRCS-NC*+		1410 WEGO-NC*+	
	1250 WFAG-NC&+		
	1280 WHVR-PA 1290 WHKY-NC+		
1. WASA-1330 and W			

And now, something new

1979 COLLEGE FOOTBALL

Yes, Louisville HQ suggested that we list college football coverage this year. We don't have much on hand so far, but we'll give you what we have:

SOUTHWEST CONFERENCE FOOTBALL: The entire 63-game SWC schedule will be covered by the Mutual Southwest Radio Network. The 23 largest markets in Texas will get four simultaneous feeds to allow all games to be covered. Elsewhere in Texas, and in the rest of its coverage area, Mutual Southwest feeds a "game of the week." Some 200 AM and FM stations carried at least one SWC football schedule in 1978. SWC announcers in 1979 include Glenn Brown, Bill Burnett, Bob Dahlgren, Jack Dale, Frank Fallon, Steve Fallon, Stan McKenzie, Bill Mercer, Bob Nash, Brad Sham, Dave South, and Dave Woodman. The nine teams in the Southwest Conference are these:

Arkansas Razorbacks1 Texas Longhorns Baylor Bears Texas A&M Aggies Houston Cougars Texas Christian Horned Frogs Rice Owls Texas Tech Red Raiders Southern Methodist Mustangs

1. In Arkansas, KAAY-1090 and the Arkansas Radio Network have rights to the Razorbacks. Mutual Southwest has rights outside Arkansas.

NOTRE DAME & NCAA WILDCARDS: The Mutual Network will carry all Notre Dame games this year, plus eight major intersectional contests.

Arizona State Sun Devils Tom Dillon. 960 KARZ-AZ (and a network). California Golden Bears 810 KGO--CA Colorado Buffaloes Larry Zimmer 1100 KREX-CO 1240 KRDO-CO 1450 KGTW-CO 550 KRAI-CO 1230 KBRR-CO 1400 KRLN-CO 1480 KPUB-CO* 580 KUBC-CO KBCR-CO 1570 KLOV-CO* KFTM-CO 920 KLMR-CO (plus 3 FM's) KBZZ-CO 1060 KLMO-CO* New Mexico State Aggies TWO FEEDS: Feed A: David Glass, Russell Letz (perhaps others as well?) 570 KGRT-NM*+ 1350 KABQ-NM Feed B: Jack Nixon, road games only. 1450 KOBE-NM Texas-El Paso Miners Gary Gallup. 690 KHEY-TX 1010 KCMJ-CA (and others) (actual network is probably very similar to the Los Angeles NFL network)

Well, it's a start. All you have to do is read your newspaper (sports page and ads), check with your nearby colleges, and make notes as you tune around on Saturdays. The info we need is as follows (if you can get it all): 1. Name of the school & team 4. When the contract expires (if known)

2. Flagship station 5. List of the stations on the regional 3. Play-by-play announcers network (FM too; I send on to WTFDA) Send directly to Bill Hardy, or mention it in a Musing. This info is being shared with IRCA & CWDXA too, to make this list as big as possible. Thanks!

MUSINGS

ERNEST R. COOPER 5 ANTHONY STREET PROVINCETOWN, MASS. 02657

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

THE DARLY'S VACATION THIF - PART II
BILL HAPPY - 2301 Facific Avenue - Aberdeen, Washington - 98520 Last issue. I was describing some of the rare & exotic stations Nancy & I managed to hear, L&C of course, on our car radio while vacationing in Montana recently. I'll continue this time with our return trip. 8/2 we went to Grand Teton National Park, & noticed a TIS station on 1610 at the South entrance. However, it's oriented to Northbound travelers from Jackson & isn't even mentioned on Southbound signs. It's the only TIS in that park, contrasting with 18 low-power TIS outlets in Yellowstone Park to the N. KSGT-1340, Jackson, gave a 4pm ID as "Jackson Hole", but all the hourly IDs 5-8pm were "Jackson, Tyoming." The town is known by both names so I guess KSGT switches back & forth. Automated format seems to use two pop songs (ofter a few years old) to one c/w song. We stayed in Yellowstone Fark again that night. 8/3, heading into Idaho via West Yellowstone, Montana, home of much-wanted KWYS-920, we listered to their c/w format and APR NX on the hour. KIGC-1400 St. Anthony Idaho now has Mutual & is still c/w, while KRXK-1230 Papert is now As & is either POP or T-40 KBRY-790 Soda Springs has UPI NX. We spent the night in Pocatello, where KISU-1290 has "U-13" & "The Adult AM" slogans & AFR NX. 8/4, heading W via Boise, getting into more familiar stations, although seldom-heard KYNR-740 seems to have charged format to a mixture of jezz & cl & had a syndicated opera broadcast most of this Saturday afternoon! KSPD-790 is now EZL with a pop-religious number occasionally. They tape-delay Mutual's "Information" feed at :55 for playback just past the hour, & calls itself "The Sound of the New Life." The last notes from Idaho were for KWEI-1260 Weiser, whose regular format seems to be MoR & Mutyal NX, but Sat. 6-9pm ELT they hai SS programs, then early s/off without NA, 9pm. If you're trying for KWEI at surset, forget it, hi. The SS show was back SM also by 11:4 tam. We camped near Ontario, Ore. just one mile from the MLT/PLT dividing line. 8/5- KBKR-1490, Baker, Ore. has late s/on Sundays, llam ELT, & very low-key mx (Mancini, etc.) while KLBM-1450 LaGrande was loing T-40 hits On to Takima, where KVCM-930 (ex-KQOT) is "very good music", "Center Aisle 93". Mutual net. MoR or standards format. 8/6- Mt. Ranier again, & 8/7 home. I hope you found this vacation narrative interesting - "twas fun! 73 & good DX!

FIGHTY-EIGHT PERCENT RETURN ON TP VERIES! HANK WILKINSON - 5028 Maiden Lane - Santa Rosa, California - 95405 8/23/79 Veries received since last kusing are: 3WV, 2KP, 1XA, VQO (Solomon Islands for country #75), 2KY, 2D, "R. Singapore" (for country #76), 2YA, "R. Fiji" on 558 & 711 kHz. 2CP. 6WA, & 2FC. I submit ted 51 reception reports last season & received 45 veries (so far) for an 884 reply percentage. To me this means that MW Foreign DX & veries are not dead. I've got to admit that I spent a lot of time at the dials last season but none of the above would have been possible without the fine performance of the Hammarlurd SP-600 and the fine Sanserine Loop that Ralph made for me about eight to nine years ago. The past months of July & August were quite good for "Down-Under" DX on seven to eight occasions. The mornings of July 29th, August 4,5,6 were especially good. There must be other NRC West Coast Diers other than RANDY TOMEP and ERIAN VERNON - who are hearing these TP stations. I would like to see more contributors on this phase of DX in DX NEWS. And speaking of contributors, I often worder why more NEC members don't contribute to NCRM MAGUIFF's column. Write to Norm & let him know you are interested.

HE'S NOW WO EXING AT WEDI-1580 WALT W. SHAFF - 1301 Morgan Avenue - Cinnaminson, New Jersey - 08077 609-829-5248 8/22/79 Hi gang! Long time, no Mise. Oh well, I keep putting it off, but here I am. Remember me? I used to work at WTTM-920, but that was a while back, I'm now at WEDI-1580 & WRDR-104.9 in Hemmonton, N.J. I talked to one of our part time engineers & he said the furthest report he remembers is from Iowa, when someone forgot to sign off the AM station at surset. I'll be talking to him more about possibly setting up a TEST in the upcoming season. As for now, reports can be sent to the station in care of me, as I will assume the position of verification signer. I more to see some distant reports, so get listening! If you want a faster reply, you can write to me at my home address, please enclose return postage as radio is a terrible paying businers, hi. Alto note my correct phone number above. In the April 2 issue it was incorrect. On to DX, I turned the rig on a few times over the Summer, so here goes: 6/18- WFLI-1070 Term. testing 8 2:13 am, VIEC-1070 Ind. w/mx 3 19 3 12: 16am, WPDX-750 W.va. 3:55em, WCHS-580 W.va. 3 4:18am. 8/15- WPTr-680 N.C. 3 1:5-am, WIBE-1270 Pa. @ 1:01pm. Excellent CX on the morning of 8/15, as I also caught KOA-850 cA WJW for a good recording & enough details for a report. I got a reply in eight days, now that's service! I've been trying for them for over a year to get enough for a verie. Also on 8/15, some time around 3em, I heard some suitic u/WSM-650, it lasted a couple of minutes, then was gone. I won't even try to guess who this was, knowing what stations are supposed to be there 3/16. WJIC-1510 N.J. @ 6:1-pm. 8/17- WAMD-970 Mi. @ 6am, WHYL-960 Pa. @ 6:19, WVLV-940 Pa. @ 6:23am. That's all for now, listen to 1580! 73 & good DX

WANTS TO ORGANISE DX-PEDITION

MARK CONNELLY - 30 William Road - Billerica, Massachusetts - 01821 8/23/79 I hope all had a good Summer. Now, a new DX season is upon us. It's about time for some East Coast DXpedition activity. This desire is spurred on by accounts of RICK KENNEALLY's successes on his recent Florida TRF LA DXpedition & by the TP party held by BRUCE PORTZER and others in the Pacific Northwest. Not since the New Hampshire Beverage days of Gordon Nelson has there been any serious DXpeditioning in the Northeast having the logging of overseas stations the major thrust of operations. Ind be willing to get involved in such an endeavor, provided that it is held within a reasonable distance of my home. This would include Me., N.H., Mass., R.I., Conn., L.I. & (maybe) Eastern N.J. The site chosen should be a coastal one with water to the NE, E, & SE for European, African, & Eastern South American reception. There should be sufficient land to permit erection of at least one beverage 1200° or longer to be pointed 60° E of N to haul in TA's; a second beverage or IN could be used for LA's. The ideal site would be a beach cottage: the "TA-bev" would be strung from the cottage to the edge of the water. The location chosen should be reasonably free from strong local stations, powerline noise, & TVI. If someone can come up with a suitable site, I can offer the following: R390A/URR, Realistic THF, MW-1 & SM-2 loops, beverage wire, phasing unit for two-wire operation, tape recording gear, tapes, reference books maps, headphones, and other accessories. If a cottage is not available, a well-equipped van would be used to house the operation. A good DXpedition would consist of four to six experienced Diers operating three or more stations: one receiver (R390A or H0180A) coupled to a TA beverage (or phased beverage array), a second receiver on an LA beverage, and a third receiver on a loop for general purpose bandscanning. Sunset would be the most active time. A fourth station (TRF or car RX) could be pressed into service if a really ripping Aurora developed & LA's covered the dial. During such an AU, the TA position would be used for catching rare africans of the type heard by Mike Dunn in Nova Scotia a few seasons back. Come on, EC DXers - let's try to get something together this Winter in the DXpedition dep't.

NEW ADDRESS MEANS BETTER DX

JOHN BURHLER - 1716 Heatherdowns Boulevard - Toledo, Ohio - 43614 419-382-0883 8/20/79 This is my first Muse since issue 46/15. Please note the new address and telephone number. Equipment here includes a Radic West modified FRG-7, Sanserino Loop/SM-2 and casestte deck. Although my DX time has been reduced temporarily since 4/10/79, I plan to continue contributing regularly after the ST. LOUIS Convention. I am looking forward to some SSS DX now that I have my own home. No more apartment-type TVI! My new location has caused me to sacrifice 1500-1600 kHz until one mile distant WTOD signs off. On the other hand my equipment is performing better than it did at the west side location. Much deeper mulis are possible on locals WSPD, WCWA, WGOR & WOHO. Summer activities and QRN have limit_ ed newies to WFMJ-1390 & WEGN-1340. Both were logged and taped 8/20/79. Present totals are 608 heard. 41 states, six provinces, tem countries. I was able to double my total heard from 1/1/79 by regularly DKing MMs and listening for the sked f/c per the list published in the 45/11 issue. I am going to Fremont, Ohio tomorrow on business, and am planning my first approach to their WFRO-900 about a possible TEST. This will be my first attempt at arranging a TEST, so I'm not promising anything. I am presently listening to the CBS Radio Mrs. tery Theatre on WTAR-790. This is one of my favorite network programs. The fading and static enhance the program's already great production. The commercials are as much a painin-the-ear as television, however. I'll have met many of you by the time this is published. I'm looking forward to that. Until next time. (Where WERE you, John? -ERC)

DXING NOT EVEN FAIR AT THE FAIR
GUY KUDLENTER - 1314 \$1 City View - Eugene, Oregon - 97404

DXing has been slow here, but improving steadily as the sun goes down earlier & earlier each day. No new stations from this location yet, though, due to an increase in T-storms & certain noises that seem to be generated by my neighbors in this apartment complex. Fortunately, these noises seem to subside with sundown, so all is not lost. On 8/17 (my 23rd birthday!) my girlfriend & I took a weekend trup to Eastern/Central Oregon (E of the Cascade Mountains) to check out the Crook County Fair in Princeville. (That's another one of my hobbies - visiting neighboring country fairs during the Summer). Prineville happens to be a small cattle town of 5000 people, & is the largest town in Crook County). I enjoyed myself so much that I decided to go back the following weekend. This time we left at 5:00 on Friday after work, & stayed at the L-Bancho Motel in Redmond. I took along my TEF, & my Select-a-Tenna, with the intention of DKing in this cattle town that was 125 miles E of, & over, a range of mountains from my home. However, several factors came into play that I had not counted on: Our room was located right on Bwy. 97, which is the main artery into and out of town. The traffic noise was not conducive to excellent DXing. Secondly, our no on was right under a metal carport - again, not conducive to good DXing. Finally, and most importantly. the fluorescent lights were no more than 100 from our room & we all know what that does to DX. Consequently, my DX consisted of a catch of KODL-1440 in The Dalles during sunrise on the following day. Everything else I heard was the same stuff I already logged from Bugene. I am looking forward to my next visit to Central Oregon, & this time I will definitely get a room away from carports & fluorescent lights. As a matter of fact, I am listening to KRCO in Prineville as I type this, trying to get the WX for the weekend. The only other downer of that particular weekend was paying \$1.06 for gas in Portland - it's only 91.9 here in Eugene. (I went to Portland after going to Prinsville in order to attend a party, & to DX from another location. However, after a couple of six-packs of "The Bull" all I could say was "DXing? What's that?") I hope to have more substantial DX information next time. Till then, 73.

LOGS SOME HURLICANE DAVID DX AFTER CONVENTION

MARK STRICKERT - 5900 North Washtensw - Chicago, Illinois - 60659

Fresh back from excursions to Peoris and ST. LOUIS, settling back into the same old routine called employment. Both conventions were great! Only disappointment at ST. LOUIS was no tour of U.S. Tape and Label Corp., makers of so many of the radio (and TV) station stickers these days. A really big thrill was hearing my old second-favorite station in Miami, WGBS-710 (WIOD was #1) on emergency 50kw ND due to Hurricane David, at the Noah's Ark parking lot and at WALT BREVILLE's nice retreat place 45 miles due W of the arch. It even came in on my "splatterbox" portable stereo! This on 9/2 from 11pm until past 3am. Back in Chi-town late on 9/3, I heard WGTO-540, WAPE-690 ("Great Ape") and WKBX-630 in Savannah, Ga. all on emergency also. I stopped at several stations along the way - KSD-550, where RICHARD PISTEK, KEN ONYSCHUK & family, & I got stickers from the TV station; WCVS-1450, dropping in on News Director MARTY WRIGHT for a while; WPRC-1370, probably the worst-sounding sutomated station I've ever heard, and whome AM station goes of f @ 7pm in September (12 hours before local sunset), and the FM off @ 10pm - now THAT's small market radio? As BILL HALE mentions in his 9/3 Muse, WCFL-1000 is now News-Talk, using "Mutual CCFL" and "Lifestyle Badio" (sic), an CMGN-720 was doing a number on WGN down in St. Louis, but not here (at least for the moment). The city of Angels (Ciuded de Angeles? Buzzzz) will be the next victim of the relentless NRC Convention assault. I don't know if I can make it yet, but I still have 50 weeks to scrape together the cash. I preferred that pick over North Jersey only slightly, mostly because I've not been that far down the West Coast before. As usual, I will have my mind made up by Aug. 31. 73°s & CUN14. (Better get your mind mad up before that, Mark, 'cuz the Convention will start on Aug. 30 - buzzzt! -ERC)

GRADUATED FROM S. I. II.

KARL FORTH - 2714 North LeClaire - Chicago, Illinois - 60639

Greetings! Almost no DX since January due to my last semester at SIU & graduation in May, and subsequent move from Villa Park. Right now I'm working in a factory from 4pm to 2am and looking for a job "in my field." The HQ-160 was in the stop for most of July (one less thing to move, hi) but the repairmen, both old Navy hands familiar with Hammar hunds, were unable to correct the problems because they said the proper adjustments could not be made without a functioning S-meter, which they also couldn't fix. Any information on where I might be able to find an S-meter that would work in the HQ-160 would be aspreciated, I've tried several that should have worked but didn't. Even with the problems, the HQ-150 still works well enough to use for the upcoming season, which will be my first full season since 1976-77. This location is about 15 miles from the old Villa Park place, which means less problems from the West suburban transmitters of WHBM, WMAQ, WCFL, WGN ani WAIT but heavier QBM from WVON, WEDC & WSBC. WSBC's XR is only four blocks away but they are only on for one hour during the night. On the local front new WXOL-1450 came on in August, sharing time with WFMT until the other new station comes on. WNOL's format consists of mostly blues and soul, and is of course licensed to Cicero. Back with some DK next time. 73.

ENJOYED CONVENTION & GOT HOME MONDAY NIGHT 9/4/79 (my birthiay 1) KEN ONYSCHUK - 239 Fir - Park Forest, Illinois - 60468 Thanks to all for a great time in ST. LOUIS. My family had a good time, & my wife is even looking forward to 1980 in LOS ANGELES. I hope my children caused no problems, but they will stay home next year. It was a pleasure to meet jolly ERNEST BOSS COOPER. He's a great guy & I loved those fancy T-shirts he wore. Anyway, we left St. Louis at 2 & got home at 10:20pm - the long way. We stopped in Springfield for some ice cream and at Lamphier Field, where the Triple-A Redbirds play BB. Nice to see a paved parking lot there. I heard the 4:55pm NE with MARTY WRIGHT on WCVS, about the same time MARK STRICKERT and RICHARD PISTER were there. I hope Marty's back gets better and gets more air personnel there. Then on to Lincoln & WPRC-1370. I had a brief talk with announcer Carol Beth Crans. just four days on the job. She said WPRC was "We Play Records Constantly" though it's changed to c/w now. She's from Caldwell, Idaho, also home of WLS' Larry Lajack. We got an ashtray & letterhead before we left for Clinton & WHOW, on 1520 kc/s. It's in a mini-mansionlike building three miles S of town. I got to talk to Jerry Krueger, who's from Medison, Wis. & got a few souvenirs & left. We gassed up at a Derby Service station for 91.9¢ regular and then non-stop home. 7:30-10:20pm. All the locals were carrying Monday night FB and WITT & WEAR were nowhere on the RX, so I got the Superadio out to listen to FM. I heard an umsual broadcast on WHPO-FM of the National Sweetheart Beauty Pagaent from Hoopeston, Ill. during their Labor Day festivities, Miss Texas won. Enough for that. Ironically enough, when I got home Monday night, there was the current DX NEWS in the mail! Otherwise, current WTMT-1450's sked for September is Mon-Fri 2-11pm, Sat. 2-9:3 Qpm, & 2-6pm Sunday, all EST. They so off permanently on Oct. 1, then WCEV goes on. Per a phone call, the WMPP-1470 sale is pending for only \$1,306. It's the only cheapo Black station near me. Again thanks, especially to LOU BURHLER, RICH EDDIE, WALT EREVILLE, & ERNIE COOPER for a won lerful time. I hope to see many others next year if I can. 73s.

WE WELCOME A NEW YOUNG MEMBER INTO THE N.R.C. FAMILY

TONY SHORT - 1041 Elmendorf - Lexington, Kentucky - 40502

Hello everybody! I just recently joined the NRC. I am 13 years old & have been DXing since the middle of Jan. '79. My radio is a TEF with an external antenna. I have verified 244 stations & have 29 states as of 9/1/79. Could someone please write to me & explain the codes (Domestic DX Digest & Musings). Well, that's all for now. Good DXing. (Your New Member Kit will explain all, Tony! - ERC)

SUMMER DX IS GOOD IN THE OCEAN STATE

BRUCE A. CONTI - 39 Bayberry Drive - West Warwick, Rhode Island - 02893 The first annual RIAD (Rhode Island Area DXers) GTG was held at my home in West Warwick on August 11. R.I. Diers CLAY ADAMSON, CRAIG HEALY, & Mickey Theroux, along with Connecticut's BRYAN LEE were here for plenty of DX chatter. R.I.'s NEIL KAZAROSS and BURTON ZACHS couldn't make it. Neil was at a backgammon tourney, & Burton was on his way to New Orleans. SSS DX has continued to be the stronghold of the Summer season. 8/15 DX: WTFL-860 becomes a new logging w/an 8pm s/off after an SS program which included SS versions of popular American disco mx. WPIT-730 was caught w/an 8:15 s/off after a religious program from Cal. WHOA-870 Puerto Rico was found overpowering in WWL's mull 8 10:30pm w/an FM style EZL format in EE, a report was sent. 8/16- Via a tip from WJAR engineer CRAIG HEALY, I caught WIRD-920 Lake Placid, N.Y. at the tail end of a test @ 12:36am w/WJAR off the air. WIRD wants to broadcast 24 hours during the Winter Olympics at Lake Placid w/302 watts, & was testing in cooperation with WJAR. CFLS-920 was also caught bombing in that morning, or at least that's the way I heard the FFC calls. DAVE SCHMIDT reported hearing CFLS on 920 in DXDD of 1/15/79. However, WILLIAM TOWNSHEND said he heard CFLS on 1240 in the more recent DDXD of 5/11/79. What is this? (I don't like to "take sides" Bruce, but CFIS has been on 920, ex-1240, for more than a year -ERC) 8/21- WUPE-1110 is back now that the WHIM s/off is earlier in the evening; "Radio One" WUPE was heard w/EZL format before 8pm s/off. Then it was WSFW-1110 on the channel until 8:15pm s/off. WTBQ-1110 became a newie for the log with late s/off @ 8:30 w/America;, the Beautiful." Warwick, N.Y. mee to Warwick, R.I., hi! Then it was WBT thereafter, & a report was sent to WTBQ. 8/22- CJSS-1220 was finally logged @ 9pm w/rr. o/CKSM, w/WGAR nulled. In trying some GY DX, WWCO "Supermusic C-O" was the best catch on 1240. An unID-1240 was heard w/an ID @ 9:30pm broadcasting a game from the Yankee BB net, may be WWWD. 8/23- WLDM-1570 was making it through WPEP's null \$7:30pm. WYFA-1580 was in strong w/Suffolk Co. WX @ 7:38pm. hocal WARV-1590 s/off was noted @ 7:45pm. WPGC-1580 was a newie w/s/off 3 8 w/an invitation to continue listening on WPGC-FM-Stereo 95, no SSB. WMLB-1550 s/off was caught by the tail @ 8:01. Regular WXVA-1550 was then heard w/WX. 8/24- The best logging so far this Summer was WTGR-1520 S.C. "on the waterpath" @ 7:3 Opm w/a pre-recorded ID. WKBW started taking over before the WTGR s/off @ 8; a report was mailed. A nice verie came in from WHOA-870. Elsewhere in radio activity: Rumors still fly that WJAR-920 is thinking about selling their station & buying WRIM-FM. If so, then WHIM-1110 wants to buy WJAR & sell their station to a minority group. Meanwhile, the WICE-1290 ratings continue to slide downward w/their new c/w format. The owner has given up after spending over \$100,000 in an advertising campaign, & WICE is once again up for sale. 73s.

BILL'S GETTING SOME GOOD SUMMER DX. TOO

BILL REGAN - 110 Craddock Street - Syracuse, New York - 13207

DX has been fair considering how much I've been doing. The last verification
I received was WKOK-1070 on 5/28. But I have just sent out reports to WKK-1420 & WGNT-930.

My loggings are up to 661 and states veried hold at 42. The latest loggings are: WLYC-1050
Pa. 6/15 @ 8:45pm s/off w/mentions without SSB. WASA-1330 Md. 6/22 @ 12:29 mm w/ET/TT/ID

with good signal. WNNB-1230 Mass. fair w/ID following mx @ 11pm on 6/30. WMET-1530 Pa.
7/2 @ 12:55am w/ET/ID/TT/mx. This station had a great signal, seeing that WCKY was off. MM
3/13 brought only one new logging, WYFA-1580 Patchogue, N.Y. from 1:58-2:05am w/mx/VID/JX.
I now have received 19 on 1580. 1550 is the leader with 22. The most veries for a frequency is eight on 1070 kc/s. For JOHN CLEMMER, I'm still in the process of getting bumper

stickers and charts from the locals. One more note from 8/13 MM, WARC was off from 1:304:30 and there was no trace of KOB, but there was an SS station on the frequency and plenty
of bleedover from WBEM & WJR. 73*s & good DX.

AND MORE GOOD SUMMERTIME DX BCB LOEWEN - 2146 Sunnybrook Court - Oakville, Ontarie - L6L 1P4 8/26/79 As of August 17th I've finally reached the 100 verie hardle, with current total 109 - now I will try for 150 by year-end. A few good catches lately: 7/2- WCTW-1550 heard \$ 10:20pm u/CBE with faint signal and mention of "Winner's Circle". 7/10- WOOD-1300 u/WERE a 10:21pm w/ID & rr mx, & CJBE & WNBF fighting it out on 1290 in spite of severe interference from local CJJD-1280. 7/26- WMBD-1470 a surprise catch u/CHOW & WOHO @ 10:02pm w/ID. 8/11-Unexpected WICC-600 received for the first time @ 9:32pm with a fair, interference-free signal mentioning "WICC, Conn's first music station". 8/12- WMBS-590 snared @ 9:48pm in CKEY mull with fair signal. 8/25- KSCJ-1360, another goodie and Iowa #4, heard @ 10:12pm with regional weathercast. , finally received a verie from WNBC this week for a March 978 report with no f/up. Other veries from WLAC, WHHH, WOHO, CBJ (2), and numerous regional stations. By the way, does anyone have WJJD's new address, as my report to NRC Log address was returned A note from CFOR-1570 says that they're going to 5,000w nighttime very soon. I've got a pile of window stickers from CHUM-1050 which I'll glaily send as long as the supply lasts for a stamped self-addressed envelope. 73s.

LA DX FAIR BUT VERIES ARE BARE

BAY CRAWFORD - 57 Newbie Street - Invercargill, New Zealand
I haven't been hearing much from stateside but hopefully things will improve
as our Summer comes around. LAs have been fair only this Winter w/a few new ones being heard.
The frequency changes have given us a lot more 'clear' channels but CX haven't been as good
as a few years ago when some very good signals from SA & CA were heard. A look at the reply
rates for Latins over the last five years shows 49% average on SW & on BCB the first two

years showed 50% but it dropped off to 38%, 28%, & to 22% so far this year. They are a challenge if nothing else.

SIDNEY E. MARSHALL - 7224 Pam Drive - Millington, Tennessee - 38063

Muse #2 and it might get to be a habit! (We hope so! -ERC) CX have been a little on the rough side during August, but I did manage to log 35 additional stations during this period. Several of these were GYers, i.e.: WCMA, KVRC, KAKE, WMPA, and KBIX. This now gives me a total of 39 GYers logged in the past four months, the time I got back into the DX noboy. The bulk of my catches during the past month have been either the SRS or SSS period of the day with CX being best at these times. A new Tennessee station is now on the air as I heard WLIC-1540, s/off 9 3:45pm on 8/22. Jackson, Miss., WYIG, is now using their new WCCL call sign as I heard them at 10pm on 9/1. In addition to my DX interest I'm also an old-time radio fan and do quite a bit of reading on this subject. If anyons knows where I might purchase a copy of "The Great Radio Heroes" by Jim Harmon, I would appreciate them writing to me. That's it for now, so 73s & good DXing.

ASKS ABOUT OLDIES FORMATS ON CLEARS

MALCOLM MAXWELL - 1041 Tumlin Street - Apt. A - Atlanta, Georgia I've been working on a special list of clear channel stations that play oldies at night. The list is small so far, but it keeps growing. If anybody has any more to adi, I'd like to near them; but here goes, all times EDT. WNOE-1060 from 3 to 7am weekdays, WBT-1110 Sundays from 8 to 11:30pm, WLAC-1510 Sundays from 10pm to midnight. Also, but not as good program-wise or sound-wise is the Rodger Show on XRG-1050 @ 3am! (Yes. I listen those hours). Also it is planned that every Friday at 2:30 on XERF-1570 will be oldies for one hour. Changing subjects, WHII, Bay Springs, Miss. has been conducting TTs on 1570 from about 1:30 on on Toursday nights, usually the third or fourth week in the month. Has the CPC leanred of this? Has anyone found a solution to the problem of grounded metal siding on a buse? It seems to be a great shield for my loop antenna, no noise, no signals. One more item: Let's have the next edition of the Domestic Log list station phone numbers it's an easy way to get a QSL, and if the DJ can hear himself in the background, he will believe you. 73's till next time.

F/UPS PRODUCE SEVERAL RARE VERIES

KARL JETER - 3590 C Clubhouse Circle East - Decatur, Georgia - 30032 By the time this Muse sees print, the ST. LOUIS bash will be history. Since I will most likely be unable to attend, I hope everyone has a good time there. And to the guys putting on this event, good luck - you'll need it (I should know, hi!) While this Summer has not been totally DX-less, considerably less has been heard than in past Summers. More time has been spent trying to work on verifying old hold-outs from the past season, with very good results. Here is a listing of the holi-outs I've succeeded in verifying this Summer, listed from longest time (approximately) to shortest: (All are v/PP/C*s) - nine months: WMPO -1390 (two Pups); seven months: CKKW-1090 (1); KMZK-1540 (1); KSOH-1050 (10; WARB-730 (1); WORI-1550 (1); six months: WCCF-1580 (1); WSET-1580 (1). Five months: KWOC-930 (1); WSBP-1580 (1); WSHF-1290 (1); WVOH-920 (1). Other veries received this Summer are: WAJF-1490 v/1. WESY-1580 v/PP/c & WBBA-1580, v/1. Now on to some skimpy DX from Down South-way: Way back on 7/7. WBBA-1580 Pittsfield, Ill. heard fair-poor @ 9:29 s/off time. Then on 7/9, unn (except for a report) WAJF-1490 bombing in nicely \$ 8:49pm w/rr; WESY-1580 neard again w/s/off \$ 9:15mm, & a new report sent to them. On to 7/23 for next DX, between 9:33-10pm I heard FF & mx on 1580, so a tentative report w/tape to CBJ (best Summer catch, ni). During the CEJ reception, someone on @ 9:54pm w/illegal TT & OC, but no ID, natch. Most recent DX, 8/21 while home sick: I heard WRWH for first time on RS 3 8am, w/children's health PSA, ID, & state NX. On the local scens, no sign of the 1050 in Conyers, Ga. yet, & WRNG was heard several nights ago on RS, so must be 24 hours now. I enjoyed the frequent visits of one WAYNE MURPHY during the Summer, who was here for several weeks on business. 73s for now.

WGBS-710, AURORA, AND DAVID GLENN HAUSER - University Radio WUOT - Knoxville, Tennessee - 37916

Due to approaching Hurricane David, WGES, Mismi Fla. 5 Clow station normally with deep null inland, was operating with day time facilities AN 3/9; day time pattern is also directional, and judging from strength here, favors this direction. WGES is ordinarily inaudible, or just barely u/WOR which dominates this channel, but this night, no sign of WOR. which was probably attenuated by somewhat Auroral CX. While I happen to like OR, it would be nice if just ONE Florida starion had the clear-charmel coverage clout of many, many NE & Mid-Western stations, at times other than emergencies. WGBS had hourly checks on the position of David, and the customary evacuation and emergency announcements, mixed in with inane music and DJ chatter which I will charitably ascribe to a deliberate tactic to minimize panic. WGBS was heard Sept. 3 midnight to 6:15am EDT. Next night apparantely back to DA-N pattern.

ENJOYED THE CONVENTION IN SPITE OF DAVID RONALD F. SCHATZ - 5651 S.W. 2nd Court (106) - Margate, Florida - 33068 305-971-3605 After nearly cancelling out at the last moment due to the impending disaster from Hurricane David, I attended the NRC Convention in St. Charles, Mo. & was glad I did. The *79 convention must go down as one of the best, with an easy schedule, excellent cuisine at the restaurant & banquet, & a fruitful bevera e party. The SLAD (?) crew has much to be proud of for this one! Well, they had me down on the programme twice for technical sessions, a. would you believe, some actually attemed. I hope the presentations were OK, I was exhausted to the bone throughout the weekend due to rushing & lack of sleep, so I had to strain to keep my syes & mouth open for it. Be it known to all those present that I owe the NRC

(Scratz, conta.) \$365 for a mint-condition Collins old-4 successfully oid for at the auction. The "J-4" worked medicare on the "By-the-Way" antenna, much better on the "Radio West", hi. New faces not seen in years - Dr. RICHARD WOOD & MIKE MORTHAM. DK at WALT EREVILLE's glamourous estate: Ecuador on 735 & 995, not bad. QRM from WGBS-710 & WGTO-540 on daytime rigs for hurricans coverage, apparently quite a thrill to the attendess - and an informative relisf to me, wondering what I'd be coming back to. As it turned out, South Florida was hardly scathed, & my personal property received no damage whatsoever. I still can't reach Santo Domingo by phone to find out how Cesar & family are doing; let's pray he's OK. I do n't know if I'll make it to L.A. next year; it's too early yet. More definite is Cuba this December; a party of four NRCers so far is joining me (seven days at a beach-side villa, all meals included, RT air from Mismi is \$299 - dates 12/24-31, *79. Pansma & San Andres next Summer. WHBD-1470 is now fulltime as of 9/1; it's only three miles from me, demmit! Thanks, LOUIS BUEHLER & son, for over-accommodating ms at the Convention, where many friendly faces were soon. Man, speaking of first impressions, BRUCE PORTZER is something else! And a friendly group out of Chicago, where I haven't been in 12 years! Well, now that I've got a new rig. it looks like I'll have to get active again. 73 de RFS.

DOING VERY VERIE WELL

STEPHEN H. PONDER - Box 1712 - Matthews, North Carolina - 28105 Greetings to all again from sunny and humid Metrolina! Not too much to say DX-wise since all my time has been devoted to keeping a youth program alive during the Summer at the church. It's tough to find quality time to hit the dials when you take all the time to do things with the kids, hi. Anyway, to the DX: Veries received include: WKSC-1300, WEMT-1220, WQOK-1440, WCGC-1270, WORD-910, WKBC-810, WLBG-860, WGAC-580, WEKB-1460, WESC-660, WLON-1050, WMOX-1010, KLIC-1230 (from a Louisiana holdout of almost a year). WYNK-1380 (from a Louisians holdout of over two years), EFNV-1600, WYDE-850, WOEK-910, WTAR-790 and WCOG-1320. All of those except WESC WEMT WEED WYDE WTAR & WCOG were PP/c's. My N.C. totals thus far (after approximately six months) are 84 heard, 70 verified, bringing my alllocations total to 572 heard and 513 verified. That's an 89.7% ratio, which is pretty good, I guess. Oh well, I guess that's all for now - good DX and 73.

DXING HURRICANE DAVID

ED MITKUS - 8001 Landmark Circle - Tampa, Florida -9/4/79 Since this is my first Mising since joining in June, a little bit is in order. I'm 22, work at Steak and Ale, and a part-time college student. I have been BCB DXing since 1973. On Sun. Sept. 2, Hurricane David was bearing down on Mismi. WGTO and WGBS kept their day patterns and powers on all night, (50kw). WGBS was coming in at local strength 200 miles may. WGTO played three hours of the American Country Countdown till midnight. On Monday, 9/3, the storm was on the mid East Coast. WGTO, Cypress Gardens, and many coastal stations (see log) remained on the air. WMEL Melbourne used emergency power. I greated JEFF LOCKWOOD at the airport, fresh from the Convention! He was kind enough to bring back a bag of goodies, and three hours of tape. Jeff indicated that WGBS was coming in in ST. LOUIS at local strength. The storm made DXing miserable 9/3, due to the squalls. 73 de FM. (We hereby welcome Ed into the NRC fold and hope he'll Muse regulary! -ERC)

HAS A BRAND NEW RECEIVER

TOM MAKI - 4105 Gladstone Street - Duluth, Minnesota - 55804

Greetings from the head of the Great Lakes! I spent a lot of time on the golf course this Summer, but not playing golf. I got a Summer job as a "sand trap technician." I saved up and bought a Sony ICF-6700W. What a difference compared to my old Hallicrafters SX-28 receiver! Digital readout on the Sony is about 1 kHz off on the BCB, whereas the SX-28 was 10 or 20 kHz off. The Sony also only takes up tof the space of the Hallicrafters. Sensitivity of the Sony is good on the BCB and great on SW. Selectivity on the BCB is slightly better than the SX-28 was. Veries total now stands at 29. 8/13- I heard two new states w/KOMO-1000 for Wash. and KOJM-610 in Havre, Mont. for my 32nd state logged. As for STEVEN PARADIES search for WIM's address, I received a v/q from them last month with address listed as Suite 700, 3 East Fourth Street, Cincinnati, Ohio 45202.

DX IS GOOD IN THE MORTH COUNTRY BRIAN VERMON - General Delivery - Elsa, Tukon Territory 8/12/79 According to "Broadcaster" magazine Canada will ask for expansion of the MW broadcast band from 525-1706 kHz. It is not in favour of 9 kHz channel spacing. This apparently would mean either rebuilding or modifications to existing directional antenna arrays at substantial cost, and may also affect AM stereo. These views will be put forward at the WARC Comference on Sept. 12th. The U.S. apparently wants expansion from 525 to 1805 kHz "with some gaps at the top end". Neither country proposes broadcast stations on IM, a very short sighted view in my opinion. B.N.V. "Broadcast News Report" network type news service is catching on in B.C. during the early mornings hours - stations: CFGP-1050, CEST-1070. CJIE-940, WKCQ-920 & net, CKPG-550 & net, have been noted carrying it between 5:00 & 5:04:20 8/5; this service has no breaks for PSA's or commercials when carried live. TP DX has been great here since mid-July. Last year at this time I didn't hear a thing from Down Under. All for now, good DX.

UP-COMING MUSINGS DEADLINES ARE: SATURDAY, OCTOBER 6; MONDAY, OCTOBER 22, and then weekly. every Monday. Please double space, and please tell us what DX you've been hearing and how Well. We need support for these early issues of Volume 47, so please don't let us down. All Musings received will be used, and we look forward to reading your DX doings. -ERC

DAVID DXES DAVID

DAVE FOX - 333 Douglass Street - Reading, Permsylvania - 19601 DX interest was reawakened here by the possibilities caused by Hurricane David. Several South Florida stations were noted on MM 9/3. Most obvious was WGTO-540 booming in w/c/w mx & hurricane info from 12:05-12:15. WGBS-710 was heard mixing with WOR & they may have been on daytime pattern at 12:20 when noted with WX info. WQAM was noted on after 1 a.m. s/off time. WINZ-940 & WKAT-1360 were both on regular schedule, but with much hurricame talk. Only other logging was umm WVAM-1430 on with loud TTing and ID @ 1:27. On 9/3 during the evening hours several more Florida stations were noted. WFIV-1080 was heard poor to fair mixing with WTIC & an unID Latin. Many Fla. nst WX reports were heard and school closings in Osceola County. WGTW-1580 was doing likewise for Lake County. Also heard with Fla. Net WX reports & cwmx was WYHI-1570. This was the roughest copy through CKIM/CFOR. WGTO-540 was noted on for the second night in a row. All the above loggings were made between 8 & 10:30pm EDT. Only new logging in the group is WYHI-1570 (1,200th call logged). Summer veries were monexistent as reports to WPNC-1470, WEST-1280 & WMEE-1380 went unanswered. Total verified remains at 785. Tape recorder is in the shop for repair and it is strange to DX again with a pad and pencil! Years ago it seemed so easy. Rains from Hurricane David have reached SE Pa. this evening and forecast called for anywhere from three to six inches or rain in this area. Hurricane Agnes of 1972 is still in the minds of many around here and I, for one, am rooting for my namesake to take a hike real quick. I hope ST. LOUIS was a success and more importantly that we are in for a good DX season. 73s. PS-9/5-8:30-9:30pm. Weak signals heard from WKYY-1420 w/c/w mx and gospel mx with emergency programming as a result of the flood threat in the Boanoke Valley.

STILL ANOTHER NECER LOS S WGTO-540

HARRY J. HAYES - Star Boute - Box 226c - Gouldsboro, Pennsylvania - 18424

Time for an introductory Musing from a long silent one. I am 26, single, and work for a printing outfit in Wilkes-Barre, Pa. called Llewellyn Brother, Inc. as an artist, designer, paste-up person or whatever else they desire to call me. I am looking forward to another season of sumset DXing. It seems that Fall is the best time for SSSing so that is why such silence the second part of last season. CX were just terrible in my opinion. Only DX was my hearing WGTO-54O Cypres Gardens Fla. on emergency on the evening of 9/2 with Harricane David advisories. I don't intend to really start productive DXing until October when most of the FM DX will be out of the way and CX improve. I will be concentrating on the upper regionals at sunset (1250-1480) and 1590-1600. The expected sunspot Auroras should really make for some once-in-a-lifetime catches on these channels. 73s.

LOGS STRONG ARAB ON 1566

CURTIS D. ENGRERG - 80 Concord Road - Wayland, Massachusetts - 01778

It's been too long since I graced these pages. Besides, Ernie needs a mailboxfull when he returns from the Convention, hit I hope you all had a good time at ST. LOUIS. The last entry in my log was five months ago, 3/26, when KDA-850 was in clearly at 12:10mm. Since then I ve done everything except DX. April saw me in Washington, May in Termessee, June in Ohio, July in Wisconsin, and August at home! Then I warmed up the set and immediately got a goodie. 8/4- At 12:08mm I started down the dial and stopped when I hit 1566 and heard the chants of Ramadan blasting in at a volume level I heaven't heard on a TA in about four seasons. It lasted for about 15 minutes and then just dropped off like a power cut. I can only assume that it was the Tunisian checking out their superpower job. A slight signal on 1557, but nothing else noted. Last night, 8/26 (actually this morning) at just after midnight, PEN, the local (?) pirate was blasting in on 1620. Then I tuned down, and there was the AA singing and wailing again, but not at the same volume level. However this time 1557 had a stronger signal which appeared to be Indian or other Asian singing (not AA). Anyone know what type of programming France has on at that hour? Oddly, my best reception on both frequencies came with my loop directed slightly W of N, hardly a TA direction, yet there is little do ubt they were TAS. Cayman-1555 showed proper directivity. but was much weaker than either 1557 or 1566. 73.

AND WE WELCOME ANOTHER NEW MEMBER WHO IS A HAM

BILL SMITH - 145 Duryl Street - Munice, Louisiana - 70535

I have just joined MEC, receiving the New Member Guide, the 8/13 issue of DX MEMS, & the publications Antenna Reference Manual and Receiver Reference Manual. Now I've been around this radio world for three decades, 25 of those years as a ham, but seldem have I seen a collection of more worthwhile information than that which NRC filled my mailbox. The New Member Guide is excellent as I will admit to a limited knowledge of MW ECB DXing, although I have 87 countries worked on 160 meters. And the article by CHUCK HUTTON on usable receiver semaitivity, 8/13 DX NEWS, is one of the firest I have read anywhere including the so-called professional journals of which I receive many each month in my communications profession. The receiver and antenna reference manuals belong in any radio buff's library as they are top-notch. I congratulate the MEC staff and contributing members for excellence and trust that somehow I too may make a contribution to the NEC. (Thank you, Bill! - EEC)

NOTE FROM HQ: Thanks to John Clements who, at St. Louis, donated a new typewriter to ERC. We in Louisville will get it serviced and cleaned up and send it on to Ernie as soon as possible. So we can look forward to more readable Musings in the near future.

DX IN ITALY IS MOSTLY ON THE FM BAND

DARIO MONFERINI - Via Davanzati 8 - 20158 Milano, Italy 8/22/79 I have found an incredible number of letters to reply and even 12 cassettes taped by Scandanavian DXers with some Italian FM stations which thanks to E-skip reflection was able to arrive 2,500 or 3,000 Km up to North. So I have been really busy and haven't to forget I am also the official compiler of the list of the Italian Broadcasting private stations which is edited by Millecanalo Review, and first week of August I have been occupied to control the list which will be printed out in next Music/Hi-Fi/ Broadcasting exhibition which will be here in Milano from 9/6-10. You see, I have always something to do extra after my eight working hours, hi! The DX condition has become really so bad I have turned out to let for one year period NRC - I hope you may understand the reason is only this and not surely the prices or others. I naturally am interested to know what happened during and after the '79 Convention. Concerning ERC's 612 kHz unID station heard on May 19, I am not sure but may be really the super-power from Saudi Arabia, believe me if I say the other two from Saudi Arabia over 900 & 1521 kHz arrive here in Italy at darkness or afternoon, like two locals! And the one over 900 kHz is right on the channel of RAI Milano and you hear music Arabic in the background at evening! Terrific! So I repeat, may be 612 is Saudi Arabia. Some DX changes has come out in these months, for example, now Tirana-1395 s/off @ 23.55 CMT (instead of 23.25 GMT). Another change, 1415 kHz super power from Alger, new channel for Sahara Territory people in arabic, late as 00.00 GMT. (7pm, EST -EC). If you have any kind of unID stations please let me know - I will try of my best to help you to clear it. I am of the opinion a real DXer is not only the cne who is abla to DX 250 watts TA reception, but the one who helps the others to get a QSL or to identify a local station, but tell me, how many "DXers" have done this service? I have had many contacts with Scandanavian Diers, they sent to me many cassettes with taped on tracks of Italian FM stations. You may imagine how it should be exciting for them to get such information being they don't talk or understand a word of Italian language, yet in 1978 I was able to help three Scandanavian DXers to get some replies from Italian FM stations. Some Spanish have changed again chanmels, among them: R. Huesca-1359, local ID & s/off @ 23.30 GMT. R. Juventud de Barcelona-1394 (ex-1413) ID & s/off @ 00.00 GMT (Tirana is s/off @ 23.55). So over 1413 kHz now only one station Spanish after 23.00 GMT, La Voz del Guadalquivir, Sevilla. Now I am at 960 verified stations (AM.SW.FM), 105 from Italy, 108 from Spain. Super 73's & up up up with QSLs. (We hope you'll soon rejoin us, Dario - we will miss your great reports! -ERC)

WHO WHAT IS WAS CAPTAIN GLOTZ, ASKS DAVE DAVE YOCIS - 85 Vesper Street - Fairfield, Connecticut - 06430 It's about time for the annual re-intro: I'm 17, frosh at MSU, DXer since 1976 & NRCer for a little over a year. After a year in NRC, I've figured out all the oldtimers' lines about "Hefty Blooper", etc., but I'm still in the dark about Captain Glotz. What is the meaning behind this phrase, anyway? The season is about to start in full swing as a couple TA hets were noted a couple of days ago, plus remarkably little static last night. Still, not much new as everything is falling into the "UnID TT", "Rare but Unn", or "Why Didn't I Hear Them Before?" categories. Recent DX: 8/19- Slightly AU at SSS; who hets 1070 on the low side? MM 8/20- WQXR-1560 s/on 8 5:30, not 6, per s/off announcement. HJ's very loud, blasting domestics into oblivion. Example: HJHJ-1040 better than WBE or WHN. Newies: CMKJ-730, CMJG-1270, WONE-980, WKIK-850 ET. 8/23- S8S, WUST-1120 s/off noted. WVAM-1430. WNNJ-1360 new. 8/24 AM: Who dominates 1310 w/REL after midnight? I can never ID this rascal. MPCG-520 beacon loud. I have a sneaky suspicion that this is a U.S., not Canadian, station, because it lacks the eight-second tons (I think it's called a range signal, but I'm not sure) between IDs. Also the four-letter N-call indicates U.S. Loop would tend to agree, though S. Ontario loops same as most of the upper Great Lakes. UnID SS on 540 announcing "R. Presentia", sounds like a Nicaraguan revoluntionery station using Corporacion xR. Can anyone confirm? UnID-1610 blocking TIS, OC & Fr mx, no IDs, loops NYC so it's probably

EDIS GETTING A FEW NEW ONES TOO

the WCBX bootlegger. Totals now 652/41d/8/47. 730s.

FD DRUMM - 50 Felicia Street - Springfield, Massachusetts - 01104

Not much of importance to report this time. I have been putting in the hours at the NC-173 but without great results. Latest loggings are: 8/21-WENJ-1000 8 8pm s/off. 8/27-WENX+1380 w/good signal @ 2:30sm w/funeral home ad (I*ve been dying to log this one), WCSC-1390 testing w/very good signal @ 2:35sm, CJMS-1280 in FF @ 3:15, WLBZ-620 in well @ 3:20sm. 9/31-WBAP-820 w/c/w behini WGY splatter @ 3sm, CKGM-980 in/out @ 3:15. 9/2-WPIM-1390, I belisve, sounded like that ID @ 7:30pm. 9/3- CJCE-1270 w/MOR, w/WSPR SP @4:50sm and finally CIHI-1250 poor w/SX @ 5am. I hope to have more reports in the next issue.

PHILIP BOERSMA - c/o WATR - BOX 535 - RUSER GOT, RICHIEM - 49443

I was the dummis who forgot to put his name & address on the Musing in the August issue of DX NEWS. Forgetfulness is bad enough, but when you start forgetting who you are, watch out, hi! I couldn't make NRC-ST. LOUIS due to work commitments, but I did make IRCA-Peoria the preceding weekend. It was nice seeing everybody again, including Louisville own WOLF J. FLYWHHEL & GARY ATKINS. Station tours were interesting, too. Sorry I had to miss ST. LOUIS, one of these years I'll make an NRC Convention, ni! Well, with Winter approaching, keep the tubes in your RX warm, it may be all you have for heat. 73s.

REMEMBER, MONDAY OCTOBER 8 IS A POSTAL HOLIDAY SO THE NEXT DEADLINE IS SATURDAY, OCTOBER 6!

(42)

STRUKN MILLER - Boston, Massachusetts

Val 2 - No 8 Hello everyone! How's DX? Before I go into the results of my "AN" 7/22 to early 7/23 MM. I'd like to say welcome back to the Editor of this fine publication. TED (Wolf J.) FLEISCHAKER. Glad to have you back as editor, and it's great to see your name on the cover of DX NEWS again! Now as I promised, the results of my all-night 7/22 to early 7/23 DXing session. Here it is - the only DX neard on those above dates is another new one from "Toe Big Apple" WBNX-1380 3 2:14 MM. I didn't touch the dial again until 7/29. The results from that day and the 30th of July are situated somewhere in "Rocket Ray"s" excellent DDD column this issue. Although the Molliday season is off for some months now. I thought I'd take a look at and let you fellas in on what I expect to have from "St. Nick" come Christmas. The list goes as follows: A brand new DXing receiver, a new set of communications headphones, shotgun loop for TRF, a renewal in membership in the NRC and rejoin IRCA, both excellent MW clubs. Questions: First, does anyone know the address of the IRCA's San Francisco Publishing Staff's address? (It's now published in Seattle, Steven - I don't have the address on hand - ERC) I must know a week before 12/15/79. Your help is greatly appreciated. Thank you. If you know write me at 368 Quincy Street. Boston. Mass. 02125. Once again thank you. Second, why won't some of you silent members contribute to my at present favorite column, RAY ARRUDA's Domestic DX Digest? I ask this question because after I joined the NRC. and after I received my second issue, Vol. 46 \$10 I noted that NRC Member HARRY D. VIRTUE from Bermuda has never sent in a contribution to any of the calumns of DY MEMS. I apologise for using Mr. Virtue's name to stress my point. PLEASE! Support the NEC & contribute to various columns and remember your support and contributions benefit all in the dub as well as yourself, and future newcomers to the Club. Watch for the editors! deadlines each issue. Support the "Living NRC." Thank you for reading - see you next issue

THE GOOD OLD DAYS & THE GOOD NEW DAYS
DAN K. PHILLIPS - 835 Denton Lane - Birmingham, Alabama - 35210

Thoughts at large after 20 years of membership in the National Radio Club. Greatest thrill: Logging KFWB-980 and KFI-640 from Tennessee in 1959. Previously I had thought such was impossible. Best DX Morning: Logging several TA's from South Alabama on a January morning in 1964. Most Unusual Quote: While trying to dig out an ID from a diffimult TA, fellow NBCer ALEX BOWAB said, "You don't mind if I turn to XERF and listen to Wolfman Jack, do you?" Wonder what ever happened to: LEN KRUSE, EV JOHNSON, & SID ROSENBAUM. Most distant Summer catch: KWIP-1580 on ET in August from South Alabama. Weirdest catch: WVOX-1460 s/on @ 5:30sm (complete daylight) in Summer of 1966 from Alabama. Most unusual DX location: PARK BARTON's Troy, Ala. shack above the corpses in a funeral home. MOST Infamous veris: Nibi-Nibi, heard at NRC Convention in Indianapolis in 1962. Notes: It is possible to connect an SM-1 to Superadio of GE without any internal connections. Just connect regular broadcast band loop, the same kind as an antenna in a \$2.98 K-Mart special, to output of SM-1. Then place this new loop beside antenna (internal) on Superadio. Then turn SM-1. Amplified loop works fine using this system. This method is especially useful when you want to use an SM-1 with a "cheapie" radio. Dream of the future: Discovery of the Super Loop. A super loop will be able to receive stations in one direction only. It will work like LSGA without the med for weird resistors. How to do it? I don't know. but I have wondered what would happen if toroids were used in place of ferrite bar in SM-1. FET-altasimuth etc! Any experimenters out there? Latest DX: Sept. 3 - WGBS AN for Hurricame Davis. WOBX-710 heard at 7:30em from near Rickman, Tenn. Sept. 4 - WISC-1570 at 9:31-9:50pm for Hurricane David. WCCL-1590 Jackson, Miss. \$ 10:05pm, for call change. 73%s.

STEPHEN FRANCIS - 1620 Lodge Street - Alcos, Tennessee - 37701

A few new ones trickled in over the Spring and Summer: MM 5/21- HJAZ-1160 ANing with fair signal & "La Voz de Sim:" IDs. 6/14- WHAL-1400 Tenn. good @ lam s/off-SSB. 5/20- WYDK-1480 N.C. fair 8 6em s/on. MM 7/2- WBIP-1400 Miss. fair at 12 s/off-SSB. MM 7/30- The new WACQ-1130 Ala. good at 6:45 s/on-SSB. 7/31- HIJM-1530 fair/poor w/R. Accion IDs 8 1:10m; WCKY was off almost every night that week. 8/2- New semi-local WREA-1520 canducting daytime ETs w/oldies & IDs every 15 mirmtes. MM 8/20- With local WMOX-990 off for a rare SP, two new ones were bagged on 980: WITT Ill. very poor 8 lam s/off; CKGM Montreal weak @ 2:30 w/woman reading headlines, then into rr, severe WONE/KMBZ QEM on both of these. CEGM's the 75th Canadian here after a year of being stuck at 74. 8/28- Long-sought WDQN-1580 Ill. topping the frequency 8 8:45 s/off w/plug for FM. That's #60 here on the legendary 1580, no call changes. Still needed are WCNB, KWNT, KDOM, WEND, KGAF, KTLU, KBYP & WYYZ, the last-named embarrassment due to local WSKT being in the same s/on s/off zones for all 12 months of the year. Somebody at the Convention said WYYZ has already made the move to 1490 - good riddance, hi. I had a good time in ST. LOUIS, a big thanks to all who made it possible. I especially enjoyed the verie collections of JOHN CALLARMAN and RICHARD WOOD, plus ERC's Missouri/Arkansas/Oklahoma portion. Ernie, why don't you rent your own small plane some year and bring your entire collection, hi? Local WBIR-1240 has been ANing the past few MMs, so all five Knoxville fulltimers are MSP - at least there's nothing more to fear now, hi. The TESTs from WRTL-1460, WVLC-1170 and unn WWWQ-1430 were tried and unheard, since they weren't on. Enough of this, 73, good DX in 179-180.

YES, NEXT YEAR IT WILL BE LOS ANGELES FOR THE NRC CONVENTION! LET'S SEE A LOT OF THE GUYS FROM THE CENTRAL AND EASTERN PART OF THE COUNTRY OUT THERE - YOUR CHANGE TO MAKE IT A REALLY EXCITING VACATION AND CONVENTION COMBO! MAKE THOSE LONG RANGE PLANS NOW! FUN FOR ALL!

MOTHBALL MEMORIES

CHAPTER CXVII - "MY FIRST PIRATE VERIFICATION"

In 1972, when I was 12 years old and in the eighth grade, a friend of mine by the name of William ---- decided that he'd like to have his own radio station. He built WARS from a kit, which came with a little wire antenna and cost about \$20. Bill lived in a private house in Auburndale, about two or three miles from my apartment in Bayside. These were my pre-DX club days, and we were both a little naive.

One Winter day after school, at about 4pm, Bill fired up his gear for a DX test using, I think, a six-foot whip antenna outside his window. After the "test period", I called him on the phone and said, "I tuned to 1520, but all I could hear was some guy talking French, and some weird song that sounded like Gordon Lightfoot." (I don't think it occurred to me that there shouldn't have been anyone speaking French, or anything else, above 1500, especially in mid-afternoon). So, of course Bill starts yelling into the phone, "Holy (bleep)!! That wasn't French, that was me! I was trying to sound laidback! And I played "If You Could Read My Mind"! I can't believe you heard me!" And, at two or three miles, I was more than a little surprised myself, especially since Bill had once tested and lost the signal after about two blocks!

Now, we began to half-worry that WARS would cause noticeable interference. We often joked about the FCC who, we imagined, had portable direction-finding equipment resembling bazookas. For example, maybe late one night Bill would sleepily look out of his window, while on the air, to give a weather report: "Well, it's about 25 degrees at WARS, your auburndale Radio Service - it's snowing lightly - there's an FCC man pointing a baseoka at my window - The FCC! OMIGOD!" and he would rush to disconnect and hide all his quasi-sobhisticated equipment.

Bill fantasised community-wide fame, FCC notoriety and a busy request line. But alas, something in the set scon came loose, and he didn't know how to go about finding and fixing it. This was a frustrating turn of events. The inactivity bothered us until, one dg, someone calculated that powerful WARS had been shooting all of six milliwatts into that whip antenna. The transmitter was subsequently shelved.

NEXT ISSUE: STEVE KEMP - AND THEN - STEVE PONDER.
WE NEED MR E CONTRIBUTIONS TO "MOTHBALL ME NORIES" HOYS! WHAT SAY? PLEASE DOUBLE SPACE!

GET THOSE GRAVETARD DX ACHIEVEMENTS DATA IN!

BILL HALE - 1451-B Faith Drive - Rantoul, Illinois - 51865

Here's hoping everyone who attended, had a good time in ST. LOUIS. I'm sorry not to have been able to attend. I did, however, make it up to Peoria for the Friday night of IRCA's bash. I met several NECers there, and as far as I could tell, everyone was having a good time. Thanks to JOHN CLEMMER for a good convention. I am looking forward to hearing about the ST. LOUIS affair in DX NEWS. A couple of DX notes: 9/5- I heard WOOD-1300 with some kind of call-in contest, at 8:40pm CDT, easy adult contemporary mx. I also heard KWFT-620 fading in/out at about 9pm; a good ID on the hour. If snyone has access to AUTOVOM and wild like to chew the fat sometime, call me at 862-2883. Or if anyone has access to a PLATO terminal and would like to leave a message, my group is SPTEACH. Response to the new format of GYDXA has been good so far with LARGE smounts of data from CAHL DARRISTEIN. GENER

ALLEN and expected soon from NORM MAGUIRE. Remember, please include the mileages. Good DE!

INSTALLS A SELF-ADJUSTING I.F. MOSSILIMITER

BILL PHILLIPSON - 18954 Pendergast Avenue - Cupertino, California - 95014

Hello everyone! I really enjoyed the August 13 issue of DI NEWS & the article on "Noise Levels and Useable Receiver Sensitivity" by CHUCK HUTTON, Also a thanks to BILL WURTZEL for his warning to DXers who may get those strange phone calls. One worthwhile thing I have accomplished this Summer was to install one of the self adjusting IF noise limiter circuits in my HQ-200. It works well (much better than the audio noise limiter that was originally in the receiver). I'll have to try one in the TRF now. Has anyone else tried this type of noise limiter? It's the same circuit as in the Radio Amateur's Handbook.

Here's wishing everyone the best of DX for the coming season. 73.

STILL TRYING WITHOUT MUCH SUCCESS ERNEST R. COOPER - 5 Anthony Street - Provincetown, Massachusetts - 02657 617-487-9337 9/11 AM veries remain at 4,020, and FM is up to a big 12! As Lawrence Welk might express it, had he attended the ST. LOUIS Convention. "Wunnerful, wunnerful, wunnerful, If you weren't there, ha ha ha and phocey on you, hi. We all had funt DX: 8/11- Phillies BB noted on unn WBCB-1490 s 1:08. TT-1450, 12:58-1:04-plus, but gone by 1:10. SM 8/12-WIMS-1010 off this morning, & WBT-1110's disco show to 2sm is either off or finishes earlier as they were off 8 1:20, & every SM since. MM 8/13- WYFA-1580, another ET today, hi, WTTI! At last, a new one, in CKO-1470 all-NX, apparently WSAN is now off Mos. I heard "Roosevelt Franklin on XE0-1050 this AM, or should it be GEX, hi. UnID TT-1190, 2:11-2:17. 8/16- A weak signal on 1610, but the sudio just wouldn't make it, 2sm. The 600 Cuban is back on ter get now, anihilating poor WICC. UnID 88-575 @ 1:56 w/WRKO's 50kw on! MM 8/20- WMCS-1400 heard 3 1:06am w/f announcer. Unn WJLK-1310 strong 8 1:23, w/rr. WNBC & WCBS were off. I heard WTAR-790 at 2em w/TLK, this is generally not heard here at all on night pattern, but hears with MEAN all day. Unn WEAT-850 "All Star Country Radio" @ 2:52. 8/21- UniD TTER on 1560 1:22-1:24 - oops - my error 'twas WTAI, unn. Pirate PRN infesting 1610 this AM w/mx. Unn 1:23-1:24 - 00 m w/cKiM off @ 1:47 with lovely marimba mx, o/KERF. Unn WMBT-1530 on ET w/ID TGVE-15/0 was all worky. Thanks to these NRC gents for their appreciated phone calls: GAW 2:49 & OII, COLEMAN, PETE KEMP, STAN MOR SS, RAY MOORE, & TOM FARMERIE. S.O.S.: Who had Invegren, Bill of then MoR male vocals on 1550 Tues. AM 9/11 6 1:35-2mm? A real mystery!

(44)

A - Juergen Trochimczyk D - Rick A. Carr F - Non-member Bill Stone. B - Steven Paradies E - David Margritz DXing from Locust Hill G - Ernie Cooper Ont. near Toronto C - Kelly And rews 590 WOW 1 Harry C. Stutzman, CE E 1360 WPPA ul A. V. Tidmore, O, M 600 WHT 1 Robert J. Kucera, CE E KRRR lum Patrick Uhr, CE KCEZ p Phillip Menion F 1380 KCIM 1 Psul M. Collison ITES 1 Robert Anderson, CE F WYNK pu David A. Bene, PD 620 KMNS 1 Gerry Gibbs E KWE lpu (James A. Butler, CE 660 KMN 1 William Butler, GM E (Craig Mages, GM 780 WJAG 1 J. Alan Johnson, MxD E 1390 KBEC 1 Richard Tuck 810 WEDO urm R. Ruby, CE A WIJS 1 Carl Martin, CE 850 WKIK u Daniel Lee Smigrod, PromD A KENN pu James U.U., PD KLEU 1 (George Nicholas, MxD E 1400 KDRT r Robert A. Prichard, O (Jon F. Armstrong, CE F KWYN lm Arthur Rogers, CE 870 WHCU u Donald Martin, GM A WSGA uf Dennis D. Eversoll, CE 900 KJSK 1 Terry A. Cowan, GM E WMAN ul Michael Rabey, CE 920 KTEW 1 Sam Hill, M A WSAM ul James J. McCluskey, CO WSGA uf Dennis D. Eversoll, CE James J. McCluskey. CO A KIUN pu 930 WEOL ul Glenn P. Smith, CO Harry Boehnemann, CE WHEN Q u/u, DOE B 1420 WAMM ul Margaret M. Timm, Trfc Clk A CKNS lu Philip Landry, CE C KLUF pu Cynthia (Malnor?), MxD D WSLI 1 Richard H. Voochis, SM C 1430 KELI q Glenn Thomas, CE 940 WEOO luv Bobty Stallings, TD C KTYN lumb Patrick Devaney, PD 970 WWDJ 1 James Galbreath, CE C 1440 WCDL 1 Stephen Miller, Eic 990 KWAM lm B. W. Travis, CE A KPUR luw Melvyn Kauh, CE KAYL 1 Arthur Fesulieu, CE E WGEM 1 Jemes D. Marwood 1000 KOTD 1 Larry G. Gaul E 1450 CHCL 1 John Hackstt, P 1050 WBUT ul Robert C. Brandon, P, GM A KSKR 1 William Kemp, for CE KMIS lum Daniel Ramsey, PD C KAYC q Daniel Chamberlain, C. KAYC q Daniel Chamberlain, CE WCRI lu Shirley Haislip, Trfc C 1460 WKAM ur Gerry Granger, VP, GM 1150 WJBO f Thomas E. Oliver, CE A KRNY l Douglas Dohmer 1190 WIXE 1 John Griffin, CE C WPDQ p Don Lee 1220 KJAN 1 Al Haxelton, CE E WDYX p J. Joseph 1230 WQUA 1 Michael J. Moore, CE E 1470 WTZE 1 (Garland A. Hess, VP, GM 1240 EFOR 1 Kenneth Beckwith, CE E (R. Messer, ACE al070 WDIA f Alonzo Pendleton, CE A WINH ur u/u 1250 WIPS ul John K. Motsinger, GM A WRGA 1 Ben Baldwin, CE WTMA uf Woseph Lane, CE A KEBC f H. F. Ridgway, CE
WDAE lm Wilson Welch D 1480 KIMS lh William Hohnstein, CK WEGG p F. J. Alexander, CE F KPLT 1 Thomas Allen, PD 1260 WEBG p Norman S. Greenburg, GM E 1500 KGMR 1 Larry Henthorn KCBX 1 Richard C. Hull, GM E 1510 WLAC 1 Everett Lawson, CE KTAE pum Fred Surtzer, PD D KTTT 1 Ralph Wayne, PD WJJJ r Ralph N. Stewart, CE A 1500 WHEW 1 Peter Burk, CE

1270 WSFR uf Charles E. Smith, CE A WINW 1 Anthony Bonzini, A

WCMR ul Edwin C. Moore, GM: A WTRI luv Karen Greene, S

WHEF 1 James Booth, CE E 1530 WMET p Julian J. Milenski

\$1250 KPAC pu Ted u/u, FD D WJFJ p Catherine King, OM 1280 WOIW ul Glenn R. Thayer, VP, M A 1540 KZRK p William L. McKissick, GM 1290 ETEN 1 R. Mack Lester, GM A 1550 WEYE luv Pat Rodgers, SM WEYE ut Fenneth J. Burch, GM A KWI r Remona Harris, GM WTMC rc Vernon Arnette, GM, VP A WORI 1 (John W. Pirkle, P. GM WIRK p J. Henry Fulton, CE F (Ernest Sutton, CE D WMLB p Mark E. Anderson, CE 1300 KVOR pu L. G., Op K WEHE ul Michele Fornaro, Progasst A WEYM u John F. Bunkfeldt, TD A KVET 1 C. A. Cremer, TSu A 1560 KDDA m Craig Eastham, PD 1310 WISE fu N. Eric Jorgensen, P, GM C KQYX 1 William B. Neal KFSB 1 Richard D. Chegroin E 1570 WILO lu Skip Davis, Farm D 1320 KHRT 1 Harold Christensen, M F 1580 WPUV lq John A. Columbus, CE CFGM 1 B. J. Carnagie, Dok D WCNB lu Michael B. Peacock, Oph A WVOJ pu John Allen, PD D WTTN lu Clifford J. Groth Contract C C INN 1 Paul McCashin, CE A FDF 1 Donald Doss E 1330 WFOW Q H. E. Smith, CE C 1590 NTCH 1 Dean D. Craun, GM E D WONE ru u/u, WP, GM WRAA pu George R. Hume, M WLOL) pu Thomas Wynn WRED) pu Thomas Wynn D D That's it for this time, and please don't for-F get that your recent verie signers are very WEVO)p Thomas Robertson, CE WCPA)p Thomas Robertson, CE F important to other DXers. Send them in with 1340 KHUB 1 Robert B. Palmer, OD C your Musings, double spaced, with frequencies EXPO p Gary C. Pearson F and types of veries, and positions of the verie

1350 WCFR 1 Roy L. Gallagher, CE A signers. There HAVE to be more of you seeking

KCOR pu Marvin Fiedler, CE

D verifications than this! Please send 'en in!

VERIE SIGNERS

	TONF	RS	
V R R I B _ S_	1-0-1-		
A - Cary Housek H - Dave Schmidt E - Fob Loswen I - Rolland Lindblaie	We won	ild like to	remind those of you who are
F - Fob Loswen I - Rolland Lindblade	verif	ring your ca	tches to send in the names
C - Fayne Heinen J - John Allchin	of you	ir recent ve	rie signers. This is an
D - Norman Maguire K - Rick Carr E - Steve Ponier L - David Margritz	imper	tant column	for those among us who still
	belie	e that veri	fying our catches is half
	the fi	in of the Di	hobby. Send YOURS in!
550 KFRM 1 Richard Roiseland, CE L		KNEU p	James N. Reidhead D
FORT In Jerry Dee, PD		KSCB	John D. Duke, CE C
540 41 no signer		KUSN v	Keith Harrington, Op Coord L
John C. Golden III, CE		WSAT ul	E. L. Sherman, BP, CE E
520 WILE lu Robert Hankin, GM		KFYV 1	Charles R. Scott, P, GM J
580 KSAC 1 Del Staab, CK		WFBG Q	Terry MacAlorney, CE N
WACR 1 Greg Barnes, Ca		KYNO 1	Paul Waegele, CE J
600 WSJS Q C. Leon Lasley, Ast DoE 1	A CONTRACTOR OF THE PARTY OF TH	WHVN ul	Stewart Ross Albert, CE E Parry Mishkind, CE DN
510 KILT pub Betty Dean, Prog.Co-Ordr	1330	KHYT 1m KPGK 1	Willa-Don Holmes, OM D
520 CACA 4 II. S. DE PROW CR	1350	WHIP ul	Cynthia W. Trebe, S
DOU WADA & Manual Programme Tente	1 1300	WSLR Q	Donald R. Key, CE E
The Company of the Co	1360	KMO qlh	Clay Freinwald, CE, K7CR J
ONU GIDH IMA COM CAR	1380	KOTA 1	Fred Wuenschel L
690 ABOS P 4/4, 5	8	KLIZ 1	Robert Stafford L
KGAP IN DOME I CONTROLLY	1390	KSLM lfu	David R. Freer, CE J
AUSD 1 TO TO	K	WADA 1	Lawrence K. Vassy, CE E
EHEI pu hay 10000;	1400	WSIC 1	Ken Abernathy, TD E
ABIBA A MARINE	1410	WEGO r	Kenneth K. Kennedy, CE E
780 ECRL 1 Claudine Hullord 790 WTNC ulm Clyde C. Fritts, CE	E 1420	WGAS 1	Glenn Mace, CE
	K	KTOE 1	Bud Quimby, CE L
BOO KOAD 1 Tony Coloff, PD	L 1430	KELI q	Glenn Thomas, CE J
	K 1440	WBUY 1	Allan C. Godwin, CE EGN
	K 1450	KYNT 1	Kurt Browell, GM L
850 WXAP pu Dan Dunnigan, CE	K	WMBH lumb	Woody Bell, SM K
CJBC uq Pub. Rel. Depit.	E	KCYL pu	Pallo, PD K
870 KJIM pumw Morgan Choat, CE	K	WTSA Q	Joel F. O'Brien, PD G
890 KBYE Darwin G. Fitzgerald, CK	C 1460		Douglas Dohmen, Sx Rd K
900 ESGE	0		Tex Brashear
Arms	C 1470		h Maynard R. Meyer, CE WAOKNP K
Kola pu u/u, an	D.	WBFC lum	James B. Hansen, M K
	T		
950 Withing dayar	J K 3480	KLCL pu	Asron Ladi, Mx D K
WSEV pu Sam Truan, PD	K 1480	KLCL pu WMQM r	Asron Laid, Mx D E George McClintock, E A
WSEV pu Sam Truan, PD KEU qn, pennant u/u	K 1480	WHEC q	Asron Ladi, Mx D K George McClintock, E A John Schen, CE B
WSEV pu Sam Truan, PD XEU qu,pennant u/u 960 WAAK ul Steward Ross Albert, CE	K 1480 K E	WHEC Q WETS pm	Aaron Laid, Mx D K George McClintock, E A John Schen, CE B James D. Lambut Sr., PD K
WSEV pu Sam Truan, PD XEU qn, pennant u/u 960 FAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G., G	K 1480	WHEC Q WETS pm	Aaron Laid, Mx D K George KcClintock, E A John Schen, CE James D. Lambut Sr., PD K pwm. (Percy Zeigler, CE K
WSEV pu Sam Truan, PD XEU qn, pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G., G 980 WTRY f Norman Avery, CE	K 1480 K E K 1490	WHEC Q WETS pm	Aaron Laid, Mx D K George McClintock, E A John Schen, CE B James D. Lambut Sr., PD K pwm (Percy Zeigler, CE K (Nelissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU D
wSEV pu Sam Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD	K 1480 K E K 1490 G	WHEC Q WHETS PE KLNG-KYNN	Agron Laid, Mx D K George McClintock, E A John Schen, CE B James D. Lambut Sr., PD K pwm (Percy Zeigler, CE K (kelissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU D Narman Pastznick B
wSEV pl Sam Truan, PD KEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD WAPT Jay Lewis, P	K 1480 K E K 1490 G	KLCL pu WMQM r WHEC q WETS pm KLNG-KYNN KIIQ lh	Aaron Laid, Mx D George McClintock, E John Schen, CE James D. Lambut Sr., PD F F F F F F F F F F F F F F F F F F F
wSEV pu Sam Truan, PD KEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD WAPT Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M	K 1480 K E K 1490 G L I 1500 L K 1510	MLCL pu WMQM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb	Aaron Laid, Mx D George McClintock, E John Schen, CE James D. Lambut Sr., PD F F F F F F F F F F F F F F F F F F F
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M	K 1480 K E K 1490 G L I 1500 L K 1510	KLCL PU WMQM r WHEC q WETS PE KLNG-KYNN KIIQ 1h KSTP 1b WDEE hh WMEK-WITS KEMM PU	Aaron Laid, Mx D K George McClintock, E A John Schen, CE B James D. Lambut Sr., PD K pwm (Percy Zeigler, CE K (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU D Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, FSA Dir K
wSEV pl Sam Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XED ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1010 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines	K 1480 K E K 1490 G L I 1500 L K 1510 F C 1520	KLCL PU WMQM r WHEC Q WETS PE KLNG-KYNN KIIQ 1h KSTP 1b WDEE 1m WMEX-WITS KEMM PU EMAY 1m	Aaron Laid, Mx D K George McClintock, E A John Schen, CE B James D. Lambut Sr., PD K pwm (Percy Zeigler, CE K (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU D Narman Pastznick B Craig B. Roberts, CE B pu; q George N. Huston, DoE K Austin G. Kremer, GM DK
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines USPF ul A. W. Annas, E	K 1480 K E K 1490 G L 1500 L 1510 F C 1520	KLCL pu WMGM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDEE lm WMEX-WITS KEMM pu KYXI qu	Aaron Laid, Mx D K George McClintock, E A John Schen, CE B James D. Lambut Sr., PD K James D. Lambut Sr., PD K James D. Lambut Sr., PD K Jewn (Percy Zeigler, CE K (Nelissa J. Bailey, Admasst K Daniel Lacy, CE, WBOGYU D Narman Pastznick B Craig B. Roberts, CE B pu; q George N. Huston, DoE K Dewayne D. Carver, FSA Dir K Anstin G. Kremer, GM DK Norman Smith, CE J
WSEV PU Sam Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE	K 1480 K E K 1490 G L I 1500 L K 1510 F C 1520 B D 1530	KLCL pu WMQM r WHEC q WETS pm KLNG-KINN KSTP lb WMEE lm WMEX-WITS KEMM pu KMAY lm KY XI qu KYWO lub	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Pastznick Craig B. Roberts, CE pu; q George N. Huston, DoE Dewayne D. Carver, PSA Dir K Asstin G. Kremer, GM Norman Smith, CE K
WSEV PN Sam Truan, PD KEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines KTOK ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB	K 1480 K E K 1490 G L I 1500 L K 1510 F C 1520 E	KLCL pu WWGM r WHEC Q WETS pm KLNG-KYNN KIIQ 1h KSTP 1b WBES lm WMEX-WITS KEMM pu KMAX Im KYXI qu KYWG hub WDJZ f1	Aaron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE Dewayne D. Carver, FSA Dir K Austin G. Kremer, GM Norman Smith, CE Jemes Elmore, DoE G
WSEV PN Sam Truan, PD KEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub Jonn Hood, PB KHYM lmb Robby McClure, M	K 1480 K E E 1490 G L 1500 L 1510 F 1520 B 1530 K 1540	KLCL pu WMGM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM pu KYXI qu KYXI qu KVWO lub WDJZ fl ZNS1 q	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD From (Percy Zeigler, CE K (helissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Nerman Pastznick Craig B. Roberts, CE pu; q George N. Huston, DoE L Dewayne D. Carver, FSA Dir K Norman Smith, CE L S. P., CE James Elmore, DoE G Alem Martin
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun7), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCTT pub John Hood, PB KHYM lmb Robby McClure, M 1050 KLOH l Wallace Christensen, GM	K 1480 K E K 1490 G L L 1500 L L 1510 F C 1520 B D 1530 K 1540 L	KLCL pu WMGM r WHEC q WETS pE KLNG-KYNN KIIQ lh KSTP lb WDEE lm WMKX-WITS KEMM pu KWAX lm KYXI qu KVWO lub WDJZ fl KDOL lu	Aaron Laid, Mx D George McClintock, E John Schen, CE James D. Lambut Sr., PD E DWM. (Percy Zeigler, CE K (Nelissa J. Bailey, AdmAsst K Daniel Lacy, CE, WBOGYU Narman Pastznick Craig B. Roberts, CE Bu; q George N. Huston, DOE K Dewayne D. Carver, FSA Dir K Dewayne D. Carver, FSA Dir K Norman Smith, CE J L. S. P., CE James Elmore, DoE Alam Martin B Rollye Bornstein, PD
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSFF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub Jonn Hood, PB KHYM lmb Robby McClure, N 1090 KKYN lmb David Clark, PD	K 1480 K E E K 1490 G L L 1500 L L 1510 F C 1520 D 1530 K 1540 L K 1550	KLCL pu WMCM r WHEC q WHEC q WETS pE KLNG-KINN KSTP lb WDEE lm WMEX-WITS KENM pu KMAY lm KYXI qu KVWO lub WDJZ fl ZNS1 q KPOL lu WHEY pu	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lembut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE Dewayne D. Carver, FSA Dir K Asstin G. Kremer, GM Norman Smith, CE James Elmore, DcE G Alam Martin Rollye Bornstein, PD R David E. Cox, CE
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD WAET Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun7), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCT pub John Hood, PB KCHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 FHAC p L. J. Harper	K 1480 K E E K 1490 G I 1500 L I 1500 C 1520 E D 1530 K 1540 L L L 1550	KLCL pu WMQM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM pu KMAY lm KYXI qu KYWO lub WDJZ fl ZNS1 q KPOL lu WIRY pu CEE q	Aaron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm. (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE G Alam Martin Rollye Bornstein, PD Bavid E. Cox, CE K. Jones
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naine Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ENTRY ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KHYM lmb Robby McClure, M 1050 KLOH l Wallace Christensen, GM 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE	K 1480 K K 1490 G L I 1500 L I 1500 L I 1510 F C 1520 K 1540 L L 1550 D 1530 K 1540 L L 1550	KLCL pu WMGM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM pu KMAV lm KYXI qu KVWO lub WDJZ fl ZNS1 q KPOL lu WIEV pu WCER 1	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD FWM (Percy Zeigler, CE Kelissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Pastznick Graig B. Roberts, CE Bu; q George N. Huston, DoE Dewayne D. Carver, PSA Dir RAstin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE G Alam Martin Rollye Bornstein, PD R David E. Cox, CE K. J. Cress Fred Moss, Mx D G R Mon School School G R M. Jores Fred Moss, Mx D
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb Bayid Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGOW pub Gene Micnaels, PD	K 1480 K E E K 1490 G I 1500 L I 1500 C 1520 E D 1530 K 1540 L L L 1550	KLCL pu WMCM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM pu KMAV lm KYXI qu KVWO lub WDJZ fl ZNS1 q KPOL lu WIEW pu WIEW pu WCGR 1 WTOD q WCGR 1	Agron Laid, Mx D George McClintock, E John Schen, CE James D. Lambut Sr., PD pwm. (Percy Zeigler, CE (Melissa J. Bailey, AdmAsst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE G Alam Martin Rollye Bornstein, PD Bavid E. Cox, CE M. Jones Fred Moss, Mx D G R. R. Sowers, EiC David Jackson, PD
WSEV PU Sam Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub Jonn Hood, PB KCLT pub Jonn Hood, PB KCLT pub Jonn Hood, PB LOSO KKYN lmb David Clark, PD 1100 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGOW pub Gene Micnaele, PD KFHM lmb Angel D. Toledo, CM	K 1480 K 1490 G 1490 L 1500 L 1510 F 1520 E 1530 K 1540 L 1550 D 1530 K 1540	KLCL pu WMCM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM pu KMAV lm KYXI qu KVWO lub WDJZ fl ZNS1 q KPOL lu WIEW pu WIEW pu WCGR 1 WTOD q WCGR 1	Aaron Laid, Mx D George McClintock, E John Schen, CE James D. Lambut Sr., PD pwm. (Percy Zeigler, CE (Melissa J. Bailey, AdmAsst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE G Alam Martin Rollye Bornstein, PD David E. Cox, CE M. Jones Fred Moss, Mx D G R. R. Sowers, EiC David Jackson, PD
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb Bayid Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGOW pub Gene Micnaels, PD	K 1480 K 1490 G L 1500 L 1500 K 1510 F 1520 M 1540 L 1550 D 1550 D 1550 L 1550	KLCL PU WMCM r WHEC Q WETS PE KLNG-KYNN KIIQ 1h KSTP 1b WMEX ITS KEMM PU KMAX WITS KEMM PU KMAX ITS KEMM PU KMAX ITS KEMM PU KMAX ITS KEMM PU KMAX ITS KEMM PU KMEX PU CEE Q WCCE Q WCCE Q KHEE PU KEER PU KEER PU	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Pastznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, PSA Dir K Austin G. Kremer, GM Norman Smith, CE James Elmore, DoE G Alam Martin Rollye Bornstein, PD David E. Cox, CE M. Jones Fred Moss, Mx D R. R. Sowers, Eic David Jackson, PD Russ Wristen, MxD; Aud Supyk K Don Fred, GM K
WSEV PI Sam Truan, PD KEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 KEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KKRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines KTOK u Ken Gaines KCLT pub John Hood, PB KCLT pub John Hood, PB KCLT pub Robby McClure, M 1050 KEYN lmb Robby McClure, M 1050 KEYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE KFHM lmb Angel D. Toledo, GM 1170 ECEQ q u/u	K 1480 K 1490 G L 1500 L 1500 K 1510 F 1520 M 1540 L 1550 D 1550 D 1550 L 1550	KLCL PU WMCM r WHEC Q WETS PE KLNG-KYNN KIIQ 1h KSTP 1b WMEX ITS KEMM PU KMAX WITS KEMM PU KMAX ITS KEMM PU KMAX ITS KEMM PU KMAX ITS KEMM PU KMAX ITS KEMM PU KMEX PU CEE Q WCCE Q WCCE Q KHEE PU KEER PU KEER PU	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, PSA Dir K Austin G. Kremer, GM Norman Smith, CE James Elmore, DoE G Alam Martin Rollye Bornstein, PD David E. Cox, CE K Jones Fred Moss, Mx D R. R. Sowers, Ric David Jackson, PD Russ Wristen, MxD; Aud Supyk WEMAR Staff*
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb Bavid Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGOW pub Gene Micnaele, PD KFM lmb Angel D. Toledo, GM 170 ECEQ q u/u ECOQ Q Don Bahmmaier WEBS l Charles A. Hecht, CE	K 1480 K 1490 G L 1500 L 1500 K 1510 F 1520 B 1530 K 1540 L 1550 D 1550 D 1550 K 1550 K 1550	KLCL PU WMCM r WHEC Q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM PU KMAY lm KYXI Qu KWOO Lu KYWO LD KYWO LO KOER 1 WTOD Q KEER lpb KGUL PI KHEER pu KEER lpb KGUL PI KHEER lpb KGUL PI KMAE lpb	Agron Laid, Mx D George McClintock, E John Schen, CE Jomes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE Dewayne D. Carver, FSA Dir K Austin G. Kremer, GM Norman Smith, CE J S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD Russ Wissten, Mx D R. R. Sowers, Eic David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM **KMAR Staff** Diane Pilkington, S
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karketa Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGOW pub Gene Micnaele, PD KFHM lmb Angel D. Toledo, GM 170 KCB2 q u/u KWOO q Don Behnmaier WSBS l Cnarles A. Hecht, CE 1190 KJLA lum Wilton R. Osborn II, P.G	K 1480 K 1490 G 1490 L 1500 L 1510 F 1520 E 1520 D 1530 K 1540 L 1550 D 1530 K 1550 D 1530 K 1550 D 1530	KLCL pu WMGM r WHEC q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WWEKX-WITS KEMM pu KYXI qu KYX	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lembut Sr., PD FWM. (Percy Zeigler, CE (Melissa J. Bailey, Admässt K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE Pu; q George N. Huston, DoE Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD Rollye Bornstein, PD R. Jomes Fred Moss, Mx D R. R. Sowers, Eic David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM WEMAR Staff* Diane Filkington, S L Nicholas Bono, E
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1030 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGGW pub Gene Michaels, PD KFHM lmb Angel D. Toledo, GM 170 KCEQ q u/u ECOQ Q Don Bahmmaier WHEN l Charles A. Hecht, CE 1190 KJLA lum Wilton R. Osborn II, P.G 1210 WCAU l u/u 1220 WABF lum Robert A. Clark, P. GM	K 1480 K 1490 G 1490 L 1500 L 1500 E 1520 E 1520 E 1540 L 1550 D 1530 K 1540 L 1550 D 1530 K 1540 L 1550	KLCL PU WMCM r WHEC Q WETS PE KLNG-KYNN KIIQ 1h KSTP 1b WMEX WTS KENM PU KMAX WITS KENM PU KMAX I QU KMAX PE KWNO lub WDJZ f1 ZNS1 Q KPOL lu WHEV PU CEE Q WCCR 1 WHER PU KEEE PU KEEE PU KEEE PU KEEE PU KEEL PU KEUL PU KMAR Imb KOULS 1 WOKZ 1 WOKZ 1	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admass t Daniel Lacy, CE, WBoGYU Narman Pastznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, PSA Dir K Austin G. Kremer, GM Norman Smith, CE James Elmore, DoE G Alam Martin Hollye Bornstein, PD David E. Cox, CE M. Jores Fred Moss, Mx D R. R. Sowers, Eic David Jackson, PD Russ Wristen, MxD; Aud Supyk Don Fred, GM "KMAR Staff" Dians Filkington, S Nicholas Bono, E Hoyt P. Potts, GM
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WLMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KULT pub Jonn Hood, PB KELT pub Jonn Hood, PB KELT pub Jonn Hood, PB KEYN lmb Bavid Clark, PD 1100 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSD0 l J. S. Heiser, CE 1150 WGGW pub Gene Micnaels, PD KFHM lmb Angel D. Toledo, GM 1170 KCGU q u/u EVOO q Don Bahmmaier WEBS l Charles A. Hecht, CE 1190 KJLA lum Vilton R. Osborn II, P.G KYLL lb Donald Stevenson, GM	K 1480 K 1490 G L 1500 L 1500 K 1510 F 1520 M 1540 L 1550 D 1530 K 1550 D 1530 K 1550 M 1570 M K A K 1580	KLCL PU WMCM r WHEC Q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDEE lm WMEX-WITS KEMM PU KMAY lm KYNO lub WDJZ fl ZNS1 Q KPOL lu WHEY PU CRE Q WCCR l WHEY PU KEER lpb KGUL BL KMAR lmb KOLS l WOLZ l WOLZ l KWEU PU KEER lpb KGUL S L WOKZ l WOLZ l WOKZ l WOKZ l WKLK ul KWED pu	Agron Laid, Mx D George McClintock, E John Schen, CE Jomes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU D Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, PSA Dir K Anstin G. Kremer, GM DK Norman Smith, CE J J Mes Elmore, DoE Alam Martin Boliye Bornstein, PD David E. Cox, CE M. Jomes Fred Moss, Mx D G. R. Sowers, EiC David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM WKMAR Staff* Dians Pilkington, S Nicholas Bono, E Jemes King, Mx D F Hoyt P. Potts, GM Jemes King, Mx D Jemes King, Mx D Jemes King, Mx D L Micholas Bono, E Jemes King, Mx D L Jemes King, Mx D L Jemes King, Mx D L L L L L L L L L L L L L L L L L L L
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines VSPF ul A. W. Annas, E 1060 ENLV l Jesse H. Bonner, GM, CE KCLT pub Jonn Hood, PB KHYM lmb Robby McClure, M 1090 KLOH l Wallace Christensen, GM 1100 KANN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGGW pub Gene Micnaels, PD 1170 KCEQ q u/u EVOO q Don Bahmaier WBHS l Charles A. Hecht, CE 1190 KJLA lum Wilton R. Osborn II, P.GM 1210 WCAU l 1220 WCAU l WGAR uq 1/4 Robert A. Clark, P. GM	K 1480 K 1490 G 1490 L 1500 L 1510 F 1520 K 1540 L 1550 J 1550 J 1560 K 1560 K 1560 K 1570 K K 1580 K K 1580	KLCL PU WMGM r WHEC Q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDEE lm WMEX-WITS KEMM PU KMAY lm KYXI Qu KWOO Z fl ZNS1 Q KPUD Lu WHEY PU CEE Q WCCR 1 WTOD Q KEEE lpb KGUL PA KHEE PU KEEE lpb KGUL FA KHEE PU KEEE lpb KGUL PA KHEE PU KHEE PU KHEE lpb KGUL PA KHEE PU KHEE lpb KGUL PA KHEE PU KHEE PU KHEE lpb KGUL PA KHEE PU KHEE lpb KGUL PA	Agron Laid, Mx D George McClintock, E John Schen, CE Jomes D. Lambut Sr., PD pwm. (Percy Zeigler, CE (Melissa J. Bailey, AdmAsst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE Rowayns D. Carver, FSA Dir K Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD Bavid E. Cox, CE M. Jones Fred Moss, Mx D G. R. Sowers, EiC David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM **KMAR Staff** Diane Filkington, S Nicholas Bono, E Hoyt P. Potts, GM Jones King, Mx D L James King, Mx D L Ress Kin
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun7), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCTT pub John Hood, PB KCHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1190 WGOW pub Gene Micnaele, PD KFHM lmb Angel D. Toledo, GM 170 KCBQ q 171 VCBQ q 172 VCBQ Q 173 VCBQ Q 174 VVIL 1 V	K 1480 K K 1490 G K 1490 L L 1500 L K 1510 F C 1520 E L 1540 L K 1550 D J K 1560 K J L K 1560 K K 1560 K K 1570 M K K 1580	KLCL PU WMGM r WHEC Q WHETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WWEKK-WITS KEMM PU KYXI QU K	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admässt K Daniel Lacy, CE, WBoGYU Narman Pastznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD R. Jomes Fred Moss, Mx D R. R. Sowers, Eic David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM **EMAR Staff** Diane Filkington, S Nicholas Bono, E Hoyt P. Potts, GM Jemes King, Mx D L Val Carl Spencer
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines WSPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KCLT pub John Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSD0 l J. S. Heiser, CE 1190 KCYN lmb Angel D. Toledo, GM 170 ECEQ q u/u EVOO q Don Bahmmaier WBHS l Charkes A. Hecht, CE 1190 KJAA lum Wilton R. Osborn II, P.G WGAR uq u/u WGAR uq u/u 1240 KANE pu Ken Romero, DoE KTAM pu Ken Romero, DoE KTAM pu Ken Romero, DoE KTAM pu Ken Romero, DoE	K 1480 K 1490 G L 1500 L 1500 K 1510 F 1520 K 1540 L 1550 K 1560 K 1560 K 1570 K K 1580 K K 1580 K K 1580 K K K K K K K K K K K K K K K K K K K	KLCL PU WMCM r WHEC Q WETS pm KLNG-KYNN KIIQ 1h KSTP 1b WDEE m WMEX WITS KEMM PU KMAY Im KYNO 1hb WDJZ f1 ZNS1 Q KPOL hu WIEV FU CEE Q WCCR 1 KYTOD Q KHBE PU KEEE 1pb KGUL S KMAR hmb KOLS 1 WOLZ 1 WWILL LL KYED PU WAKE Q KEBQ F	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, PSA Dir K Anstin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD David E. Cox, CE M. Jomes Fred Moss, Mx D R. R. Sowers, Ric David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM WKMAR Staff* Diens Pilkington, S L Nicholas Bono, E Hoyt P. Potts, GM James King, Mx D Carl Spencer John Haggari, GM
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines VSPF ul A. W. Annas, E 1060 ENLV l Jesse H. Bonner, GM, CE KCLT pub Jonn Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGGW pub Gene Micnaels, FD KFMM lmb Angel D. Toledo, GM 170 KCBQ q u/u EVOO q Don Bahmaier WBHS l Charles A. Hecht, CE 1190 KJLA lum Wilton R. Osborn II, P.G WGAR uq WGAR uq LESOX l Estit G. Williams, Op D KSIM PU KSICH CLinton /E9APD	K 1480 K K 1490 G L I 1500 L I 1500 K 1510 F C 1520 K 1540 L L 1550 D K 1550 D K 1560 K K K 1560 K K K 1560 K K K K 1560 K K K K K K K K K K K K K K K K K K K	KLCL PU WMCM r WHEC Q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WMEX-WITS KEMM PU KMAY lm KYXI Qu KMAY lm KYXI Qu KWDJZ fl ZNS1 Q WCGR l WTOD lu WHEY PU CEE Q WCGR l WTOD Q KEER PU KEER lpb KGUL Pu KHEER PU KEER lpb KGUL Pu KEER lpb KGUL Fu KEER lpb KGUR lpu	Agron Laid, Mx D George McClintock, E John Schen, CE Jomes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, FSA Dir K Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD Russ Wisten, Mx D G. R. Sowers, EiC David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM **EMMER Staff** Diane Pilkington, S Nicholas Bono, E Jomes King, Mx D L James King, Mx D L L L L L L L L L L L L L L L L L L L
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1060 KNLV l Jesse H. Bonner, GM, CE KTOK u Ken Gaines ESPF ul A. W. Annas, E 1090 KKYN lmb Robby McClure, M 1090 KKYN lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1130 KGOW pub Gene Micnaels, FD EFFM lmb Angel D. Toledo, GM 170 KCGQ q u/u EVOO q Don Bahmaier WEBS l Charles A. Hecht, CE 1190 KJLA lum Wilton R. Osborn II, P.G 1210 WCAU l u/u 1220 WAAKE pu Ken Romero, DoE KTAM pu KSOX l Chris Clinton /KSAFD, WSDR puh Edward H. Fisher, VP, E	K 1480 K K 1490 G K 1490 L L 1500 L K 1510 F C 1520 E L 1540 L K 1550 D L K 1560 L K 1560 K K 1560 K K 1570 K K 1580 K K 1580 K K 1600 K K K 1600	KLCL PA WMGM r WHEC Q WETS pm KLNG-KYNN KIIQ lh KSTP lb WDES lm WWKKX-WITS KMMW pu KYXI qu KYX	Agron Laid, Mx D George McClintock, E John Schen, CE Jemes D. Lembut Sr., PD pwm. (Percy Zeigler, CE (Melissa J. Bailey, Admässt K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD Rollye Bornstein, PD R. Sowers, Eic David E. Cox, CE M. Jomes Fred Moss, Mx D R. R. Sowers, Eic David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM **EMAR Staff** Diane Filkington, S Nicholas Bono, E Hoyt P. Potts, GM Jemes King, Mx D L Carl Spencer John Haggari, GM E Rolly Frundle, DoE
WSEV PU Sem Truan, PD XEU qn,pennant u/u 960 WAAK ul Steward Ross Albert, CE 970 XEO ln Srita. Naime Salem G.,G 980 WTRY f Norman Avery, CE 1000 KXRE l Rick Stewart, PD Jay Lewis, P 910 KINA l E. Joseph Eck, CE 1010 KDJW pu Terry (Anilun?), Op M 1000 WIMS l Frank P. Karkota Jr., CE KTOK u Ken Gaines VSPF ul A. W. Annas, E 1060 ENLV l Jesse H. Bonner, GM, CE KCLT pub Jonn Hood, PB KHYM lmb Robby McClure, M 1090 KKYN lmb David Clark, PD 1110 KHAC p L. J. Harper 1130 KSDO l J. S. Heiser, CE 1150 WGGW pub Gene Micnaels, FD KFMM lmb Angel D. Toledo, GM 170 KCBQ q u/u EVOO q Don Bahmaier WBHS l Charles A. Hecht, CE 1190 KJLA lum Wilton R. Osborn II, P.G WGAR uq WGAR uq LESOX l Estit G. Williams, Op D KSIM PU KSICH CLinton /E9APD	K 1480 K K 1490 G K 1490 G L L 1500 L K 1510 F C 1520 B L 1540 L K 1550 D J K 1560 K K 1560 K K K 1600 K K K K 1600 K 160	KLCL PU WMCM r WHEC Q WETS pm KLNG-KYNN KIIQ 1h KSTP 1b WDEE m WMEX-WITS KEMM PU KMAY Im KYNO lub WDJZ fl ZNS1 Q WPOL lu WINY PU CRE Q WCCR 1 WHOD Q KHBE PU KEKE PU	Agron Laid, Mx D George McClintock, E John Schen, CE Jomes D. Lambut Sr., PD pwm (Percy Zeigler, CE (Melissa J. Bailey, Admasst K Daniel Lacy, CE, WBoGYU Narman Paetznick Craig B. Roberts, CE pu; q George N. Huston, DoE K Dewayne D. Carver, FSA Dir K Austin G. Kremer, GM Norman Smith, CE L. S. P., CE James Elmore, DoE Alam Martin Rollye Bornstein, PD Russ Wisten, Mx D G. R. Sowers, EiC David Jackson, PD Russ Wristen, MxD; Aud Supvk Don Fred, GM **EMMER Staff** Diane Pilkington, S Nicholas Bono, E Jomes King, Mx D L James King, Mx D L L L L L L L L L L L L L L L L L L L