

# From The STAFF

W.T.F.D.A. Headquarters, P.O. Box 514, Buffalo, NY 14205

DON'T MISS CONVENTION '84!...It's time to start making your plans to attend this year's WTFDA convention in Jamestown, NY. Host Mike Lapinski is busy getting an exciting program together. One of the featured speakers will be the Chief Engineer of WJTN-1240 and WWSE 93.3. A DXpedition to nearby Allegany State Park will also be featured, and the conditions on UHF and VHF from this elevated area are almost legendary among enthusiasts. We hope to also have a tour of an Erie, PA television station, as well as the tour of the Jamestown AM and FM facilities. All club members, and all DXers, are welcome at the WTFDA convention. Come to western New York for the weekend of August 3rd, 4th, and 5th! More details are coming up in the next two issues--and we'll show you the easiest ways to get there. Incidentally, the registration fee is a very reasonable \$20!

WTFDA GETS PLUGGED--EVERYWHERE!...You may have noticed the great publicity your club and your hobby have been getting lately. We have been swamped with hundreds of requests for information on the club in recent weeks. First of all, we've got to extend our thanks to Dr. Bruce Elving; thanks to his mention of WTFDA in a recent RADIO WORLD article, a lot of people in the broadcasting industry have learned about the hobby of FM DXing.

THAT WAS JUST THE BEGINNING...Following that, the April 7-13 U.S. editions of TV GUIDE gave WTFDA and TV DX a superb plug. You can be sure that TVG's circulation is massive; the flood of mail into club headquarters was incredible, and has not yet stopped. We owe a big thanks to David Lachenbruch, TV GUIDE's technology expert, whose work you have no doubt seen in any one of a number of electronics and home entertainment industry publications.

LAST BUT NOT LEAST...We again have to thank POPULAR COMMUNICATIONS, and this time, their Alternative Radio editor, Darren Leno. The May 1984 issue of POP'COMM features an excellent article about TV DXing, again mentioning WTFDA. As we said last October, POPULAR COMMUNICATIONS is for the communications enthusiast, and really should not be missed by anyone interested in DXing. Look for it on the newsstand.

ARTICLE REPRINT SERVICE...The club article reprint service resumes in June. A catalog will be available free to all members for a self-addressed stamped envelope, and the fees should be very reasonable.

BITS...It's E-skip season!!! Start checking for it NOW!!!...Incredible F2 skip conditions to 60 MHz brought South American TV into south Texas, Australian TV signals into North America, and Hawaiian TV into the southern Pacific regions. It almost defies explanation, but we hope to feature a detailed report on it next month...

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Thanks to Harry Hayes for this month's cover.



# MAILBOX

May, 1984

Alan Hyams  
P.O. Box 130  
City Island Sta.  
Bronx, N.Y. 10464

Nate Ely would like to contact the following WTFDA members: Ron Greening, Les Brooks and Roger Winsor.

He asks me if I can print the addresses of new members, as well as their names and locations, in the periodic membership updates. I don't - for two reasons. First of all, I'm not given the addresses myself. Secondly, it seems natural that the decision to leave out addresses in the membership list (see January's VUD) should apply to new members as well.

I will, however, print a person's address if he asks me to. For other situations, you might try HQ for an address. It obviously makes DX correspondence easier if addresses are readily available, but some people dislike having their home address circulated about.

Steve Sprachman writes in about his comments on DX reports in the February VUD. "I wrote the articles on re-orting to stir up a little bit of controversy... Controversy and the discussion of issues is good and healthy for a club. I also wrote my comments to make people think when they report that their loggings are of interest, but mostly to those DXers in their area. But I find that a person's comments transcend the region they live in and may be of interest to all members of the club."

He also pointed out to me comments made by Nate Ely and Fred McCormack in March's "Western TV - DX." They both seemed to agree with Steve that more members should send in re-orts. Well, what do you think?

And finally, by popular demand, the newest frequency schedule for Glenn Hauser's "World of Radio" program on WRNO Shortwave. Thanks to Bob Goodman for the info.

The following are all CST

Fridays	11:30 PM	6.045 Mhz
Saturdays	8:30 PM	7.355 Mhz
Sundays	8:00 AM	9.715 Mhz

Till next time, 73s,

Al







## AN ANNOUNCEMENT THAT YOU WILL HOPEFULLY BE AT LEAST REMOTELY INTERESTED IN...

As you may have noticed, I (Tim McVey, that is) am serving the club as the new technical editor. This, of course, is the same job held by Bill Thompson, who provided us all with the ever-interesting "Technical Topics" column. The Tech Topics section will continue to be a VUD feature, hopefully on a regular basis starting later this summer. It would be nifty to see more information presented regularly in the VUD for the edification of WTFDA members, thus, MEMBER INPUT IS NEEDED. This means YOUR questions, ideas, articles, and suggestions. So, just as soon as you read this, why not dig up a postcard and jot upon it a question, idea, or suggestion about TV-FM-VHF-UHF DX'ing and mail it to me. This will accomplish three things: (1) It will give me a better idea of what you would like to know about, (2) it will determine how interested you actually are in this column, and (3) it will save me from having to make up imaginary questions (and answers!).

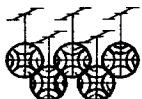
Besides, it only costs you 13 cents. Don't be bashful...I am here to serve

the club. In other words, when you are kicking around an idea that would be nice to see in print, I can provide help, advice, fine-tuning, help with artwork and schematics, etc. Remember, we in the WTFDA are one of the

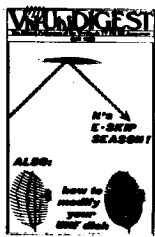
world's smallest niches. Just ask yourself, Who, out of some 4.5 billion people on this planet, own radios? Who, of those radio owners, DX with them? And who, of those DX'ers, DX the

range of frequencies from 30-900 MHz?

73 T. K. McVey  
Route 3, Box 568, Bolivar, TN 38008



**WTFDA**  
Official supplier of  
High frequency propagation  
Information to the  
1984 Olympic Games



# FM NEWS

BRUCE F. ELVING, EDITOR  
4515 AVENUE "E"  
KEARNEY NE 68847

### NEW FM STATIONS

AK Kodiak K285-104.9 (KGTL-FM 103.5  
Homer translator—call no's. not known)  
AK Soldotna 101.7 3000 h.v.; 300' (delete 101.7  
K269AU Soldotna)  
AR Magazine K240AB 95.9 (KCFD 98.5 Tulsa)  
CA Walnut Creek K244B 96.7 (KOIT-FM 96.5  
San Francisco; replaces on-channel booster  
KOIT-1 96.5 Walnut Creek; this translator is  
on the air and UX ready!)

FL Perry 105.5 3000 h.v.; 300'  
FL Rock Harbor WKLG 102.3 3000 h.v.; 250'  
(on the keys)

HI Pukalani 98.3 3000 h.v.; 550'  
IA Dyersville KDMC 99.3 3000 h.v.; 300'  
IA Spirit Lake 103.9 3000 h.v.; 300'  
MS Charleston 94.3 2000 h.v.; 360'  
MO Seligman 95.3 740 h.v.; 550'  
NE Alliance 105.9 100000 h.v.; 855'  
NJ Cape May Court House 105.5 3000 h.v.; 290'  
OK Ada K237BC 95.3 (KCFD)  
OK McAlester K237BF 95.3 (KCFD)  
OK Shawnee-Tecumseh K249B 97.7 (KCFD)  
OK Stillwater K272B 102.3 (KCFD—see Danny  
Buntlin's comments about this translator in  
his column of last month. The people who  
have put this translator on the air—J & J  
Broadcasting—since contacted me about my  
opinions on translators, and I told them I am  
all in favor of them, but that restraint should  
be shown in opening translators in different  
time zones from the originating stations. The  
more far-flung J&J translators will use satellite  
pick up of KCFD. They like to use  
KCFD, because KCFD is not a traditional  
preaching-type station, but presumably plays  
music with a wider listening interest. I did  
mention to them Danny's objections to the  
Stillwater translator. I steered J&J to Lew  
Latto, WAKX 98.9 Duluth MN, as a broad-  
caster prominent in NRBA circles who has  
exploited FM translator technology quite well  
for support in getting the NRBA and NAB not  
to oppose the growth of the medium of FM  
translators and the concept of "low-power FM."

OK Tahlequah K232B 94.3 (KCFD)  
OR The Dalles 97.7 1450 h.v.; 510'  
PA Mercer WKTG 96.7 1000 h.v.; 485'  
TX Floydada 95.3 3000 h.v.; 485'  
TX Heame 94.3 3000 h.v.; 300'  
TX Laredo \*88.1 3000 h.v.; 245' Diocesan Radio  
TX Robstown \*89.5 1600 h.v.; 400' "  
VT South Burlington 95.3 3000 h.v.; 225'  
WA Pasco 98.3 3000 h.v.; 2'  
WV Buckhannon 93.5 3000 h.v., directional; 220'  
WI Cleveland (N. of Sheboygan) 103.1 3000 h.v.;  
300'

WI Rhinelander 97.5 100000 h.v.; 500'; k format  
WY Riverton 93.1 100000 h.v.; 1730'  
AT Fort Mc Murray 97.9 2800 watts, rock  
MB Sundance (60 km ENE Gilliam) 93.1 14 w, CBC  
NF Fox Harbour, Lab. (40 km E. Port Hope Simp-  
son) 101.7 320 watts; CBC (relay)  
PD L'Anse-a-Vallée 95.3 84 w; CJRB 93.3 Gospel/  
YT Whitehorse 88.9 1 watt, native and English

### OFF THE AIR

CA Barstow KZNS 94.3—FISCAL PROBLEM S  
CA Walnut Creek KKHI-1 95.7  
KIOI-1 101.3  
PA Williamsport W269AI \*101.7 ("transmitter out  
for repairs—should be back on shortly")  
MN Fairbault KDHL-FM 95.9, since tower blew  
down in June; has reapplied for lower height

**KDHL**  
601 CENTRAL AVENUE  
FARIBAUT, MINNESOTA  
55021-0030

"prior to a cut-off date of some time in Dec.,  
1983... There is a very small chance of a Class C2  
which I have engineers working on. If this is not  
possible then I will reconstruct KDHL-FM to full  
328' at 3,000 watts on 240A. It is not for sale!"  
writes J. E. Hyde, president,  
No stereo heard and SCA had open carrier (no Muzak):  
WBKW 99.5 Beckley W.V.

### FACILITIES CHANGES GRANTED

AK Anchor Point \*K269BH 107.1 (10 watts, 1150')  
now with WMBI-FM \*90.1 Chicago via satellite  
(not KBCN 100.5 Anchorage)  
AK Kenai—Soldotna K249BP \*97.7 (K296BU 107.1  
formerly); primary WMBI-FM \*90.1 Chicago via  
satellite, §, g—a special 100-watt translator!  
AK Homer-Seldovia K285AM 104.9 (with WMBI-FM  
\*90.1 Chicago—not KBCN)  
AK Kodiak K292BN 106.3 (WMBI-FM, not KBCN)  
AZ Kingman KZZZ 94.7 (from 92.7) 250000 h.v.; 210'  
AR Magnolia KVMA-FM 107.9 100000 h (360')  
CA Ukiah K285AQ (assumed; not K285BR); carries  
KEAR \*106.9 San Francisco, not KABL-FM 98.1  
CT Norwalk WLYQ 95.9 300' (3000 h.v.)  
FL Cocoa Beach WRKT-FM 104.1 1600' (100000 h.v.)  
ID Sandpoint KPNQ 95.3 3000 h.v. (430')  
IN Muncie WWSW \*90.5 still 10 w (app. only for 370)  
IN Richmond WECI \*91.5 300 h.v.; 200'—on air with  
those facilities, having never moved to \*89.7—a  
vastly improved signal over their former 10 watts!  
IL Morris WJCS-FM 104.7 6600 h.v.; 210'; class A  
coverage for a Class B1 10n air.  
IL Mount Zion WLVQ 98.3 1000 h.v.; 480'—not yet/  
IN Vavay WAVV 95.9 1000 h.v.; 480'  
IA Creston KTR 101.7 1600 h.v.; 400'  
IA Waterloo KCNB 105.7 1300' (100000 h.v.), Y net  
work (from RKO), Hts 106 (not strict)  
MA Worcester WAAF 107.3 19000 h.v.; 820'  
MI Duluth KUMU \*103.3 95000 h.v.; 820'  
MT Kalispell KBBZ 98.5 50000 h.v.; 2560'  
NM Alamogordo KMTM \*98.7 (not 88.9), §, bc, P  
NY Carthage WTOJ 103.1 520 h.v.; 640'  
NY Clinton WHCL \*88.7 270 h.v.; 90'  
NC Elizabeth City WMYK 93.7 1420' (100000 h.v.)  
NC Laurinburg WSTS 96.5 90000 h.v. (755')  
OH Hamilton WBLZ 103.5 16000 h.v.; 790'; reduces  
coverage to 31, 69 miles  
OH Hillsboro WS-IV-FM 106.7 260' (50000 h.v.); §  
OH Van Wert WERT-FM 98.9 50000 h.v.; 450'; to  
significantly increase coverage—adding Stereo?  
OK Oklahoma City KZBS 98.9 100000 h.v. (1100')  
OK Sallisaw KA ZZ 95.9 400 h.v.; 600'  
OK Tulsa KYEN 95.5 740' (100000 h.v.)  
OR Coquille KSHR-FM 97.3 (from 102.3) 25000 h.  
6000; §80'—on air and DX ready on 97.3! (500')  
PA Hershey WRKZ 106.7 47000 h.v. nondirectional /  
PA Lancaster WPTG \*90.3 4500 h.v. (170') S [AP] Net.  
SC Andrews WTOX 102.3 2600 h.v.; 320'  
TX Arlington KWJS 94.9 1140' (100000 h.v.)  
TX Lampasas KLTD 99.3 300' (3000 h.v.)  
UT Salt Lake City KRSP-FM 103.5 27500 h.v.; 3770'  
VT Castleton WUUV \*91.3 230 h (dropping v): 235'  
WA Bellevue KBCS \*91.3 1200 h.v., directional, 210'  
WV Elkins WCDE \*90.3 1000 h.v.; 345'  
WV Milton WNST-FM 106.3 170 h.v. (1230')  
AT Fort Mc Murray CBXN 99.3 20000 h.v. (175')  
NF Corner Brook CKOZ 92.3 50000 h.v. (40C')  
ON Smiths Falls CKUE 101.1 100000 h.v. (not height,  
not announced)  
PT Coaticook CFIN 104.5 450 watts  
STEREO STATIONS  
CA Anderson KEWB 94.3, B-94  
CA Garberville KERG 100.1 progressive country (pk)  
CA King City KLF4 92.1, Spanish/Latin  
CA Portola K257BV 99.3 rock  
CA Quincy KNXN 101.9 r, "Connection" (not K-Nixon)  
CA San Luis Obispo KKUS 98.1 r (a second reporter  
says "fm"), US-98  
CT Hartford WLHV 93.7

ON Belleville CBBS 94.3, to be classical  
IN Terre Haute WISU \*89.7, heard with jazz  
before its sign-off  
KS Coffeyville KQOF 92.1  
KY Morganfield WMSK-FM 95.3, k  
MA Nantucket WGTW 96.3  
MA New Bedford WJFD 97.3, still Portuguese  
MA Northampton WOZQ \*91.9  
MA South Hadley WMHC \*91.5  
MS Greenwood WMAO-FM \*90.9 §, CP (as  
are all MS ETV FM stations)  
NV Incline Village KTKT 100.1 "Tahoe FM-  
100"  
NV Fallon KVLV 99.3 Stereo-99.3  
NV Sparks KNAA 100.9 rock, "Stereo 101 FM"  
NH Concord WJYJ 105.5  
OK Guymon KKBBS 92.7  
OK Muskogee KRLQ 97.1 rock, Q-97  
OR Astoria KMUN \*91.9  
PA Pottstown WTLQ 102.3, rock, Q-102, adds  
Wilkes-Barre—Scranton to its hourly ID  
SD Pierpont-Aberdeen KDSO-FM \*90.9 §, P  
SD Rapid City KBHE-FM \*89.3 (calls, and freq.  
change from 90.3); both of above on air, c/  
P. SCA status of those two unknown.  
TN Memphis WLTX \*89.3 back on air, c/  
VA Suffolk WTDI 106.9 k, FM-107

**SCA (e-z kHz) ACTIVITY (t)**  
IA Mason City KLSL 106.1 t x I VA Harrison-  
KS Fort Scott KOMB 103.9 t x I burg WOPO  
MO Janio KQBC \*90.7 t x I 100.7 t music  
NV Reno KQZZ 105.7 t x I VA Petersburg  
OK Miami KSSM 100.9 t x I WPLZ 99.3 no SCA  
DELETIONS

AK Clam Gulch K285BB 104.9 and AK Stariski  
Creek K265AU 100.9—both replaced by new  
Kenai 97.7 translator  
NY Frankfort 105.5 (replaced by Iion NY FM  
station application)  
See also under "New FM Stations," references to  
deletions in Walnut Creek CA and Soldotna  
AK  
NF Gander CJOS 99.9, probably never too much  
re-activated; list as deleted  
PQ Quebec CJMF 93.3 for playing too much  
rock, and not "adult contemporary"; off air,  
but can reapply for licence (Canada spelling)

### FORMATS NETWORKS

AL Fairhope WZEW 92.1 progressive rock—  
yes, there are a few stations on the commer-  
cial part of the FM dial still doing this like  
in the 60s! CA Monte Rio  
AK Anchorage KRKN 102.1 pk I KRJB 97.7 fm  
AK Homer KGTL 103.5 fm  
AK Kenai KWHQ 100.1 rock  
AK North Pole KJNP-FM 100.3 gospel—rumored  
call change may result in a new format  
AR Fort Smith KWAG 99.1 r (light), Magic-99  
(not strict)  
CA Salinas KTOM-FM 100.7 k(country)  
CT Hartford WKSS 95.7 b, but being sold for  
\$3.4 million to Don Law, Boston, so format  
could change  
CT Somers WDJW \*101.5 r, mono, on 5 to 10 p.  
m. weekdays only; often off earlier, signal  
extremely weak at about 3 miles  
CT Willimantic WNOU 98.3 r  
FL Key West WIIS 107.1 rock  
FL Pensacola WOWW 107.3 all country (k)  
GA Athens WINGC 95.5 S network, (LP)  
GA Griffin WKUE-FM 97.7 rock, still Q-97  
GA Toccoa WLET-FM 106.1 rock (not rk)  
IL Crest Hill WCOC 98.3 k, Q-Country, ID with  
Juliet IL. IN Richmond WECI \*91.5 r mainly  
IN Crawfordville WLFQ 103.9 mr  
IN Evansville WPSR \*90.7 m, §  
IN Vincennes WVUB \*91.1 classical and beautiful  
IN Washington WFML 106.5 km



said to have more of a teaching ministry than most preaching stations. In time, perhaps, other Family FM stations in the commercial part of the FM spectrum will be considered educational, but for now I am adopting a conservative stance and not giving them that distinction. A new station like WBFG 97.7 Effingham IL came on the air specifically licensed educationally, and that is how I will list them. Others, like KTIG Pequot Lakes MN, I have interviewed the manager and learned that they are educational and follow the guidelines of KTIS-FM, owned by Northwestern College. So until presented with virtually 100% solid proof a Christian station is educational, it will stay listed commercial, and virtually the only proof I will accept will be FCC licensing of its transmitters in the educational band—even a letter from the station owner or manager will not necessarily convince me to change! So don't deluge this column with "FM mistakes": religious stations that should be listed as educational!

I am also getting conflicting information about many stations having a variety of rock formats. Some tell me "rp" or album rock should be abandoned, especially among commercial broadcasters. Mike Bugaj, for instance, says "Many of the commercial rp stations I would drop the p and leave as only. Who is p any more? I can only think of a couple college stations around here (WRTC, for example) who play wierd, new wave, reggae, strange stuff and qualify for a p." I agree, and favor a method promoting greater simplicity of listings. I have overhauled several format suggestions in the CA list, because they were minor changes or rp to p or r to rp, etc., and among very minor stations, such as KJSJ \*90.7 San Jose being proposed for rp instead of r. Again, rather than strive for 100% accuracy, I am more interested in using fewer symbols and more consistency among my listings—and having my reporters agree among themselves, so that I do not have to lose any more hair trying to figure where truth lies with regard to a station two people write me about in the same month and its musical programming. I appreciate the effort Sheldon went through in compiling his 10-page report, but I prefer more regular—and shorter—reports. The report was well-organized and included only material at variance with the *FM Atlas* or my computer print-outs. That's why I hate to announce a deadline for this column or for the *FM Atlas*. Too much can come in the last day, thus throwing off production while the new material is analyzed. Perhaps my crabbiness is due to having spent so much time analyzing this material. Now for news of the next edition.

#### READERS' REPORTS AND FM NEWS

When can the new *FM Atlas* be ready? Possibly not before July or August. Work on the new *FM Maps* has taken the entire month of March and much of April—and a word-processing program involving my computer tapes fell through, plus going through much more station data than normal is causing my publication deadline to be delayed to about June 8. Please understand it is a difficult undertaking for one person—but I think you will like the product when it is ready. In the time I have done nine editions, how many editions of the club's TV Station Guide or Translator List've been compiled? During May I also have to get ready an FM stereo list for Delco/General Motors. The Jay Corp. of Tokyo recently sent me a nice check for FM data to be used in Sony's new *Wave Handbook*, a copy of which I should be receiving shortly. *Radio World* newspaper ran a story on FM DX in March, in which I promoted the club to radio station chief engineers.

Two readers commented on *White's Radio Log*, now available as a separate publication. I found it interesting, and more complete than the old *White's* (a copy I have is from 1949), giving daytime and nighttime AM station powers, but possibly somewhat less complete in FM than mine. Mike Bugaj says: "It is terribly out of date. . . Or is it that your book has me spoiled?" Nick Lombardi is surprised I would "even consider relinquishing control and selling out to some faceless Chicago corporation (who would probably turn it into a clone of *White's Radio Log*)." Well, I have to admit *White's* inspires me to copy and emulate its success; I have used its call letters data, lacking a recent Vane Jones log in checking to see whether, for instance, a station has an AM affiliate with the same call. So if my book gets to look more like *White's*, it may be more than coincidence!

Mike sent a report on WPKT \*90.5 Meriden CT being opposed in those new calls by WPKN \*89.5 Bridgeport. WPKN fears for an identity crisis, but WPKT is going ahead, even though a court fight could ensue. The FCC is no longer involved in stations' call letters' disputes.

Nick wonders if WMVV \*90.7 McDonough GA will ever make it to the air. Calls were as-

signed well over a year ago, but there is still no trace of their signal and no telephone listing. New owners of WWLT 106.7 Gainesville-Atlanta hoping to improve Atlanta coverage with even a taller tower, while WPLO-WVEE (FM) 103.3 is for sale by Plough Broadcasting. If you have \$23 million, they will talk to you! Nick thinks the price is a bit steep.

Broadcaster/club member Al Germond has a comment on Eric Norberg's memo in *Broadcasting* about AM stereo. Eric, an FM *Atlas* reader, runs KWIP (AM) Dallas OR and was former manager KGW-AM-FM (FM now KKRZ) Portland OR, is all for AM stereo. Al comments: "They won't let go with this sick garbage—another jealous AM broadcaster carping about FM. Must not be any thunderstorms where this yo-yo lives. . . The Sony AM stereo unit does sound excellent on AM (the FM section is poor, I feel, deliberately—very overload susceptible) but regardless, AM still can't lick static, fading, etc. And diversity designs in new generation of FM car sets has already banished mobile FM problems (see Feb. '84 *Stereo Review*)." The original article was in the 3-5-84 *Broadcasting*, available at many libraries and radio stations. Al says "Personally hope you don't sell the rights to your *Atlas* to someone else, though I can imagine there are personal trials keeping after all the data. It's fine the way it is and speaking as an independent business type, there is nothing better than having your own business. Marketing is the key—I don't expect you'll see hordes flocking to every Waldenbooks for the *FM Atlas* but with a little advertising, I'd expect it to be of more than casual interest in the right circles. This letter was typed on a Selectric III—a great machine—we have two in the station and they have proven excellent investments."

Al seems to invent a term—"rim-shot stations," when he refers to area stations trying to serve a larger central city. I assume he means stations having outlying transmitters, like Fayette MO 92.5 and Centralia MO 92.1 attempting to serve Columbia MO. "These suburban situations invariably have rough going. Even with maximum facilities (such as Seward NE attempting to serve

#### FCC-FM

Lincoln at 96.9), most rim-shot stations struggle for years gaining acceptance in a nearby central metro area." I wonder if Al means to exclude from rim-shot stations such suburban stations as WXFM and WHTZ which have transmitters in the central cities they serve. And Al is watching the 80-90 situation to see what higher power (Class C<sub>2</sub>, C<sub>1</sub> or C) chances there might be for KARO 101.7 Columbia. A list of some 900 tentative new assignments has been made by the FCC, but so far nobody has published the complete list. I have even checked the *Federal Register* and so far have seen nothing resembling a complete list.

#### Columbia FM, Inc.

211 Brenda Lane  
Columbia, MO 65201  
(314) 449-8035

Al says "The master FM antenna sites in both Kansas City and St. Louis are said to be in trouble. The KC site because land acquisition charges are too high; in St. Louis, the city where a tower was planned said flat-out no more towers! It's difficult getting a single site that will satisfy all stations' needs. Spacings are often tight and the FAA can impose its own restrictions. Does 990 feet cover that much more territory than 500? Yes, it does, but is it worth millions to do it? . . . I was in NY/NJ in early March. WHTZ 100.3 is the top act—most listeners and one of the loudest signals, now off the Empire State; the old WVNJ-FM site is apparently scrap. WLTV is the latest occupant of 106.7, a Viacom property that ditched WKHK calls earlier this year and a low-rated k format. And LTW isn't doing much better: a restricted playlist outlet offering soft rock vocals (does NY need still another station of this sort?) . . . WEVD mono with 2 SCAs and English+various foreign languages, 'The Station that Speaks Your Language', WNEW-FM the city's only remaining AOR. . . With a good tuner (my Scott 310C) and 10-element rotating Finco FM-5 (c. 1961), you can snare 85+ listenable signals [from Englewood NJ] and with some tropo help, add 20 more from the Phila area on a good night. AM continues sick: one report has WABC-AM, a 50 kw clear coming in 15th; 15 years ago, the pop music put it #1 consistently when FM was still standing for 'free music' and most teenagers disdained the medium their parents favored for quiet music."

I like maps, so will include this contribution of Paul L. Gaines, Detroit. If this on-again, off-again proposal holds, including all of the "Up" and 21 counties in northern "Lower Michigan," there would be a new state for DXers to count. Perhaps somebody would like to do an analysis of how many FM stations are in that area and how its FM station population compares to other states. A proposal I had heard of would have joined upper Michigan with several northern Wisconsin counties to form the new state of "Superior." Paul sent a radio listing for the "World Tomorrow" religious program, which included several FM stations; some in the Caribbean I have not heard



NEWS MAP

of. They are: RJR 101.3 Christiana, Jamaica; RJR 92.7 Kingston, RJR 94.7 Kingston, RJR 95.7 Kingston, RJR 92.9 Montego Bay, RJR 90.5 Spur Tree, all Jamaica; ZDK Greenville Radio (English), St. John's Antigua on 99.7; BBS 90.7 St. Michael, Barbados.

An article in the local Muncie paper mentioning the area stations and their histories left out two school stations—WWDS \*90.5 and WWHI \*91.3, and had no mention of the construction permit for 104.9 Muncie by Ben-Del Broadcasting Co., so I wrote the paper and asked them to do an update. Ralph Strobel talked to Jerry Jones, in charge of WWDS, and learned that they applied a long time ago for 370 watts, but the FCC still has not approved the increase. And FCC microfiche do confirm WWDS is still 10 watts, with no cp for higher power. "Said he sees no reason why it should not be approved. WWDS must not be very high on the FCC's list of priority, as nothing happens. . . There is no sign of WFCL \*89.5 or 89.3 Franklin IN. Last I knew they were still on 89.3. WDHS 91.1 Gaston hasn't been on the air in over a year! WZPL 99.5 Greenfield-Indianapolis (a rim-shot station?-b.e.) just announced "Indiana's most listened-to station," Ralph then goes on to discuss standards of DX reporting, which I don't care to get into. It does seem that some DX reports have been guesses, and I wonder about some of the contributions my column gets—not from folks mentioned to date in this column—but from people reporting formats on stations well outside their listening areas when there has been little tropo or skip. I always want reports based on published sources to mention what the publications were. One of the people accused of fabricating DX is a person who has sent reports to this column—so be careful, and report format changes, etc. only for stations when you are positive of what you received.

One area of controversy is in calling stations to find out if it is them. I find nothing wrong with the practice, if it will aid you in waiting for an ID, such as asking when they will give the legal ID (waiting for a break in an opera on a public station can take hours, for example), but to count such a station without ever hearing calls

would be wrong. Of course, phoning a station to notify them that they failed to identify on or near the top of the hour when they legally are required to should almost be a duty of a DXer. Keep those broadcasters on their toes so they know that they have to give a legal ID! With radio de-regulation, more and more kids are going to be hired who need take no test for a license to broadcast, and who will not know the rules unless somebody tells them. I drove off the freeway to find a phone to call WLRA \*88.1 when it signed on and did not give its city of license—"Romeoville," and I suppose I should have followed up with a letter to the station or to its manager or faculty advisor. Ralph mentioned a former member who dropped out because his standards of counting stations were seemingly higher than those of some other DXers, with Ralph feeling that club editors and the board of directors should all enforce accurate reporting of DX heard.

Ralph says "My fault for thinking WQWQ 104.5 Muskegon MI had changed calls. My antenna was pointed at WQWQ at the time," but it was WQKT 104.5 Wooster OH which was actually coming in. Mistakes can happen, and this shows how important it is to be certain of what station you are reporting on.

Richard Reese says the NRC Domestic log updater, July 1983, says CBON-3 Hearst, ON is moving to FM, so watch for a new French station in that area. Bill Fahber very kindly sent me a large CBC station printout of on-air FM stations and those under construction. I told him that he should try to cut down on the length of his column to save club expenses (as I am not doing this month, myself!), and he replies:

"I get nothing for the extra work I do, as you know. It would be easier for me to do less writing, less research, and less typing. During the heavy issues, I will reduce the size of the column to help keep the postage at 37c each...I am constantly receiving favorable comments from members, which I do not mention in the column. Apparently there is enough interest in the extra reports to make it worth while." I enjoy Bill's column, myself, and stand corrected on my criticisms regarding its length. He says the club has gotten a good promotion p. 46 of the April 7-13 TV Guide. His Canada news is 2 pp on.

Larry Weil, Acton MA, on car FM radios: "I have to take issue with some of your statements about original equipment v.s. aftermarket car radios. The Kenwood radio (model KRC-511) in my present car is vastly superior in sensitivity than the Chrysler Corp. radio in my previous car. The Chrysler radio was somewhat better in intermod and cross mod rejection. Also, G.M./Delco is getting cheap—they are only putting four buttons on their new radios for presets." Paul Gaines has never heard WHFR \*89.3 Dearborn MI, but in checking with the FCC they say it's on. In NJ, WMSC Upper Montclair is now on \*101.5, barely winning a 3-way battle with Trenton and Poughkeepsie for Paul Mount in Teaneck.

The new KRUI \*89.7 Iowa City is an outgrowth of dorm radio KWAD in the South Quad-

range, and which I remember from when I was a student at the University of Iowa. KRUI, which should be on the air by now, is expected to cause local interference to TV channel 6 reception from Davenport, WOC-TV. KRUI is prepared to go around its neighborhood installing filters so people won't hear acid rock coming through their TVs.

Low ratings may mean the demise of the unique r or rs sound of WLBS 102.7 Mount Clemens MI. Part of the problem is said to be signal problems in Detroit, for WLBS is probably a true "rim-shot" station, but several fans have let WLBS know that it should continue its present format, which for the time being has been saved. Teens as a group protested at the station, with publicity on local TV.

WLZ 98.7 Detroit is located close to Paul Gaines' QTH. "Is a box building with tower behind it, and never put its call letters on it, since they bought it from the religious station. Just the old 98.7 on the building."

North American Cable Systems tells me the Atlas has helped them draw up FM listening guides for over 30 of their MN cable systems, listing KEJA \*89.3 in Garden City SD. I assume KEJA is on the air, but it has not been heard in Kearney, despite several tries for this 85-kw station, and no report that Fred Mc Cormack has heard it in ND. A Lincoln DXer told me the only states he has not heard on FM are AK, HI, WY and ND. I told him to try for 91.9 Fargo, and of several WY frequencies which often make it as far as Kearney via tropo.

KYMC \*89.7 Ballwin MO is the home to many young DJs, and its manager is Cliff Carlton, 19, a recent high school graduate. Richard Eddie says no testing yet of KTAD \*88.1 St. Louis, no sign yet of WTFC Elsay IL on \*95.9; he could not get them on 89.7 after KYMC Ballwin moved there from 89.9. WGRN 89.5 Greenville IL is on with 300 w., but no sign yet of WGEL 101.7 Greenville IL. No sign of: WZRO 98.3 Farmer City IL, WLVO 99.3 Mount Zion IL (could be another 10 months for that station, according to what its owner wrote Wendell Ford), WBOD 100.9 Canton IL, KJFM 101.7 Louisiana MO, KKDY 102.3 West Plains MO, WGCY 106.3 Gibson City IL, WRIC 98.3 Metropolis IL—and being only 20 air-miles away—no sign of KOLS 100.1 De Soto MO. Did hear a program test of KBNV 107.1 Birch Tree MO last Aug. so assume on the air. Also no sign of Jacksonville IL 105.5. Rich sent a story on WEFT \*90.1 Champaign IL and how it is

supported entirely by listener donations. About 1,500 listeners have sent an average of \$28, plus a few business contributions and an \$18,000 grant from the Illinois Arts Council have kept the station afloat. Station coordinator Bill Thomas helped put WEFT on the air in 1982 with cash donations, enthusiastic free labor and hand-me-downs. WXFM in Chicago (now WAGO) donated a 1948 transmitter (probably the one used by WLEY 107.1 Elmwood Park IL, which I have verified from Duluth MN), and volunteers tore down a barn to get wood to build the control room.

A bill, S.2437, by Sen. Barry Goldwater (R-AZ) would change Sec. 605 of the Communications Act to affirm the right of individuals to receive and view satellite-transmitted TV signals. I am not sure a law is needed to reaffirm a right we already enjoy, but it might be interesting to get hold of a copy of the Goldwater bill anyway; no assurance it'll pass.

Now in Stereo: WSCO-FM 105.5 Oswego NY. Said to be seeking a higher-power frequency, as might also be WAQX 95.3 Manlius NY, a rim-shot station attempting to serve Syracuse.

Mike Kohl says I should make a note of all the radio stations on satellites, which could fuel interest in low power transmitters. He knows of several unlicensed facilities in Canada: nobody wants to bother with Ottawa! On Anik D-1, 104° W. Longitude, he lists: CKO-FM, CHFI Toronto, CBBK London (CBC English FM network), CBOF Ottawa (CBC French FM), CBM AM Montreal, as well as CKAC and CITE FM in Montreal, CIRK (K-97) Edmonton, and Vancouver CFMI (adult rock) and CBU-FM (CBC English FM). On Satcom F-3, 131° West: WFMT Chicago and WMBI-FM Chicago, plus about 20 syndicated services, primarily for use by radio stations. Satcom 1-R, 139° West: American Forces Radio, news, sports, variety. Like Paul Gaines, Mike has visited the local FCC office. From the Anchorage office Mike found out about some FM applications like Anchorage 98.9, Fairbanks \*91.5, Houston (just north of Wasilla and Big Lake) a religious station at 95.3, Saint Paul Island (off W. AK) application for 91.9, Wasilla applications for \*90.3 and 99.9. The Anchorage FCC office knew nothing about BIA FM stations in AK, but gave two possibilities: low power station using carrier current (on FM?), or that various federal agencies are assigned blocks of frequencies (FM broadcast is rather unusual, they commented), and may do as they please without dealing with the FCC. Mike claims the KWHQ translator in Homer has been operating on 101.7 since at least 1981, but I will keep it on 100.9, until I get definite information about a frequency change, along with new call numbers. Mike adds: "I have often thought that there might be a better way of calculating coverage areas for FM stations. Anchorage has lots of 3,000 to 5,000 foot mountains 10 and 15 miles east of downtown, so stations on the west end of town may get an accurate number on their FCC paperwork for height above average terrain. Stations such as KGOT and KWHL, located on the

east edge of town, have coverage much farther than other stations, due to tower heights in the 300 to 400 foot class, but get -66 and -99' heights above terrain in the process of FCC paperwork. KWFL is shown as the smallest coverage in your publication, at 29 miles secondary, but it carries into the Alaska range to the north and into the hills of Homer to the south; both distances in excess of 120 air miles. Would it be possible to list transmitter height above sea level in future editions? Situations such as those encountered in Anchorage and Denver make many of those numbers almost meaningless. [I'd hate to start listing tower heights above ground or above sea level; one would automatically think a Denver station would serve a greater area than one in Miami, which is not true. Far better would it be to try to get the station engineering map and see how coverage above or below average terrain varies according to individual direction radial, rather than the figure you get when you average the eight radials together. Besides, no station has 120-mile coverage, no matter what method of figuring you employ. Your car radio is just too sensitive!] Mike adds that Moody is planning future FM translators in Eagle River (just NE of Anchorage) at 93.5 and Valdez (frequency not yet determined). Because of the high-power translator at Kenai-Soldotna on 97.7, relays for Stariski Creek 100.9, Clam Gulch 104.9 and Kenai 107.1 have been shelved, with the first two considered deletions, and the last one a frequency change to 97.7. American Forces Radio (AFRN-Elmendorf AFB) plans on converting several of its AM stations to FM (mono): Stations to be converted are Eielson AFB now at 1490, Tok now at 1400, Clear now at 1490, Kodiak now at 960. FM stereo transmitters to be added: Galena 90.5 and King Salmon 101.7.

Mike Bugaj says WERB \*97.3 Berlin CT is Stereo with its carrier, but he thinks the records are all monaural. WCCH \*103.5 is leaving its carrier on all night after it signs off, and Mike may call them if he is annoyed enough. "Why didn't they leave these smurfing stations on the educational band where they belong? WFCS \*97.9 is my biggest pest as they keep trying to improve their coverage. All that's left for them to do now is go 24 hours—I hope not..WPKT, now on Meriden mountain, does not need more power but a better frequency. Having 90.5 has hurt them. Albany 90.3 and Springfield 90.7 hurt them from Hartford north and NW, and New York City 90.7 kills them from Bridgeport southward on a car radio. All in all, WAMC \*90.3 Albany has a more stable signal on a car radio." Mike seems to like this column and my guide, and asks "How do you do it all and keep your sanity?" The answer, of course, is I don't. Ah, for a visit from the nice man in the white coat and butterfly net. . .

John Jefferson feels there is FM now in Ciudad Obregon, which might have been the mysterious station I received on 90.5 last year. He had on 94.7 calls XHHB or XHHV with an address on Calle Obregon. "Am nearly certain it's in Ciudad Obregon (in which case the tentative on 90.5 was Superstereo 90 and the TVs were XHI-2 and XHBS-4 as suspected)." The 94.7 station is mono with L format. He says KSTN-FM 107.3 Stockton never had a 92 kHz SCA. What he heard was the 84 kHz harmonic of their 42 kHz SCA (this from the FCC when he complained about KSTN's spur on 107.5, which apparently is the 2nd harmonic of their 67 kHz music SCA.) "Can only hope the FCC yanks their license soon, as they are a real pain in the you-know-where." And John drove around Walnut Creek to check on the viability of the boosters/FM translators there, as reported in the Station News earlier. He tried for KKHII 95.7 and KIOII 101.3 with no luck: "Tried a couple spots near downtown Walnut Creek just to be sure I wasn't just in a null; KKHII was very weak and fuzzy, so obviously had only their primary, while KIOI was quite usable, just not nearly strong enough to be a nearby booster."

Ronald Green, inspired by my translator report in March, did some checking of his own and came up with a complete list of KCFO 98.5 Tulsa OK translators, information which is on the earlier pages of this month's column. He is able to get K261AX 100.1 Fayetteville AR at his Joplin location. All KCFO translators to date are from direct pick-up or picking up of other translators, but satellites are hoped for for the more distant applications, such as Hot Springs, Texarkana, Manhattan and Columbia. No, satellite pick up of FM translators has not been approved, except for Alaska, apparently, where Mike Kohl unearthed some information not reported in any other media! KRKG 104.9 Carthage MO has a blank SCA carrier. "There has been no sign of the 97.7 in Nevada MO coming on. Also, KSMU is still transmitting on 91.1 with the same power as always. [I think they will stay on 91.1--b.e.] Of course, no 88.3 Joplin translator. I have no idea if they have given up or just delayed. The KREG 99.3 translator in Joplin has never been and probably won't be on."

It took a CA DXer to catch the newest SD FM call letters. Via skip he heard mention of KBHE-FM \*89.3 Rapid City now on air, along with KDSD-FM \*90.9 Pierpont-Aberdeen and KTSDFM \*91.1 Reliance-Pierre, all \$, all c), despite what I wrote in last month's column which conflicted in three places! K210AF \*89.9 Torrington WY confirmed on air per John Jefferson. Not on the air: KZAY 105.3 Delano CA, KNT0 95.9 Livingston CA, KRBO 102.3 Red Bluff CA, while KOKQ 95.1 Oakdale has no phone number yet!

Walter Patton says CJMF 93.3 Quebec City PQ did go off the air March 31. "Before doing so, they collected 144,000 signatures on a petition protesting their demise. In the past year they had doubled their audience and became the leading station in the Quebec City market. A court challenge to the CRTC decision failed and an appeal to the Federal Cabinet was dismissed by Minister of Communications Francis Fox on the

grounds that the cabinet was not empowered to overturn rulings of the Commission in cases such as this. The most forceful demands for the nonrenewal of their licence came from other Quebec area broadcasters with rock formats. Station owners have indicated that they will reapply for a new license within the month. The CRTC had previously indicated that it was willing to receive new applications for Quebec City to be considered at a July hearing.

"A newspaper ad indicating that the new English language CBC rebroadcasters in the Gaspé peninsula of Quebec had become active contained a puzzle. The transmitter for Perce was listed as 91.1 but with 102.3 in brackets. Perhaps a change is planned for the future or the new transmitter has a spurious emission and they are just being honest!" [The Jan. '84 Provincial report from the CBC does list CBVP Perce on 91.1; that report just received courtesy of Bill Fahber. Information from that report and from Walter's latest letter follows.]

**CANADIAN FM UPDATE  
NEW FM STATIONS**

NS Barrington (50 km SE Yarmouth) 96.3 5500-CJLS (AM) Yarmouth  
NS New Tusket (50 km NNE Yarmouth) 93.5 3000- " " "  
PQ Quebec 96.1 7 watts m format-Radio Basse Ville-assumed to have limited commercial advertising

**FACILITIES CHANGES**

NB Bon Accord CB2C 103.3 power reduced to 5700 watts  
NB Campbellton CBAE 90.5 (from 88.1) power reduced to 2400 watts  
NB Campbellton CBAF-23 91.5 (from 88.9) " " 2400  
NS Annerst-Springhill CBHS 92.7 (from 105.5; calls assigned)  
NS Sydney CBAF-24 95.9 62000 watts  
CB1-FM 105.1 (from 105.9) 62000 h.v (380')  
PQ Val-D'Or CHLM-1 103.5 (moves from Lithium Mines PQ-change FM Atlas map p. 66; Lithium Mines is misplaced there; I have no idea where Lithium Mines is, and now it doesn't matter!)

[One of the applications for new stations is for Ile Notre Dame (Montreal) 95.1 with 3 watts filed by Marcel Boisvert to operate June 15, 16 and 17, 1984 only! It is for General and Technical information for Grand Prix Labatt du Canada--so if it is granted, you may want to tune in to those three days. Good luck if you want to QSL it!]

**CALL LETTERS ASSIGNED OR CHANGED**

BC Port Alberni 94.9 CBTQ	NS Digby 104.7 CBAF-31
MB Poplar River 103.5 CBDI	NS Yarmouth 107.3 CBAF-30
NF Carmanville 92.5 CBGC	ON Timmins 97.1 CBON-28 (not CBON-24)
NF Deer Lake 96.3 CBDT	ON Whitney 98.5 CBCW
NF Makkovik, Lab. 103.5 CBNI	PQ Bas-Comeau 106.1 CBST-24
NF Stephenville 89.7 CBNC	PQ Gaspé 88.5 CBVG
PQ Cloridorme 105.1 CBGA-16	88.3 CBGA-17
PQ Grand-Vallee 104.1 CBGA-14	PQ L'Annonciation 88.3 CBF-15
PQ Gros-Morne 94.5 CBGA-13	PQ L'Anse-A-Valleau 101.5 CBGA-15
PQ Mont-Louis-en-Haut 106.1 CBGA-11	-15
PQ Rouyn-Noranda 98.9 CBMA	PQ Marsouit 89.9 CBGA-12
PQ St. Jovite 95.5 CRF-14	PQ Waswanipi 101.5 CBFV
98.1 CBNJ	105.1 CBVW
PQ St. Michel-des-Saints 90.9 CBF-13	SA Patuanak 105.5 CBKK
SA North Battleford 96.9 CBKF-5	

**PROGRAMMING**

All the following stations will have Stereo and will carry classical music as part of CBC's French or English stereo networks. Most are on the air, but a few may be construction permits. CB1-FM 105.7 Vancouver BC (not cm), CB2-FM 101.5 Fredericton NB, CBAF-FM 98.3 Moncton NB, CBN-FM 106.9 St. John's NF, CBBA 104.9 Brockville ON, CBK 92.9 Kingston ON, CBDF-FM 102.5 Ottawa ON, CBJ-FM 100.9 Chicoutimi PQ, and CBK-FM 96.9 Regina SA.

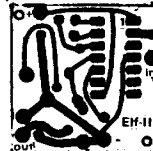
**FM Stereo**

CHGB-FM 107.1 La Pocatière PQ is listed as an off-air feed from CBV-FM Quebec, an affiliate, carrying at least some c music, but I wonder if it also sends out Stereo? CBXP Grande Prairie AT is listed on 102.5 instead of 102.7, but I think it's a typo. I'll ask Walter to check this and some power discrepancies.

**SCA Values Nailed Down**

**A Special Report**

Here's how to tune in various FM-SCA and TV-SCA frequencies, using an adapter that is ready for them when you are. The FCC recently set standards for TV stereo, an "Alternative Broadcast Service" TV-SCA, which can be used for foreign language, data, background music, etc., as well as a lower-grade voice or data channel called the "Professional Channel." The circuit using the XR-2211 chip is ideal for capturing these different programs, since it is tunable and will play on low voltages like you find in small, portable AC-DC radios. It is a good circuit to use with AM-FM radios that also tune in TV audio, such as General Electric's 7-2955, which gets UHF TV audio as well as VHF TV audio.



Despite slow production of circuit boards (only one prototype like the one pictured here has been made), I am going ahead with production on perf-board to take care of existing demand. This circuit is photo-reduced; its original size is 31 mm<sup>2</sup>.

I have figured out approximate fixed resistance values for this circuit, using an average power source of nine volts DC. Values will differ slightly when using voltages significantly higher or lower than about 9 volts. While these values apply only to the new circuit using the XR2211, it is possible they can be modified to include circuits having the 565 IC; I have not bothered with the latter circuit because it is unsuitable for voltages below about 10, and has no application in small radios employing three or four batteries.

What the chart tells you is that your tuned variable resistor (pot) should have sufficient range to take in whatever frequencies you are interested in. If you want to hear, on a TV-audio radiowith UHF (channels 14-83, as well as VHF), all the STV stations, you will need to tune from 15734 through 63000 Hz, requiring resistances varying from 15000 to 23000 ohms. To include SCA-3 would require your tuning to go down to 10000 ohms. This can be accomplished by using one 25-K or one 50-K pot. You can reduce the tuning range of your system, thus making it broader and easier to locate a given service by taking, say, a 5-K pot and preceding it with a 12-K resistor. The resulting variability would be from 12000 to 17000 ohms, giving you tuning of SCA-2, STV-2, ARI, but not SCA-1, STV-3, SCA-3, or either of the new TV-SCA channels.

The chart also presents the values of the just-approved Zenith stereo and two subsidiary TV audio channels approved for broadcast. These are the "Alternative Broadcast Service" centered at 78.67 kHz with a bandwidth of 10 kHz, and a lower-grade "Professional Channel" with a voice bandwidth of 3.4 kHz or a data bandwidth of 1.5 kHz, centered at 102.271 kHz. The SCA tuning control on this adapter can be mounted on the outside of a radio, using a volume control. If you use fixed resistors, bear in mind that values can vary and perfect

**TV AND FM/SCA TUNING VALUES**

SCA Service	Fixed Resistance
STV-1 @ 15,734 Hz	22,758 ohms
STV-3 @ 39,335 Hz	18,887 ohms
SCA-1 @ 41,000 Hz	18,614 ohms
Blaupunkt's ARI System @ 57 kHz	15,990 ohms
STV-2 @ 63,000 Hz	15,006 ohms
SCA-2 (main) @ 67,000 Hz	14,350 ohms
Second Audio Program (TV), "ABS" as used in text, above @ 78,670 Hz	12,436 ohms
SCA-3 @ 91,000 Hz	10,250 ohms
TV Prof. Channel @ 102,271 Hz	8,401 ohms

..... tuning may not be possible, depending upon the voltage and type of radio you are using. These values were experimentally derived,

based on a station having both 67 and 92 kHz SCAs with values interpolated to other frequencies. Information on the new TV-SCA system based on "Inside TV Stereo: A System Closeup" by Leonard Feldman, in *Broadcast Management/Engineering*, March, 1984, pp. 119-128. The new adapter is available assembled only at \$20 from Bruce Elving at 4515 Avenue "E," Kearney NE 68847.

John Lentz says the SCA works great on his Panasonic, and he's thinking of getting a tunable adapter so he will be ready for the new 92 kHz channel on FM when it is locally available.

Jeremy Lansman, former co-owner of KDNA 102.5 St. Louis, and in community TV-radio, saw my article in *Radio World*, and wonders if anyone ever DXed Russia or Japan on FM! He's in low-power TV now, and doing "OK."

AWARC '85 will be in Milwaukee July 20-22, 1985, where a local DXer operates an FM station, getting out about four blocks on 98.6, "WNRN," with top 40. John Ebeling and I both got "new" Pioneer FM receivers, his a 9500 that needs work and mine is a 525 that I got for \$42 plus two SCA adapters; good condition and SCA in it already. I'm always looking for radios, tuners or receivers to take in on trade. In further Canada news, Walter Patton says CBC Stereo's overnight show (2400 to 0600) consists of new wave, punk and very progressive rock weeknights, softer rock weekends. . . CANCOM is now carrying CKRW (AM) Whitehorse YT on its satellite service. . . FMs co-owned with AMs will now be able to broadcast the same number of commercial minutes a day as independently owned FMs.

I don't normally print testimonials but this one is rather cute: "I forgot my copy [of the *FM Atlas*] one time when I went to Florida for a week and I felt so lost that I'd been better off having left my underwear at home--that's what the *Atlas* means to me," writes Ted Fleischer of Louisville. John Ebeling: "Good luck on getting the next *FM Atlas* ready. I'm sure it is now a tremendous task, even with Carol's help."

Mike Dorner explains that the new Maljamar NM educational channel is 98.7, in the commercial spectrum, and was moved from 88.5 or 89.7 because of potential interference to TV-6 KAVE-TV Carlsbad NM. Mike says \*98.7 was assigned for noncommercial use and 105.1C for commercial use. **CONTRIBUTORS THIS ISSUE:**

Robert Baker, Humboldt IA; Mike Bugel, Enfield CT; Danny Burtin, Stillwater OK; Dwight Cnabres, LaFayette NY; Rusty Curry, Eugene OR; Mike Dorner, Jr., Metairie LA; John Ebeling, Bloomington MN; Richard T. Eddie, St. Louis MO; Bill Fahber, Bridgeton NJ; Ted Fleischer, Louisville KY; Wendell Ford, Westville IN; Paul Gaines, Detroit MI; Al Germond, Columbia MO; Ronald Green, Joplin MO; John Hickman, Hills TN; J. E. Hyde, KDHL-FM Faribault MN; J. M. Jefferson, Pleasanton CA; Mike Kohl, Kasilof AK; Jeremy Lansman, Boulder CO; John Lentz, Hales Corners WI; Nick Lombardi, Atlanta GA; Fred McCormack, Fargo ND; Paul W. Morrissey, Hill MA; Paul Mount, Teaneck NJ; Walter Patton, Willardale ON; Richard A. Porter, Wood Dale IL; Leslie E. Price, Wilmington NC; Richard Reese, Jersey Shore PA; Sheldon Remington, Fairfax CA; A. P. Schostag, St. Peter MN; Ralph Strobel, Muncie IN; Eric Sundin, Sta. Barbara CA; Rich Sweetland, KDAQ Shreveport LA; Yoshiyuki Taki, Tokyo JAPAN; Don Voegelie, Seattle WA (who's considering SCA adapters for a shop class he's teaching); Larry Weil, Acton MA. Now on to my income tax. I'd rather be typing a VUD column, but-- 73. b.e.



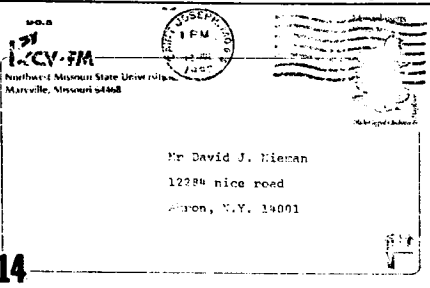
# QSL CORNER

FM-QSL

Thomas J. Yingling, jr.  
221 Pinewood Road  
Baltimore, MD 21222

- CRLN ONT 88.1** Toronto, Ryerson College, 380 Victoria St. zip-5M8 1W7. Got back an personal letter from John W. Jones, CE. He told me that the station only uses 13 watts. He says my report is most farrest to date at 120 miles. Reply after 5 months after first report after 1 month follow-up report. Ross
- WFPM NJ 89.1** Trenton, Post Box B, 08690. Letter from Walt S. Gradaki, CE. Holbrook
- WCCE NC 90.1** Buies Creek, P.O.Box 1030, 27506. Send friendly letter, noting my report "truly represents the greatest distance at which WCCE has been received." Program guide included indicated a format switch to almost all news & talk, so wonder if they ever broadcast in true stereo, although my \$tereo light was on when it came in. Elving
- WAQE WI 97.7** Rice Lake, WI 54888-0703. Tom Beschta, Gen. Man. says I am one of the "farther listeners we have received confirmation from. In the files I see letters from Chicago & Solon Springs with other confirmation." He says they are on 5am to midnight daily. Elving
- WKSZ PA 100.3** Media, 1001 Baltimore Pike, 19063. Letter varie from Douglas W. Fearn, CE Reply in 1 1/2 months. Id's as KISS 100 Holbrook
- WKLC WV 105.1** St. Albans, Box 556, 25177. Reply with my prepared card, signed by James Noyes CE. Reply in 1 month after follow-up report. Holbrook
- WROG MD 102.9** Cumberland, 516 White Ave. 21502. Letter from Georgé E. Keady, CE. Reply in 2 days! (wow!) (lets give credit to the PO DEPT for this speedy service). New call for WJSE-FM Holbrook
- WPRR PA 100.1** Altoona, P.O.Box 1827, 16603. Letter varie from Darrel Ray, Pro. Dir. & Music Dtr. Reply in 2 weeks. Holbrook
- WZAK OH 93.1** Cleveland, 1729 Superior Ave. Suite 401, 44114. Letter from Lee Zapis, Dir. of Operations. Reply in 8 days. Holbrook
- WCRP OH 103.3** Cleveland, 9256 Barr Rd, 44141. Letter from Ron Bartlebaugh, CE. Reply in 2 1/2 weeks with program schedule. Holbrook
- KNLU LA 88.7** Monroe, Northeast Louisiana University, 71201. Letter from Rex B. Morris, no title, reply in 20 days after 1 followup report. Holbrook
- WVPM WV 90.9** Charlestown, B-424 Bldg 6, Capitol Complex, 25305. Letter from Francis Fisher, Dir. of Eng. in 2 months after followup. Holbrook
- WTCR WV 103.3** Huntington, 3570 Skyline Dr., 25701. Prepared card from Mike Buser, no title, reply in 7 days. Holbrook
- WMUH PA 91.7** Allentown, Box 10-b, Muhlenberg College, 18104. Letter after followup report from Adam Kenner, GM. Also send schedule. Holbrook
- WNUS OH 107.1** Belpre, 1719 Washington Blvd., 45714. Letter from Ralph Matheny, CE reply in 2 weeks. Holbrook
- WQOD OH 93.3** Youngstown, 418 Knox St., 44502. Form letter from (mime job rev. 9/4/72) George Drapp, CE. He remarks that Bruce Elving as most farthest report to date! Holbrook
- KRVS LA 88.7** Lafayette, USL Box 42171, 70504. Letter from Floyd Bernard. Said they enclosed an program schedule, but forgot to! Programming was all in French!!!! (That Lafayette must be the French spelling of Lafayette. Reply in 3 1/2 weeks. Holbrook)

Well, that all I have left to do for the FM QSL's this month. I only have an hand-full left from Dave Nieman, and thats it. Send in some FM QSL report items in a hurry! Below is copy of fm qsl from KXCV 90.5mhz. Send reports to: KXCV-FM, Northwest Missouri State University, MO 64468. Verie signer is Warren Stucki, CE. The above qsl's reporters are Robert Ross, of London, Ont, Canada, & Hank Holbrook of Chevy Chase, MD. Next month will be tv qsl's with copies...in the mean while, do some dr'ing, reporting & qsl'ing, and then send to the QSL Corner for printing. Thanks alot. 73's and good dx in 84! Tom



Dear David:  
Thank you for your reception report. KXCV has an effective power of 100 kw. at a 300 ft tower in northwest Missouri. We are University owned and the radio station is in conjunction with our broadcasting school, most of the announcements are broadcast students.  
We recently had a report from Aiden, N.Y. and occasionally hear from others in the New York, Pennsylvania, and Connecticut Areas.  
Thank you for taking the time to report your reception.  
Regards  
Warren Stucki, Ch. Eng.

MORNING MAGAZINE: Music • Features • News

# VHF UTILITY DX

Donald L. Blevins  
1657 Essextowne Circle  
Baltimore, MD 21221  
phone: 301-391-3408

VHF UTILITY DX.... This months feature will attempt to target two areas for PSB DX. This will be the first month the computer will be utilized in the actual production of a VHF Utility DX feature. Wisconsin data is arranged by location, frequency, and use. Florida data is arranged agency, location, and frequency.

152.75	DISPATCH + REPEATER
ROUTING SERVICE	MADISON POLICE
COLUMBIA COUNTY	460.475
155.415	ANIMAL CONTROL/PARKING/ECT
TOWNS TO SHERIFF INTERSYSTEM	MADISON POLICE
COLUMBIA COUNTY	460.30
154.875	CHANNEL 2 RESPNSE
SHERIFF DISPATCH	MADISON POLICE
COLUMBIA COUNTY	460.15
33.78	CHANNEL 4 DATA
COUNTYWIDE FIRE	MADISON POLICE
CURTAIN CALL	460.06
152.06	POLICE 1(MAIN TRAFFIC)
22 WAY UNITS	MADISON PUBLIC WORKS
CURTAIN CALL	158.745
152.24	MADISON PUBLIC WORKS
PAGERS	155.76
DANE COUNTY	STREET DEPT
158.775	MC FARLAND
EMS + SOME FIRE PAGERS	155.055
DANE COUNTY	LOCAL USE
157.50	MIDDLETON
REACT	155.79
DANE COUNTY	POLICE
155.655	MIDDLETON
SHERIFF DISPATCH	155.715
DANE COUNTY	LOCAL USE
155.565	MIDDLETON
COUNTYWIDE DATA	155.22
DANE COUNTY	MIDDLETON EMS + PAGERS
155.40	MONONA
AMBULANCE TO HOSPITALS	155.52
DANE COUNTY	POLICE
154.07	MONONA
COUNTYWIDE FIRE + PAGERS	155.835
DANE COUNTY	LOCAL USE
151.055	MOUNT HOREB
HIGHWAY DEPARTMENT	155.04
DANE COUNTY	LOCAL USE
45.40	NOAA WEATHER RADIO
SUN PRAIRIE LOCAL USE	162.55
DANE COUNTY	MADISON NOAA WEATHER RADIO
45.32	OSCAR MEYER + COMPANY
CIVIL DEFENCE	151.655
FITCHBURG	SHOREWOOD HILLS
155.79	155.10
POLICE	LOCAL USE
MADISON FIRE DEPT	STATE OF WISCONSIN
460.575	453.525
DISPATCH/PAGERS/MINOR RESP	STATE CAPITOL POLICE
MADISON FIRE DEPT	STATE OF WISCONSIN
160.525	159.33
EMED CH-8 AMBULANCE TO HOSP	DEPARTMENT OF NATURAL RESOUR
MADISON FIRE DEPT	STATE OF WISCONSIN
453.80	46.54
DISPATCH + STATION INTERCOM	CORRECTIONAL CAMPS
MADISON GAS + ELECTRIC	STOUGHTON
153.665	155.79
MADISON GAS + ELECTRIC	POLICE
153.47	SUN PRAIRIE
EMERGENCY SERVICE	155.79
MADISON LOCAL GOVERNMENT	

ARCADIA FD  
ARCADIA  
46.40

BASSVILLE PARK UFD  
TAVARES  
46.32

BEVERLY HILLS UFD  
BEVERLY HILLS  
46.06

BOCA GRAND FD  
BOCA GRAND  
46.06

BONIFAY FD  
BONIFAY  
33.98

BRANDON FIRE DIST NO.1  
BRANDON  
33.68

CHASSAHOUITZKA FD  
CHASSAHOUITZKA  
46.38

CHASSAHOUITZKA FD  
CHASSAHOUITZKA  
46.10

CITRUS COUNTY FCD  
INVERNESS  
46.38

CITRUS COUNTY FD  
CRYSTAL RIVER  
46.38

CITRUS COUNTY FD  
INVERNESS  
46.10

CITRUS SPRINGS FD  
CITRUS SPRINGS  
46.38

CITRUS SPRINGS FD  
BUNNELLON  
46.10

CONNELL HEIGHTS FD  
CRYSTAL RIVER  
46.38

CORNELL HEIGHTS FD  
CRYSTAL RIVER  
46.12

CRYSTAL RIVER FD  
CRYSTAL RIVER  
46.38

CRYSTAL RIVER FD  
CRYSTAL RIVER  
46.10

DADE CITY FD  
DADE CITY  
46.08

DADE COUNTY FD  
MIAMI  
33.72

DEROSE PLAZA FD  
DUNNELON  
46.38

ENGLEWOOD FD  
ENGLEWOOD  
46.18

ENGLEWOOD UFD  
GROVE CITY  
46.06

ENGLEWOOD UFD  
ENGLEWOOD  
46.06

EUSTIS FD  
EUSTIS  
46.44

EUSTIS FD  
EUSTIS  
46.14

FLORAL CITY FD  
FLORAL CITY  
46.38

SARASOTA  
46.46  
FRUITVILLE AREA FCO

GOSPEL ISLAND FD  
INVERNESS  
46.38

GOSPEL ISLAND FD  
INVERNESS  
46.10

HERNANDO FD  
HERNANDO  
46.10

HIGHLAND FOREST UFD  
BROOKSVILLE  
33.94

HIGHLANDS FD  
INVERNESS  
46.38

HIGHLANDS FD  
INVERNESS  
46.10

HOT SPRINGS UF ASSOC  
HOT SPRINGS  
33.82

HUDSON UFD  
HUDSON  
33.94

HUDSON UFD  
HUDSON  
33.68

INVERNESS FD  
INVERNESS  
46.10

LAND O LAKES UFD  
LAND O LAKES  
33.94

LAND O LAKES UFD  
LAND O LAKES  
33.74

LEALMANN UFD  
ST PETERSBURG  
46.10

NE AREA SPEC FCD  
SARASOTA  
46.20

NOKOMIS UFD  
NOKOMIS  
46.06

OLD MYAKKA UFD  
SARASOTA  
46.10

OLD MYAKKA UFD  
SARASOTA  
46.06

JPC FIRE DISTRICT  
PALM HARBOR  
33.98

OZELLA FD  
OZELLA  
46.38

OZELLA FD  
OZELLA  
46.10

PASCO COUNTY FD  
HOLIDAY  
33.94

PASCO COUNTY FD  
HUDSON  
33.68

PASCO UFD  
YT DORA  
46.50

PINNERLAS PARK FD  
PINNERLAS PARK  
46.12

S TRAIL AREA FCD  
OSPREY  
46.06

S TRAIL AREA FCD  
OSPREY  
46.06

SARASOTA  
46.46  
FRUITVILLE AREA FCO

S TRAIL FCD  
SARASOTA  
46.36

S TRAIL FCD  
OSPREY  
46.16

S TRAIL FCD  
SARASOTA  
46.15

S TRAIL FCD  
OSPREY  
46.10

S TRAIL FCD  
SARASOTA  
46.10

S VENICE AREA UFD  
VENICE  
46.06

SARASOTA COUNTY FD  
SARASOTA  
46.16

SARASOTA FD  
SARASOTA  
46.16

SPRING HILL TOWNSHIP  
SPRING HILL  
33.94

SU PASCO UFD  
ELFERS  
33.94

SU PASCO UFD  
NEUPORT RICHEY  
33.94

TARPON LAKE FD  
TARPON LAKE  
46.42

TAVARES FD  
TAVARES  
46.44

TRI-COMMUNITY FIRE ASSOC  
TRILACOCHEE  
46.08

TOWN OF FITCHBURG  
154.025  
LOCAL USE

TOWN OF MADISON  
154.025

UNIVERSITY OF WISCONSIN  
460.25  
POLICE DISPATCH

UNIVERSITY OF WISCONSIN  
460.10  
POLICE DISPATCH

UNIVERSITY OF WISCONSIN  
158.805  
PHYSICAL PLANT

UNIVERSITY OF WISCONSIN  
155.19  
LIMITED POLICE

UNIVERSITY OF WISCONSIN  
460.75  
HOSPITAL PAGER

WISCONSIN STATE PARKS  
151.400

WISCONSIN STATE PATROL  
42.14  
STATE SPECIAL (UNDERCOVER)

WISCONSIN STATE PATROL  
42.22  
CAR TO BASE

WISCONSIN STATE PATROL  
42.38  
BASE + CAR TO CAR

AMTRAK  
160.245  
POLICE (CHICAGO)  
\*\*\*\*\*  
ATCHISON TOPEKA SANTA FE  
151.205  
POLICE  
\*\*\*\*\*  
BELT RAILWAY OF CHICAGO  
161.445  
POLICE  
\*\*\*\*\*  
CANADIAN PACIFIC  
150.545  
CP/CN POLICE  
\*\*\*\*\*  
CANADIAN PACIFIC  
159.885  
POLICE (TORONTO)  
\*\*\*\*\*  
CANADIAN PACIFIC  
160.545  
CP/CN POLICE  
\*\*\*\*\*  
CHICAGO + NORTHWESTERN  
452.825  
POLICE  
\*\*\*\*\*  
CONRAIL  
160.545  
POLICE: PORTABLE REPEATER  
\*\*\*\*\*  
CONRAIL  
161.535  
POLICE: PORTABLE REPEATER  
\*\*\*\*\*  
CONRAIL  
160.68  
POLICE: CAR TO CAR CH 3  
\*\*\*\*\*  
CONRAIL  
160.545  
POLICE: BASE TO CAR CH 4  
\*\*\*\*\*  
GRAND TRUNK WESTERN  
160.755  
POLICE  
\*\*\*\*\*  
ILLINOIS CENTRAL GULF  
151.205  
POLICE  
\*\*\*\*\*  
INDIANA HARBOR BELT  
160.545  
POLICE  
\*\*\*\*\*  
MILWAULKEE ROAD  
161.235  
POLICE (CAR TO CAR)  
\*\*\*\*\*  
MILWAULKEE ROAD  
161.43  
POLICE/MAINTENANCE OF WAY  
\*\*\*\*\*  
MISSOURI KANSAS TEXAS  
160.635  
POLICE CAR TO CAR  
\*\*\*\*\*  
MISSOURI KANSAS TEXAS  
150.32  
POLICE/OFFICIALS  
\*\*\*\*\*  
ST LOUIS-SAN FRANCISCO  
160.92  
OFFICIALS/POLICE CAR TO CAR  
\*\*\*\*\*

RAILROAD DATA

THIS OUTLINES A FEW SELECT LISTINGS OF RAILROAD FREQS WITH ANY LUCK I SHOULD BE ABLE TO PROVIDE MORE INFORMATION ON OTHER SERVICES . . . . . OTHER FREQUENCIES ARE AVAILABLE AND WILL BE PRINTED IF I RECEIVE ANY POSITIVE INPUT

DONALD L BLEVINS  
1657 ESSEX TOWNE CIRCLE  
BALTIMORE, MD 21221  
PHONE 301-391-3408



# ANTENNA NEWS

Doug Dorntos  
3009 Port Sheldon  
Hudsonville, MI 49426

May 1984

Dear Fellow DX'ers,

As I am back on the road selling antenna products (albeit TVRO) I am once again reminded of the lack of basic knowledge on the part of many antenna installers. This knowledge is not that esoteric type which rarely has any application to the real world, but instead the real basic understanding of what is going on in the antenna system. To give you an example, last week I had the occasion of quoting some equipment which is to be added to an already existing head-end of a 100 apartment complex. The system is presently using channels 3,8,10,& 13. Each channel is amplified individually as it comes off its' own yagi. The amplifiers in use have provisions for coupling all the channels internally with virtually no loss. Instead of using this feature, the original installer used a cobbled up mess of outboard couplers with approximately a 7db loss as the result. This coupled with the fact that the outboard couplers added cost to the project makes one wonder what the installer had in mind. Unfortunately, as in many cases, he had NOTHING in mind. No knowledge of what he was doing, no knowledge of what he was doing it with, and no knowledge of how good of results he could expect when finished. My guess is that when the system was originally put up for bid, he was the lowest bidder. So, instead of spending (wasting?) the difference between the low bid and a higher bid, the building owner wasted future dollars in an untold amount by having a botched up system installed. The moral of all this is that when you have a system going up, please, PLEASE, be willing to spend a couple extra bucks to have someone reasonably knowledgeable put it in for you. I know it will pay off.

## MEMBER'S INPUT

Bill Swiger called last week with a problem of strong overload of channel 46. Since the current market is so geared for cable work, there isn't alot of product on the market for Uhf. Except for the notch filters and the Channel Master Join-Tenna traps, there wasn't much I had to offer him. If anyone out there has any advice, I'm sure Bill would appreciate it. Also Bill has some plans to stack a pair of the Channel Master Quantum Uhf antennas but the size of the reflectors remain a problem. I'll be interested to know how you make out Bill.

Paul Mount - Thanks alot for the postcard. I'm glad you like the magazine article listings. As I am now nearer to some larger libraries I have access to many more of the articles than I did before so if you or anyone else needs a copy of one of them, I'd be happy to try to get it for you. Thanks.

## MAGAZINE ARTICLES \* THE FIRST HALF OF JIMMY WHO?

Getting Rid of RFI	Radio-Electronics	Mar 77
Improve TV Reception-Install a Tower	" "	Apr "
Install Your Own TV Antenna & Save	The Family Handy Man	" "
One Wavelength Loop Antennas	Popular Electronics	" "
Telco Channel Guard XL-1000 TVI Filter	" "	" "
VHF Quagi	QST	" "
Linear-Loop Antenna	Electronics Design	Apr 12 "
RFI	Stereo Review	May "
Will 50 Bedsprings Finally Bring TV to Amboy, CA?	TV Guide	May 28 "
CB Related TVI	Popular Electronics	Jun "
Useful Indoor FM Antenna	American Record Guide	Jly "
Is That a CB You Hear On Your TV?	Changing Times	Aug "
JFD Electronics FM 500 Amplified FM Antenna	Radio-Electronics	Sep "
Playing Hide & Seek Behind Bars (Inmates at Folsom State Rig-Up		
Illegal TV Antennas)	TV Guide	Nov 26 "
Circular Polarization Minimizes TV Ghosts	Radio-Electronics	Nov "
VHF Antenna Systems: Boat Antennas	Motor Boating & Sailing	" "
Audiovox MA30 Electric CB-AM-FM Antenna	Radio-Electronics	Dec "
What Kind of FM Antenna Is Best For You?	Audio	Jan 77 "
Ferrite Gives Whip Performance At Vhf	Electronics Design	Jan 4 "
Consumers Guide to TV Antennas	Mechanics Illustrated	Feb "

Antenna News

Page 2

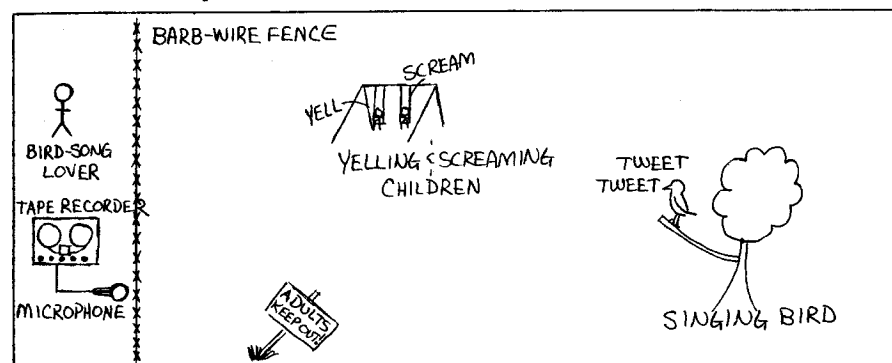
May 1984

## Magazine Articles 1977-78 (cont.)

Transmission Lines & Signal Distribution	Audio	Feb 78
BIC FM-10 Beam Box	Radio-Electronics	Mar "
Reception Problems	Audio	" "
Complete Antenna Systems	"	Apr "
BIC Beam Box	Popular Mechanics	May "
Basic Antenna Concepts	QST	Jun "
New Directions In MATV Switching Systems	Radio-Electronics	" "
Rotatable FM Antenna That's Used Indoors	Consumer Reports	" "
Tabletop Antenna That Works-BIC Beam Box	High Fidelity	Jly "
Gizmo Guide	Newsweek	Jly 3 "
Antennas	Stereo Review	Sep "

## PREAMPLIFIER THEORY

Please look at the somewhat hard-to-believe picture below. It is a fictitious set of circumstances which I hope will allow us to look further into various antenna problems.



A birdsong lover knows that a very rare species of bird has a nest in a childrens park and would like to record its' song. There is however a fence around the park and adults are not permitted to enter thereby preventing the birdsong lover from getting very close to his subject. The birdsong lover must then record the bird from a distance (outside the barbed-wire fence). To complicate matters further, between (but off to one side) the birdsong lover and the bird there is a swingset which entertains screaming and yelling children at all hours during which the bird sings. In attempting a recording, the birdsong lover discovers that the loud sounds of the children drown out the melodious bird music. To rectify this, he purchases a very directional microphone which will aim directly at the bird and will not pick-up the sounds of the children. On his next try for the bird, the birdsong lover realizes that even though he has gotten rid of the yelling and screaming sounds, the sounds of the bird are so soft by the time they reach the microphone that they are of lower volume than the tape hiss on his recording. Now he goes out to buy an amplifier to place between his microphone and recorder so he can amplify the birdsong to a point where, on playback of the tape, he does not have to turn up the volume to a point where the hiss of the tape becomes a distraction. Realizing that what he needs is a big boost in the bird signal, he purchases an amplifier which will amplify the incoming signal by 20 times. Upon hooking this up he realizes yet another problem: The amplifier produces a fair amount of hiss of its' own and now, even though the birdsong is alot louder, there is alot of hiss with it coming from the new amplifier. Back to the store he goes. This time at the store he looks not only at the gain of the amplifier he purchases but also at its' signal-to-noise ratio.

## Preamplifier &amp; Birdsong Theory (cont.)

He finds an amplifier that injects very little noise into the incoming signal and hooks that up. Now he gets crystal clear birdsong signals and is very happy.

The above illustration is indicative of what we as DX'ers often run into. We try to get far-away stations (the bird) on our antenna (the microphone) and get them to reproduce a clear picture on our tv sets (the recorder). Because there are so many other stations (the children) which may interfere with us doing that, we may use a highly directional antenna (the new microphone). Since the typical tv tuner is a very noisy device (tape hiss), we try to overcome this noise by making the signal coming into the set larger by adding a preamplifier. Many times, preamps are judged by how much gain they have (the first purchase) when we should really be looking at their noise figure as an equally important specification (the second purchase). I have often been asked: "How much gain should I look for when buying a preamp?" As I (hopefully) have demonstrated in the picture discussion, this is a bit of a narrow view of the situation. Before proceeding further though, I think it would be helpful to look for a moment at what "snow" really is and what it comes from.

Snow (or on fm, hiss) does not come through the airwaves with the signal. If the signal does carry picture degrading information, it is classified as interference, that is, it is something other than snow. Snow is produced inside the receiver itself. Just as you can turn a hi-fi system up full-blast with no input and hear a faint (more-or-less depending on the quality of your equipment) hiss in the background, an amplifier operating in the radio frequency range can be "turned up full-blast" producing the same hiss. The only differences lie in the facts that 1.) The "hiss" appears as snow, and 2.) How far the radio frequency amplifiers are turned up is automatic. A typical tv set, upon receiving a signal, measures that signal and then automatically adjusts how much amplification that signal needs to produce a good picture on the tube. After a certain point is reached in terms of weakness, the set turns all its' amplifiers on full blast to attempt giving a quality picture. If the signal is weak enough to be of a lower level than the amplifier's own noise, the noise (veiwed as snow) will predominate and no picture will be visible. If the signal is strong enough so that the set does not have to run its' internal amplifiers wide open, their noise output will decrease and the picture will come through quite clear. There are of course several possibilities in between. These are things over which we have very little control. What we can control though is how much signal the set gets. If we can amplify the signal with an amplifier that injects much less noise into the signal than the set would for the same strength signal we are further ahead. The amplifiers in the receiver proper can then relax and produce a clearer picture in doing so. As a little aside, the fact that the receiver has amplifiers built into it is the reason that we call antenna amplifiers preamplifiers, as in: before-the-amplifier. At this point we have determined that both gain and noise are important points to consider in preamp purchasing. How these entities are expressed and how to balance the two can now be discussed. The amount of noise that an amplifier produces is specified by its' noise figure. Noise figures for available preamplifiers will typically be in the 2 to 8db range. The smaller the figure, the higher the performance. For TV tuners, the figures usually run around 7db for Vhf and 14db for Uhf. For FM tuners, the numbers are somewhat lower and vary widely from brand to brand and model to model. When choosing a preamp with a lower noise figure we want to be sure that it has enough gain to allow the receiver to take advantage of that noise reduction. Too much gain on the other hand, while certainly not hurting anything, might constitute a waste of money. Usually however, gain is so cheap to produce that most preamps have an extra measure of it thereby also accomadating older TV's which might be much poorer performers than their newer counterparts. A useful formula for determining how much gain a preamp should have for a certain noise figure is given below:

$$\text{gain} = 20 \log (\text{noise fig. receiver/noise fig. preamp}) + \text{line losses}$$

For example let's say that we are shopping for a Uhf preamp. Since most TV set manufacturer's do not publish noise figure specifications we will use

## Preamplifiers (cont.)

the 14db figure as cited earlier. We also figure our losses between the preamp and receiver to be around 8db for the highest frequency of interest-channel 83. The preamp that we are looking at has a noise figure of 4db which we feel is good but we are concerned that its' gain of 18db might not be enough. To find out how much gain we really need we plug our numbers into the formula.

$$\begin{aligned} \text{gain} &= 20 \log (14/4) + 8 \\ &= 20 \log 3.5 + 8 \\ &= 20 \times .542 + 8 \\ &= 10.8 + 8 \\ &= 18.8 \end{aligned}$$

We see by our calculations that the preamp we are looking at is a little shy on the gain side for the upper channels and now we must decide whether to buy an amplifier with more gain or to reduce the loss between the amp/rcvr.

You can now see why we covered transmission lines before preamps due to the fact that the line losses determine to some degree how much gain our preamp should have. Also when figuring losses, don't forget to include losses due to splitters, band separators, baluns, etc.

## SOME QUICK CONCLUSIONS

Before moving on to other preamp parameters, we can draw some quick conclusions here. First, a distribution amplifier is NOT a preamplifier. The noise figures of most distribution amplifiers need only be as good as the TV sets they service therefore are usually around 7db and will offer little or no escape from snow-land. Second, since preamp noise figures are generally not specified for automotive fm boosters, that situation is pretty much a trial and error type of thing. Also, noise figures of car receivers vary widely. When buying, try to get a money-back guarantee. Third, it should be obvious that the best place for a preamp is before all the losses associated with the transmission line etc. This makes the fm units that are to be used at the receiver less attractive. Fourth, manufacturers often give a range over which their noise figure will vary (ex. 3.5 to 6db). When this is the case, use the lowest figure in the formula. Always use the losses associated with the highest channel to be used since they will be the greatest.

## NEXT MONTH

We will look at some other preamp specifications and then take a look at some of the current products available. Thanks for reading. *Bob*



**CMA-Ub-75**

Stock No. 1264

**CMA-Ub-300**

Stock No. 1263

**LOW NOISE, BROADBAND  
UHF PREAMPLIFIERS**



**Gibraltar Broadband Amplifier  
with Automatic Overload Control**

**Colorcaster Plus Series of Amplifiers**

**DE-SNOWER MODELS**



**Channel Master**

**Spartan 2**

**Titan Series**

**Super Titan**

**Quantum**

**Preamplifiers**

# TELEVISION NEWS

Bill Fabber, editor  
336 Atlantic Street  
Bridgeton, N.J. 08302

## APPLICATIONS FOR NEW TELEVISION STATIONS

CH	ERP	HAAT	STATE/CITY/APPLICANT
67	5000	1004	FL Lake Worth; Minority TV of Lake Worth, Inc.
19	640	975	GA Albany; Contemporary Communications of Georgia, Inc.
49	150	249	GA Bainbridge; The Bainbridge Post-Search Light, Inc.
59	884	680	KY Bowling Green; Western Kentucky University
36	515	487	TX Odessa; Odessa Junior College District
43	n.c.	n.c.	AR EL Dorado; CMM Inc. (originally applied for ch. 18, which was replaced by 43 to avoid short-spacing to applicants for ch. 33, Bossier City, Louisiana)
62	n.c.	880	NC Asheville; Local Majority Television (amendment of an earlier application)

NOTE: The following applications have several things in common: All of them have Michael Thurman as technical advisor; They all have the same address in Syracuse, NY, including the two different channel applications for Cumberland, MD; most of them are partially or entirely owned by him. All of the 5 and 1 kw ERP applications call for aural ERP at 100% of visual. It should be between 10% and 20%.

52	5	NA	MD Cumberland; Cumberland Bc'g
65	1	1795	MD Cumberland; Woodberry Bc'g
18	110	965	MI Jackson; Jackson Broadcast'g
44	5	NA	MS Greenville; Greenville Bc'g
14	5	3453	MT Billings; Billings Broadcast'g
20	5	NA	OK Enid; Enid Broadcasting
69	55	171	VA Fredericksburg; Fredericksburg Broadcasting
33	5	NA	WA Bellevue; Bellevue Broadcast'g
19	5	6747	NM Santa Fe; Santa Fe Broadcast'g

ADDITIONAL NOTE: Jackson MI application has antenna at 1268' above ground and 1210' above sea level. Fredericksburg VA application has 797' above ground and 794' above sea level. Neat trick! Two more of these applications might be coming in from Provo, UT and Corpus Christi, TX.

## MORE APPLICATIONS

33	4121	2243	WA Bellevue; Minority Television of Bellevue, Inc.
66	100	950	TN Lebanon; Joe F. Bryant
60	120	348	TX Tyler; Big Six-O TV
31	5000	1256	AL Mobile; Way of the Cross
67	3345	1448	FL Lake Worth; Lake Worth Bc'g
67	5000	1004	FL Lake Worth; Hispanic Broadcast'g
67	5000	1322	FL Riviera Beach; Bobbie E. Brooks (recently added Lake Worth assignment)
38	5000	1855	HI Honolulu; Hawaii Educ. Corp.
18	1000	935	MI Jackson; Spring Arbor Colleg
46	5000	644	NC Belmont; Agape Communicat'ns

46	5000	835	OK Norman; Daystar Broadcasting
16	1000	586	NE McCook; Jerrell E. Kautz
25	26.3	417	OH Hamilton; Miami Valley Radio-telephone

## CONSTRUCTION PERMITS GRANTED FOR NEW STATIONS

23	140	1462	CA Arcata; Mad River Broadcast'g
17	3303	1165	NC Goldsboro; Group H Broadcast'g
18	1368	485	TX Wichita Falls; Thornberry TV
34	750	540	KS Salina; Haynes Communications

## APPLICATIONS RETURNED

TX	Corpus Christi	ch. 38	Way of the Cross of Corpus, Inc. (this channel has been contested for five years, and is not available for new applications)
MI	Bad Axe	ch. 15	Central Michigan University (This channel is used for land mobile, and is not available for television. And I thought maybe somebody at the FCC saw the name of the city and mistook it for instructions on what to do with the application.)

## APPLICATIONS DISMISSED

AZ	Green Valley	ch. 46	Green Valley Television, Inc.
AZ	Flagstaff	ch. 13	William Greenwood Tonsmeire
KS	Salina	ch. 34	Central Plains Communications Company (joint request by both applicants)
NC	Goldsboro	ch. 17	Friendship Broadcasting Inc.; Wayne Telecasters.
PA	Scranton	ch. 64	Local Majority Televis'n
VI	Charlotte Amalie	ch. 3	Consumer Educational Research & Development TV Center.

## APPLICATIONS TO MODIFY CONSTRUCTION PERMIT

44	3491	1542	FL Pensacola; Carnex
40	1040	1210	MS Jackson; WBDB
18	1070	1350	IA Davenport; KLTJB
30	800	860	OK Shawnee; KCVT
69	4820	1952	CA San Diego; KTTY
62	n.c.	947	NY Syracuse; WKAF
17	1307	607	AL Tuscaloosa; Channel 17 of Tuscaloosa, Inc.
38	97.5	1261	PA Scranton; WSWB
68	90.2	1984	PR Humacao; Bocanegra/Giraldo Broadcasting Group

## CONSTRUCTION PERMIT MODIFICATIONS GRANTED

26	3623	638	CT New London; WLCT
21	3390	2510	NC Asheville; WHNS

## APPLICATIONS TO CHANGE EXISTING FACILITIES

13	n.c.	989	IL Mt. Vernon; WCEE
8	n.c.	1383	IA Des Moines; KCCI-TV
3	n.c.	1000	IL Harrisburg; WSIL-TV
62	1660	n.c.	MO Kansas City; KEKR-TV
11	85.7	2028	NM Santa Fe; KHCF
19	1662	1194	PA Johnstown; WFAT-TV

## FACILITIES CHANGES GRANTED BY THE FCC

AK	Anchorage	KTVA, ch. 11	ERP reduced on 2/27/84 from 263 kw to 50.7 kw.
CA	Fresno	KAIL, ch. 53	granted CP to raise power from 708 kw max/427 kw hor. to 2500 kw max.; 1871' AAT/90' AG/4590' ASL (20' increase in height); same TL.

CT Norwich; WEDN, ch. 53; granted CP MOD to increase ERP from 563 kw max/316 kw hor to 883.08 kw max/812.83 kw hor; 680' AAT/477' AG/996' ASL (only a few feet higher); same TL. Should show a slight increase in signal strength when the change takes effect.

FL Jacksonville; WJCT, ch. 7, granted CP MOD to change 302 kw to 316 kw max.; 915' AAT/1026' AG/937' ASL (74' higher ASL); coordinates 30°16'53"/81°34'15" (4.81 miles ESE of present site). Not much change.

FL Jacksonville; WNET, ch. 47; granted CP to increase ERP from 1200 kw max/490 kw hor to 2286 kw max.; 978' AAT/968' AG/998' ASL (22' lower); same TL. Should expand coverage area.

FL Tallahassee; WTWC, ch. 40; granted CP MOD to change antenna height: 880' AAT/788' AG/1023' ASL (26' lower); new tower, only a few hundred feet from old tower. (either that or somebody blew it on the coordinates.)

KY Madisonville; WKMA, ch. 35; granted CP to change ERP from 614 kw max/513 kw hor. to 513 kw. You'll never notice the change.

ME Portland; WCSH-TV, ch. 6; granted CP to change ERP from 100 lw to 100 kw max. (directional); 2000' AAT/1274' AG/2503' ASL (30' lower?); proposed TL is only a few hundred feet from present TL.

IL Chicago; WTMW, ch. 11; ERP was reduced on 2/22/1984 from 89.13 kw to 60.26 kw max.; 1634' AAT/1710' AG/2232' ASL (bad data somewhere, but new antenna is 100-200 feet higher). Same TL.

NM Las Cruces; KRWG-TV, ch. 22; ERP was reduced on 3/12/84 from 1620 kw to 1550kw.

WI Milwaukee; WCGV-TV, ch. 24, changed ERP on 1/19/1984 from 5000 kw max/2000 kw hor to 3000 kw max. (as discussed in last month's column; see also Nate Ely's comments in FORUM in this month's column.)

## CALL LETTER APPLICATIONS: NEW STATIONS

CH	C.L.	STATE/CITY/APPLICANT
69	WDEM	FL Hollywood; Whitco Broadcasters
17	WDBB	AL Tuscaloosa; Channel 17 of Tusc.

## CALL LETTER APPLICATIONS: CHANGE EXISTING

50	WKBD	MI Detroit; WKBD-TV
29	KITN	MN Minneapolis; WFBT-TV
40	WMGM-TV	NJ Wildwood; WAAT

## CALL LETTERS ASSIGNED: NEW STATIONS

21	WBNA	KY Louisville; Word Bc'g Network
16	WLTK	KY Somerset; TV-8 Inc.
10	KDRT	TX Del Rio; Del Rio Communications
48	WRIC-TV	OH Dayton; Dayton Telecasting Inc.
45	WIEG	PR Ponce; Zeal Broadcasting
38	WJWN-TV	PR San Sebastian; Jose Cordero & Nayda Nicolau de Colon
18	KDJB	IA Davenport; Deavenport Communications Limited Partnership
18	KKFC	TX Farwell; The Best Broadcasting

## CALL LETTERS ASSIGNED: CHANGE EXISTING

63	WBKZ	IN Angola; WXJC-TV
2	KCBS-TV	CA Los Angeles; KNXT
8	WPBS	GA Athens; WGTW
19	KVCT	TX Victoria; KXIX

## CHANGES IN THE TABLE OF ASSIGNMENTS

FL Gainesville: add 61+ (this will be short-spaced to two applications for ch. 53 in High Springs, FL; those applicants will be required to specify another TL.)

TX Katy: add 51+ (site restriction 3.6 miles south of Katy to protect KLMG-TV, channel 51 in Longview, Texas.)

## NEW STATIONS ON THE AIR

NM Santa Fe; KHCF, ch. 11, went on the air on 1/21/1984. 90 kw ERP; 4090' AAT/93' AG/10,707' ASL; TL Sandia Crest; coordinates 35°12'51"/106°27'00" Address: Son Broadcasting, Inc., 113 E. San Francisco St., Santa Fe, NM, 87501.

NC Greensboro; WLXI-TV, ch. 61, went on the air 3/5/84; 500 kw max.; 564' AAT/499' AG/1459' ASL; TL 2 miles northeast of Kernersville; coordinates 36°08'58"/80°03'21". Address: Consolidated Broadcasting Corp., Box TV61, Greensboro, NC, 27420. Independent station, described by new member Ed Shepherd as an MTV-type station with local disk jockeys.

WA Vancouver; KPDX, ch. 49, went on the air on October 1, 1983; 2612 kw max; 1785' AAT/1053' AG/2021' ASL; coordinates 45°31'22"/122°45'07"; TL 211 N.W. Miller Road, Portland, OR; address: KLRK Broadcasting Corp., 1 Columbia River. Vancouver, WA, 98660.

CA Ontario; KIHS-TV, ch. 46, seen testing on 3/29/84 by W.R. McIntosh. This was formerly KBSA in Guasti, but now under new ownership (HBI Acquisition Corp.) with new call letters, new city of license, new facilities, etc. KBSA has been off the air for several years. 2455 kw max; 3044' AAT/295' AG/5995' ASL; no coordinates or new address available yet. Mc reports a better quality signal received in Granada Hills than from the old KBSA signals.

## CONSOLIDATED HEARINGS

UT Logan; ch. 12; John R. Powley; Logan Television Co., Ltd. (both propose TL on Mount Pisgah, 5 miles short-spaced to reference point for ch. 13 assignment in Salt Lake City, but not to any of the applicants for that channel.); Matlock Communications, Inc. (improperly calculated antenna height from NOAA point interval data base instead of USCG&G maps).

WI Sheboygan; ch. 28; Retherford Publications Inc. (proposes tower 200' from WHBL(AM) and WWJR(FM) tower. The land and radio stations are both owned by Sheboygan County Broadcasting Company, which claims Retherford never sought permission to build a tower on their property.); to complicate things, Sheboygan County Broadcasting, Inc. is one of the mutually exclusive applicants for this channel; Hometown Television, Inc. (Hometown proposes a satellite of commonly owned WLRB, ch. 26 in Green Bay; the FCC will require that Hometown demonstrate the need for a satellite station.)

IL Springfield; ch. 49; George E. Gunter (who proposes 18 hours of daily operation, only one of which will be local program origination; proposes WTAX(AM) tower as TL);



Midwest Television, Inc. (proposes operation as a satellite of WCIA-TV, Champaign, Illinois, with which it would have 1560 square miles of overlap in coverage area. FCC will require a determination as to whether or not a satellite operation is justified.)

WI Milwaukee; ch. 58; High Definition Television; Powell Community Television; Ebony Telecasters; KUSA Brewer's Broadcasting Television; Women in TV Ownership & Management (all five of which propose TL on tower owned by WTVV, which will not be available. Apparently none of them ever inquired into its availability); Zodiac Partnership (which also proposed use of the WTVV tower, but upon finding out that it wasn't available, proceeded to amend its application); TV58, Ltd.; Enhancement Services, Inc. (both of which propose use of WCGV-TV tower); Heriberto B. Colon; George Fritzingler; Milwaukee Broadcasting Limited Partnership; Glory Ministries.

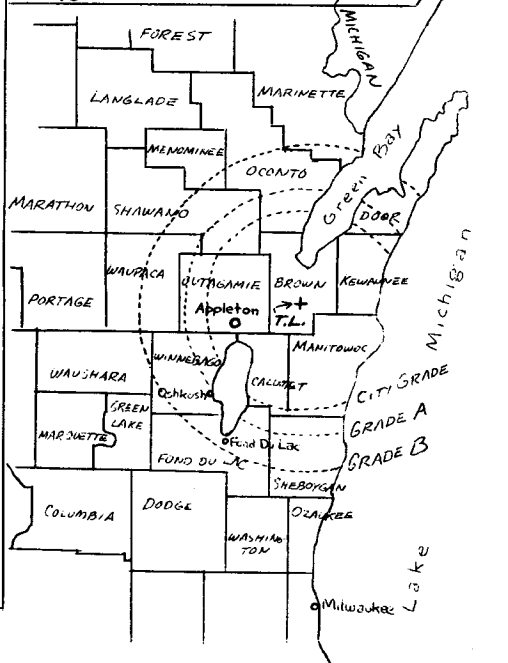
SPOTLIGHT ON NEW STATIONS

IN Indianapolis; WPDS-TV, ch. 59. Paul Gaines reports that the station claims 2 million watts ERP visual and 2250 watts for aural ERP. "...seems awful low for audio?" Paul asks. Don't believe it. It's 2.35 million watts visual and 235 kilowatts aural, or 10% of the visual (more on that later!). Independent station, running syndicated programs. Paul also said that the station has 5 minutes of news every hour.

Ralph Strobel sent in an article from the Ball State Daily News, dated 1/27/82, a few days before the station went on the air. (This is exactly the type of article I've been looking for. Just before a station goes on the air, the local papers do an article on it to tell the public what to expect. They usually include a history of the station, introduce its employees, tell what's going to be different about this station, and describe its program schedule.) The article comments on the station's chances of survival. It's the fifth station in a strong VHF market. Three network VHF's, a PBS and an independent station already on UHF, and one more station enters the market. Critics are saying that the station won't last long. So what does WPDS have to offer that the others don't? "Locally owned, operated television with news they can respect and news to rely on to give them coverage every hour vs. what they are getting," according to news director Kim Sanders. "I think we're going to get back to what I think is news, and not a lot of features. Our billboards all say we're no-nonsense news, and that's what we're looking at; national, international, local news that is in the making, that is happening now. We want to let people know what's going on around them instead of garbling it up with a whole lot of features." A major part of the station's news coverage will be five minute newscasts billed as "59 Headline

news." WPDS will offer several syndicated programs, as is usual for independent stations, but will also highlight locally produced programs. Two British programs which will be shown on WPDS are "Dave Allen at Large" and "Dr. Who." (These are normally seen on PBS stations. I wonder how they managed that.)

WI Appleton; WXGZ-TV, channel 32. After complaining about not receiving any replies from new television stations I received information from two of those stations a month later. WXGZ-TV was one of those stations. The call letters were going to be WBUO, but, according to general manager Bill Le Monds, "We wanted something harder sounding—something that would stand apart from the other stations." The station has been operating on a low power test basis (as of the press release date of 1/30/84) while the broadcast tower is still under construction. Cold temperature and winds have slowed down construction of the tower. The station is an independent station, with movies and old syndicated programs. The station plans eventually to go heavy on locally produced programming, and is building a "super" production facility. The tower is on Scray's Hill, just outside East De Pere. The signal should reach homes in about an 80-mile radius, and should reach as far away as Sturgeon Bay, Suring and Shawano to the north, and Manana and Weyauwega to the west, Fond du Lac and Sheboygan to the south.



HI Honolulu; KHAI-TV, ch. 20, also sent some information, mostly about its programming but some about the station. "We are pleased to introduce KHAI-TV UHF Channel 20, Hawaii's newest and most powerful TV station. Located at 735 Sheridan, we have an effective radiated power of 537,000 watts which serves the entire island of Oahu through direct reception and cable carriage. KHAI-TV is available without additional cost on all cable systems on Oahu, as mandated by the Federal Communications Commission, as well as as through individual reception by those who receive television signals directly. "KHAI-TV is owned and operated by Media Central, Inc., headquartered in Chattanooga, Tennessee, which operates five other UHF stations in Wisconsin, Ohio, Tennessee, and Missouri.

"Through an exclusive arrangement with Tokyo Broadcasting Systems, Inc., the largest commercial broadcasting station in Japan, KHAI-TV offers Japanese language programming with English subtitles from 6:00 PM until 10:30 PM, Sundays through Saturdays when sets-in-use are the highest." Programs include Hodo Tokushu (a news commentary program); Uwasa No Keiji (about two Tokyo police detectives; a related picture shows both of them being choked simultaneously by a large snake); Shinpachi Sensei (about a school teacher and his students); Muu (a description sounds like a soap opera). Also, don't forget Warera Dobutsu Kazoku, Kurama Tengu, Fufuki Doji, Ryori Tengoku, Ooka Echizen, Aniki, Kazoku Netsu, and so on.

Rod O'Connor, before leaving for Alaska confirmed his observations of KHAI-TV, saying that they have only Japanese programs, with English subtitles, only in the evenings.



735 Sheridan Street Honolulu, Hawaii 96814

CONSOLIDATED HEARING: SOUTH CAROLINA Two channels are assigned to Rock Hill, South Carolina: channel 30, which is a commercial assignment but occupied by WNSC-TV, an educational station owned by South Carolina Educational Television Commission (SCETV), and channel 55, a vacant channel with a noncommercial reservation.

On August 31, 1981, York County Television Corporation filed an application to construct a commercial television station on channel 55, along with a request of a waiver of the FCC rule prohibiting commercial operation on a noncommercial channel assignment. On September 16, 1981, the FCC denied the waiver and returned the application.

At about the same time, the license for WNSC-TV was up for renewal, and SCETV filed an application for license renewal. But York County TV urged the FCC to deny its

license renewal, maintaining that, in order to maintain a "fair, efficient, and equitable distribution of broadcast services," the FCC has, in the past, deleted noncommercial reservations. (But note here the difference between deleting the noncommercial reservation and granting a waiver from adhering to the reservation) York County TV insisted that SCETV's operation on a commercial assignment, leaving only a noncommercial assignment vacant, precludes any possibility of a commercial television broadcast operation in Rock Hill. It insists that the public interest would be better served by requiring WNSC-TV to shift channels to ch. 55, thus permitting the initiation of the first commercial television service in Rock Hill.

SCETV insisted that the proper procedure for York County TV would be to file a petition with the FCC to amend the table of assignments, deleting the noncommercial reservation on channel 55. But so far York County TV has refused to do so.

Nevertheless, under FCC rules York County TV is permitted to file an application for channel 30 which would be mutually exclusive with SCETV's application for license renewal, so this issue then goes into a consolidated hearing.

FCC PROPOSED DATA TRANSMISSION SERVICES ON VBI OF TELEVISION STATIONS

Hoping to provide television stations with additional opportunities to extend and diversify their services, improve efficiency of spectrum utilization, and to assist in satisfying a public need, the FCC is proposing the authorization of any television station to offer any data transmission services on its vertical blanking interval, either on a common carrier basis or a private carrier basis.

Data transmission services would include paging services, transmission of raw data, and computer software. Technical rules which apply for teletext could also apply to data transmission services.

YOU THINK YOU HAD PROBLEMS WITH THE WEATHER?

On the morning of 3/20/84, the transmitter tower of WVII-TV, ch. 7 in Bangor, Maine, collapsed because of ice buildup. Because its former transmitter tower was still standing, the station was able to switch over, but is now operating at reduced power. The station was back on the air later that day.

WABI-TV, ch. 5, also in Bangor, and WBGW (FM) also went off the air when their tower collapsed. WABI-TV was hoping to be back on a few days later.

WGME-TV, ch. 13 in Portland, Maine, went off the air by damage from the weather to its transmitter.

WCBT(TV), ch. 10 in Augusta, Maine, had to shut down temporarily after pieces of ice fell off the tower into the building containing its transmitter.

There were problems in other parts of the country, also. WLFL, channel 22 in Raleigh, North Carolina, was off the air March 16-19 because of a blown transformer. KLDH, ch. 49 in Topeka, Kansas, which just went on the air last summer, went off on March 18 after its

tower came down.

#### CANADIAN (AND OTHER) NEWS FROM WALTER PATTON

"The British are closing down their 405-line VHF TV service. Transmitters will be decommissioned throughout the year with the last scheduled for shutdown in the first week of 1985. The move will leave about 1 percent of the population without TV, a condition not to be remedied before 1987.

"The uses for the cleared frequencies have not been decided but it would appear that TV broadcasting on them is unlikely. One of the uses being considered, aside from the ubiquitous mobile operations, is for educational radio broadcasts. The British have an extensive system called "Open University" which at present shares time with some of the BBC FM networks.

"A strike by technicians at CFTM(10) Montreal has ended after 18 months. The walkout resulted in an abbreviated broadcast day for CFTM and much of the TVA network which for the most part rebroadcasts CFTM programming.

"With the failure of the Star Channel, the regional Pay-TV channel in the Atlantic Provinces, and the failure of a similar operation in British Columbia to even get started, Super Channel, originally the Ontario and Alberta based regional system, has expanded across the country so that now, with First Choice, there are two national English language Pay-TV systems (mostly on cable) and no regional companies.

"Meanwhile, First Choice's French language service, Premier Choix, has merged with the Quebec based TVEC (Television de l'est du Canada) to form a single service. First Choice hopes to be able to drop its French language satellite service to Western Canada, supplying videotapes to any company interested out there. (The Anik C satellites have full, half and quarter country beams, the pay-TV firms have been using two half-country transponders for each channel.)

"Atlantic Television, owners of many of the CTV outlets in the Maritimes are operating a satellite to cable, advertiser supported, service called Atlantic Satellite Network, formerly ATV-2, to the Atlantic Provinces. It carries a healthy dose of CBS programming, not widely available on cable systems down east, and programming from independent Canadian stations.

"I can't help but notice the striking contrast between the number of new TV stations being given CPs in the U.S. compared to the number here in Canada (except for rebroadcasters and transmitters for programming already available on cable--the Calgary grant below--essentially none). But there is also a disparity between the number of CPs granted in the U.S. and the number making it to the air. Without counting it seems like two or three to one. Is there no time limit between the issuing of a construction permit and the beginning of broadcasting? I make the point because the CRTC has recently rescinded more than a dozen grants for failure to become operational within a reasonable amount of time."

(Construction permits are good for 18 months, and can be renewed. Stations usually take about six months to a few years to get on the air once the construction permit is granted. I have no way of knowing how many construction permits simply expire, or which ones are being renewed.)

"With respect to your pointed reminders of the difference between a construction permit and a license, here in Canada, after an application has been approved by the CRTC, the applicant is required to get a Technical Construction and Operating Certificate from the Department of Communications. This covers frequency co-ordination, transmitter standards, aircraft clearance, etc. Only then is the broadcaster issued a license."

#### NEW TRANSMITTER GRANTED

AT Calgary; ch. 13; 1.8 kw; net=Access Alberta (The Alberta Educational Communications Corporation)

#### CHANGES GRANTED

NF Carmanville; CBNAT-7; moved from Musgrave Harbour; raise ERP from 0.135 kw to 2 kw.

NF Musgrave Harbour; CBNAT-11, ch. 9, to raise ERP from 8.9 watts to 0.946 kw (But can they do this without a channel 9 allotment to that city?)

PQ Fermont; CBMR, ch. 9, to rebroadcast CBNLT (ch. 13 in Labrador City) instead of CBMT (ch. 6 in Montreal) until Dec., 1987

#### CALL LETTERS (ALL QUEBEC)

ch C.L. CITY/E.R.P.

42 CBMT-7 Ayres Cliff; 0.83 kw

55 CBMT-6 Bolton Est; 3.17 kw

23 CBVB-TV Chandler; 1.66 kw

18 CBVA-TV Escuminac; 5.21 kw

18 CBVG-TV Gaspé; 5.0 kw

45 CBVN-TV New Carlisle; 5.19 kw

27 CBVR-TV New Richmond; 6.0 kw

14 CBVF-TV Perce; 1.31 kw

54 CBMT-5 Ste. Adele; 1.261 kw

#### APPLICATIONS FOR CHANGES

BC Campbell River; CHEK-TV-5; to change from ch. 11 to 13; ERP from 1.2 kw to 1.0 kw.

BC Courtenay; CHAN-TV-4; to change from ch. 13 to ch. 11; ERP from 0.93 kw to 1.3 kw.

(Are they planning to reallocate the channels also? They're still pretty strong to be operating on unallotted channels.)

ON Temagami; CBCQ-TV-1; ch. 15; change originating station from CBCQ-TV (ch. 28 in Temiskaming, PQ) to CBC Anik (satellite).

PQ Thetford Mines; CBMT-4; ch. 32; seeks to reduce power from 1.3 kw to 1.14 kw.

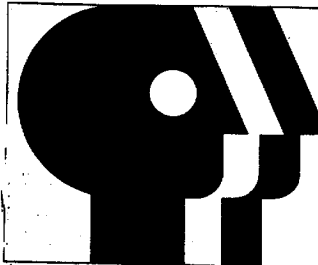
PQ Trois Rivières; CHEM-TV; ch. 8; seeks to rebroadcast part time CFTM (ch. 10 in Montreal); presently simulcasts with CKSH (ch. 9 in Sherbrooke).

#### PBS DOES AN ABOUT-FACE WITH ITS LOGO

You're probably familiar with the logo shown below, which appears as blue, orange, and green figures, one of which looks like a man's head with a hole in it. The logo has often



been the object of frequent jokes, such as, "a person looking backward, with a hole in his head followed by BS." While the new logo, shown at right,



is now being used in its printed material, it won't appear on television stations until this coming September. Apparently the PBS logo had been so prominent on educational stations, that they were losing their own identity to a degree and becoming known as nothing more than a PBS outlet. By using this new logo, stations will still be able to identify themselves as a PBS affiliate while still preserving their identity. Both logos will be used in the future: the new one to promote public television in general, and the old one will be seen occasionally in connection with old recycled programs from the network's library. The new logo will appear with the initials "PBS" when promoting the network itself.

Already, the jokes are starting. One story has it that the change was necessary because the PBS audience jumped from one to three.

#### AURAL EFFECTIVE RADIATED POWER REDUCTION

Under present rules, the aural ERP of a television station must be between 10% and 20% of its visual ERP. The FCC, once again permitting marketplace incentives to regulate broadcasters instead of FCC rules and standards, decided to allow television broadcast stations to cut back their aural power to whatever level they want. The Mass Media Bureau protested the action, claiming that fringe area viewers could suffer as a result of a station's reduction of aural ERP. The Mass Media Bureau suggested 8% to 22% as an ideal range for aural ERP. But the FCC feels that a broadcaster's desire to retain as many viewers as possible for ratings will be incentive not to reduce aural power too much.

It's possible for a station to reduce its power enough so as not to affect fringe area reception, but don't forget that the DX'er is a person who likes to tune in stations well beyond fringe area reception. This could have a more serious effect on long distance reception.

#### STEREO TELEVISION AND OTHER USES OF THE SUBCARRIER FREQUENCIES IN THE AURAL BASEBAND

The audio portion of the television channel has been going through quite a few changes lately. It wasn't long ago that the FCC decided to allow stations, during the graveyard hours of midnight to 6:00 a.m., to transmit visual signals without no audio, or pictures and aural transmissions that were unrelated. Up until 1977 the audio subcarrier could be used only to transmit telemetry and alerting signals from a transmitter site to the control

point of a television station authorized to operate by remote control. Boston Broadcasters, Inc. petitioned the FCC to permit use of the aural subcarrier for cuing and coordinating electronic news gathering (ENG) crews in the field. The FCC initiated a hearing on the issue, and published a Notice of Inquiry, in which the request was noted, and in which the FCC proposed other possible uses for the subcarrier frequency, such as bilingual transmissions and augmented audio for the blind. Stereo television was also mentioned.

On November 20, 1979, the FCC adopted its Notice of Proposed Rule Making, proposing the use of the subcarrier for ENG cuing and coordinating. This was adopted in the First Report and Order, June 30, 1981.

Under the Further Notice of Proposed Rule Making, adopted July 28, 1983, the FCC proposed use of multiplex aural subcarriers for a wide range of nonbroadcast services as well as broadcast services. This could include such nonbroadcast services as paging services, electronic mail delivery, facsimile services to offices, and municipal traffic light and sign control (They didn't elaborate on that, but I think they mean remote control of synchronized traffic lights). Broadcast services proposed in this Further Notice also include multichannel sound (stereo), program related information for the sight and hearing impaired, storecasting and background music. Again, the FCC is depending on the marketplace to determine technical standards instead of selecting a single technical system. The only technical rules proposed by the FCC are designed to protect the quality of existing broadcast signals and preclude interference to other licensees. One issue raised by the FCC is whether or not cable companies carrying television broadcast signals will have the right to erase these signals. There was some concern by some STV operators that use of subcarriers could affect scrambling techniques of STV stations. But the FCC doesn't feel that the potential of these new services should be reduced in order to protect a few STV stations.

The FCC finally acted on this Further Notice last March. Most of its proposals were accepted: The aural subcarrier was opened up for other uses, and a standard for stereo television was left up to the industry to work on. One area where no decision was yet made was whether or not cable companies should be obligated to carry these signals. One technical restriction: whatever use is being transmitted, it is not to interfere with the pilot tone of a Zenith/dbx system, which activates the stereo system in TV sets equipped for stereo.

Greg Monti sent in an article on stereo TV from the March, 1984 Broadcast Management/Engineering magazine. Apparently the electronics industry was prepared this time for the FCC's marketplace proposals. Instead of each company developing its own set of technical standards and fighting for FCC acceptance, they decided to cooperate. The Multichannel Television Sounds Committee was

established, sponsored by the National Association of Broadcasters and the Electronic Industries Association. Had something like this been done earlier when the FCC authorized experiments with stereo in the AM broadcast frequencies, there wouldn't have been a mess like there is now. But by cooperating, the electronics industry got together and decided from among three proposed stereo systems: Electronics Industries Association of Japan, Telesonics Corp., and Zenith Corp. The Zenith proposal was selected.

The Zenith system includes not only the stereo signals, but also a second program option, and two "professional channels," which can be used for voice or data transmission.

## FORUM

Phil Boersma sent in an article from the 3/21/84 Muskegon Chronicle about WMKT, channel 54 in that city. It was originally scheduled to go on the air in November, 1983 but it has been postponed twice so far, and might not be on before June, 1984. They purchased a transmitter tower from a station in Florida, which was supposed to be dismantled and delivered to Michigan last November. It wasn't dismantled until last March, and delivered to Allendale, MI, around the middle of the month. Then there's trouble finding a studio. They had one picked out already, but Muskegon's Historic District Commission objected to a 70-foot microwave tower being erected atop their building. Evidently there weren't too many microwave towers in the nineteenth century. The station's format will be a combination of old movies and reruns (that should please the historical society!), and programs received through a satellite hookup. (Did they have satellite hookups in the nineteenth century?) Phil adds, "WMKT's General Manager, Paul Stewart, also put WXMI-17 (then known as WWMA) on the air. He resigned after a year with channel 17 to work for WMKT. Interestingly, when the new management moved in to TV 17, they made drastic programming changes, because under Stewart's guidance TV 17 was a financial disaster area. WXMI is now beginning to draw halfway decent ratings, after purchasing many movie packages and newer off-network fare (under Stewart, WWMA showed creaky old movies, Z-grade stuff, and CERY old reruns)." "WMKT will apparently have lots of religious programming. That's another of Stewart's trademarks."

Greg Kelly, now living in Midvale, OH, mentioned translator W66AB in Dayton, which rebroadcasts WBTV, ch. 64 in Cincinnati. It's STV all night, Greg says. "I can tell you for a fact it's XXX movies after midnight! I never knew they allowed that.... on TV!" (Why not? Since the Supreme Court established a legal definition of "pornography" several years ago, anything that doesn't exactly conform to that definition is protected under "Freedom of Speech.")

Dr. Bruce Elving sent me an article about KBGT, ch. 8 in Albion, NE, I think. That is, I think he sent me the article. It's no long-

ger in the envelope. But he talks about the station. Reception from Kearney is weak, but the station is building a new tower. (I don't have any record of a construction permit for that as yet.) Bruce also comments about the length of my column, "...often think it is too long, with your cutting down on the articles and analyses something that could cut down on the expense of publishing the bulletin!" While he admits to having one or two long columns in the past few months, I will grant that they have been the exception.

Which brings me to Bill Thompson. I asked Buffalo Bill how much it really costs for printing of an extra four pages (which is one sheet of paper more in the VUD. To print enough VUD's for about 280 members, it costs \$14.00 for those extra four pages. That's five cents per member per issue, or 60¢ per year. HQ has never asked me to cut down this column, except during the months of heavy reporting. I cut the 10/83 column down to four pages, helping to keep its postage at 37¢. One more sheet of paper, or four pages, would have raised the postage to 54¢. Anyway, if you think this column should be shortened, let HQ know. The final decision rests with the board of directors.

Speaking of Bill Thompson, you probably read his announcement last month that publication of the new Translator List will be given priority over the WTPDA TV Station Guide. So you're probably wondering, what about the Translator list? It's going to be almost entirely from the NTIC microfiche list, whenever I get it. I first sent for the list last fall, and was told that I had to open an account with them, and have items purchased charged to the account. So I did, and a month later received confirmation and blank order forms, requiring order numbers. I wrote to the NTIC requesting a list of its publications and order numbers, but never received it. Finally I called them and got the number to call for getting the order numbers. The line was constantly busy during working hours, but they had a tape recorder operating after hours. I gave my name and address, and the item I wanted to purchase. The information came a week later, addressed to "30036 Atlantic Street, Princeton, NJ." Good thing I had the zip code. Anyway, I finally managed to order it a few weeks ago, and it takes up to six weeks to receive. So I should be receiving it about the time you receive the VUD. Then I have to type it. I will probably have a second publication for Alaska and Canada. This will lower the cost of the Translator List, and the smaller demand for Canadian stations will probably make it cheaper to publish fewer copies of that list.

George Rogers asks how to obtain a list of North American television stations. Probably the best thing to do is not get a list, but rather know where a list would be available: that is, the public library. Most libraries that I have seen have one or more publications that provide this information, at no cost.

To list a few: Television Factbook and Broadcasting/Cablecasting Yearbook, which are the two best known. They contain addresses for all television stations in Canada and the United States, and I believe many stations in other parts of North America. Then there's Television Almanac, a smaller hardback publication, which lists every commercial television station in the United States, with its address. If you're looking for the address of a station in a major city, you might want to ask your library if it has telephone directories for those cities. Look up the station's phone number, and you will find, if it is listed, an address for the station. But if it is in a city large enough to have phone directories in libraries all over the country, it will probably have several zip codes. So you will need a zip code directory, and I don't mean that small one. I'm talking about one the size of a Sears catalogue, which breaks down the large cities into streets and gives the zip code for each section of each street. One more possible way to get a station's address: Years ago I used to try to get addresses from information operators, or "directory assistants." But I was told several times that they are not permitted to give anything but phone numbers. They were not allowed to give addresses. But I have heard several people say that they have been successful at getting addresses from directory assistants.

New member Ed Shepherd writes, "I recently joined the WTPDA and received the UHF translator list. It is pretty old and I don't know if there will be a new one soon." (I hope there is!) He also included a list of North Carolina translators. Some other members have sent translator information also, but instead of relaying the information as I have in the past, I'm going to put it all together to supplement the translator list when it gets started.

Ed reported a multiple-city identification on WBTV, ch. 3 in Charlotte, NC. As with other cases, there is an inconsistency in the cities used. WBTV uses two cities in its visual ID, Charlotte, followed by a different city each time. The voice identification mentions only the second city and not Charlotte. Ed also corrects a mistake on page four of last month's VUD: under applications to modify construction permits, WXIV-TV should be Greenville, NC, not SC.

Rod O'Connor has some inside information on W58A0, the new LPTV in Dennis, MA. TL is on WQRC-FM tower at Shoot-Flying Hill in Barnstable, about 10 miles WNW of Dennis and 5 miles NNW of Hyannis, with a directional antenna aimed at Dennis. At his parents' house 20 miles from the transmitter, there is absolutely no trace of the station. He describes its 6:30 p.m. newscast as slick and professional.

Tracy Wood says that KTFS, Tacoma, WA, definitely did switch from ch. 62 to 28. Also, KTIZ, ch. 24 in Portland, OR, is scheduled to go on the air this fall with

sundicated reruns. He also thinks that unless a station is licensed to more than one community that we should avoid these multiple ID's. KGW-TV in Portland is doing the same thing the other stations are doing: constantly changing the cities in their ID's. KECH-TV, ch. 22 in Salem, OR, which went on the air about 2½ years ago, is already going bankrupt. They hope to switch their ON-TV service to MDS. KECH-TV uses KWIP(AM) radio straight off the air for its Barker channel.

The way these multiple city identifications have been going ever since the FCC deregulated it, I think Tracy is probably right. Listing multiple city identifications is getting to be ridiculous.

Ralph Strobel sent in a clipping from the Coeur d'Alene, Idaho Press. Tom Daugherty is planning a LPTV station for Kootenai County in Idaho. He filed for an FCC broadcasting license in April, 1982, and is still waiting for it. (Maybe he should try filing for a construction permit first.) The station, proposing to operate on ch. 11, would cover local news, sports, weather, local political figures and newsmakers.

Roy Barstow, a former member who is rejoining the club, has been pestering his library to get the 1984 edition of the TV Factbook. (Somebody else just recently reported that it was out. I haven't seen it yet.) He looked up some answers to the questions I listed in the 3/84 VUD. KTEB, ch. 40, is Santa Ana now, formerly Fontana, CA. KCAV is listed on ch. 20, and not yet on the air. (It was originally planning to broadcast on ch. 26.) WOCP in Altoona, PA, is listed on channel 23. KTVV, Fayetteville, AR, is still on ch. 29 (I suspect the FCC will allow them to stay on ch. 29 for a while, even though the channel assignment was changed to 36. There have been no indications that the stations plans to change channels). WBGU, Lima, OH, is still on ch. 57 despite a CP to change to ch. 27. KTFS, Tacoma, WA, has been on ch. 28 since September, 1982, confirming Tracy Wood's report. WSFP-TV, ch. 30 in Fort Myers, FL, went on the air 8/15/83. (I'll get technical information on that next month. I suspected something when they had already been given a license.) WINT-TV (not WCPT-TV) is still listed on ch. 55 in the 1984 Factbook. (I got the impression from an article sent last month that it was already on ch. 20, but regardless, it will be on 20 definitely when it finishes some other changes to its system.)

Nate Ely first noticed an increase in the power of WRSP-TV, ch. 55 in Springfield, IL, in mid-March. It is now just about watchable at 230 miles away. (ERP was to be raised from 1556 kw to 2000 kw max; HAAT from 466' to 1442'). Nate also questions the contours shown on the WCGV-TV map in last month's VUD. The contour for 5000kw max/2000 kw hor shows Madison, WI right on the edge of its coverage area. Nate calls this "very ambitious." He hasn't noticed any change in signal quality since they changed their power. Maybe I was right after all about relating the change to



# EASTERN TV-DX

William J. Draab  
Ellis St. R.R.#2  
Kewaunee WI  
54216

Deadline: 1st

the horizontal figure of 2000 kv.

Nate also says that KWWL, ch. 7 in Waterloo IA, is back to full power. No news about what happened. KWWL has an ID slide that reads, "Cedar Rapids-Waterloo-Dubuque). I had it licensed to Waterloo. According to the FCC, the community of license must always appear first.

Nate has uncovered some more covert CIA operations. This time operating behind WPWR and WBSS, channel 60 in Chicago. So far the TV Guide hasn't discovered their existence. (You think that's bad, what about WCCB, ch. 49 in Red Lion, PA. They have been operating for several years now, and have been very successful in hiding their existence from TV Guide. And they're not even a PBS station! By the way, I think I figured out the meaning behind those three faces in the new PBS logo: those are the directors of the CIA, FBI, and National Security Administration.

Rich Turcsany sent in some news. WMFP, ch. 62 in Lawrence, MA, and WGOT, ch. 60 in Merrimack, NH, hope to be on the air by September. No sign yet of WCTR-TV, ch. 66 in Marlborough, MA. WSTG-TV, ch. 64 in Providence, RI, is still being operated by its former owner until the new owners build their facilities. Still running old movies and three stooges cartoons. WHCT-TV, ch. 18 in Hartford was sold to Interstate Media, but still running Faith Center and Dr. Gene Scott while its new facilities are being built. WCAY-TV, ch. 30 in Nashville, is now on the air, as well as KCHF, ch. 11 in Santa Fe, NM. Other stations that plan to be on the air by the fall: WUSV (ch. 45, Schenectady, NY); WLCN (ch. 19, Madisonville, KY); WKWR-TV (ch. 28, Cookeville, TN); WBFS-TV (ch. 33, Miami, FL); WDBD (ch. 40, Jackson, MS, will be the state's first independent station); WYXT (ch. 54, Huntsville-Decatur, AL); WHNS (ch. 21, Asheville NC-Greenville-Spartanburg SC, may already be on the air.)

W.R. McIntosh confirms KTBN, ch. 40, as now licensed to Santa Ana, and identifying as Santa Ana-Los Angeles

Paul Swearingen sent in an article from the 3/10/84 Los Angeles Daily News on stereo television. This article predicts some of the earliest uses of stereo TV. There is talk about ABC using it at the Summer Olympics with bilingual English and Spanish commentary and ambient stadium noise in stereo. National and American league baseball are in line for multichannel embellishments (that means to beautify by adding extra features, or to heighten the interest by adding fictitious details. You take your pick). NBC is considering "Friday Night Videos" and "The Tonight Show" for stereo. "The Tonight Show" has been recorded in stereo for seven months now. HBO, The Movie Channel, the Nashville Network, and MTV are also planning to go to stereo.

Leslie Price sent an article from the 3/11/84 newspaper in his area, about channel 26, which expects to go on the air in September. Right now the station is using the call letters WJKA in its business, but plans to change the call letters before it goes on the air. The station will be a CBS affiliate. The station will transmit from an existing broadcast tower owned by WWAY-TV, ch. 3, near Bolivia. As of the date of the article, the station is still looking for a place to build its studio.

**WILL THERE BE A FOURTH COMMERCIAL TV NETWORK?**

One other thing mentioned by Bill Thompson was about a fourth commercial television network. Apparently there were reports about different groups trying to get it started. While I can remember hearing talks like that for the past twenty years, certain factors have changed, making that a possibility. I found some information about this in the March-April, 1984 issue of Channels of Communication. There used to be four television networks many years ago. The DuMont network existed from around 1947 to 1955, then collapsed. The stations owned by DuMont were taken over by Metromedia. There simply weren't enough stations to make a fourth network viable. But now with many more independent stations and the increased advertising market, there is now room for a fourth network that could compete with the other three. Metromedia, for one, is trying to become that fourth network. So is the Tribune Company, which has been meeting with Gaylord Broadcasting, Taft Broadcasting, and Chris-Craft Industries. The Tribune Company also has the International News Network at its disposal. Paramount, originally proposing to assist the Tribune Company as far as production, now appears to be interested in starting its own fourth network.

There is one handicap to a fourth network, however. Most of the independent stations that would become affiliates are UHF stations which are harder to receive. But cable television may help to give a fourth network a boost.

**MISCELLANEOUS NOTES:**

The latest development in the fight for channel 14 in Washington, DC: an FCC administrative law judge has granted a construction permit to Urban Telecommunications Corp. WETG-TV, channel 61 in Hartford, CT, plans to go on the air this fall, and will be an independent station.

Well, that's it for another nine-pager. I'm surprised at the amount of mail that came this past month, as you can see. Could it be because I started underlining people's names? Maybe I should use capital letters also. But seriously, thanks for the response, the information sent, and the comments. DX season is back, and I hope 1984 turns out to be a good year for all of you.

May 1984

Jeff Wolf; 1131 University Blvd. W., Apt. 701, Silver Spring, MD 20902 EST-EDT

I started using the Radio Shack 4 bay antenna (located indoors), on Aug. 14, 1983. The Radio Shack 2 bay bowtie antenna is still used for channels 49-83. The 4 bay seems to have slightly more gain from channels 14-26 and 30-47 than the 2 bay. If the signal is just detectable when using the 2 bay, the picture is very weak. For channels 27-29 and 48, the 4 bay is equal to the 2 bay. Above channel 48, the 2 bay is better.

**October 1983**

- 3 Tr 2300 WTVB-51 PA
- WLVT-39 PA 136
- to W61AN DE t
- W68BH VA 123
- 2330 WKFT-41 NY 196
- 4 Tr 0025 WNJU-47 NY "
- 0215 WABC-7 NY "
- 1800 WDPB-64 DE
- 1830 WNJS-23 NJ 126
- 2220 WNJM-50 NJ
- over local
- WNJB-58 NJ 172
- 2300 WNJT-52 NJ 152
- WNHT-68 NJ 192
- 8 Tr 0800 WPCQ-36 NC 332
- 0817 WJTM-45 NC 273
- 0835 WIDE-15 SC
- 0836 WKPT-19 TN 332
- 0912 WUNE-17 NC t
- 0917 WUNM-19 NC t
- WCCB-18 NC 332
- 1000 WUNB-2 NC 219
- 1200 WGGT-48 NC
- 1900 WNJS-23 NJ
- 2100 WVPT-51 VA 145
- to WUNM-19 NC
- WUNK-25 NC 244
- 2307 WVIB-29 VA
- 9 Tr 0145 WITN-7 NC 257

**November 1983**

- 2 Tr 0625 WPTF-28 NC 251
- 0630 WERE-28 PA 161
- WNEP-16 PA t
- WLYH-15 PA
- 0650 WKFT-40 NC
- WGGT-48 NC
- WVIA-44 PA t
- 9 Tr 0030 WPTF-28 NC
- WAAT-40 NJ
- 0600 WLFL-22 NC
- 0640 Onancock xlters 114
- 1930 WPTF-28 NC 251
- 2300 WAAT-40 NJ
- Onancock xlters:
- W41AC, W44AD, W25AA
- 2305 WERE-28 PA 161
- WVIA-44 PA 160
- WNEP-16 PA "
- 13 Es 1527 Unids chs.3&4
- 1600 gone
- 1658 WEAR-3 FL
- 1705 Unid-2
- 1830 Unid-3; NBC
- WBRZ-2 LA 950
- 22 Tr 0630 WPTF-28 NC 251
- 0643 WCTI-12 NC t
- Unid-61; is
- W61AN still on?
- 0654 Norfolk U's

**November 1983**

- 22 Tr 0654 WPEB-15 SC t
- 0655 Unid-35; 8/WRLH
- WTVX-34 FL; fair
- December 1983**
- 3 Tr 1515 WUAB-43 OH 293
- WCLQ-61 OH
- Pittsburgh 40, 53
- Es 1530-1800 WPET-2 FL 900
- January 1984**
- 1 Tr 0030 Philly U's
- 7 Es 1210 Unid-2; PBS
- 1223 MUF to ch.4
- 1230 KNCS-2 KS 1100
- KQTV-2 MO t
- 1247 KJRH-2 OK t
- 1330 KUSD-2 SD
- Unid PBS ch.2; not KUSD
- 21 Tr 0900 Pittsburgh 40,53
- WNBO-45 OH
- 23 Tr 1930 WNJS-23 NJ
- 27 Tr 0029 WKBN-27 OH t
- February 1984**
- 4 Tr 0800 WCCB-49 PA
- 1655 WYAF-29 PA
- Richmond 23, 35
- 5 Tr 0030 WNJS-23 NJ
- February 1984**
- 11 Tr 1630 WPMT-43 PA
- 12 Tr 0225 WXXE-8 VA
- 0230 WGAJ-8 PA 73
- February 1984**
- 12 Tr 1150 Pittsburgh 53, 40
- Es 1235-1245 Unids ch.2
- February 1984**
- 12 Tr 1225 WPMT-43 PA
- 1300 Philly 17,29
- in most of the day.
- January 1984**
- 1 Tr 1523 WVIZ-25 OH
- 1525 WENS-10 OH
- 1530 WKYC-3 OH
- 1533 WAKR-23 OH
- 1536 WUAB-43 OH
- 1538 WCLQ-61 OH
- 1545 WFMJ-21 OH
- 1600 WQED-13 PA
- 3 Tr 1652 WPXI-11 PA
- 1711 WCMH-4 OH
- 1713 WHIO-7 OH
- 1718 WJKW-8 OH
- 1815 WDLI-17 OH
- 9 Tr 1000 WKEF-22 OH
- 1007 WPTD-16 OH
- 1009 WOSU-34 OH
- 1021 WHIZ-18 OH
- 1026 WTOL-11 OH
- January 1984**
- 9 Tr 1100 KDKA-2 PA
- 1518 WQED-13 PA
- 25 Tr 2118 WPTD-16 OH
- 2122 Unid-48; W
- 2125 WTJC-26 OH
- 2358 WTLW-44 OH
- Lima
- 26 Tr 0115 WNDU-16 t
- 0132 WKBN-27 OH
- 0200 WLFL-18 IN
- Lafayette
- 0207 WDTN-2 OH
- 0228 WTHR-13 IN
- Indianapolis
- 0239 WKRC-12 OH
- 0258 WPCB-40 PA
- 0303 WPTT-22 PA
- 0307 WBSW-5 OH
- January 1984**
- 26 Tr 0310 WPXI-11 PA
- 0416 WJAC-6 PA
- Johnstown
- 0425 WTTV-4 IN
- Bloomington
- February 1984**
- 15 Tr 2112 WHDH-24 OH
- 23 Tr 2330 WLYJ-46 WV
- Clarksburg
- 2333 WNPB-24 WV
- 2342 WPTT-22 PA
- March 1984**
- 15 Tr 0513 WKBD-50 MI
- Detroit
- 0515 WTVS-56 MI t
- 0518 WCPB-62 MI t

Eastern TV-DX

March 1984
15 Tr 0519 WTVO-13 OH Toledo
0557 WTVO-36 KY t
21 Tr 1722 WFIL-32 IL t
22 Tr 1557 Unid ch.50; SW 1600 WSEN-47 VA t
1920 CHEFT-25 ON t

Cunningham; continued---

March 1984
23 Tr 1711 Unid-19; PBS 2159 WKAS-25 KY Ashland
2202 WKMR-38 KY Morehead
24 Tr 1948 WPEO-42 OH

May 1984

March 1984
26 Tr 0511 WTVO-36 KY Lexington
1936 Unid-30; PBS
27 Tr 1941 WKBD-50 MI t
2046 WPSF-61 KY Ashland
1501 WTVO-36 KY

C.C.I. (UNIDENTIFIED DX)

Robert Grant, KDBEN
5775 Bishop
Detroit, MI 48224.
May, 1984.

Eleven new stations to report this time. Most of the new UHF were received with a CM 7' dish. I have it temporarily mounted on the top section of tower which is setting on the ground so it is only about 12' a.g. Hope to get it up to 50' soon. I now have the tower, the CM 7' dish, an HD-73 rotor and a Winegard PA-8275 amp. Still need the VHF ant. Has anybody put an antenna with a longer than 10' boom length on a Rohm HEX Tower? I would like to use a CM 1110. If anyone would like a WV TV Guide please send me your TV Guide and I'll send you one. Tropo on 1/25-1/26 was due to foggy conditions. WLFI in with good pic. On 3/15 WKBD was in with a pic almost as good as a local. Unid program in French on 3/22 seemed to be a high school quiz show, Canada?(Mike; I took the liberty of filling in your Unids with what I thought they might have been. It saved a little space.-wd) Hope to have tower and antennas up by next report and before the Es season. Good DX.

Ed Shepherd; Hickory, NC

This is not much of a report because the reception has been quite bad since the big storm front that moved through last week. Bad except for this morning. Before I explain about this morning let me tell you that I generally just scan UHF for tropo because there are stations on all the low-band VHF(except 6) in the general area and the cable interference is very bad.

I have one of those TV's that always comes on on channel 2 when you turn it on. This morning I turned it on expecting to see WFMY in Greensboro(about 100 mi.) which is always coming through loud and clear. What I got instead was a special report about the address the governor was about to give. A few minutes later the governor walked up to the podium and started his speech. Then the name flashed on the screen: Robert Graham. He's the governor of Florida. I assume I got a PBS from Florida but the only ones I know of are in Miami. Anyway, to make a strange story stranger, I flipped up to ch. 4 to see the nearest one fading out(WYFF, Greenville, SC) and a Spanish language broadcast fading in. The program was sort of like the Today Show(short interviews, male announcer, reading the news, a mariachi band, etc.) I could not get an I.D. on this channel and it was only in for about 1/2 an hour. (1045-1115 EST). The show had a digital readout in the lower left hand corner and they were on EST also.

If anybody out there picked up on this opening I'd really like to know and if possible I'd like to try and find out what these stations are. (Sounds like Cuba to me.-wd)

This is only the second time I've gotten Es here and the other time was last fall (Oct.) when I received CKPR in Thunder Bay, ON (ch.2)

If anything like this happens again I'll write. (I hope you do. I need more reports from that part of the country.-wd)

Logos from George Rogers

TAKE A FRESH LOOK!



TV unids:

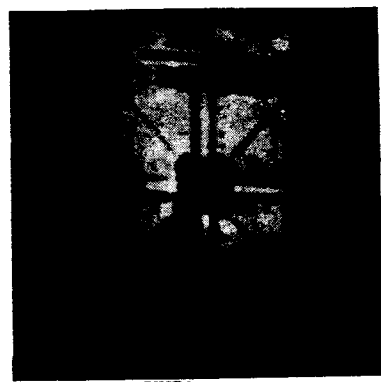
Robert Goodman, 2030 Haring Ave., Bronx, NY 10461.
1984: Sat 4 Jan Es ch 3 1350 EST-- promo- "Scene 3 News" (PTA: W, KDLH & WJMN in)
Jeff Kadet, Box 20, Macomb, IL 61455. (From Bethesda, MD):
1969: NO DATE Aug Tr or GW ch 7 0400 ELT-- round TP w/ "VV2 8979" and small writing at bottom (WMAL (now WJLA) off) (PTA: SE.) (see photo) (The only thing I am fairly sure of is that VV2 8979 is not the legitimate call sign of the station. If that were the case the station would be in India and their video standards are incompatible. VV2 8979 might be a phone number but I have always thought of 88 as Tuxedo and have never seen "VV". I think the small print might read: "THIS IS A #### TEST OF ##### EDUCATIONAL ####..." It might be an Experimental or Pirate station or leakage from CAIV or a spur from a transmitter in another service. In 2 years of doing this column this is the weirdest unid I have ever heard of, hi. -RG)

Nathaniel Ely, 1237 E. Johnson, #2, Madison, WI 53703.
1984: Sat 7 Jan Es ch 2 1327 CST-- FF full length cartoons. (PTA: PQ)
" " " Es ch 5 1330 CST-- // to ch2 above.

(as per the pix you sent me. This is definitely an SRC station. the ch2 is most likely CBFT and the ch5 CBAFTL. I don't know if CJRT has moved from ch3 to 2 yet and I don't know if CHAU has changed affiliation from SRC to TVA yet. this cartoon was // to CHEFT-54. -RG)
Sat 7 Jan Es ch 6 1401 CST-- FF sitcom that I (RE) saw on 3,5 & 6., //CFCM-4 (TVA) (tx fer pix proving my TVA stn. ch6 is probably CJPM. as for 3 & 5, I am baffled. -RG)
Thanks for the UHF skeds, Nate. As for your questions: I get Madison about once every two years except WISC-3 by aircraft scatter. K66BV is still on and strong but I do not know their fate as a CP has been granted for ch66 in Flint.

Jim Pizzi, P.O. Box 1778, Lovington, NM 88260.
1983: Fri 16 Dec Es ch 2 1718 MST-- "M\*A\*S\*H" (PTA: NEast)
" " " Es ch 2 1752 MST-- ad- "Belle Meade Plaza" (PTA: NEast)
1984: Thu 19 Jan Es ch 2 2020 MST-- "PM Magazine" into "M\*A\*S\*H" at 2030. (PTA: OR,NV,CA.)

PM unids:
Jim Pizzi, P.O. Box 1778, Lovington, NM 88260.
1983: Fri 23 Dec Tr 101.9 2341 MST-- "Continuous music KCLU (?)" (PTA: TX)
1984: Sat 14 Jan MS 98.1 1224 MST-- "...It's Supercountry...."



PHOTO

Recommended reading for TV/FM DXers: "VHF Propagation and Meteorology", page 30, March, 1984 QST.
Have a nice Es season. I won't be at Honor this summer but will probably be far enough away to work the locals by Es.
Worldwide TV-FM DX Association
Be At The Convention
COME TO JAMESTOWN, N.Y. THIS AUGUST 3rd to 5th! DON'T MISS THE TV & FM DX WORLD'S BIG EVENT! SEE YOU THERE!

# WESTERN TV-DX

Fred McCormack  
Box 5221  
State University Sta.  
Fargo, ND 58105

Deadline: 5- 4-84

May 1984

A rather uneventful DX period here and apparently elsewhere, but not so in Okinawa where James Stiles caught channel 0 from Brisbane, Australia on F2 along with a multitude of double hop Es loggings of Malaysia channels 2 and 3 and miscellaneous other exotic catches.

New \_\_\_\_\_ New Mode \_\_\_\_\_ Tent. - t Unidentified - unid S/On - + S/Off - =  
ID Color Bars - @ Unid Color Bars - % IHTP - φ Misc. Test Patterns - &

James J. Stiles, CFAO/NAFK, Box SU/LR ADP, FPO Seattle, WA 98770 (Okinawa) JST

Equipment: Sharp 26" PAL/SECAM/NTSC color model C261-SPN, AOR Ltd. AR-2001 25-550 MHz Scanner, Grove Power-Amp wide-band preamp, three element 50 MHz yagi beam, Grove Scanner Beam.

<u>January 1984</u>	18 Es 1630 R1 Vladivostok, Russia
29 Es 2200 A2 DWWX Quezon City, Philippines	24 Es 2100 E2 Malaysia (2 Es)
	28 Es 2030 E2 Malaysia (2 Es)
<u>February 1984</u>	E3 Malaysia (2 Es)
4 Es 1320 C1 Harbin, China	29 Es 1900 C1 unid China
1600 C1 Harbin, China	
1640 C2 Changchun, China	<u>March 1984</u>
5 Es 1230 C1 Harbin, China	1 Es 1815 A2 DWWX Quezon City, Philippines
1320 R1 Vladivostok, Russia	C1 unid China
1400 C2 Changchun, China	C2 unid China
1600 C3 Chanzhou, China	2100 E2 Malaysia (2 Es)
1615 C4 Fushun, China	2 Es 1815 C1 unid China
05 Shenyang, China	C2 unid China
R2 Komsomolsk, Russia	5 Es 2120 C2 unid China
A2 AFKN Seoul, Korea	15 Es 2015 E2 Malaysia (2 Es)
1800 C2 unid China	16 Es 2040 E2 Malaysia (2 Es)
1930 C1 unid China	17 Es 1945 C1 unid China
6 Es 1630 A2 DWWX Quezon City, Philippines	2015 E2 Malaysia (2 Es)
11 Es 1430 A2 DWWX Quezon City, Philippines	2045 E3 Malaysia (2 Es)
A4 DYBQ Bacolod City, Philippines	18 F2 1750 TV00 Brisbane, Australia
1930 R1 Vladivostok, Russia	21 Es 2030 E2 Malaysia (2 Es)
2030 C1 Harbin, China	E3 Malaysia (2 Es)
12 Es 1915 C1 unid China	23 Es 1930 C1 unid China
C2 unid China	24 Es 1600 C1 unid China
2200 E2 Malaysia (2 Es)	2130 E2 Malaysia (2 Es)
17 Es 2145 E2 Malaysia (2 Es)	25 Es 2030 C1 unid China

Surprisingly, the winter Es season did not end here in January. All Es openings reported for February and March lasted at least 30 minutes, with the openings on 5 and 11 February lasting 8 hours and 7 hours respectively. The double hop Es openings to Malaysia were numerous during the period, as was the case here in February and March of the two previous years. However, duration was shorter (generally under one hour) this year, and the propagation did not reach channel E3 as often. There was no TE propagation observed this season, quite a contrast with the previous two years, when several late-night openings (often extending beyond 2400) occurred in both February and March.

The biggest surprise, and what will probably be the best TV-DX logging of the year for me was the F2 opening to Australia on 18 March. The scanner alerted me to the opening at 1750 when audio broke squelch on 51.750 MHz, the audio for Australia's channel 0. "MASH" was in progress. At 1758, four brief local commercials were heard - the first one for "Australia Farmers Cheese." By 1800, the video portion of channel 0 (at 46.250 MHz) had gained sufficient strength to be viewable. There was only minor multi-path distortion, but no color. The audio signal rivalled that for the best Es openings of last summer. "MASH" continued after 1800, with more local commercials at 1810. At 1812, the station identified at "TV0" during a brief program promo. More local commercials followed at 1813 and 1826. "MASH" ended at 1828. Station identification and more program promos followed. Signal strength slowly dropped after 1830, but audio was still readable until 1845. A detailed reception report has been sent to the station with verification requested.

(Congratulations on the Australia logging! It certainly sounds interesting. I calculated the distance at around 4050 miles. Is that about right? fm)

## Western TV DX

May 1984

Nathaniel Ely, 1237 East Johnson St., #2, Madison, WI 53703 CST

Equipment: Quantum 1110, C.M. 7' dish with 4990 preamp at 61', 70'/30' runs of .412/RG-11 cable, H-D 73 rotor, 1980 System 3 with remote. Grove Scanner Filter III for UHF. Tower, QDMX MD-56 (free standing)

<u>February 1984</u>	16 tr 0625 WYTV 33 OH 460	<u>March 1984</u>	
	(Also WRHT-31 un	7 tr 0026	WKFE 22 OH 350
5 ms 0416 CKND2 2 MB 680	scrambled w/The	0059	WHIZ 18 OH 430
0442 & 0451 Channel 2,	Music Channel.)		WKOI 43 IN 315
The Waltons, prob CKTV	21 tr 0914 K41AD 41 IA 95	1245	WXGZ 32 WI 115
16 tr 0141 WUAB 43 OH 400	(Lansing KYIN-24)	15 tr 0047	WGRB 34 KY 160
0142 @WAKR 23 OH 415	K14AF 14 IA 120	0053	WKFE 22 OH 350
0608 WPMJ 21 OH 460	(Decorah KYIN-24)	1605	WSCO 14 WI 145
WNBO 45 OH 445	0958 W51AF 51 IL 120	24 tr 0130	KMEG 14 IA 360
(Also Toledo Us)	(LaSalle LPTV)	25 tr 0230	=KDLHt 3 MN
0648 WCLQ 61 OH 400	(Country Music TV)	30 au 0100	hash on low band

The best reception for February came in the mail, not via Es or tropo. Bill Draeb loaned me vintage copies of DX Horizons from the late 50's and early 60's. And too, Bill sent me photos of some of the best ms and high band tropo that I've ever seen. Both helped get me through the late winter "blahs." I am grateful.

DX-wise, it's been uneventful. If it weren't for some new stations in the area, it would have been real dull. Please note two new Iowa Public Broadcasting translators. Also note that the LPTV in LaSalle, IL does give a legal ID, though not always at the top of the hour. As I finish out this report, I've noticed more au hash on the lo band. Looks like it might put out some skip... 73, Nate

Fred McCormack, 135 Prairiewood Drive, Fargo, ND 58103 CST

Equipment: VHF: Broadmoor 9" black & white, Winegard CH-7078; UHF: Magnavox 19" color, Winegard CH-9095, Blonder-Tongue CMA-Uc pre-amp; Alliance rotor.

An extremely poor DX period has been observed here. The arrival of warm weather did not bring in the tropo as one might hope that it would. The only trace of tropo DX took place on March 25 at 0958 when KXNE-19 was seen from Norfolk, Nebraska at 320 miles.

Also seen this month was new on the air K58BP at Bowsmont, North Dakota, some 130 miles north of here. It was first identified on April 5 at 0551. This station translates KXJB-4 and the right to construct it was won by them in the first of the LPTV lotteries held by the FCC. Their application was mutually exclusive with one filed by Owens Broadcasting for an LPTV. Owens and KXJB were also applicants for the same channel at Milton, North Dakota, but in that case, Owens won. KXJB has petitioned the FCC to deny that award contending that Owens is not a serious applicant for that frequency, a supposition that I believe to be true.

Hopefully, next report will include some real DX, and hopefully many more reports from all of you western DX'ers.

Station logos from  
Richard Eddie



KESD  
TV8



PUGSLEY CENTER

SOUTH DAKOTA STATE UNIVERSITY  
Brookings, South Dakota 57007



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KMBC-TV  
Metromedia  
Kansas City

1049 Central Street,  
Kansas City,  
Missouri 64105





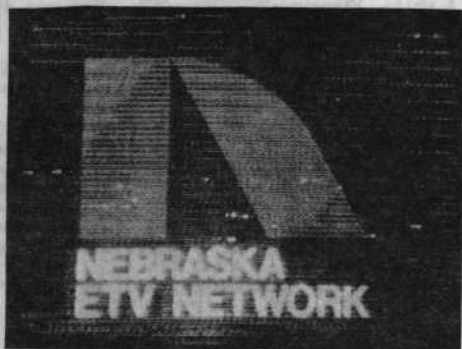
I'm happy to report that at the present Photo-News has a LARGE backlog of material, so be patient. Your photos will be in soon.



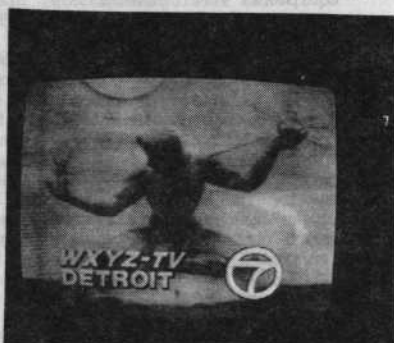
WBBM-2 Chicago, IL seen via skip at 1040 miles in 1983 (JP)



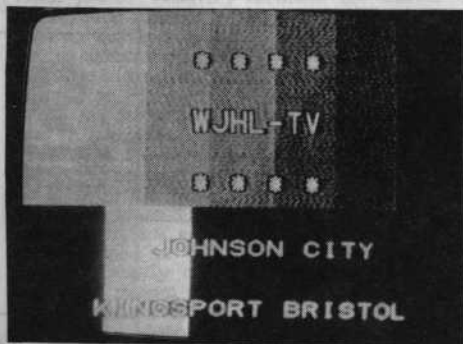
WDHO-24 Toledo, OH 310 mile tropo from August 1983 (NE)



KLNE-3 Lexington, NE 860 mile skip from 1982 (CP)



WXYZ-7 Detroit, MI 315 mi Tr from August 1983 (NE)



←-WJHL-11 Johnson City, TN Tr seen at 425 mi in 1981 (CP)

This months contributors are:  
Jim Pizzi (JP) - Lovington, NM  
Paul Gaines (CP) - Detroit, MI  
Nate Ely (NE) - Madison, WI

Dave

# MEL WILSON ON Es: A CLASSIC LECTURE

EDITOR'S NOTE: NO-ONE KNEW THE PHENOMENON OF SPORADIC E-SKIP AS WELL AS THE LATE MEL WILSON. ONE OF THE BEST LECTURES ON THE SUBJECT WAS GIVEN BY MEL AT THE 1970 WTFDA CONVENTION. OUR THANKS TO MEMBER BILL GRANT OF WORCESTER, MA FOR PROVIDING US WITH A COPY OF THIS.

The sporadic-E layer phenomenon has been observed for more than 40 years and still evades an explanation. This implies that the solution of the problem is not simple, but a combination of factors yet to be investigated.

Now, one of the problems associated with the study of the phenomenon is that there is no available means to make measurements other than by ionisondes and oblique radio propagation. The height of the sporadic-E layer is just too high for aircraft and balloons, and too low for satellites. Rocket probes go through the thin layer so fast that few meaningful measurements can be obtained. Since ionisondes are too far to cover an area in detail, it is you folks who are dedicated to the observance of oblique VHF propagation who are in the best position to solve some of the mysteries of this phenomenon. So I hope today to make you aware of the problems and to encourage you to try and find answers and ideas for future study. It is truly both a challenge and an opportunity for you to contribute to solutions to this fascinating phenomenon.

The term "sporadic-E layer" unfortunately includes many different types of abnormal E-layer. There are at least three major types: polar, equatorial, and mid-latitude.

The polar variety is directly associated with the solar wind, which is captured by the earth's magnetic field and occurs during auroral activity.

The equatorial type is directly associated with the electric currents flowing along the equator, and is usually a noontime phenomenon.

The mid-latitude type is the one in which we are interested, and the one which I will discuss today.

Sporadic-E layer, of the mid-latitude type, consists of a thin layer of ionization about 63 miles above the surface of the earth, and may extend many hundreds of square miles. How this ionization is formed is not fully understood, but the wind-shear theory suggested by Professor Whitehead of Australia is the most probable at this time. This concept in simple terms states that the neutral winds, flowing in opposite directions in the presence of the Earth's magnetic field, causes ionized particles to drift to the height of zero wind velocity--which is at the E-layer height. These ionized particles most probably originate from meteors entering the Earth's atmosphere. Radio propagation due to this sheet of ionization occurs only for the high frequency (HF) portions of the radio spectrum; for propagation at VHF to take place requires a "glob" or cloud of much higher ionization density. When this cloud of high intensity appears it is called "intense sporadic-E layer."

One of the most obvious characteristics of sporadic E-layer is that it occurs mainly in the summertime, with a minimum peak in the winter. It is not understood why this happens. Statistically, occurrences average on the solstice--so some connection with the sun seems obvious. Yet, no theory has been suggested that could explain this. Unlike the polar region sporadic-E, which we know occurs in both hemispheres simultaneously, it has never been possible to show that at mid-latitude this might also be the case. We do know, however, that electric currents flow along the lines of the magnetic field--and this could be a mechanism for linking the two hemispheres. In any case, this characteristic remains a mystery.

Another obvious characteristic is that statistically it occurs in the morning and afternoon, although not necessarily on the same day. The fact that it occurs about 10 a.m. and 6 p.m. local time again implies the influence of the sun. But no one yet has been able to explain this satisfactorily. Since these times are not centered at noon, the solution may have to do with a delayed action, such as wind directions, due to the heating effect of the sun. This characteristic also remains a mystery. An intense sporadic-E layer cloud first appears over the interface of two large, different air masses--and I'll call this location a "birthplace." Since there is no known means of producing new ionization, the intense cloud must be created by mechanically concentrating ionization that already exists.

I would like to suggest a mechanism by which this intense cloud could be formed. We know that different air masses do not mix; but the warmer air slides up over the cooler air. Such action, due to friction, causes an electric potential to be generated. If we consider the earth and the sporadic E-layer sheet as plates of a condenser, then a high electric potential between them will develop a physical force which would pull the sporadic-E layer sheet downward in the form of a dimple or small depression. If this happens, a lower pressure is developed over the smaller area which then causes a wind in the ionized layer tending to move the surrounding ionization into the depression--and thereby cause a greatly increased ionization density. The wind this generated would probably be counter-clockwise, much like the cyclones in our weather patterns, and thus lead to a form of turbulence.

If the depression formed is pulled down into a region of strong neutral winds, a turbulence will be formed--which could explain how a moving cloud is generated and be blown from the birthplace by the wind as a moving intense "blob." This may be likened to a stick placed in a moving stream of water. If the water is moving fast enough, eddies are formed, which move downstream from the original turbulence. When the velocity is reduced, the eddy dissipates--and this is what happens to a moving intense sporadic-E layer cloud. The data show that the moving cloud does stop and then disappears; if more than one moving cloud is generated, they usually are spaced about a half hour apart. This results in hearing the same stations two or more times during an opening. Though remember, due to the geometry of the wave path, the stations may be received less than a half-hour spacing.

Moving intense clouds over the eastern half of the country travel to the northwest at about 180 miles per hour. They usually continue on such a path until they reach some latitude which seems to be consistent on any particular day. This probably is due to the fact that wind driving the cloud diminishes, and the cloud stops and dissipates. Statistically, the majority of clouds dissipate at about 45° north latitude--although some exceptions have been found well above 50° north latitude. In a practical sense, this means that moving clouds spawned by birthplace formed at more southerly latitudes will continue longer and will result in a greater area of received signals than those formed at higher latitudes. For example, clouds formed at 30° north latitude could last for four, five, or six hours--or more; whereas a cloud formed at 40° north latitude might dissipate within two hours.

One very important feature of a birthplace is that it presents a means of coupling to a sporadic-E layer sheet--and using the sheet as a duct. Sporadic-E layer ducting is not normally considered for VHF propagation; but it probably is not too different from ducting during the negative day or nights of aurora. The coupling angle however, is very critical, and from the data seems to be about 27 or 28 degrees. Because of this, the location relative to the birthplace from which this coupling is possible is very restricted. This type of propagation is possible because of the bending of the wavefront, due to the lower velocity of the wave in the ionized media. Once the signal is in such a duct, it requires a second birthplace to exit; otherwise, it continues to the end of the sporadic-E layer sheet and goes out into space, since it can't get back to Earth. This type of propagation is often found before the MUF of the intense sporadic-E layer birthplace reaches the frequency of the station heard. The distance between the station and the observer depends only on the spacing of the two clouds; and this can result in relatively short distance. Remember however, that low-angle radiation antennas cannot be used for such coupling.

TO BE CONTINUED NEXT MONTH

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