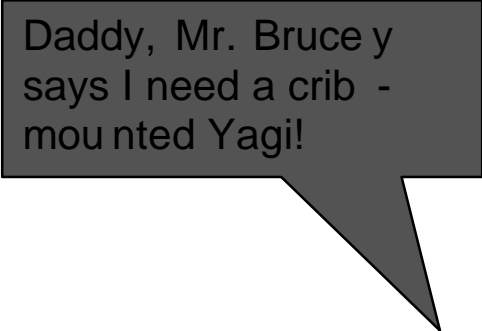


# Vhf-UhfDIGEST

The Official Publication of the Worldwide TV-FM DX Association

AUGUST 2004

The Magazine for TV and FM DXer  
(and little DXers, too!)



Daddy, Mr. Bruce y  
says I need a crib -  
mounted Yagi!

**JULY 6<sup>TH</sup> HIGH BAND E SKIP PHOTOS**  
You'll find them in this month's Photo News!  
Here's YOURchance to see what high band Es looks like!

**Meteor Shower DX in August...Be Ready!**

TV AND FM DXING WAS NEVER SO MUCH F

# THE WORLDWIDE TV-FM DX ASSOCIATION

*Serving the UHF-VHF Enthusiast*

THE VHF-UHF DIGEST IS THE OFFICIAL PUBLICATION OF THE WORLDWIDE TV-FM DX ASSOCIATION DEDICATED TO THE OBSERVATION AND STUDY OF THE PROPAGATION OF LONG DISTANCE TELEVISION AND FM BROADCASTING SIGNALS AT VHF AND UHF. WTFDA IS GOVERNED BY A BOARD OF DIRECTORS: DOUG SMITH, GREG CONIGLIO, BRUCE HALL, DAVE JANOWIAK AND MIKE BUGAJ.



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ANARC Rep: **Jim Thomas**, *Back Issues:* **Dave Nieman**,

**AUGUST 2004**



Finally! For those of you online with an email address, we now offer a quick, convenient and secure way to join or renew your membership in the WTFDA from our page at:

<http://fmdx.usclargo.com/join.html>

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## CONTENTS

Page Two	2
Mailbox	3
TV News...Doug Smith	5
Book Review...Doug Smith	8
Photo News...Jeff Kruszka	9
Eastern TV DX...Matt Sittel	14
Western TV DX...Victor Frank	22
Northern FM DX...Keith McGinnis	27
Satellite News...George Jensen	48
RF Technologies (DTV Status)	49
Translator News...Bruce Elving	51
Editors/Submissions	55

First, the bad news. As I write this, Adam Rivers is vacationing in Arizona with his family and an erratic laptop, so there's no FM News this month. Doug Smith had computer/word processing problems that resulted in his being able to salvage a three page TV News this month. And I have no idea what happened to Southern FM.

But the good news is that Keith had so many Es reports he had to hold back quite a few and we still hit 56 pages so we're set for this month and next month. I'd look for a big issue next month also. See you then! -Mike

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# The Mailbox

P.O. Box 501, Somersville, CT USA 06072  
MIKE BUGAJ MBUGAJ@SNET.NET

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## AUGUST 2004

Well, did everyone have a great E skip season? What a year. June was a bust, for the most part. E skip went crazy here in the east from July 4<sup>th</sup> to July 9<sup>th</sup>. Then it ended. The question last month was whether the season could be saved and it was saved, to some extent. At least there was some FM Es in July, even if for only a few days here in the northeast. As we approach the end of July, the days fly by quickly and it seems that we've closed the books on the 2004 Es season.

Let's talk about that week in July from the 4<sup>th</sup> to the 9<sup>th</sup>. That was one crazy week. One day delivered huge amounts of short-hop E skip to many people. DXers who had never heard much from Canada via Es had French all over their FM dials. Bermuda and the Bahamas also made appearances and became new countries logged for more than one FM DXer.

Then there was the 6<sup>th</sup>. The MUF went through the roof and TV Es was seen by a few DXers including myself up to channel 13!! Tim Katlic posted pictures of his catches on the internet. I also posted my pictures of KATV 7 Little Rock on my website along with a PBS station on channel 9, likely KETG. We should have the photos for you in Jeff's column here in this VUD. All in all it was a crazy week and we all wish it would have lasted longer.

## MEMBERS AND MORE

June and July are always the busiest months for renewals. I've got a long list this month so let's get started.

This month let's welcome to the Club **Joe Veldhuis**. Joe lives in Grand Haven, MI and just bought himself a Jerrold VHF Fringe antenna. Next is **Fred Newlin**. Fred lives in Lewiston NY. Lewiston is a pretty little town on the Niagara River. We drove through Lewiston last year on our way back from Ft. Niagara Park. Fred is into FM DXing. And lastly we have **Donna Coleman**. Donna lives in Rural Hall, NC. Welcome Joe, Fred and Donna! Hope you all enjoy it here!

Renewing for another year are **Joseph Esser**(NJ), **Ralph Strobel**(IN), **Bob**

**Timmerman**(IN), **John Zondlo**(OK), **Doug Smith**(TN), **Steve Rich**(IN), **Ronald Purdue**(MN), **Eric Sundius**(AZ), **William Lindsay**(WA), **David Sinclair**(BC), **Jeff Kruszk**(LA), **Tim McVey**(VA), **Mike DeRoo**(KS), **John Ebeling**(MN), **Jeff Lockwood**(FL), **John Marx**(WI), **Walter Patton**(ON), **Peter George**(MA), **Alan Michalek**(MA), **Bob Rush**(MA), **Tim Cronin**(IL), **Mike Lapinski**(NY), **Paul Swearingen**(KS), **John Johnson**(MT), **Niel Wolfish**(ON), **James Alexander**(NJ), **Greg Coniglio**(NY), **David Austin**(SC), **Rick Lucas** (NY), **Charles Bernth**(NY) and **Mike Lazaro**(NY). And returning to us after a short absence is **Steve French** in Hopkins, MN. Thank you all for showing your support of the WTFDA. After all, it's **YOUR** club!

You're probably looking at this month's VUD cover and wondering who the cute little girl belongs to. The pretty face belongs to David Williams' (argh) (OR) three year old daughter Sequoia. Dave wrote me that she's been out DXing with him since she was a baby. Dave says her younger sister Aurora does that now "and likes to shut down the computer (and use any handy remote she can find." A few of us can relate to that.

I also needed a caption to run with that photo but drew a blank and threw it open to those on the WTFDA list. I had *plenty* of suggestions for the photo, believe me. The caption on the cover came from Jeff Kruszk. I had a very tough time picking a winner and because of that, I'll print ALL the entries I got so you can take some White-Out and erase what I put there and pick your own caption if you don't like my pick. And remember, these are *all* real entries. I did not make up these submissions. Honest. Here we go:

1. Gimme Gimme Gimme FM and TV signals from everywhere!
2. The FCC and the CRTC should disband themselves!
3. Daddy, I want one of those for Christmas!
4. Daddy, can't we go to the seaside this year for a change - PLEASE!
5. Daddy! You hardly left any for ME to color. (this could easily be a runner-up)
6. Daddy, what does SCS mean?
7. Thanks, Daddy! This'll really come in handy when I'm DXing in my crib.
8. These are some neat maps, Daddy!
9. Hey Daddy, I think I got double-hop to Mexico this morning while you were gone! (honorable mention).
10. I know

that station I caught on 92.5 is from Mars! Where's the listing for it?! 11. Despite being in his third decade publishing the FM Atlas, Dr. Bruce Elving still maintains that youthful appearance (this one I had to think about for quite a while until I got it). 12. Hey, Daddy, can you help me find a really hot Hip-Hop station? 'Ya know, something really Crunk! (when I find out what Crunk means, I'll let you know) 13. I don't see the Barney network listed in this book..... 14. MORE translators? The band will be completely full by the time I'm old enough to send out QSL requests! 15. It's mine now. No way am I giving this thing back to daddy! 16. This thing's more stuffed than my belly. 17. Where's Radio Disney in this thing? 18. Bah-Humbug. I can't find my baby room monitor listed. 19. Es on channel 13? Wow! 20. Negative HAAT? And I thought I was short! (think about it). 21. And I thought a translator was what they needed when I asked for more Fruit Loops. 22. I thought what I'm sitting on was a FM booster. 23. Wow dig those crazy calls! 24. The future of DXing.. starts here! And finally, number 25... Daddy, Can I Dx when I grow up? Thanks everyone for giving it a try!

**Charles Burnham**(NY) noticed the Indian head TP in the last Mailbox and wrote "If our members are interested in seeing a nice collection of old test patterns, have them check out [www.ggninfo.com](http://www.ggninfo.com) and click on test patterns. I have a personal collection of about 80 TPs and Norman has put a number of them on his website. He also has some very interesting links to other radio/tv web sites. I think our readers will find the web site very interesting and informative." I agree, Charles.

Could it be that enough DTV DXers have seen enough DTVs by E skip that the novelty is wearing off? Personally, I can't see how, but the reception on July 14<sup>th</sup> of WTWC-DT 2 Tallahassee by **Steve Rich** went mostly unnoticed. Steve saw enough of a partially decoded picture from WTWC to ID the station. Hey, this time it *wasn't* KOTA! Steve wrote "It definitely was an unexpected catch but very exciting once I saw the PSIP readout on my receiver. I sent the CE an email explaining the catch along with exact readouts that I saw, plus I sent him my two blurry digital pics I was able to get."

**Bob Timmerman** asked a question about the official turn-off date for analog television. Here's what **Doug Smith** said about that: "Theoretically, the end of 2006. Most believe the conditions that allow extension of that date will be met and analog will live a while longer. However, the FCC is considering a ruling that would change the definitions (Congress left them room to do that, probably unintentionally) and might make it possible to close analog on schedule.

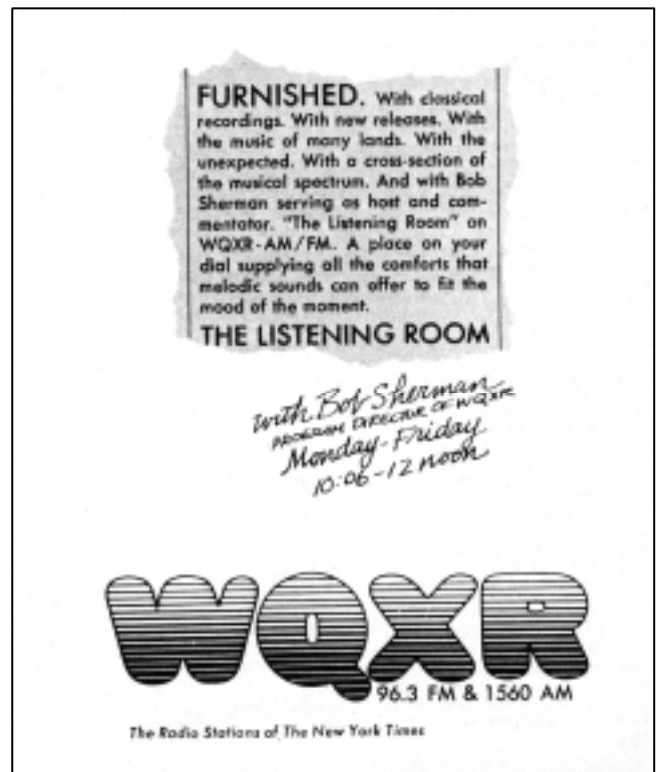
I have to think any move to close analog at the 2006 deadline would be met with a

legal challenge, if not from anyone else from LPTV interests. Rules for the DTV transition by LPTV stations and translators have not yet been set. If they were set today, it would be difficult for many stations to complete the necessary paperwork and get a digital signal on the air by the end of 2006."

### TURKS AND CAICOS FM STATIONS

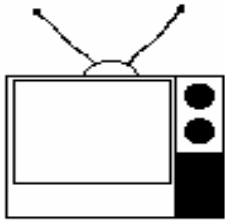
As mentioned before, this July's e-skip brought signals from Bermuda, the Bahamas and for **Andrew MacKenzie**(NY), the Dominican Republic on 88.1. These receptions prompted **Bob Cooper** to publish this list of stations on the Turks and Caicos islands. Keep this list for future reference.

- 88.7 Island Music 100w
  - 90.5 Progressive rock 250w
  - 92.5 Hit List 2kw(9/04)
  - 93.9 Classic rock 35w
  - 99.9 Country 35w
  - 101.5 Fox news(radio) 35w
  - 101.9 R.Turks and Caicos Grand Turk
  - 102.5 Oldies R&R 35w
  - 103.9 R.Turks and Caicos North and Middle Caicos
  - 106.3 gospel unk
  - 107.7 R.Turks and Caicos Providenciales
- All but 101.9 and 103.9 are on Providenciales.



WQXR BACK IN THE 1560 and 96.3 DAYS

Here's a blast from the past...an ad for WQXR AM and FM in New York, the radio stations of the New York Times with PD Bob Sherman from 10:06 to noon. Wow. I remember WQXR AM/FM and I bet some of you do too! Anyone know in what period this occurred, because I haven't a clue. Take care and see you in September. -Mike



# TV News

Douglas E. Smith  
1389 Old Clarksville Pike  
Pleasant View, TN  
37146-8098  
[w9wi@w9wi.com](mailto:w9wi@w9wi.com)

<http://www.w9wi.com>

## August 2004

### Abbreviations:

AF	Applied For (a new station)	PG	Power change granted
Aux	Auxiliary (backup) transmitter	PR	Power change requested
CC	Callsign change	QC	Channel (?frequency??) change on the air
CL	City-of-license change	QG	Channel change granted
DE	License/permit deleted	QR	Channel change requested
FC	Programming (?format??) change	RE	Reinstated (previously-dismissed app.)
FTP	Failure to Prosecute	ROA	Request of Applicant
GA	Granted amendment (to table of channel allotments)	SI	Off the air (?silent??)
LC	License to Cover	STA	Special Temporary Authority
NS	Permit granted for new station	XC	Transmitter site changed
NW	New station on the air	XG	Transmitter site change granted
PA	Proposed Amendment	XR	Transmitter site change requested
PC	Power (and/or tower height) change on the air		

### News:

(full-power analog stations in **bold face**; LPTV and translators in regular type; full-power digital stations in **bold italics**)

#### Alabama:

Dothan 53 W53CQ NS 20kw,  
31-13-39/  
85-21-10

#### Alaska:

Anchorage 19 K19FU NS 2.5kw,  
61-20-11/  
149-30-48

#### Arizona:

Cottonwood 51 K58AV QC from ch. 58,  
2.9kw

#### California:

Fresno 40 KVPT-DT NW 250kw/698m  
**Huntington Beach** 50 KOCE-TV **AF 5000kw/330, 33-58-19/  
117-56-57 (use old main as aux)**

Jones Valley 4 K04PQ XC 40-43-31/  
122-14-08

Mammoth Lakes 39 K39HH NS 1kw,  
37-38-55/  
118-58-10

Redding 4 K04PY NS 10w,  
40-39-14/  
122-31-12

#### **San Bernardino** 26 **KVCR-DT PR 475kw/510m**

San Francisco 40 KMMC-LP PG>42kw

Santa Barbara 41 KVMM-CA PC>40kw,  
34-27-57/  
119-40-38

Van Nuys 28 KSKJ-CA PC>3.8kw,  
34-17-03/  
118-28-17

#### Colorado:

**Boulder** 14 **KTFD-TV XR 39-40-17/  
105-13-06**

Denver 45 KHDT-LP QC from ch. 55,

**Fort Collins** 21 **KFCT-DT PR>1000kw**

Holyoke 27 K27IH NS 3.714kw,  
40-30-37/  
102-21-33

Lower Fryingpan River 11 K11LM PC>40w,  
39-21-12/  
106-41-00

Mt. Morrison 23 KDEO-LP PG>35kw; CL from Aurora

Pleasant Valley 28 K28IX NS 214w,  
40-30-35/  
102-06-51

Redstone 4 K04HP PC<40w,  
39-14-20/  
107-13-02

#### Connecticut:

Hartford 24 WEDH PR>1200kw/517,  
41-42-13/  
72-49-57

#### District of Columbia:

Washington 47 WMDO-CA PC>24kw

#### Florida:

Key West 8 WGEN-TV CC from WVIB

Key West 22 WSBS-TV CC from WDLF-TV

Miami, Etc. 21 WSBS-CA CC from WVEB-CA

Panama City 5 W05CP NS 3kw, 30-19-42/85-41-22

Panama City 34 W54CU QC from ch. 54,  
22.1kw, 30-11-41/85-37-51

Tampa 49 WRMD-LP PR>128kw

#### Georgia:

**Atlanta** 69 **WUPA NS 800kw (aux)**

Blue Ridge 22 W22CZ NS 4kw, 34-52-14/84-20-48 (Daystar)

Macon 50 W50DA QC from W52CL

Savannah	38 W38DP	NS 20.6kw, 32-02-43/81-07-23	Gothenburg	45 K45II	NS 150kw, 40-58-30/100-16-19
<u>Idaho:</u>			Lincoln	56 KWAZ-LP	FC to Azteca
Bonniers Ferry	51 K27HA	QR from ch. 27, 3kw	Omaha	57 KAZO-LP	FC to Azteca
Idaho Falls	39 K39HJ	NS 700w, 43-31-00/112-00-40	<b>Omaha</b>	<b>38 KXVO-DT</b>	<b>PR&gt;600kw</b>
Pocatello	51 K51HU	NS 1kw, 43-11-30/112-20-41	<u>Nevada:</u>		
Pocatello	41 K41JC	QC from K15DG, 16kw	Las Vegas	67 KLVD-LP	CC from K67GB
Preston	50 K50IE	NS 1.8kw, 41-53-00/112-04-42	Pahrump	31 K31HV	NS 45kw, 36-11-24/116-06-59
Preston	46 K46HW	NS 1.8kw, 41-53-00/112-04-42	Pahrump	14 K14MA	NS 10kw, 36-12-17/115-57-50
<u>Illinois:</u>			Panaca	43 K43DS	PG>6kw
Arlington Heights	34 W34CK	PR>48kw	<b>Reno</b>	<b>7 KRNV-DT</b>	<b>NW 16.1kw/879, 39-18-57/119-53-02</b>
Quincy	34 WQEC-DT	NW 58.6kw/153m	<u>New Mexico:</u>		
<u>Iowa:</u>			Alamogordo	56 K56IU	NS 9.99kw, 32-56-42/105-56-47 (TBN)
Spencer	43 K43IX	NS 1.4kw, 43-10-37/95-08-01 (TBN)	Deming	35 K35HB	QC from K57AW
<u>Kansas:</u>			Roswell	64 K64GO	NS 900w, 33-23-35/104-37-26
Chanute	39 K39HI	NS 6kw, 37-41-15/95-24-49	<u>New York:</u>		
Chanute	27 K27GS	PR>9.7kw, 37-41-00/95-35-40	<b>Binghamton</b>	<b>4 WIVT-DT</b>	<b>NW 1.5kw/263m</b>
<b>Lawrence</b>	<b>36 KMCI-DT</b>	<b>NW 500kw/291m, 38-58-42/94-32-02</b>	Elmira	30 WTTX-LP	CC from W30AA
Parsons	33 K33HW	NS 25kw, 37-17-34/95-24-43	New York	49 WNYZ-LP	QC from ch. 33, 25kw, 40-44-50/73-56-38; CL from Darien, Conn.
Wichita	49 KTQW-CA	QC from ch. 53	<u>North Carolina:</u>		
<u>Kentucky:</u>			<b>Hickory</b>	<b>14 WHKY-TV</b>	<b>PG&gt;1285kw; PC; PR&gt;2000kw</b>
Louisville	24 W24BW	PC>21.8kw, 38-21-55/85-50-24	<b>Wilmington</b>	<b>46 WWAY-DT</b>	<b>NW 800kw/590m</b>
<u>Maine:</u>			<u>North Dakota:</u>		
<b>Bangor</b>	<b>14 WVII-DT</b>	<b>PR&gt;261m</b>	Dickinson	42 K42FY	FC to KBMY
<u>Maryland:</u>			Dickinson	38 K38HA	FC to KNDX
Salisbury	69 WOAW-LP	CC from W69EH	Williston	44 K44HR	FC to KMCY
<u>Michigan:</u>			<u>Ohio:</u>		
<b>Flint</b>	<b>52 WFUM-DT</b>	<b>NW 200kw/258m</b>	Cambridge	44 WOUC-TV	PC>871kw/390m
<u>Minnesota:</u>			Cleveland	53 WCDN-LP	CC from W53AX
Mankato	28 K28IO	NS 10kw, 44-06-40/94-13-50	Oxford	28 WPTO-DT	NW 400kw/276m, 39-07-19/84-32-52
Minneapolis	62 WDMI-LP	CC from W62BD	<u>Oklahoma:</u>		
St. Cloud	13 WCMN-LP	reported SI	Tulsa	26 NEW-DT	PA from ch. 63
<u>Mississippi:</u>			<u>Oregon:</u>		
Meridian	40 W40BX	NS 700w, 32-18-44/88-41-33	Chiloquin	69 K69GC	CX
<u>Missouri:</u>			Chiloquin	67 K67FB	CX
Joplin	20 KJJO-LP	CC from K20GA	Chiloquin	63 K63EL	CX
Marshfield	17 K17FU	QC from K68EL, 36.3kw, 37-19-01/92-57-51	Chiloquin	61 K61FG	CX
St. Louis	64 KDTL-LP	CC from K64DT	Klamath	48 K48IW	NS 12.5kw, 42-59-48/121-37-57 (KBLN-30)
<u>Montana:</u>			<b>La Grande</b>	<b>13 KTVR</b>	<b>PG&lt;65kw/775m</b>
Billings	30 K30IB	NS 3kw, 45-39-52/108-46-10	Medford	25 K52EE	QG from ch. 52, 18kw, 42-03-53/122-28-41
Bozeman	56 K56IM	NS 40kw, 45-39-33/111-03-22	Portland	38 KKEI-CA	PR>150kw, 45-31-21/122-44-45
Butte	22 K22HD	NS 113kw, 46-20-17/112-17-30	Tillamook	26 K26HS	NS 14kw, 45-27-59/123-55-11 (TBN)
Red Lodge	39 K39HD	NS 807w, 45-07-19/109-16-11 (KTVQ-2)	<u>Rhode Island:</u>		
<u>Nebraska:</u>			Block Island	17 WPXQ-DT	PR 1000kw/228, 41-29-41/71-47-06
Bassett	52 K52JH	NS 1kw, 42-20-05/99-29-03	<u>South Carolina:</u>		
Columbus	57 K57HV	FC to Azteca	Charleston	35 WMMP-DT	PG<46kw/583m
			<u>South Dakota:</u>		
			<b>Aberdeen</b>	<b>17 KDSD-DT</b>	<b>PG&lt;36kw, DA</b>
			Eagle Butte	25 KPSD-DT	NW 31kw/489m, 45-03-14/102-15-47

Fort Thompson	54 K54JI	NS 1kw, 44-07-45/99-26-11	Richmond	48 WRID-LP	CC from W48BI
Frankfort	57 K57JM	NS 1kw, 44-54-30/98-19-41	Tazewell	21 WJDW-LP	CC from W21CG
Gregory	54 K54JJ	NS 1kw, 43-07-41/99-26-02	<u>Washington:</u>		
Pierre	21 KTSD-DT	NW 586kw/457m, 43-58-05/99-35-40	Joyce	53 K53CN	CX
<u>Tennessee:</u>			Kennewick	29 K29FF	QC from K57HF
Acton	69 W69DB	XR 34-40-51/88-20-53	Kennewick	23 K23FU	QC from K62EM
Chattanooga	6 WOOT-LP	PG>1.4kw, 35-12-26/85-16-52	Medical Lake	51 NEW-DT	PA
Holladay	54 W54BU	XR 35-49-15/88-10-08; CL from Jackson	Yakima	49 K49GF	QC from K56EG
Jackson	35 W35AH	PG<7.9kw	Yakima	43 K43GY	QC from ch. 17, 18.6kw
Nashville	48 W48DF	PG<20kw	Yakima	39 K39FU	QC from K60EB
Nashville	23 WNAB-DT	PC>350kw	<u>West Virginia:</u>		
<u>Texas:</u>			Beckley	2 W02CN	NS 250w, 37-47-06/81-06-48
Amarillo	39 K39HF	NS 2kw, 35-16-27/101-34-39	Lewisburg	8 WVNS-DT	granted permission to drop DA
Amarillo	29 K29GD	NS 12kw, 35-12-25/101-50-18	<u>Wisconsin:</u>		
Beaumont	39 K39HG	NS 100kw, 29-59-39/94-13-08	Eau Claire	6 K06OA	NS 900w, 44-55-43/91-32-32
Brownsville	64 KBDF-LP	CC from K64FM	Eau Claire	41 W41CX	NS 8w, 44-49-47/91-26-48 (TBN)
Brownwood	17 KIDU-LP	PG>10kw, 31-52-12/99-07-13	<b>Fond du Lac</b>	<b>44 WMMF-DT</b>	<b>PG&lt;700kw/195m, 43-26-20/88-31-29</b>
Cooper	49 K49II	NS 150kw, 33-31-01/95-38-12 (Daystar)	Grantsburg	24 W24CL	PR>3.4kw, 45-50-29/92-28-15; <b>PG;</b>
Corpus Christi	38 960111LP	PR<280m, 27-45-23/97-36-25			<b>PC</b>
Corpus Christi	34 KYDF-LP	QR from ch. 64, 9kw, 27-47-59/97-23-30	Milwaukee	10 WMVS	PR>223kw/339m
Eden	23 K23HA	NS 3kw, 31-15-13/99-50-41	<u>Wyoming:</u>		
<b>Fort Worth</b>	<b>19 KTVT-DT</b>	<b>PR&gt;695kw</b>	Casper	31 K31HT	NS 10w, 42-44-26/106-21-43
Jasper	54 K54JK	NS 9kw, 30-59-48/93-58-55 (TBN)	Cheyenne	13 KCHY-LP	XR 41-09-34/104-43-21
Mcallen	57 KNDF-LP	CC from K57FE	Guernsey	27 K27IB	NS 5kw, 42-14-20/104-44-22
Paris	48 K48IZ	NS 5kw, 33-39-29/95-33-14			
Port Arthur	26 K26HP	NS 4kw, 29-53-00/93-55-57			
San Antonio	31 KVDF-CA	CC from K31EX			
Truby	45 K45IG	NS 150kw, 32-39-49/99-51-18 (Daystar)			
Tuscola	36 K36HF	NS 50kw, 32-22-21/99-47-42			
<u>Utah:</u>					
Alton	38 K38IN	QC from K36FN			
Logan	50 K50IB	NS 15kw, 41-52-18/111-48-34			
Orangeville	15 K15GQ	NS 4kw, 39-12-36/111-08-30 (KUED-7)			
<u>Vermont:</u>					
Burlington	30 WBVT-CA	CC from W30BL			
Manchester	2 WVBK-CA	PC<5w, 43-12-46/72-56-03			
<u>Virginia:</u>					
Danville	40 WYAT-LP	QR from ch. 55, 150kw			

Thanks to Matt Sittel, Ronald Purdue, and Michael Frank for information appearing elsewhere in this month's column.

This month's column is partial. A word-processor crash overwrote a nearly-complete copy with a mangled mess that the program then refused to re-open. I had a few source files left to create a partial column. The lesson is... when editing a large document, save it with a different name each time you save!

Ronald Purdue mentions that, as of early July, KMWB-DT (22) Minneapolis is on at about 20kw but will increase to full power of 1000kw in the near future. KIMT-DT (42) Mason City is at 117kw but will also increase to 1000kw soon. And KYIN-DT (18) Mason City is not yet on; they will begin with low power, increasing at some future time. (KYIN currently has a permit for 500kw; they don't have a low-power authority right now, but those are usually granted fairly quickly)

## BOOK REVIEW

***Beyond Line of Sight:***  
***A History of VHF Propagation from the pages of QST***  
By the staff of QST; edited by Emil Pocock, W3EP

The subtitle says it all. All of the propagation modes we use in the WTFDA were first discovered by hams- sometimes, dramatically! This book accumulates the pioneer articles in VHF/UHF DX:

- ⑩ Ross Hull's 1935 work on tropo: *"...it appears that an extensive sub-normal lapse rate anywhere in the region between 300 and 2500 meters is accompanied by a high 60-mc. signal level over the path between West Hartford and Blue Hill."*
- ⑩ The first ever report of sporadic-E, also written by Ross Hull: *"The next terrific jolt was a letter from W1CBJ at Derry, N.H., telling of a two-way contact between his station and W8CYE at Dayton, Ohio."* (referring to a 56MHz contact; many other contacts between the Midwest and East Coast were reported in the same opening. Until then, distances of more than 50-60 miles were considered exceptional on 56MHz.)
- ⑩ The "Shower of a Lifetime", the November 1965 Leonids meteor shower.
- ⑩ *"I'm hearing you on fifty megacycles!"* - spoken by G6DH, England, to W1HDQ in Connecticut in October 1946. The British amateur was hearing WGTR-FM, Paxton, Mass. on 44.3MHz.
- ⑩ *"But this time, as soon as W6NLZ got his 75A3 on frequency with the 417A converter-- there was KH6UK!"* A 144MHz contact between California and Hawaii, the first over the duct that eventually yielded Sheldon Remington's Hawaii<=>Mexico FM loggings still recognized as the best tropo DX ever heard.

WTFDA is mentioned at least once, on page 48 but unfortunately at an old Milwaukee address! Several other items specifically mention VHF/UHF broadcast DX. Probably the most dramatic is Melvin Wilson (W1DEI)'s *Midlatitude Intense Sporadic-E Propagation*, from 1971 QST. It includes strip charts of the intensity of sporadic-E signals from WESH-2, WUSN-2 (now WCBD), WTVY-4, WOAI-4, and KARK-4, as received by sporadic-E in Pittsford, New York.

There were a few mileposts unexplainably missing. The 1976 California<=>Hawaii tropo duct, that reintroduced this path after 19 years of inactivity. The details of the first ever sporadic-E opening on the 220MHz band. Various attempts at trans-Atlantic work on 144MHz or higher.

I fear this review promotes Pocock's book as a work of history. It is, but to consider it that way would be a disservice. It's also an excellent reference to the DX modes we still enjoy today. I can highly recommend this publication!

***Beyond Line of Sight***

**By:** the staff of QST; edited by Emil Pocock, W3EP

**Published by:** ARRL 1992

**ISBN:** 0-87259-402-5

224 pages, US letter format

List price: US\$12

<http://www.arrl.org/catalog/?category=VHF%2FUHF%2FMicrowave&words=> to order, or call (203) 666-1541



August 2004

## STOP THE PRESSES! UNPRECEDENTED PHOTOS!

We interrupt our regularly scheduled column to present you with recent photos of **DTV E-SKIP** and **HIGH-BAND E-SKIP!** Unfortunately, I was away on vacation when the high-band stuff took place, but Tim Katlic of Rochester, NY (and DXing from Inlet, NY, in the Adirondacks) was fortunate enough to be at the right place at the right time. It happened on July 6<sup>th</sup>, a day that will go down in DX history. He was fortunate to be away from his local hi-banders at the time, and he had his video camera with him. At 6:55 pm local time, the MUF went above ch. 7 and stayed there for 25 minutes! Incredible!

Equipment: 1984 Sylvania 27" Color Television, Radio Shack 6-element FM antenna aimed SW on the upstairs balcony (no preamp), Canon PowerShot A70 Digital Camera.

Here's a series of 4 shots of the opening of WDAM-7's 6 pm newscast:



WDAM-7 Laurel, MS  
1141 mi Es seen 7/6/04  
@1900 EDT



WDAM-7 #2



WDAM-7 #3



WDAM-7 #4



WVUE-8 New Orleans, LA  
1258 mi Es seen 7/6/04  
@1855 EDT

It's strange seeing all of my semi-locals by E-skip!



WJTV-12 Jackson, MS  
1149 mi Es seen 7/6/04  
@1906 EDT

Hard to make out this last one, but the WLOX calls are lower right:



WLOX-13 Biloxi, MS  
1203 mi Es seen 7/6/04  
@1911 EDT

Tim also saw WAKA-8 Montgomery, AL, WTOK-11 Meridian, MS, and tentative WTVA-9 Tupelo, MS and WALA-10 Mobile, AL, but not enough for a photo. Tim wasn't the only one to get in on this once-in-a-lifetime (or at least decade) skip. Mike Bugaj of Enfield, CT also witnessed the cosmic event:



KATV-7 Little Rock, AR  
1176 mi Es, seen 7/6/04  
@1900 EDT  
*"Three words: OMG!"*



KATV-7 #2



KETGt-9 Arkadelphia, AR  
Seen 7/6/04  
*"almost certainly them"*

And now the first decoded photos of any DTV station received via E-skip, both of KOTA-DT-2, Rapid City, SD, and both from residents of Kentucky! The first is from Glen Hale of Georgetown, KY:

Equipment: Sylvania SRZ-3000 tuner, Delhi VU-935SR VHF/UHF antenna, Winegard AP-8700 preamp, Dell W1700 TV, Canon A70 digital camera.



KOTA-DT-2 Rapid City, SD  
1052 mi Es seen 5/26/04

And here's one from Girard Westerberg, of Lexington, KY, the DTV E-skip pioneer:

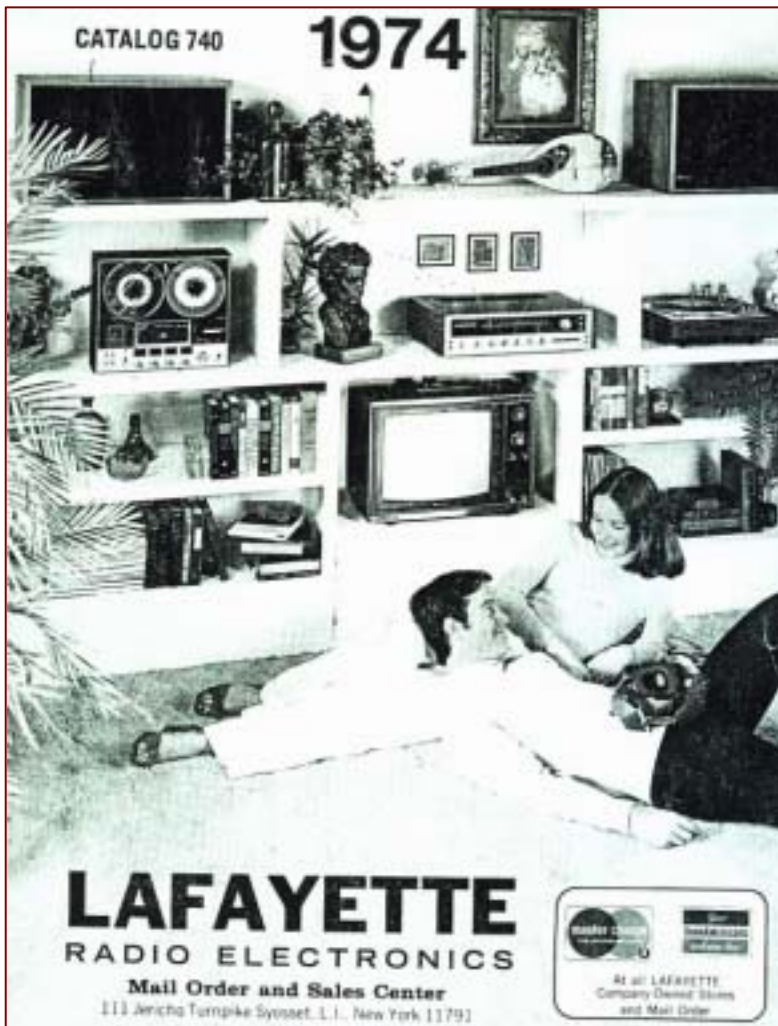


KOTA-DT-2 Rapid City, SD  
1062 mi Es seen 5/26/04  
@2031 EDT

Back to more photos from Girard next month.

*JEFF*

## Remember Back in the Day...



## 1974

Here's a catalog cover from  
**Lafayette Electronics**  
111 Jericho Tpk, Syosset, L.I.

**This was the epitome of hi-tech!**

**State of the Art turntable**

**Analog AM/FM receiver**

**Reel to Reel Tape Deck**

**Color television with click tuning**

**AND...**

**You could charge it all with your  
Master Charge of  
BankAmericard!**

# Eastern TV-DX

Matthew C. Sittel  
15013 Eureux St.  
Bellevue, NE 68123  
mcsittel@cox.net

August, 2004

Sep. 2004 column deadline: Aug. 12

Eastern TV-DX is for reporters from the following states: AL, CT, DE, FL, GA, IN, KY, MA, MD, ME, MI, NC, NH, NJ, NY, OH, PA, RI, SC, TN, VA, VT and WV, plus Washington, DC. Also for reporters from the following Canadian provinces: NB, NF, NS, ON, PEI and PQ. Overseas reports welcome!

## \*\* Channel 13 E-skip IDed on July 6! \*\*

July 6 was a special day. A number of people logged high-band TV E-skip, perhaps more than in any one opening ever. Yours truly is pleased to have logged a channel 9, but there were even better conditions than that for our eastern DXers. There's lots of action to report; read on for the details!

Bob Timmerman, Fort Wayne, IN

staubach12@comcast.net

### 7/5 Es

1145	WSKY	4	NC	Manteo	605
	bug in corner				
1200	KDFW	4	TX	Dallas	885
1201	KSAN	3	TX	San Angelo	1078
1208	KDTN	2	TX	Denton	885
1312	KTXT	5	TX	Lubbock	1062
1327	KACV	2	TX	Amarillo	995

### 7/6 Es

0001	CBHT	3	NS	Halifax	1108
	"CBHT Halifax" in sync bar				
0008	WLBZ	2	ME	Bangor	864
0046	unID	2		French call-in show	
0630	WBRZ	2	LA	Baton Rouge	823
0636	KATC	3	LA	Lafayette	869
1110	<u>WTKR</u>	3	VA	Norfolk	548
1115	WSKY	4	NC	Manteo	605
1200	KIVV	5	SD	Lead	980
1225	KHMT	4	MT	Hardin	1201

1227	WCBS	2	NY	New York	578
1630	<u>WTVR</u>	6	VA	Richmond	480
1719	<u>KYTV</u>	3	MO	Springfield	505
1720	<u>KXAS</u>	5	TX	Fort Worth	885
1726	WNYW	5	NY	New York	576
1730	WLNE	6	MA	New Bedford	719
1800	WSKY	4	NC	Manteo	605
1801	KTBS	3	LA	Shreveport	762
1803	<u>WBRC</u>	6	AL	Birmingham	536
1813	<u>WVUE</u>	8	LA	New Orleans	819
1815	<u>WALA</u>	10	AL	Mobile	736
2208	KPRC	2	TX	Houston	991

### 7/7 Es

0855	KJRH	2	OK	Tulsa	675
0857	KAMR	4	TX	Amarillo	997
0930	KWSE	4	ND	Williston	1045
0937	KFDM	6	TX	Beaumont	909
1230	CKCK	2	SK	Regina	1135
2010	KBEJ	2	TX	Fredericksburg	1074

Rick Shaftan, Sparta, NJ

shaftan@earthlink.net

### 7/2 Es

1910	KAAL	6	MN	Austin	960
	ad for Mankato				

### 7/5 Es

1545	CBIT2	2-	NS	Cheticamp	779
1547	<u>CJCB</u>	4z	NS	Sydney, ATV	799
1549	<u>CBHFT1</u>	3-	NS	Yarmouth, FF	478
1555	<u>CJCH</u>	5z	NS	Halifax, ATV	609
1609	<u>WLBZ</u>	2-	ME	Bangor	396
	Ad for Bangor Daily News				
1710	<u>CJCB1</u>	6+	NS	Inverness, ATV	733
1836	CBGAT14	2-	PQ	Carleton, FF	645
1842	CJOX	2+	NF	Grand Bank	1022

### NTV Evening News Hour

<u>7/7 tr</u>					
0107	<u>CHOT</u>	40z	PQ	Hull, FF	315
0115	<u>W29BJ</u>	29+	NY	Burlington	120
	// 33z Utica				
0120	<u>CIVO</u>	30+	PQ	Hull, FF	315
0125	unID	24z			
0130	unID	52-5kc			
0134	unID	58+5kc // 52-5kc			
0140	unID	60+ infomercial			
0145	unID	61z religion			
0150	unID	62+ // 33z Utica			
0155	unID	65- sounded like Italian			

William McGuire, Cheverly, MD

Equipment: 13" Admiral Color TV.

### 6/9 tr

2340	WRIC	8	VA	Petersburg, ABC	
------	------	---	----	-----------------	--

### 6/10 tr

0004	WRLH	35	VA	Richmond, Fox	
------	------	----	----	---------------	--

0025 WTVR	6	VA	Richmond, CBS	2130 WMAB	2	MS	Mississippi State, logo
0625 WWBT	12	VA	Richmond, nx	<u>7/12 tr</u>			
<u>6/17 tr</u>				2305 WAVY	10	VA	Portsmouth, nx, logo
2230 WGAL	8	PA	Lancaster, NBC, ID	<u>7/15 Es</u>			
<u>6/18 tr</u>				1110 unID	3	PBS	cartoon
1910 unID	29		"Wheel of Fortune"	1138 KATC	3	LA	Lafayette
<u>6/19 Es</u>				1700 unID	3	CBC	News
1925 unID	3	nx,	large 3 logo, Seinfeld	<u>7/6 Es</u>			
2020 unID	3	NBC		1010 WEDU	3	FL	Tampa, ID, PBS
<u>6/21 Es</u>				1040 unID	3		"Today Show", NBC
1100 unID	2	PBS	cartoon	1100 unID	3		"The View", ABC
1400 unID	3		"Home Improvement"	1118 unID	3		"Maury Povich"
1430 unID	3		"Canal Educativo", SS (I think it's a Cuban station.-mcs)	1200 WAVE	3	KY	Louisville, ID, nx
<u>6/22 tr</u>				1635 unID	3		"Judge Judy"
1840 WBOC	16	MD	Salisbury, nx, CBS	1650 unID	3		"Oprah"
2205 WVIR	29	VA	Charlottesville, NBC	1655 unID	3		saw large 3 logo, "Jeopardy!"
<u>6/23 tr</u>				1656 unID	3		"Millionaire"
0004 WHYY	12	DE	Wilmington, ID	1700 <u>WWAY</u>	3	NC	Wilmington, ID, "News Channel 3"
0009 WPPX	61	DE	Wilmington, PAX	1708 unID	3		"Oprah" again
0032 WPHL	17	PA	Philadelphia, WB	1710 unID	3		news report, CDT
0036 WCAU	10	PA	Philadelphia, NBC	1733 unID	3		"Jeopardy!" again
0044 WCPB	28	MD	Salisbury, PBS	1735 <u>KTVO</u>	3	MO	Kirksville, ID
1750 WWBT	12	VA	Richmond, NBC 12	1840 unID	3	ABC	
2255 WRIC	8	VA	Petersburg, ABC, ID	2116 unID	3	CBS	
2305 WMPB	67	MD	Baltimore, PBS	<u>7/7 tr</u>			
<u>6/26 Es</u>				1820 WGAL	8	PA	Lancaster, wx, ID
2055 KOET	3	OK	Eufaula, OETA, PBS	<u>7/8 tr</u>			
2120 unID	3	Miss	Mississippi pageant probably WLBT (I'd think so-mcs)	0920 unID	6		"Montel Williams"

Jason Koralja, Surf City, NJ

jklbi01@hotmail.com

Equipment: Zenith Silver Sensor indoor antenna, Hauppauge WinTV-D card, 20dB Radio Shack VHF/UHF amplifier.

<u>6/24 tr</u>				2138 WAVY-DT	31	VA	Portsmouth	234	
2005 WCTX-DT	39	CT	New Haven	137	2205 WVBT-DT	29	VA	Virginia Beach	234
2105 WJZ-DT	38	MD	Baltimore	135	2210 WHDH-DT	42	MA	Boston	239
2115 WDPX-DT	40	MA	Vineyard Haven	245	2215 WPXV-DT	46	VA	Norfolk	234
2115 WLIW-DT	22	NY	Garden City	86					

Doug Smith, Pleasant View, TN

w9wi@earthlink.net

<u>5/25 Es</u>				WMAW	14	MS	Meridian	315	
1154 KSAN	3	TX	San Angelo, "K-SAN 3"	WCBI-DTt	35	MS	Columbus(sync lock)		
<u>5/31 tr</u>				0900 <u>KTHV-DT</u>	12	AR	Little Rock <2>	323	
2345 <u>WJFB-DT</u>	44	TN	Lebanon	43	KETK-DT?	22	TX	Jacksonville? <3>	
// analog 66				WPTY-DT	25	TN	Memphis	172	
<u>6/1 tr</u>				WREG-DT	28	TN	Memphis	175	
0818 <u>KWBM</u>	31	AR	Harrison, ID bug	331	WMC-DTt	52	TN	Memphis	
<u>WKDH</u>	45	MS	Houston	212	0915 KEMV	6	AR	Mountain View	292
0830 <u>WFIQ-DT</u>	22	AL	Florence, APT	131	1000 WJSU	40	AL	Anniston	201
WHSB	63	GA	Monroe	~240	"ABC 33/40"				
WUPA	69	GA	Atlanta	~240	WIIQ	41	AL	Demopolis	282
KASN	38	AR	Pine Bluff	318	2330 KARKt	4	AR	Little Rock u/WSMV	
0843 WJKT-DT	39	TN	Jackson	112	2358 36/46/63/69		GA	Atlanta	237
<u>KYTV-DT</u>	44	MO	Springfield	327	<u>6/2 tr</u>				
0845 <u>WPXX-DT</u>	51	TN	Memphis	173	0005 KLRT	16	AR	Little Rock	322
KKYK-LPt	20	AR	Little Rock <1>		"Fox 16"				
KWBF	42	AR	Little Rock	322	KVTH	26	AR	Hot Springs	362
KSPR	33	MO	Springfield	328	// KVTJ-48				

0047	WCIQ	7	AL	Mt. Cheaha,	APT 214					through local DTV!					
	WVTM	13	AL	Birmingham	201					<u>6/20 Es</u>					
	<u>6/8 Es</u>									2200	KFDX	3	TX	Wichita Falls	669
0852	KIII	3	TX	Corpus Christi	860					<u>6/30 Es</u>					
	<u>6/10 tr</u>									0859	KENW	3	NM	Portales	955
0147	K62DA	62	MO	Malden	~180					<u>7/2 Es</u>					
	// WREG-3									1136	KIII	3	TX	Corpus Christi	860
	<u>6/11 tr</u>									1145	XET	3	NL	Rayones <4>	~1074
0730	WKRC-	12	OH	Cincinnati	~240					1145	XET	6	NL	Monterrey	~1074
	<u>6/12 tr</u>									1156	KRIS	6	TX	Corpus Christi	
2156	WKNO	10	TN	Memphis											

Notes:

1. Live camera in studio of oldies FM station. Faded before I could tell which one.
2. Program 1 (High Def)". Whole lot of help that is!
3. NBC video, but PSIP from WFIQ!
4. Cartoon // ch. 6, XHGC-5 logo upper right corner, XET monterrey ID upper left corner.

Other PSIP IDs:

WFIQ-22 Program 1 (APT HD), Program 2 (APT D1). Latter was 352x480, filling only half of screen.  
WJKT-39 Program 1 (WJKT 16, Memphis TN) (sic)  
KYTV-44 Program 1 (KY3-HD), Program 2 (UPN15)  
KFVS-57 Program 1 (KFVS), Program 2 (WQTV/WQWQ)  
WPXX-51 Program 1 (WPXX Faith), Program 2 (WPXX Worship), Program 3 (WPXX Pax West), Program 4 (WPXX Digital Television). WPXX Worship's PSIP packets seemed to be sent less often, as it would take 30 seconds or so for this entry to appear after tuning to the channel. The first three virtual channels were being sent in 544x480 format, filling about 2/3 of the screen. Program 4 was full-screen 704x480.

Tim Katlic, DXing from Inlet, NY

tkatlic@rochester.rr.com

<u>7/6 Es</u>															
1855	WDAM	7	MS	Laurel	1141					1912	WALAt	10	AL	Mobile	
	great video of calls, newscast										newscast, mentions of Florida, brief				
1903	WVUE	8	LA	New Orleans	1258					1913	WTVAt	9	MS	Tupelo	
	"Fox 8" newscast										presumed newscast audio under WIXT				
1908	WAKA	8	AL	Montgomery	1003					1915	WJTV	12	MS	Jackson	1149
	briefly in, logo w/CBS lower right										newscast, many logos visible,				
1910	WTOK	11	MS	Meridian	1089					1916	WLOX	13	MS	Biloxi	1203
	newscast, story about "Alvino Houston"										newscast, logo & calls, lower right				
	matches website														

Saul Chernos, 57 Berkeley St., Toronto, ON M5A 2W5 Canada  
(416) 364-0725 (BR) = DX from Burnt River, ON.

schernos@sympatico.ca

<u>6/12 Es (BR)</u>															
1358	CKCK	2	SK	Regina, CTV, ad						1313	KSNC	2	KS	Great Bend	
1359	CKND2	2	MB	Minnedosa							KSN Weather Lab, NBC golf				
	Global, 1 hour behind Bancroft									2018	KDTN	2	TX	Denton, Daystar	SID
	<u>6/19 Es (BR)</u>									<u>6/21 Es (BR)</u>					
1150	WDIQ	2	AL	Dozier, APT/PBS						1402	KDFW	4	TX	Fort Worth	
	logo										Fox 4 logo				
1429	KETS	2	AR	Little Rock, voice ID						1404	KDTN	2	TX	Denton, Daystar	
	<u>6/20 Es (BR)</u>									<u>6/24 Es (BR)</u>					
0132	KSNC	2	KS	Great Bend						0914	KDTN	2	TX	Denton, Daystar	logo
	PSA: Immanuel Baptist Church in Wichita									1000	WBRZ	2	LA	Baton Rouge	
0134	C???	2	SK	CTV logo, Sask news						1145	KPRC	2	TX	Houston	
1145	KPRC	2	TX	Houston, NBC							2 KPRC logo				
1201	WMAB	2	MS	Mississippi State						1224	KJRH	2	OK	Tulsa, 460-KJRH	
1212	WBRZ	2	LA	Baton Rouge						1231	KOET	3	OK	Eufaula, OETA logo	
	SID, ads, Cinema 2 movie									1234	KMOV	4	MO	St. Louis, News 4	
1303	KQTV	2	MO	St. Joseph, KQ2 logo						1235	KTVI	2	MO	St. Louis, Fox 2 logo	
										1248	KFOR	4	OK	Oklahoma City	



Oklahoma's News Channel 4 voice ID	1321	KDTN	2	TX	Denton, Daystar
1300 KYTV 3 MO Springfield	1615	KXMA	2	ND	Dickinson
KY3 spoken ID (SID), No. 1 in the Ozarks		KXMA (CBS)	2		your eye on Dakota SID
2159 KACV 2 TX Amarillo, voice, SID	1659	KACV	2	TX	Amarillo, KACV 2 SID
<u>6/25 Es (BR)</u>	<u>6/29 Es (BR)</u>				
1304 WSKY 4 NC Manteo, Sky 4 SID	1351	CKND2	2	MB	Minnedosa
1305 WUND 2 NC Columbia, UNC logo					Global not // local
1830 KPRC 2 TX Houston	1756	KPRC	2	TX	Houston
News 2 Houston SID, TX ads					2 logo w/star
<u>6/28 Es (BR)</u>	1820	KJRH	2	OK	Tulsa, 2 works for you
1059 WDIQ 2 AL Dozier, APT	2125	KNOP	2	NE	North Platte, PSA
1144 KSNC 2 KS Great Bend, KSN	<u>6/30 Es (BR)</u>				
1200 <u>WBBM</u> 2 IL Chicago	1045	WBRZ	2	LA	Baton Rouge, (225)
2 logo and voice: "Get Ready Chicago"	1525	WBRZ	2	LA	Baton Rouge, ID bug
1221 KTVI 2 MO St. Louis, Fox 2 News	1528	WMAB	2	MS	Mississippi State
1236 <u>KSWK</u> 3 KS Lakin					M logo, PBS kids program
Smoky Hills logo	1612	KATC	3	LA	Lafayette, logo

Four new, including Chicago at 500 miles. Otherwise not exactly a barn-burner Es season. 73s Saul.

Roger Gravelle, St. Thomas, ON Canada

Equipment: Samsung SIR-T351, 37" Electrohome, 5' Delhi parabolic UHF at 80', Delhi 1047 VHF at 70' with separate Delhi amps.

DXing digital takes patience!!! See comments.

<u>5/11 tr</u>	0815	WUAB-DT	28	OH	Cleveland	110
0900 WNLO-DT 39 analog 28 no city ID	<u>5/29 tr</u>					
Any help appreciated?? "Nostalgia"	0745	WNEO-DT	46	OH	Alliance	140
0900 WJAC-DT 34 PA Johnstown 250	0800	WYTV-DT	36	OH	Youngstown	140
channel 6 analog was a regular	0805	WPXI-DT	48	PA	Pittsburgh	190
reception before 6 Paris came	2330	WJRT-DT	36	MI	Flint	130
on. Good to see WJAC calls again!	2340	WKYC-DT	2	OH	Cleveland	110
0930 WEYI-DT 30 MI Saginaw 150						hard one to log, low power.
0935 WIVB-DT 39 NY Buffalo 130						2-1 NBC, 2-2 NBC, 2-3 radar
0937 WKBW-DT 38 NY Buffalo 130	<u>6/11 tr</u>					
<u>5/13 tr</u>	1400	WOSU-DT	38	OH	Columbus	250
0800 WNPA 19 PA Jeannette 190						34-1 WOSU-DT 38 6 pm to 12am daily
"UPN Pittsburgh" ID shown, calls not seen						34-2 WOSU-DT butcher showing meats
0805 WDCQ-DT 15 MI Bad Axe 130						34-3 WOSU-kids
"ID Q TV" (WDCP repeater),						34-4 PBS You
15-1 WDCQ-DT, 15-2 PBS TV						34-5 Supreme court
Note: shows ch. 18 University	1415	WSYX-DT	13	OH	Columbus	250
Center station guide	1425	WMFD-DT	12	OH	Mansfield	185
0810 WPGH-DT 43 PA Pittsburgh 190						

Re: Samsung unit-pain develops in head!! From being driven to drink!! If you receive a digital station on a particular channel, e.g., 22, and it locks to memory, before you can receive another channel 22 from a different location that is weak-you have to go into menu to "Add & Delete" line and delete previous locked to memory (which happens automatically) then put in new channel 22 and new channel will lock to memory. AAWK!! Then to get original ch 22 back-repeat the process to delete 2<sup>nd</sup> ch 22 locked automatically to memory.

Another Samsung feature of DT TV (2<sup>nd</sup> drink): punch in channel 5 – unit switches to DT ch. 15 Cleveland WEWS, punch in channel 66 – unit switches to DT ch. 22 Fox Erie PA. Even though no ch. 66 DT exists in area, you can't keep your unit on ch. 66 DT until you delete ch. 22 DT from memory!!! The challenge is greater to log a digital channel but the satisfaction you get in accomplishment is superb!!!!

73's Rog

Jim Renfrew, Byron, NY

Equipment: old Zenith TV, UHD corner reflector on tower, VHF hand-steered

6/10 Es

2234 KDLV 5 SD Mitchell  
2246 KWNBt 6 NE Hayes Center  
NE storm map  
2259 KTIV 4 IA Sioux City  
2304 KSNC 2 KS Great Bend  
2306 KMTV 3 NE Omaha  
2315 KLNE 3 NE Lexington

6/12 Es

1930 KTBSt 3 LA Shreveport  
1945 KBTXt 3 TX Bryan

6/15 Es

1720 WEDU 3 FL Tampa  
1722 WTVJ 6 FL Miami

6/21 Es

1353 unID 5 CBS, KFSM or KCTV?  
1355 KOET 3 OK Eufaula  
1424 KFDX 3 TX Wichita Falls

6/24 Es

0900 KSNW 3 KS Wichita  
1245 KSNC 2 KS Great Bend  
1257 KSNW 3 KS Wichita  
1302 unID 4 "FOX 4", WDAF or KDFW  
2118 KSWK 3 KS Lakin

6/25 Es

1122 KBME 3 ND Bismarck  
1123 KSRE 6 ND Minot  
1210 KDLV 5 SD Mitchell  
1226 KDLO 3 SD Garden City  
1230 KSTP 5 MN St. Paul

6/28 Es (all tentative, based on unique programs on Titan TV page)

1338 KUPN 3 CO Sterling  
1350 KLNE 3 NE Lexington  
1408 KOTA-DT? 2 SD Rapid City  
gray blanket screen on tight bearing  
1434 KUSD 2 SD Vermillion

6/29 Es

1355 CBWFT 3 MB Winnipeg  
89.9 Classique FM ad  
1359 CKND2 2 MB Minnedosa  
Global CDT program

7/3 Es

1105 unID 3 ABC

7/4 Es

1230 WEDU 3 FL Tampa  
1245 unID 6 NBC  
1319 WCTV 6 GA Thomasville  
1348 WKMGt 6 FL Orlando  
Central Florida car ad  
1354 unID 5 NBC  
1359 WUFT 5 FL Gainesville  
1401 unID 6 St. Jude's infomercial  
1410 unID 6 ABC  
1429 WREG 3 TN Memphis  
TN/MS tornado warnings  
1429 unID 3 ABC  
1459 KTBS 3 LA Shreveport  
ad for Mix 102.9  
2059 unID 3 ABC

7/5 Es

1058 KTAL 6 TX Texarkana  
1103 KBTX 3 TX Bryan  
1635 CBHT 3 NS Halifax  
1641 CJCH 5 NS Halifax, ATV  
1654 CJCH6 6 NS Caledonia, ATV  
1655 CJCB 4 NS Sydney, ATV  
1700 CBHFT 3 NS Yarmouth  
SRC Atlantique, possibly Allardville NB  
but Yarmouth FM strong at this time  
2000 KOET 3 OK Eufaula  
2044 KSNW 3 KS Wichita  
2058 KLNE 3 NE Lexington

7/6 Es

0928 WEDU 3 FL Tampa  
1028 WCTV 6 GA Thomasville  
1041 WKMGt 6 FL Orlando  
1124 WUFT 5 FL Gainesville  
1650 WSAV 3 GA Savannah  
1715 WCTV 6 GA Thomasville  
1715 unID 6 w/"Judge Judy"  
WBRC or WDSU  
2231 KATC 3 LA Lafayette

7/9 Es

2034 unID 6 ABC  
2159 KLNE 3 NE Lexington  
2200 KMTV 3 NE Omaha

Andrew MacKenzie, Greenville, NY

amack@mhccable.com

Equipment: Sony KV1547R 15" color TV (circa 1982), WinTV-D RS VU-190 XR antenna and 30dB mast pre-amp.

6/13 Es

1050 unID 3 CBS ant. SW  
1055 unID 2 ABC

6/25 Es

1045 KUSD 2 SD Vermillion, SDPB bug  
1052 KGAN 2 IA Cedar Rapids  
1100 WBBM 2 IL Chicago  
Mark Malone/CBS2 promo  
1118 KTIV 4 IA Sioux City, 700 Club  
1122 WTMJ 4 WI Milwaukee

"Today's TMJ 4"

1130 KIMT 3 IA Mason City  
1133 KDLV 5 SD Mitchell

6/26 Es

1930 WMAB 2 MS Mississippi State  
1959 WBRZ 2 LA Baton Rouge, ads  
2000 WDIQ 2 AL Dozier  
2000 WESH 2 FL Daytona Beach  
2000 WEAR 3 FL Pensacola  
2000 unID 3 NBC

2030 WTVY 4 AL Dothan, logo bug UR  
 2100 unID 5 CBS  
7/2 Es  
 2005 KYTV 3 MO Springfield  
 2005 KMOVt 4 MO St. Louis, CBS  
 2025 unID 3 CBS  
 2018 KTVI 2 MO St. Louis, Bernie Mac  
 2018 unID 2 w/"Wheel Of Fortune"  
 2042 WDAF 4 MO Kansas City, logo LR  
 2047 KCTV 5 MO Kansas City  
 2051 KTVO 3 MO Kirksville, nx promo  
 2100 KQTV 2 MO St. Joseph, "KQ2" LR  
7/4 Es  
 1820 WSB 2 GA Atlanta 822  
 1820 WDIQ 2 AL Dozier 1013  
 1825 WMAB 2 MS Mississippi St. 1036  
 1921 WPBT 2 FL Miami 1188  
 1926 WESH 2 FL Daytona Beach 1015  
 1940 WEDU 3 FL Tampa 1106  
7/5 Es  
 1155 WMAB 2 MS Mississippi State  
 1205 WRBL 3 GA Columbus, local nx

1220 WLBT 3 MS Jackson, local ads  
 1231 WMC 5 TN Memphis  
 1230 WPBT 2 FL Miami, Liberty's Kids  
 "Judge Mathis" per Titan TV web site  
 1551 CBHT 3 NS Halifax, CBC, ads  
 1555 CJCB 4 NS Sydney, ATV-CTV  
 1640 CJBR 2 PQ Rimouski, SRC, FF  
 1640 unID 3 FF nx, poss. CBAFT-NB  
7/6 Es  
 1220 unID 4 w/"Oprah"  
 Too many signals on 2-6 to decipher,  
 band overactive today  
7/9 Es  
 1145 WESH 2 FL Daytona Beach  
 1110 WPBT 2 FL Miami  
 1110 WEDU 3 FL Tampa, local at times  
 1110 WFOR 4 FL Miami  
 1110 WPTV 5 FL West Palm Beach  
 CCI noted over local 6, heavy at times  
 One station faded up on 7 a few times  
 Between 1120 and 1145

Roy Barstow, PO Box 2488, Teaticket, MA 02536

6/4 tr  
 2100 WUUP-DT 66 NJ Vineland  
 WNJB-DT 43 NJ New Brunswick  
 WJAR-DT 51 RI Providence  
 WDPX-DT 40 MA Vineyard Haven  
 WTXF-DT 42 PA Philadelphia  
 WEDN-DT 45 CT Norwich  
 WVIT-DT 35 CT New Britain  
 2200 WLNE-DT 49 MA New Bedford  
6/21 tr  
 PM 15/27/33/43/49 VA  
 W18, W24 TBN VA  
 W17, W45, W63 VA (WAVY-10)  
 WPXV 35 NC Jacksonville  
 WUNJ 39 NC Wilmington  
 WSFX 26 NC Wilmington  
 WCPB-28, WMDT-47 MD strong  
 WVEC 13 VA Hampton  
 WCPB-DT 56 MD Salisbury  
 WITN-DT 32 NC Washington  
 WCTI-DT 48 NC New Bern  
 WECT-DT 44 NC Wilmington  
 WCSC-DT 47 SC Charleston  
W51DO 51 VA Hampton  
 WYDO 14 NC Greenville  
 WEPX 38 NC Greenville  
 WMMP 36 SC Charleston  
 WTAT 24 SC Charleston  
 WNCT 9 NC Greenville  
 WCTI 12 NC New Bern  
 WUNM 19 NC Jacksonville  
 WRAY 30 NC Wilson  
 W22CJ 22 NC Jacksonville

6/22 tr  
 AM WTVD 11 NC Durham  
 WUNU 31 NC Lumberton  
 WHMC 23 SC Conway  
 WUNP 36 NC Roanoke Rapids  
 WFXI 8 NC Morehead City  
 WLFL 22 NC Raleigh  
 WUNK 25 NC Greenville, rare  
WTTD-LP 53 VA Hampton, F-59  
WRAZ 50 NC Raleigh  
WBTD-LP 52 VA Suffolk, F-66  
WNCN-DT 55 NC Goldsboro  
 WWAY-DT 46 NC Wilmington  
 WLFL-DT 57 NC Raleigh  
 0200 WRAL-DT 53 NC Raleigh  
6/24 tr  
 0005 W14CL 14 ME Harpswell  
 W15, W32, 23, 35 and 51 ME  
 0830 WFUT-DT 53 NJ Newark  
 WABC-DT 45 NY New York  
 W36?? 36 VA Fox 43 logo, who?  
 WTIC-DT 31 CT Hartford  
6/25 tr  
 PM WPXG-DT 33 NH Concord  
6/27 Es  
 1700 CJCB 3 NS Port Hawkesbury  
 CJOX 2 NF Grand Bank  
 CBNT3 5 NF Marystown  
 CBNT24 4 NF Hermitage  
 CJOM 3 NF Argentia  
6/30 tr  
 AM east coast VA in

A nice opening on 6/21-6/22 with many new ones. All the above DT stations new. There was 6m activity into Europe from the east coast and maybe some audio on the E2 band, with the D-100 and a Cushcraft 18' high 5-element antenna set for 50 MHz. I could not pick up any signals that way. But there were many Es signals from Newfoundland caught with the low-band antenna on 55' tower with the D-100 and R-7000. 886 total, 811 analog.

Equipment: GPX 12" B/W TV with alternating unipole/dipole antennas (wont' tell which, when... ancient DXer secret!)

<u>6/23 tr</u>						1207 unID	2		
2315 WGVU	35	MI	Grand Rapids	70		1314 <u>KDTN</u>	2	TX	Denton
<u>6/24 Es</u>						1638 unID	3		CBC or SRC
1025 unIDs	3		Regis, Stewart, Sesame			1656 <u>WLBZ</u>	2	ME	Bangor, nx 804
1100 WEDU	3	FL	Tampa	1039					"Bill Greene's MAINE Sat. 7 pm" promo
2053 KWGN	2	CO	Denver, WB2	1093		1756 <u>CFAP</u>	2	PQ	Quebec 711
2130 <u>KLBY</u>	4	KS	Colby	908					"Le Grand Journal"
2148 <u>KSNC</u>	2	KS	Great Bend	803		1835 unID	2	PQ	Comedie in FF
			KSN ID listing all 4 channel numbers						can't confirm whether CJBR or CBGAT14
2153 unID	2		UPN			<u>7/6 Es</u>			
<u>6/26 Es</u>						0956 KSNC	2	KS	Great Bend 803
2159 KBEJ	2	TX	Fredericksburg	1169		1015 <u>WEAR</u>	3	FL	Pensacola 855
<u>7/4 Es</u>									"Pensacola" in sync bar; first ID via
1115 WPBTt	2	FL	Miami, Moyers						this method alone!
1128 KBEJ	2	TX	Fredericksburg	1169		1059 WEDU	3	FL	Tampa 1039
2115 KJRH	2	OK	Tulsa	752		<u>7/7 Es</u>			
2235 unID	2		ABC			1059 <u>KACV</u>	2	TX	Amarillo 1057
<u>7/5 Es</u>						1114 unIDs	2		Regis mixing w/"Today"
1038 unID	2		looked like "Recipe TV"						

Well, at least 5 new fish this month. Dunno if I caught the other 3, so I am putting all 8 in my "NFN" category. So there!

Man, I didn't think to turn on the Westinghouse to scan ch. 7 audio on the 6<sup>th</sup> during the Es bonanza... gives me an advantage over some who have to turn on a TV for this frequency!

I don't know if this will be it for the "dessert" this year (KAKEs repeater notwithstanding)... not a total loss so far.

Nothing special as I write this (7/7 at 2236 EDT) so back to classic gaming high scores I guess! And sleep if I can work it in! 73s, KKS

---

Bob Seybold, 1865 W. Main Rd., Silver Creek, NY 14136

I noted in the VUD complaints on lack of E-skip in first part of season. I am sure the recent huge openings will make the season a success. That is if other members got in on recent openings. The intensity of skip and huge numbers of stations coming through was amazing here. I was rather satisfied with earlier openings in May and June even though a lot of it did not get past channel 3.

December 2003 and early January 2004

Some minor E-skip mostly on channels 2-4. Miami 2, WEDU 3 and Gulf Coast stations. No big openings.

May 2004 – good openings.

May 9th: WEDU 3, Miami 2, WLBT 3, KATC 3, KTBS 3, also other Louisiana, Alabama, Mississippi and Georgia stations up to channel 6.

May 10th: similar to 9<sup>th</sup> but less seen

May 12th: good E-skip opening channels 2-4 southlands

May 26-31: E-skip on all days, channels 2-6. Texas, Louisiana, Arkansas, Alabama, Florida, Georgia, Oklahoma, Kansas, Nebraska. Best day was 28<sup>th</sup>.

June 2004

June 1<sup>st</sup>: minor opening, nothing past channel 4, Florida only.

June 2-30: various openings in the period, many only on channels 2 and 3 – Florida, Georgia frequent. Big opening June 27-28, quite intense, all low-band channels, strong on channel 6, several hours continuous – Texas, Oklahoma, Alabama, Iowa, Georgia, Louisiana, Florida, Mississippi stations such as WEDU 3, KATC 3, KTBS 3, WLBT 3 and Texas, Oklahoma in strong and often.

July 2004

July 2: big tropes opening especially in evening, several Kansas U's in including 50, St. Louis U's, Joplin and others – mystery channel 57 with ABC 57 in lower right corner (sounds like the LPTV for South Bend, IN, WBND-LP, Bob; they do use that slogan.-mcs); good into southern Illinois and Indiana, southern Ohio and southern PA – 1000 mile tropes – note 48 hours later had several Kansas stations on E-skip.

July 3-4-5: 36 continuous hours of E-skip, all channels 2-6 very intense and some high band noted but only one ID: Tennessee 13 (WHBQ Memphis, presumably-VERY nice!-mcs). There were over 100 E-skip stations in-band was so crowded that only a few could hold their own. Texas on all channels very strong – Houston, Dallas, Wichita Falls, Ft. Worth, Bryan, San Antonio, Temple, etc., Louisiana channels 2-3-4-5-6; Mississippi channels 2-6; Alabama, Arkansas, Georgia, Florida many stations, Oklahoma 2,3,4,5,6, Kansas very strong, Missouri, Nebraska, Iowa, Dakotas. Even on channel 6 it was several deep and very strong. IDs were difficult but it helped that calls were in corners and some were IDed by audio only.

July 6-11: E-skip on all days, several hours continuous – very strong mostly southern stations although up to Kansas and Nebraska – Florida in a lot. Some tropo in this period but nothing great. That's it for this time – hope others got a lot of DX. 73's Bob Seybold.

Mike Bugaj, 69 Sherman Road, Enfield, CT 06082

4/19 Tr					7/4 Es				
0843 <u>WMAR-DT</u>	52	MD	Baltimore	250	1457 WAGA	5	GA	Atlanta	Fox5
0845 <u>WUSA-DT</u>	34	DC	Washington	300	1511 WPSD	6	KY	Paducah	svr wx
5/20 Tr					7/5 Tr				
2100 <u>WFUT-DT</u>	53	NJ	Newark	125	0045 <u>WABC-DT</u>	45	NY	New York	110
					0050 <u>WFME-DT</u>	29	NJ	W.Milford	120
7/2 Es					7/6 Es				
2027 KCTV	5	MO	Kansas City		1850 <u>KATV</u>	7	AR	Little Rock	1157
2043 KQTV	2	MO	St. Joseph		1905 <u>KETGt</u>	9	AR	Archadelphia	

For someone who hits the FM dials as soon as the MUF reaches ch6, I was really lucky. On July 6<sup>th</sup> the FM band was practically un-dxable with plenty of noise and so many stations on top of each other you could not distinguish any one, so I left the tuner and tuned to catch the news on WTNH-8 and found CCI on ch7. Ran upstairs to get the camera and the rest is history. About then I also noticed reports of high band DX on the WTFDA list, so I knew I was not going crazy. This is just a case of somebody being in the right place at just the right time.

Wow, this is by far the biggest ETVDX column since I took over editing it. Nice to see so many reports, and such great stuff logged too! There's still room for more reports as always... so if you've seen something impressive, tell us all about it! Until next month.....73s Matt.

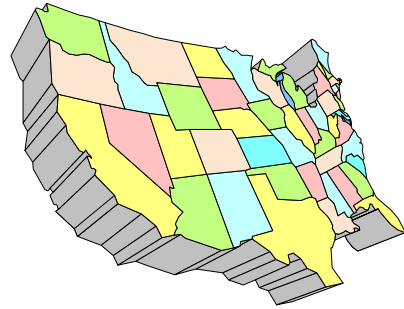
## ONLINE RESOURCES FOR WTFDA MEMBERS

\*the WTFDA list with 174 users. Send email to [WTFDA-subscribe@topica.com](mailto:WTFDA-subscribe@topica.com)

\*the WTFDA-AM list. This list will pick up as the days grow shorter and AM DX builds for another season. Send email to [WTFDA-AM-subscribe@topica.com](mailto:WTFDA-AM-subscribe@topica.com)

# WESTERN TV DX

**VICTOR FRANK**  
**12450 SKYLINE BLVD.**  
**WOODSIDE, CA 94062-4554**  
**Victor.frank@sri.com**



**Dennis Park Smith**, 3605 San Remo Drive, Santa Barbara, CA 93105-2523 (805)687-7803

This report is for June 2004. Except for a few days here and there, this month was no better than previous months for coastal tropo on TV-FM to San Diego/Tijuana (up to 200mi/ 320km). I don't know for sure, as I wasn't following the precise weather patterns, though even while cool along the ocean, the hot inland temperatures have not been as hot as could be (80 to 90°F and not so much at 100 yet), which could be a reason for only mild tropo.

June 1-5: Variably poor to fair  
 June 6-23: Variably very poor to poor.  
 June 24 am: VHF & FM poor, UHF good.  
 June 24 eve: VHF & FM good, UHF very good.  
 June 25: Poor  
 June 26-30: Very poor

Best of DX to All. Dennis

**William Draeb**, 1304 Ellis St., Kewaunee, WI 54216-1802

## June 2004

4 tr 2000 WALW 41 S. Bend, Chicago, Milwaukee UHF's, etc.  
 2015 Baseball, UPN network, Tigers vs Twins 33 S.W. MI?  
 2037 WXFB 33 I.D. sounded like  
 2137 WICD 15  
 7 Es 1215 KENW 3  
 KAMRt 4  
 KACVt 2  
 Albuquerque, Santa Fe 2,4 tent.  
 1600 KWSE 4  
 1608 KBME 3  
 9 Es 1145 KENW 3  
 1158 KSAFt 2+  
 KOBt 4+  
 10Es 2059 KLBY 4 Tornado watch info @ bottom of screen  
 KTVSt 3  
 2105 KOAAt 5  
 2121 KLNE 3 I.D.  
 2128 KENWt 3  
 11Es 1942 unID 2,3,4 S.W.  
 1950 KCNC 4 John Elway automotive dealership ad. 303 area code  
 2001 KCWC 4 WY  
 2002 Canadian 3  
 CBKFT2t 3  
 2015 KRTVt 3  
 2027 CFRN 3 I.D. @2036  
 2039 CITLt 4  
 12Es 1145 unID 2-4 USA-Canada  
 tr 1830 W48DB 48 WI public TV

used to be on ch 64, W64AU  
 14tr 2002 W52DB 52 Fox WXMI-17 SW MI, change from W58CU  
 15tr 1808 W54CR 54 WGKI-33 Traverse City MI replaces ch 40  
 16tr 0700 Champaign 15,33, Quad cities 24  
 18tr 0631 WBNS 10 Local news  
 0645 WOSU 34 WRGT 45  
 0650 WSTR 64 WTTE 28  
 19Es 1515 unID 3 NBC, SW  
 unID 4 NBC, SW  
 1815 KBTX 3 Ad for Brazos Land Realty at 1827  
 1816 KJAC 4 "4 Warn live weather"  
 KPRC 2 Editorial @ 1826  
 1831 KTBS 3 Severe t-storm warn for Caddo, Lincoln parishes & Panola City, TX.  
 1852 KOETt 3 Lawrence Welk  
 1857 KIII 3 I.D. 1920  
 1957 KREGt 3 Baseball  
 Baltimore vs Colorado  
 2015 KSWKt 3 Lawrence Welk  
 2021 XHPWt 3 Spanish audio  
 20Es 1108 XHPWt 3 Spanish audio  
 1123 WBRZ 2 I.D. @1340  
 1130 KJAC 4  
 1200 KATC 3 I.D. @ 1259  
 KTBS 3 I.D.  
 1211 unID 4 Spanish, 20 sec.  
 1218 unID 4 Spanish, 5 sec.  
 1252 WEDU 3 Auction  
 1259 KATC 3 I.D.  
 1359 WDIQ 2 I.D.  
 1449 KALBt 5  
 WDSUt 6  
 1504 WWLt 4  
 1556 WLBTt 3  
 1622 WESH 2  
 WEAR 3 Santa Rosa city Mentioned in ad.  
 1650 WRBLt 3  
 1700 KBTX 3 I.D.  
 1743 unID 3 Spanish audio SW  
 2014 KDFW 4  
 KXASSt 5  
 2027 KIII 3 I.D.  
 21Es 1215 WEDU 3  
 1231 WEAR 3  
 1251 WKRG 5  
 1300 WDIQt 2  
 1530 KBTX 3  
 23Es 1915 KTBS 3  
 WBRZt 2  
 1942 WWLt 4  
 1945 WDSNt 6  
 1950 KABLt 5  
 2013 KDFW 4

24Es	0959	KATC	3	
	1000	KTWO	2	"K2 News"
	1005	unIDed	5	
	1010	KCNC	4	
	1015	KCWC	4	
	1058	KIDK	3	
	1101	KIYIt	6	
	1110	WEAR	3	
		WTVYt	4	
		WDIQt	2	
	1128	KOAAt	5	
		KWGNt	2	
	1135	KTVX	4	
	1138	KUTVt	2	
	1159	KREG	3	Grand Junction ment.
	1237	KTVQt	2	
	1300	KOTA	3	News
		KHSDt	5	
	1320	KOUS	4	
		K XLY	4	I.D. 1330
		KJVIt	2	
	1331	KLEWt	3	
		KREMt	2	
	1358	KRTV	3	
	2053	unIDs	2-4s	West
	2105	KDFW	4	News
		KOETt	3	
	2115	KBTX	3	Flood watch in UL corner, I.D. @2133
25Es	1345	Canada	2-4	NW
	1959	KENW	3	
	2001	KDFW	4	
	2014	KBTX	3	Severe T-storm for S. Texas, Brazos City ment.
	2024	KPQX	4	Grand Jct. CO, Grand Vale ment. In ad.
	2028	KCWct	4	
	2032	KSWK	3	
	2035	KTBS	3	
	2105	WEDU	3	
28Es	1055	KENW	3	
		KSAFt	2	
	1120	KOBt	4	
	1215	KSWKt	3	
tr	2015	W25BM?	25	(WOTV-8) Berrien Spring, ptd at SW MI
		W15AM?	15	UPN Grand Rapids?
30Es	1445	WEDU	3	

A pretty good month for Es. The logging of a possible channel 8 weather on channel 3 was a mystery to me. This was on the 25<sup>th</sup>. Es was in from the west and then this ch. 3 appeared with a guy standing in front of a weather map. There was a large "8" in the upper right corner. There was no audio and the picture was pretty snowy, so I couldn't tell what map he was standing next to. Any ideas?

I had some Spanish audio at times. All of it taken together didn't amount to a minute. I also had some local new stuff on UHF, or so it seemed at the time. I think some of it may have been old. I'll double check against past loggings.

Last time I said W22BW was off. They were since sometime last year, but made a liar of me when they came back on June 2.

73, Bill

Paul Mitschler, 5705 Jessica CT CW,  
Albuquerque, NM 87120 (505)249-6060

After receiving last month's VUD, I ordered the WINTV-D card and installed it and software into an old computer that I was planning to put in storage. My big antennas are in Kansas, so I had to go to Home Depot to purchase a small local one for getting any kind of signal. The following is a local scan of stations broadcasting in HDTV that I have been able to receive so far.

June 9, 2004 MDT

1320	KRQE-DT	16	NM	Albuquerque
	KAZQ-DT	17	NM	Albuquerque
	KOAT-DT	21	NM	Albuquerque
	KNAT-DT	24	NM	Albuquerque
	KOB-DT	26	NM	Albuquerque
1350	KASA-DT	27	NM	Albuquerque
	KWBQ-DT	29	NM	Albuquerque
	KNME-DT	35	NM	Albuquerque
	KLUZ-DT	42	NM	Albuquerque
	KASY-DT	45	NM	Albuquerque

June 11, 2004

1830	KCHF-DT	10	NM	Santa Fe
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I called KCHF to find out where their transmitter was located, as it appeared to be north of Sandia Crest. The engineer was surprised that I was receiving the digital signal as their transmitter is operating at a "low" power in the Jemez mountains south of Santa Fe. So far I have seen no Es on channels 3 or 6 which are my only open low-band channels. I have noticed that there is a subscription HDT service that adds several satellite programs on channels 42 and 45. I am able to get their audio only with a blank screen for video.

**Mike Cherry, VE7SKA** Salt Spring Is., BC  
CANADA

June 2003 UTC RH column is bearing in deg.

20	Es	1629	KUTV 2	UT	145
		1630	KREG 3	CO	145
21	Es	0010	KTVK 3\$	AZ	155
		0026	KNAZ 2	AZ	155
		0030	KPHO 5	AZ	155
		0058	KVBC 3	NV	155
		0129	KTUU 2	AK	335
		0230	CFRN 3	AB	50
		0259	CITL 4	AB	50
		0300	CKSA 2	AB	50
		0327	CKCK 2\$	SK	85

July 2004

1	Es	1559	XHBC 3	BCN	180
		1630	KCBS 2\$	CA	180
		1734	CKCK 2	SK	75
		1744	CFSS 3	SK	75
		1800	CBKMT 4	SK	85
		1828	CBWFT 3	MB	85
		2359	XHBC 3	BCN	170
2	Es	0200	KNAZ 2\$	AZ	170
		0208	KTVK 3\$	AZ	170
		0228	KUTV 2	UT	170
		0257	KFQX 4	CO	170
		0259	KREG 3	CO	170
		1658	KUTV 2\$	UT	165
		2147	KCNC 4	CO	140
		2157	KWGN2\$	CO	140
3	Es	0159	KRON 4	CA	180
		0200	KTVU 2	CA	180
		0224	KCRA 3\$	CA	180
8	Es	0155	KCRA 3	CA	180

		0157	KPIX5	CA	180
		0159	KRON 4\$	CA	180
		0200	KTVU 2	CA	180
		0225	KTVK 3	AZ	180
		0231	KNAZ 2\$	AZ	180
9	Es	0330	KENW 3	NM	165
		0334	KASA 2	NM	165

Es3 1626-1722 48.242 & 48.258 Euro  
video to S9+!! Azimuth 40°

**Jeff Kruszka**, 5024 S. Braxton Ave.,  
Baton Rouge, LA 70817

<u>June 2004</u>					CT
3	tr	2221	<u>KAGN-CA</u>	31 LA	<u>75</u>
6	Es	1229	KGAN	2 IA	795
		1231	KIMT	3 IA	880
		1241	KDLV	5 SD	990
		1259	KPRY	4 SD	1080
		1307	KTIV	4 IA	880
12	Es	1933	KLNE	3 NE	860
18	Es	2001	WCYB	5 TN	665
		2012	WSKY	4 NC	970
		2019	WUNC	4 NC	790
		2021	WWAY	3 NC	old logo 810
19	Es	1036	<u>KFOR</u>	4 OK	<u>505</u>
		1047	KOCO	5 OK	Note 1 505
			KBSDt	6 KS	
		1110	MUF noted at 96.9 in car to CO		
		1127	KLNE	3 NE	860
		1158	KSNB	4 NE	765
		1230	KPRY	4 SD	1080
		1327	KBME	3 ND	1240
		1916	WPSX	3 PA	975
		2010	KTFL	4 AZ	1230
		2049	KDLO	3 SD	1025
		2200	KTIV	4 IA	880
		2343	KLBY	4 KS	845
20	Es	0009	KOAA	5 CO	940
		1026	unid 4 Fox News		
		1030-2000	gone		
		2200	KTIV	4 IA	880
		2215	KDLVt	5 SD	
21	Es	1643	WTAE	4 PA	930
23	Es	2018	unid 4 CBS		
27	tr	0058	WFSU	11 FL	405

Note 1 – Formerly received by tropo.

A relatively poor showing for E-skip in June.

**John Ebeling**, 9209 Vincent Ave. So.  
Bloomington MN 55431

Here is a report of TV received at my cabin in Alborn, MN. As usual, when an opening happens, I get to my FM tuner and TV becomes secondary. RCA 19" TV set is used, (chassis CTC-175) , 2 antennas, one outdoor directed SE (appeared in an earlier VUD showing my FM antenna) and one in the attic pointing S.

<u>May 2004</u>					CDT
5		0030	WSB-2	GA	
8		1800	unid-2	NBC, central time zone	
		1845	unid-4	Inside Edition	
9		1930	Es 2 thru 4	(2 was NBC)	
10		2230	Es 2 thru 4	4 referenced to UNM education (KOB-4?)	
11		0930	WDIQ-2 AL & WBRZ-2 LA		
		0950	WWL-4	LA	

		2000	Es 2-4	Unid NBC & ABC on 2
15		1130	WEPT-2	TN
22		1420	WBRZ-2	LA (weak Es)
26		1900	Es 2 thru 6	(went to DX FM)
31		1100	WDIQ-2	AL (weak skip)
		1130	WESH-2	FL "
		1900	WDIQ-2	AL & unid ABC on 2

#### June 2004

4		1100	unid 2	UPN-2 ( Probably TX)
10		1005	Es 2-4	unid PBS (w/o bug-unusual)
		1030	KASA-2	NM
18		0845	weak Es	NBC & ABC on 2
19		0900	KETS-2	AR (weak)
		1100	KACV-2	TX "
		1347	unid	UPN-2
		1350	unid	TX on 4
		1800	unid	AZ & TX on 2
		1930	Es 2-6	(to FM to DX)
20		1935	WDIQ-2	AL (weak)
25		1534	KREM-2	WA (still in weakly @ 1700)
		1625	unid-4	Canada (French)
26		2000	Es 2-4	FOX on 4
27		1030	Es on 2	Alberta in weakly
28		1100	Es 2-4	
		1130	WMAB-2	MS

#### July 2004

4		1200-1300	Weak Es 2-4	
		1600	Es 2-6 ( To FM to DX)	
5		2200	WYFF-4	SC (brief Es 2-4)
6		0845	WSB-2	GA
		0900	Es 2-4	(unid TX on 4)
		1012	WBRZ-2	LA
		1023	WWL-4	LA Es 2-6 (to FM)
7		0015	KWGN-2	CO
		0900	WDIQ-2 AL, WSB-2 GA	(Es 2-4)
8		1730	WBRZ-2	La
9		2000	Es 2-6	(short 15 minute opening) Good pix's on 4 & 5, unid
11		1100-1400	Es 2-6	(to FM)

That covers all my notes to date. Any Canadian & WA stations are received off the back of the outside antenna facing SE.

**Dave Pomeroy**, 2321 SE Libra Ct., Topeka, Kansas  
66605-3505 weberbosco@earthlink.net (new)

#### March 2004

19	tr	0800	WCCO-DT 32	KARE-DT 35
			Minneapolis-St. Paul, MN	
		0320	KTIN-21	Ft. Dodge, IA
		0850	KGAN-DT 51*	Cedar Rapids, IA
			(nice to see this one prior to the activation of KPXE-DT in Kansas City, MO on April 13)	

#### April 2004

13		0630	KPXE-DT 51*	Kansas City, MO
			Pgm. 1 (KPXE-Faith)	
			Pgm. 2 (KPXE-Worship)	
			Pgm. 3 (KPXE-PAX West)	
			Pgm. 4 (KPXE-KPXE DTV)	
16		0610	KWTV-DT 39*	Oklahoma City, OK
			14,25,34,52,62	OKC
		0730	21 (UPN 21) 39	Dallas, TX
		0750	WHO-DT 19	Des Moines, IA
17		0530	14	Hoisington, KS
			K30DG-30*	Great Bend, KS KAKE-10
			DTV snow on channel 43 blocking local KTLJ-CA (Fox 43)	



18 0700 KHBS-40 Ft, Smith, AR  
 KFAA-51 Fayetteville, AR  
 0730 KHBS-DT 21 KHOG-DT 15 Ft. Smith,  
 AR  
 0735 KDFW-DT 35 KXTX-DT 40 KXTX-38  
 KDTX-58 Dallas-Ft, Worth  
 0900 WRBU-46 East St. Louis, IL (first  
 time as WB)

May 2004

5 0550 KHQA-7 Quincy, IL  
 0555 KCCI-DT 31 Des Moines, IA  
 KTAJ-DT 21 KQTV-DT 53 St.  
 Joseph, MO (only second time for each)  
 0600 KOLN-DT 25 Lincoln, NE  
 0715 KMEG-14 Sioux City, IA  
 0725 WHO-DT 19 Des Moines, IA  
 (Pgm 1--NBC Pgm 2-radar)

June 2004

4 0730 KTMD-47\* KFTH-67\* KXLN-45\*  
 KPRC-DT 35 Houston, TX (670)  
 0800 KTXH-20 KXLN-45\* KNWS-51\*  
 KAZH-57\* Houston, TX  
 AM KOKI-DT 22 Tulsa, OK  
 2035 KJRH-DT 56 Tulsa, OK  
 2050 KTRK-DT 32\* Houston, TX  
 2100 KPXD-68 KXTX-39 Dallas, TX  
 KHWB-DT 38\* Houston, TX  
 2140 KAVU-25\* Victoria, TX (740)  
 2200 KOPX-DT 50\* KWTW-DT 39  
 Oklahoma City, OK  
 KZJL-61\* Houston, TX  
 2230 KETH-DT 24\* KHOU-DT 31  
 Houston, TX  
 2300 KTFO-DT 42\* Tulsa, OK  
 KFTH-DT 36\* Houston, TX  
 Pgm. 1 TeleFutura  
 KNWS-51 KHWB-39 Houston, TX  
 2310 KOTV-DT 55\* Tulsa, OK  
 (over local LPTV-55 TBN at 10 miles)  
 2325 UNID-54 TBN  
 2330 KRIV-26 Houston, TX  
 16 2100 WICS-20 Springfield, IL

The Texas opening to the Houston area was quite strong. Signal strength was intense and the opening lasted for hours. I did not expect to see channel 25 from Victoria, TX and was just able to see it briefly due to a strong signal from channel 25 in Oklahoma City. I did get a nice photo however.

**Steven C. Wiseblood**, Boca Chica Beach, TX

Equipment: Sanyo 17" Colour TVVHF-UHF combo @ 40-feet Location: 2 miles from the GULF of MEXICO

July 4, 2004 tr Independence Day super Tr  
 1145 KETK 56 TX Jacksonville-Tyler 440  
 NBC "Wimbledon Tennis"  
 1204 KXTX 39 TX Dallas, 475  
 Telemundo, "Telemundo-39", noticias  
 1217 KDAF 33 TX Dallas, promo 475  
 "Dallas-Ft. Worth WB-33"  
 1229 KDFI 27 TX Dallas, ads, 475  
 mention of the METROPLEX  
 1240 KOCB 34 OK Oklahoma City 660  
 "WB Oklahoma City weekend movie"  
 1310 KWCV 33 KS Wichita 810  
 "I Love Lucy", "Kansas' WB",

Excellent signal @ 1346, SUPER DUCT!  
 ad "Serving Wichita for 37 years"  
 1326 KAUT 43 OK Oklahoma City 660  
 promo "UPN-43" movie  
 1348 KSCC 36 KS Hutchinson 840  
 promo "UPN-Kansas"  
 1911 KOCB 34 OK Oklahoma City 660  
 "WB-34", ad at your Oklahoma Ford Dealer"  
 1912 KAUT 43 OK Oklahoma City 660  
 "UPN-43"  
 2039 KDAF TX Dallas 475  
 "WB-33"  
 2233 KTAB 32 TX Abilene", ID 480

This has been a fantastic day for TROPO  
 73's de Steve AB5GP

**Dave Williams**, 3525 SW Timber Av  
 Redmond, OR 97756

Equipment: Rabbit ears and a 20-inch no-blue-screen RCA Color set and a vintage 1960's 9 inch Zenith b/w. Wonder how I'd do with some equipment?

Time	Ch	Calls	City	State	Distance
<u>6/11/04</u>					
1900	4	KLBY	Colby	KS	1089
KAKE/KLBY Logo; Audio ID heard					
2000	2	KWGN	Denver	CO	892
WB2 bug					
2130	2	KNOP	North Platte	NE	1058
Local News					
2135	2	KQTV	Billings	MT	692
Logo snuck in under KNOP					
2148	2	KUSD(t)	Vermillion	SD	1218
Program match only					
<u>6/12/04</u>					
1701	2	KWGN	Denver	CO	892
WB2 News					
<u>6/19/04</u>					
1800	2	KWGN	Denver	Bug CO	892
<u>6/21/04</u>					
1810	2	KNAZ	Flagstaff	AZ	805
Logo + Jim Babbitt Ford ad					
2035	2 and 4	UNID	Canada		
2 Canadian Stns w/HSBC/Bell Canada/Etc ads					
<u>6/24/2004</u>					
1024	2	KSNC	Great Bend	KS	1228
KSN News					
1033	4	KLBY	Colby	KS	1089
ID, Local Ads, Bug					
1042	3	KLNE	Lexington	NE	1118
Program match; NOT Smoky Hills					
1050	4	KSNB	Superior	NE	1218
4/17 Bug, Local Ads					
1105	5	KHAS	Hastings	NE	1188
2 logos (News 5 and DT 21), Local Ads					
1131	5	WOI	Ames/Des Moines	IA	1403
Central IA Weather promo					
<u>6/26/2004</u>					
1400	2	KCBS	Los Angeles	CA	715
CBS2 Bug/LA Ads					
1430	2	XHI	Ciudad Obregon	SN	1250
XHI Logo/Bug					
2015	2	KQTV	St. Joseph	MO	1385
ABC Logo/KQTV Bug/Local Ads					
2115	2	KSNC	Great Bend	KS	1228
Weather Crawl/Bug					
<u>7/1/2004</u>					

1830 2 KASA Santa Fe NM 999 Fox Promos, NM Ads	1810 2 XHI Ciudad Obregon SN 1250 Bug, Local ads
1840 2 KNAZ Flagstaff AZ 805 KPNX Bug	1815 2 KNAZ Flagstaff AZ 805 Local news; weather report
1845 3 KVBC(t) Las Vegas NV 638 Tentative; NBC ghosting under local KOAB	1945 2 KACV Amarillo TX 1201 Bug (KACV + PBS Logo)
1850 2 KCBS Los Angeles CA 715 Local Ads, Bug, Program match (ET)	1950 2 CKND-2 Minnedosa MB 1100 Global Bug, Program Match (not Calgary)
<u>7/7/2004</u>	2000 2 CKCK(t) Regina SK 890 Candian Idol; Guess based on active path
0830 2 KWGN Denver CO 892 WB2 Bug	2045 4 CFSK Saskatoon SK 863 Global Bug, program match (no others possible)
1315 2 KSNC Great Bend KS 1228 KSN Bug; Weather Crawl	<u>7/15/2004</u>
1323 4 KLBY Colby KS 1089 KAKE 10 ID	1630 4 KXJB Valley City ND 1134 KX 4 Bug, ID Slide, Fargo ads
<u>7/9/2004</u>	1700 6 WDAY Fargo ND 1190 WDAY Slide after ET
2000 2 CKND2 Minnedosa MB 1100 Global bug; MTS Mobility ad	1705 2 KXMA Dickinson "Bug" ND 908
<u>7/10/2004</u>	2115 2 CKSA(t) Lloydminster AB/SK 780 Tentative based on program content
830 2 KTCA Minneapolis MN 1370 TPT2 bug; matching cooking show	2130 2 CKCK Regina SK 890 Local ads; CTV IDs
930 2 KUSD Vermillion SD 1218 SDPB bug; in for 3 hours	2140 4 CFSK Saskatoon SK 863 Global News
930 5 KDLT Mitchell SD 1150 Various IDs/local ads, in for 2 hours	2145 2 CKND-2 Minnedosa MB 1100 Global Bug, Program (Train 48) matches MB, not AB
930 6 WOWT Omaha NE 1291 Bug and ID during kids programming	2245 2 CKAL-1 Lethbridge AB 542 A-Channel Weather
1030 4 KPRY Pierre SD 1031 KSFY extended promo/logo between infomercials	2248 4 UNID CBS Jimmy Kimmel; KXJB or WCCO
1030 4 KWSE? Williston ND 881 End of discussion show; program and pta match	<u>7/16/2004</u>
1030 6 KPLO Reliance SD 1071 ID (Keloland)	1450 2 KNAZ Flagstaff AZ 805 Local ads
1120 5 UNID NBC Auto racing; KFYR or KHAS?	
<u>7/14/2004</u>	

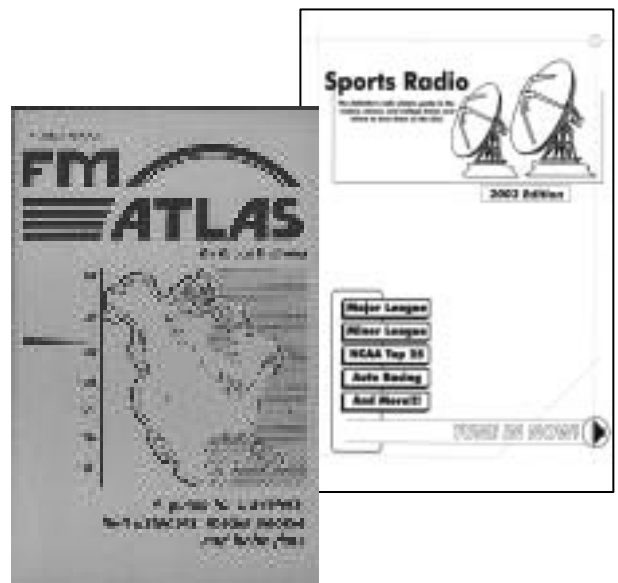
## DXING RESOURCES

### FM ATLAS #19

Bruce Elving's newest listing of FM Stations is just \$23.00. Send your check or money order to FM Atlas, PO Box 336, Esko, MN 55733-9413 and keep it next to your radio or in the glove box of your car!

### Sportsradio!

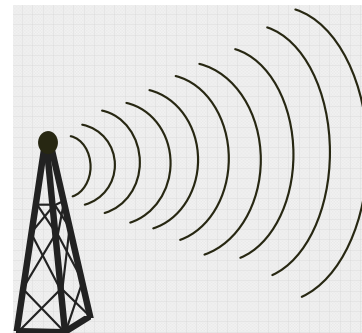
Jim Thomas tells you who's on what station and when...basketball, football, baseball, hockey, racing...just about everything! Send your check for \$12.00 to WTFDA, PO Box 501, Somersville, CT 06072 (checks payable to Dave Janowiak).



# Meteors!

The Aquarids, a major meteor shower, peaks this month. The shower runs from August 11 to September 10 with The peak dates **AUGUST 25 AND 26!** Also remember that this is prime season for meteor DX, so find an open channel and hit the dials!!

# Northern FM DX



**Keith McGinnis**  
**6 Ritter Road, Hingham, MA 02043**  
**longwave@comcast.net 617-846-5760**

For Dxers in the following states: CT IA ID IL IN MA ME MI MN MT ND NE NH NJ NY OH OR PA RI SD VT WA WI WY and all of Canada. Please submit by the 10<sup>th</sup> of each month. If possible please submit in the formats shown Below.

**“TIME”      “CALLS”      “FREQ”      “CITY” “STATE”      “COMMENTS”**  
**PLEASE NOTE THAT ANY TYPEWRITTEN, HANDWRITTEN OR REPORTS NOT IN THE FORMAT ASKED FOR MIGHT BE DELAYED TILL A LATER ISSUE AS TIME PERMITS. THANK YOU.**

THANKS TO EVERYONE WHO SENT IN THEIR REPORTS FOR THIS MONTH. AFTER HAVING VERY LITTLE ACTION IN THE EARLY PART OF THE SEASON EVERYTHING SEEMED TO ERUPT AROUND JULY 4<sup>TH</sup> ☺

DUE TO THE LENGTH OF THE REPORTS (AS WELL AS TIME RESTRICTIONS ON MY PART) A FEW REPORTS (MINE INCLUDED) WILL NOT APPEAR UNTIL SEPTEMBER'S ISSUE.

**Andrew MacKenzie    Greenville (Greene County) NY Equipment - Kenwood KT615 w/ 110khz filter, Mitsubishi DAF10 stock    RS FM6 clone @ 20ft AGL**

Tr July 3

1018	CBFX	100.7	Montréal	QC	w/ FF classical (rare) 215mi.
1032	unid	93.1			Classic Rock
1034	unid	90.7			FF new age type music
1040	WIZN	106.7	Burlington	VT	(rare) 137mi.
1041	WEZX	106.9	Scranton	PA	111mi.
1043	WKDN	106.9	Camden	NJ	181mi.
1050	WUSL	98.9	Philladelphia	PA	175mi.

Tr July 4

2027	WOBM	92.7	Toms River	NJ	in with Hot AC and live from fireworks show. 175 miles.
------	------	------	------------	----	---

Es July 5

1215	WRXW	93.9	Pearl	MS	id "93.9 Rock"
1429	ZFBFM	94.9	Hamilton Bermuda		id "Power 95" local ads, dj chatter, listened for over an hour
1521	Mix 106	106.1	Hamilton Bermuda	AC	music and 'Mix' liner heard

Es July 6

1130	WGYL	93.7	Vero Beach	FL	local ads
1134	WAMR	107.5	Miami	FL	spanish
1135	WZMQ	106.3	Key Largo	FL	Spanish AC
1138	WMXS	103.3	Montgomery	AL	local ads
1140	WJDQ	101.3	Meridan	MS	"Q101" top 40 music
1142	unid	99.5			Country & AC stations fading up over big x local WRVE
1143	WEDR	99.1	Miami	FL	urban id "99 Jams"
1144	WBAM	98.9	Montgomery	AL	id "Bama Country" (huge signal)
1147	WTYX	94.7	Jackson	MS	classic rock "Arrow 947" (huge signal)
1148	WZBQ	94.1	Carollton	AL	CHR id "941 ZBQ"
1148	WMEZ	94.1	Pensacola	FL	AC "Soft Rock 94.1"
1152	WAVW	92.7	Stuart	FL	"Wave 92.7" country music
1153	WLWI	92.3	Montgomery	AL	country "I92" blew out local WFLY for several minutes
1154	WMJY	93.7	Biloxi	MS	promo for magic937.com
1156	WANZ	100.5	Northport	AL	locals ads incl. Tuscaloosa area
1157	unid	101.1			sports talk (tour de france discussion)
1205	WWTN	99.7	Manchester	TN	id "Supertalk 997"
1208	WMPC	93.7	Chattanooga	TN	id "Rejoice 93"
1211	WMJJ	96.5	Birmingham	AL	id "Magic 96.5"
1213	?WKYZ	101.3			female DJ taking phoners about storm damage then says "we'll get back to playing"

more World Class Rock", could be 2 different stations

1216	WOKK	97.1	Meridian	MS	id "OKK Country" country music
1220	WJKK	98.7	Jackson	MS	id "Mix 98.7" "Rapids Waterpark" ad
1222	WHER	99.3	Heidelberg	MS	id "Eagle 99" classic country
1224	WBBN	95.9	Taylorville	MS	station promo & id "...Pine Belt's Best Country B95"
1225	WSYE	93.3	Tupulo	MS	ad for Columbus Hampton Inn
1227	WUSJ	96.3	Jackson	MS	id "US 96.3" country over local WAJZ
1228	WGMZ	93.1	Glencoe	AL	classic rock calls heard
1228	WKUL	92.1	Cullman	AL	Swapshop program "Trading Post"
1237	WTWX	95.9	Guntersville	AL	Rush Limbaugh
1238	WBHJ	95.7	Tuscaloosa	AL	hiphop, promo for 957jamz.com
1240	WYYW	95.1	Marion	MS	id "classic country 95.1"...."the twin states"
1241	WTYX	94.7	Jackson	MS	Backyard Broadcasting ad (WTYX/WRXW) 1243
	WTUG	92.9	Tuscaloosa	AL	ad for 'Caring Hands Hospice' over good local WBPM
1245	WQHL	98.1	Live Oak	FL	id "The Big 98" country music
1912	WLAY	100.3	Tuscumbia	AL	calls heard, country music (Hank Jr.)
1914	WXTB	97.9	Clearwater	FL	"98X Rocks The Bay" classic rock
1915	WDJR	96.9	Enterprise	AL	"Country 969, Today's Best country..."
1917	WBLX	92.9	Mobile	AL	local ads
1935	WYYX	97.7	Bonifay	FL	local ads for Panama City (Coyote Ugly Saloon, The Joint, etc.)
1939	WOGK	93.7	Ocala	FL	"KCountry 93.7" all request show
1941	WRBA	95.9	Springfield	FL	"Arrow 959" "rockin' the Gulf Coast for the last decade..."
1942	WZNS	96.5	Ft Walton Beach	FL	local ad for 'Hullabaloo' "Z96"
1946	WKZY	106.9	Cross City	FL	AC music, calls heard
1949	WDUV	105.5	New Port Richey	FL	"The Dove" "...easy listening favorites..."
					local ads for Tampa area
1951	WXGL	107.3	St. Petersburg	FL	"107.3 The Eagle" America Stop Smoking ad, "Tampa Bay's Classic Rock Station..."
1955	WTBT	103.5	Bradenton	FL	"Thunder 103.510 songs in a row or \$10,000"
2002	WMTX	100.7	Tampa	FL	"Mix 100.7" (big signal)
2004	WGNE	99.9	Palatka	FL	"Froggy FM" dj chatter & phoners, country m
2005	WKGR	98.7	Ft Pierce	FL	"Classic Rock 98.7, The Gator"
2007	WWRM	94.9	Tampa	FL	"The New Magic 94.9" liner heard into Delilah
2008	WSJT	94.1	Lakeland	FL	smooth jazz music, dj advising about closure of Sunshine Skyway Bridge then wsjt.com
2010	WMFQ	92.9	Ocala	FL	oldies music
2030	WSUN	97.1	Holiday	FL	alt rock
2031	WBLE	100.5	Batesville	MS	"Country 101"
2051	KMSX	94.9	Little Rock	AR	id "Mix 94.9"

Es July 9

1120	WZTA	94.9	Miami Beach	FL	id "Zeta Rocks"
1128	WTNT	94.9	Tallahassee	FL	id "94.9 TNT" local ads, country music
1130	unid	99.3			oldies "This magic moment" (WMFC-AL or WPBHFL)
1131	WHER	99.3	Heidelberg	MS	id "Eagle 99" classic country
1145	unid	105.7			"105.7 LiteFM" AC music
1148	WDDR	107.1	Lehigh Acres	FL	smooth jazz
1149	WAOA	107.1	Melbourne	FL	"A1A" top 40
1155	WBZE	98.9	Tallahassee	FL	id "Star 98"
1157	WRQC	92.5	Estero	FL	id "Real Rock 92.5" (6.8kw)
1202	MoreFM	94.9	Nassau Bahamas		M announcer carib. accent, talk show w/ phoners (new country)
1241	Primera FM	88.1	Santo Domingo	DR	SS dj, various lite AC & new age SS & EE music, commercials (new country and southernmost FM catch for me)

**Bill Nollman DX Report - Equipment Yamaha T-85 FM Tuner APS-13 at 35ft AGL. Conrad RDS Manager with PI code mod and RSDDec 3.0 software**  
 Mileage is at the end

July 4 Eskip

1341	WYCT	98.7	Pensacola	FL	Cat Country 98.7	1122
1345	WBAM	98.9	Montgomery	AL		975
1350	WJLQ	100.7	Pensacola	FL	Q100	1122
1409	WKZN	105.3	Kenner	LA	RDS ID Only	71A7 1250
1412	WZNJ	106.5	Demopolis	AL	Z106.5	1038

July 4 Tropo - Very Strong Locals !

2241	WHTG	106.3	Eatontown	NJ	G106.3		118
2248	WDHA	105.5	Dover	NJ			104
2300	WKJY	98.3	Hempstead	NY	K-Joy 98.3		82
2316	WRAT	95.9	Point Pleasant	NJ	RDS ID Only	819F	123

July 5 Eskip

1030	WSOR	90.9	Naples	FL	RDS ID Only	85AD	1175
1150	WSGC	92.1	Elberton	GA	South 92.1		762

July 6 Incredible Eskip !!!

945	WRLX	92.1	W Palm Beach	FL	RDS ID Only	82C1	1109	
953	WGES	90.9	Key Largo	FL	Noventa Punto Nueve - Genesis		5000	1220
1000	WLPT	88.3	Jesup	GA	RDS ID Only - PS-WLPT 734D		860	
1000	WKGR	98.7	Ft. Pierce	FL	The Gator	6FB8	1096	
1003	WRGO	102.7	Cedar Key	FL	Fun 102.7		1034	
1006	WTRS	102.3	Dunnelon	FL	Thunder Country 102.3 and 104.9			1017
1010	WKUB	105.1	Blackshear	GA	RDS ID Only - PS-WKUB/WWUF		7119	891
1011	WOLL	105.5	Hobe Sound	FL	Cool 105 7AC9	1111		
1017	WAMR	107.5	Miami	FL	SS - Amor	55F1	1175	
1026	WIOL	92.7	Eufaula	AL	Classic Rock 92.7 The River			943
1030	WPYM	93.1	Miami	FL	Florida's Pure Dance Channel			1175
1032	WQUE	93.3	New Orleans	LA	Q93	80F4	1240	
1033	WZBQ	94.1	Carrollton	AL	94/1 ZBQ96D6	1000		
1035	WTVY	95.5	Dothan	AL				1004
1040	WAOA	107.1	Melbourne	FL	107 A1A		1037	
1041	WYCL	107.3	Pensacola	FL	Cool 107		1108	
1043	WXGL	107.3	St. Petersburg	FL	107/3 The Eagle		1094	
1045	WKXI	107.5	Magee	MS	Kixy 107		1136	
1049	WRAX	107.7	Birmingham	AL	107/7 The X			931
1050	WFXX	107.7	Georgiana	AL	Fox 107		1037	
1056	WMAX	105.3	Bowdon/Atlanta	GA	FM Talk - mono	746F	883	
1059	WNSL	100.3	Laurel	MS	SL-100			1141
1100	WZUS	100.9	Macon	IL	US-101			853
1100	WPGA	100.9	Perry	GA	Mix 100.9			870
1100	WJXN	100.9	Utica	MS	Magic 100.9			1170
1115	WTBT	103.5	Bradenton	FL	Thunder 103/5	8701	1126	
1116	WQEN	103.7	Gadsden	AL	103/7 The Q	7F5D		918
1130	WFCA	107.9	Ackerman	MS	Cmls Only - Jackson & Grenada			1068
1133	WMGF	107.7	Mount Dora	FL	Magic 107.7			1015
1149	KXRR	106.1	Monroe	LA	Cml Only		1224	
1151	WMXU	106.1	Starkville	MS	Mix 106.1			1040
1200	WBTG	106.3	Sheffield	AL	Cml Only - Tenn Valley / Florence		942	
1200	WYOY	101.7	Gluckstadt	MS	Jackson's #1 Music Station - Y101			1147
1203	WRVR	104.5	Memphis	TN	The River			1021
1205	WAFR	88.3	Tupelo	MS	RDS ID ONLY 553B			1000
1208	WSOR	90.9	Naples	FL	RDS ID Only	85AD		1175
1214	WHRP	93.3	Tullahoma	TN	Power 93.3			840
1215	WSYE	93.3	Houston	MS	Sunny 93.3	86A4		1031
1217	WMBZ	94.1	Germantown	TN	Newby's on Highland (club)	748B		1025
1218	WCFB	94.5	Daytona Beach	FL	Cml's - Seminole Town Ctr Mall			979
1226	WTCD	96.9	Indianola	MS	SuperTalk - RDS ID Only	870B		1110
1228	WOSN	97.1	Indian Rvr Shores	FL	Cml - The Coin Castle Casino-Ft Pierce			1057
1230	WXCV	95.3	Homosassa Sprg	FL	no ID - in Crystal River	1046		
1234	WSM	95.5	Nashville	TN				844
1236	WZTA	94.9	Miami Beach	FL	989A			1160
1238	WLAY	100.3	Tuscumbia	AL	The Shoals Best Country	935		
1239	WQXB	100.1	Grenada	MS	Hot Country B100			1075
1252	WDDV	92.1	Venice	FL	RDS ID PS-921 WDDV	5CF7		1150
1253	WJBT	92.7	Green Cove Sprs	FL	Cml for - cbs47.com			942
1302	KBFC	93.5	Forrest City	AR	"Cml's ""in the Delta"" & Forrest City/I-40"			
1304	KKPT	94.1	Little Rock	AR	The Point 94.1	1234		1140
1308	WCKT	100.1	Port Charlotte	FL	RDS ID Only	5B07		1167
1325	WQHL	98.1	Live Oak	FL	The Big 98	7FA9		969
1339	WNFK	92.1	Perry	FL	no ID - Perry and cmls mentioned		1000	
1413	WJXR	92.1	Macclenny	FL	mono - talk / swap shop		945	
1700	WOCY	106.5	Carrabelle	FL	Oyster Country		1066	
1702	WOKA	106.7	Douglas	GA	Dixie Country 106.7			886
1712	WRBQ	104.7	Tampa	FL	Oldies 104.7		1090	
1714	WQBZ	106.3	Fort Valley	GA	Q106			860
1717	WASJ	105.1	Panama City Bch	FL	Smooth Jazz 105.1			1073
1720	WALR	104.1	La Grange	GA	Kiss 104.1 - Over Local !!!			869
1725	KBCN	104.3	Marshall	AR				1115
1730	WOOF	99.7	Dothan	AL	Woof-FM		1004	
1737	WMXS	103.3	Montgomery	AL	Mix 103		983	
1746	WRJM	93.7	Geneva	AL	mono - No ID - cmls - in Enterprise			1034

1800	KOSU	91.7	Stillwater	OK	Oklahoma State University		1358
1800	KZLE	93.1	Batesville	AR		1075	
1803	WTNT	94.9	Tallahassee	FL	PS-94.5 TNT (not 94.9) EEEE		1000
1805	KXMO	95.3	Owensville	MO		1010	
1816	KFTK	97.1	Florissant	MO	97/1 FM Talk	961	
1816	unID	97.7	PTA MO/IL	??	The Beach 97.7		
1828	WNNS	98.7	Springfield	IL	RDS ID Only 7860	870	
1828	WYMX	99.1	Greenwood	MS	Cml Only -Tom Wadler Auto Group		
1833	KFUO	99.1	Clayton	MO	RDS ID / Cml's 1F4A	945	
1838	WVLE	99.3	Scottsville	KY	Radio 99 WVLE	789	
1849	KIXB	103.3	El Dorado	AR	Kix 103		1205
1857	KZRB	103.5	New Boston	TX			1317
1904	KTMO	106.5	New Madrid	MO	The Wolf	971	
1919	WZOQ	92.1	Wapakoneta	OH	92 Zoo		590
2002	WZNJ	106.5	Demopolis	AL	Cml in Demopolis	1038	
2007	WDDV	92.1	Venice	FL	RDS ID Only 5CF7		1150
2015	KCXY	95.3	East Camden	AR	Y95 17B6		1226
2011	WYSF	94.5	Birmingham	AL	Y-94		940
2022	WKSM	99.5	Ft. Walton Beach	FL	99 Rock	1090	
2023	WDJR	96.9	Enterprise	AL	RDS - CNTRY969	5D8F	1000
2024	WOOF	99.7	Dothan	AL	Woof-FM	1004	
2027	KNUE	101.5	Tyler	TX	RDS PS - KNUE 3460	1376	
2035	KIXQ	102.5	Joplin	MO	Kix 102.52786	1196	
2045	WYNK	101.5	Baton Rouge	LA	RDS ID Only 9564		1260
2046	WTKX	101.5	Pensacola	FL	TK101		1100
2050	KRMD	101.1	Shreveport	LA			1311
2054	KWRD	100.7	Highland Village	TX	The Word 100.7	1421	
2057	WYPY	100.7	Baton Rouge	LA	Y100.7		1260
2100	KOMS	107.3	Poteau	OK	Big Country 107.3		1251
2110	KADA	99.3	Ada	OK	Big Country KADA FM	1377	
2113	WKBB	100.9	West Point	MS	RDS ID Only 6F2B		1026
2123	KIPR	92.3	Pine Bluff	AR	Power 92 Jamz	1145	
2126	KSMB	94.5	Lafayette	LA	RDS ID Only A4C1		1305
2134	KBON	101.1	Mamou	LA			1300

July 9 Eskip

1023	WAWW	92.7	Stuart	FL	Wave 92.7		1083
1028	KIGL	93.3	Seligman	MO	RDS ID Only 25C7		1194
1040	WLRQ	99.3	Cocoa	FL	LiteRock 99.3		1028
1041	KRVV	100.1	Bastrop	LA	RDS ID Only 3F1B		1216
1048	KCIL	107.5	Houma	LA	no ID - city mentioned	1309	
	WJLU	89.7	New Smyrna Bch	FL	CornerStone Ministry	975	
1100	WJIS	88.1	Bradenton	FL	Legal ID - The Joy FM	1143	
1103	WWKA	92.3	Orlando	FL	K-92 FM	1025	
1116	WOLZ	95.3	Fort Myers	FL	RDS ID Only - Oldies 95.3	7AD7	1160
	WHLH	95.5	Jackson	MS	Halleluiah FM - 7/04		1140
1125	WUSJ	96.3	Jackson	MS	US96.3		1167
1131	KZMZ	96.9	Alexandria	LA	in/out with WDJR !!! - 96.9 Rocks	1280	
1131	WYYX	97.7	Bonifay	FL	97X		980
1134	WTKE	98.1	Holt	FL	Sporting News Radio/The Ticket		1067
1137	WJKK	98.7	Vicksburg	MS	Mix 98.7	1170	
1140	WGSY	100.1	Phenix City	AL	Sunny 100		926
1141	WVVE	100.1	Panama City Bch	FL	Wave 100		1060
1146	WAKT	103.5	Callaway	FL	Cmls Only No ID - Area Code 850	1062	
1154	WKGC	90.7	Panama City	FL	RDS ID Only 6FAE		1060
1155	WXEL	90.7	West Palm Beach	FL	91D7		1125
1204	WTYS	94.1	Marianna	FL	2200 watts !		1021
1208	WMKL	91.7	Key Largo	FL	The Call	1227	
1220		94.9	Nassau	BH	no ID - confirmed with others - talk		
1221	WKEY	93.5	Key Largo	FL	Key 93.5	1227	
1255	WKEZ	96.9	Tavernier	FL	EZ-96.9 - Legal ID		1233
1301	WBGF	93.5	Belle Glade	FL			1128
1315		93.5	MarshHarbr/Abaco	BH	367-2200 / Bahamas Tele Corp		1100
1337		92.9	????	CU	Radio Taino (93.3 in Havana)		1370

July 9 Ms

1348	WMXL	94.5	Lexington 76B9	KY 661	RDS PI Code MS ID Only - 1/2 sec burst		
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July 9 Es

2009	KKIA	92.9	Ida Grove	IA	Hot Country 92/9 The Moose 2B3B		1140
2012	KGRC	92.9	Hannibal	MO		960	
2014	WCOY	99.5	Quincy	IL	Coyote Country	955	
2020	KKWK	100.1	Cameron	MO	KC Royals BB no id-only one on listed		1100
2033	KKBZ	99.3	Clarinda	IA			1135

2038	KQRC	98.9	Leavenworth	KS	RDS ID Only	3BFC	1150
2046	KNDY	95.5	Marysville	KS	originally heard on 103.1		1225

**Dave Williams Redmond, OR 97756 - Equipment: car Stereo in a 1998 Subaru Wagon. Mileage is listed before comments**

July 7 Es

0830	KSDR	92.9	Watertown	SD	1181	KS-93 Country
1000	KJAK	92.7	Slayton-Lubbock	TX	1286	KJAK Slayton
1002	KQAY	92.7	Tucumcari	NM	1118	"Program sponsord by 1st Baptist Church of Logan, NM"
1026	KRST	92.3	Albuquerque	NM	997	"Legal ID, ABQ Wx"
1028	KBAT	93.3	Midland-Odessa	TX	1332	"Ad for Busters Well Svc, Kermit TX"
1030	KPER	95.7	Hobbs	NM	1254	"Ads for Pro-Treat, Dr. Conrad Dean"
1039	KWES	93.5	Ruidoso phone #"	NM	1122	"Ruidoso WX, ad for Sierra Mall, local
1039	KBIM	94.9	Roswell	NM	1167	"Ad for Plateau Wireless Roswell, Roswell WX"
1041	KTZA	92.9	Artesia	NM	1197	"KTZA", Relog
1042	KULL	92.5	Abeline	TX	1413	"Cool 92"
1043	KIJN(t)	92.3	Farwell	TX	1182	"Religious, assumed by Es path"
1046	KGRW	94.7	Friona	TX	1185	"Tres FM"
1048	KMRK	96.1	Odessa	TX	1332	"Wild 96.1", live from BBS Collision in Odessa
1048	KBZU(t)	96.3	Albuquerque	NM	997	Direction and format guess
1049	KMCM	96.9	Midland-Odessa	TX	1332	"Radio 97 Gold"
1050	KMML	96.9	Amarillo	TX	1201	"Ad for Cactus Roofing, KMML"
1051	KCYN	97.1	Moab	UT	719	"Canyon Country 97.1 FM", "Emery County" mentions
1051	KGNC	97.9	Amarillo	TX	1201	"KGNC News and Sports Update"
1054	KPRF	98.7	Amarillo	TX	1201	"Sponsored by CC & AmarilloHelpWanted.com"
1055	KXMT	99.1	Taos	NM	984	Ad for performance by Taos dance troupe
1055	KHKX(t)	99.1	Midland-Odessa count it"	TX	1332	"Country in right direction, won't
1059	KNNK	100.5	Dimmitt	TX	1207	"Awesome ID with 40 place names ending with " "and all points in-between"
1101	KCRT	92.5	Trinidad	CO	1000	"Edward Jones Investments - Lori Hoffman ad, id"
1102	KYBR	92.9	Espanola	NM	979	"Radio O Sol"
1108	KALQ	93.5	Alamosa	CO	926	KALQ ID
1108	KSBV	93.7	Salida Council news"	CO	880	"Coyote Cantina ad, Salida City
1111	KRTN	93.9	Raton	NM	1014	"KRTN ID, Local Police Blotter"
1112	KQMX	95.5	Clinton	OK	1320	"Hot Mix 95.5"
1112	KLLL	96.3	Lubbock	TX	1269	Ads for Lubbock and Dalhart
1116	KARX	95.7	Amarillo	TX	1201	"The Car"
1117	KLMR	93.3	Lamar	CO	1054	"Sunny 93"
1119	KTHN	92.1	La Junta	CO	1014	"Thunder Country"
1122	KKBS	92.7	Guymon	OK	1158	"KKBS Classic Rock"
1125	KSPZ	92.9	Colorado Springs "KSPZ", local ads	CO	926	"Good Times and Great Oldies"
1129	KOLS	95.5	Dodge City College, Magic 95"	KS	1189	"Ad for Dodge City Community
1138	K239AE	95.7	Salida	CO	880	"Promo for " "The World" , KRCC ID
1140	KDZA	107.9	Pueblo	CO	953	Ad for Wild Horse Casino Cripple Creek
1141	KNKN	107.1	Pueblo	CO	953	SS ad for Womack's Casino Cripple Creek + CO State Fair
1148	KKLI	106.3	Colorado Springs Gate"	CO	926	"K-Lite", ads for Shops at Briar
1151	KNFO	106.1	Basalt	CO	803	Rush Limbaugh
1152	KSTY	104.5	Canon City	CO	919	"Ad for ""Naked Woods Furniture"
1153	KHYM	103.9	Copeland	KS	1167	Great Plains Christian Radio
1154	KRFX	103.5	Denver	CO	892	"The Fox"
1156	KSLS	101.5	Liberal 101.5"	KS	1170	"Not too soft, not too hard, Lite
1157	KWOX	101.1	Woodward	OK	1265	"K-101"
1204	KKMG	98.9	Colorado Springs	CO	926	"Todays Best Music, Magic FM"
1204	KJIL	99.1	Copeland	KS	1167	Great Plains Christian Radio
1206	KKFM	98.1	Colorado Springs	CO	926	"Chuck Squire show, Classic Rock"
1210	KKJQ	97.3	Garden City	KS	1141	ID
1212	KJNM	92.1	Castle Rock	CO	892	Radio Romantica
1213	KSSH	96.3	Ingalls	KS	1166	Super Hits 96

1216	KBGL	106.9	Larned	KS	1219	"106.9 FM Rock"
1216	KSCB	107.5	Liberal	KS	1170	"Brian Bellow show, mentions of Hooker, Liberal"
1219	KQNK	106.7	Garden City	KS	1141	SS ad for Ryan Lauden Dental and Western Motor
1226	KXKL	105.1	Denver	CO	892	Cool 105.1
1227	KZQD	105.1	Liberal	KS	1170	Spanish Preaching
1230	KQMT	99.5	Denver	CO	892	99.5 The Mountain - Just Music
1231	KYBD	98.1	Copeland	KS	1167	"Hot New Country" and "Big Dog for Southwest Kansas"
1237	KZRD	93.9	Dodge City	KS	1189	"Worlds of Fun" ad, Dodge City ad
1242	K222AK	92.3	Hugoton	KS	1146	Classical rebroadcast of KANZ – programs match!
1244	K202AV	88.3	Breckenridge	CO	848	"New Age, xltr for KUNC, playlist match on web site for KUNC"
1253	KCCY	96.9	Colorado Springs	CO	926	"Today's Best Country 96.9 KCCY"
1255	KRKS	94.7	Boulder	CO	889	"Religious talk show with guests from Arvada, Denver, etc."

July 9 Es or Ms

1315	KTOM	92.7	Marina	CA	524	"92.7 K-TOM", country song, quick fade (Ms)"
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July 10 Es

900	KELO	92.5	Sioux Falls	SD	1217	End of Top-of-the-hour ID
901	KITN	93.5	Worthington	MN	1271	"Classic Hits for the Tri-States"
915	KNSW	91.7	Worthington	MN	1271	Minnesota Public Radio sponsorships
917	KLGA(t)	92.7	Algona	IA		"Your Hometown Radio Station" (slogan is Home Town Radio)
1102	KRKZ	93.5	Altus	OK	1338	"The New Z-93", local ads (Altus Motor Sports)
1103	KTSD	91.1	Reliance	SD	1071	End-of-the news SDPB ID and local KTSD drop-in-ID
1105	KMML	96.9	Amarillo	TX	1201	ID; Relog
1106	KWEY	97.3	Weatherford	OK	1332	"97.3 the Co-Yote"
1108	KEFH	99.3	Clarendon	TX	1254	"Oldies KEFH"
1112	KARX	95.7	Amarillo	TX	1201	Classic Rock The Car; Relog
1115	KXIT	96.3	Dalhart	TX	1134	"The New 96.3 KXIT"
1122	KRTN	93.9	Raton	NM	1014	The Oldies Station KRTN

July 14 Es

1015	XHGON	92.9	Ciudad Obregon	SN	1400	"La Caliente"
1016	XHUSS	92.3	Hermosillo	SN	1300	Legal calls

**Harry Hayes - Wilkes-Barre, PA Equipment: Superadio w/110khz filter, Bose Wave Radio, Tivoli Model 1 table radio, FM-6 in attic no amp.**

June 5 Tr

0100	WEBE	107.9	Westport	CT		loud w/fades 140 mi.
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June 11 Tr

2310	WNNK	104.1	Harrisburg	PA		Good, rr,"Wink" 100 mi.
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June 16 Tr

0940	WLTF	97.5	Martinsburg	WV		oldies, weak 150 mi.
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June 21 Tr

0755	WQBR	99.9	Avis	PA		country,"Cutting Edge Country" loud 75mi.
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June 24 Es

1125	KRRQ	95.5	Lafayette	LA		rock music
1138	WBRH	90.3	Baton Rouge	LA		"Smooth Jazz",ID new

July 4 Es

1417	WUSF	89.7	Tampa	FL		ID, excellent next to local WVIA on 89.9, new
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Mileages on Tr logs are approximate. I don't see much point in exact measurements for Es, unless they are unusually far or close. It is not a good season so far for Es, in fact, about the worst ever noted here. As of July 4th it looks like things may be turning a little bit. There was a good amount of strong short range Tr on the morning of 7/4 but I didn't have a lot of time to investigate just what was coming in.

**John Ebeling – Alborn MN & Bloomington MN Equipment: Pioneer TX9500 tuner, IF modified, Conrad RDS unit and 'armstrong' method of rotation of my Stereo Probe 9, pictured in the VUD earlier this year. Times are CST. Mileage is at the end of the comment section.**

May 11 Tropo from the cabin in Alborn (Prosit) MN

1800 WFMP 107.1 Coon Rapids MN (Ex WI station) 140

May 12 Tropo Alborn

1940 K240ED 88.7 Yankton SD "K-love" 368

May 20 Tropo Alborn

1600 WELY 94.5 Ely MN (Ex 94.3

May 23 Es (& one Tropo) Bloomington MN

1855 WAYF 88.1 W Palm Beach FL 1456 miles  
 1902 WZBQ 94.1 Carroliton AL RDS: '94.1 the buz' 847  
 1905 WTBF 94.7 Brundidge AL RDS ID 993  
 1912 KRNA 94.1 Iowa City IA  
 1915 unid 95.7 rock  
 1922 WKGC 90.7 Panama City FL RDS ID 1096  
 1930 WQUE 93.3 New Orleans LA "Q93" 1042  
 1932 WKSJ 94.9 Mobile AL "95 KSJ" 1017  
 1935 WKOR 94.9 Columbus MS 826  
 2038 KHLA 92.9 Lake Charles LA 1010  
 2040 KQXY 94.1 Beaumont TX 1020  
 2041 KYKR 95.1 Beaumont TX "kicker" 1020  
 2114 unid 91.9 "The freak" Pirate???

May 26 E-skip Alborn

1800 KSTX 89.1 San Antonio TX (+ talk on 67kHz) 1253  
 1804 KDAQ 89.9 Shreveport LA 1004  
 1828 WPAS 88.9 Pascagoula MS 1169  
 1833 WQUE 93.3 New Orleans LA '93Q' 1085  
 1835 WTYX 94.7 Jackson MS 'arrow 947' 1024  
 1840 KVRS 90.3 Lawton OK 908  
 1843 KBNL 89.9 Laredo TX RDS ID 1398  
 1846 KTLZ 89.9 Cuero TX 1263  
 1900 KEDM 90.3 Monroe LA 999  
 1905 KBNR 88.3 Brownsville TX 1483

June 19 E-skip Alborn

1942 unid 92.3 "The Beat" // with a 106.3 station. Rocky Mts mentioned.  
 1950 KRWN 92.9 Farmington NM 1071  
 1957 KPCL 95.7 Farmington NM 1071  
 2000 KUTE 90.1 Igntacio CO 1029  
 2001 KXXI 93.7 Gallup NM 1152  
 2019 KSII 93.1 El Paso TX 'kiss fm' 1288  
 2026 unid 91.9 "Interactive Radio" ,religous #931-481-1085 given which desn't fit the area. Satellite fed?  
 2036 KEPC 89.7 Colorado Springs CO 'bootleg radio' 836  
 2042 KTRA 102.1 Farmington NM RDS ID 1071  
 2050 KFMQ 106.1 Gallup NM +tone SCA 1152

June 24 Es Bloomington

1012 KPKY 94.9 Pocatello ID RDS: KPKY 963  
 1014 KEZJ 95.7 Twin Falls ID 1075  
 1016 KLCE 97.7 Idaho Falls ID 932  
 1019 KMGJ 102.5 Pocatello ID 963  
 1023 KLIX 96.5 Twin Falls ID 1075  
 1028 KMTN 96.9 Jackson WY 863  
 1031 KID-FM 96.1 Idaho Falls ID 932  
 1033 KUWJ 90.3 Jackson WY 863  
 1038 KLGT 92.9 Buffalo WY 659

1045	KLCE	97.3	Blackfoot	ID	RDS ID	952
1047	KBYI	100.5	Rexburg	ID	classical	915
1050	K285CO	104.9	Pocatello	ID	"	963
1105	KYYA	93.3	Billings	MT	738	
1107	KEMC	91.7	Billings	MT	RDS ID	738
1111	KPKX	97.5	Bozeman	MT	864	
1114	KMXE	99.3	Red Lodge	MT	"the mountain"	779
1119	KBOZ	99.9	Bozeman	MT	"the fox"	864
1128	KUFM	89.1	Missoula	MT	+talk SCA	1006
1131	KGFC	88.9	Great Falls	MT	g	879

June 29 Tropo Alborn

0932	KXBR	91.9	Intl Falls	MN	"The Edge"	117
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July 4 E-skip Alborn

1122	WJSP	88.1	Warm Springs	GA	RDS ID	1061
1626	WMAH	90.3	Biloxi	MS	(RDS read "MPB")	1164
1636	WJZD	94.5	Long Beach	MS	'JZ94.5'	1165
1639	WEBZ	93.5	Panama City	FL	1222	
1647	WMJY	93.7	Biloxi	MS	'magic 93.7'	1164
1648	WDLT	98.3	Chickasaw	AL		1148
1653	WNOE	101.1	New Orleans	LA	RDS ID	1185
1658	WRQO	102.1	Monticello	MS		1076
1659	WLMG	101.9	New Orleans	LA	'magic 101.9'	1185
1701	WTRS	102.3	Dunnellon	FL	1358	
1708	WKSJ	106.1	Picayune	MS	'sunny 106.1'	1156
1715	WYLD	98.5	New Orleans	LA	RDS read 'FM98'	1185
1718	WRNO	99.5	New Orleans	LA		
1720	WNSL	100.3	Laurel	MS	'SL100'	1073
1730	WZKX	107.9	Bay St. Louis	MS	'kicker 108'	1160
1734	KKND	106.7	Port Sulphur	LA	1185	
1740	WKZN	105.3	Kenner	LA	'the zone'	
1743	WJSH	104.7	Folsom	LA		1138
1745	WITT	104.5	State College	MS	'hot 104.5'	959
1748	KSTE	104.1	Houma	LA	'kisss 105 FM'	1207
1806	WMPR	90.1	Jackson	MS		1024

July 6 E-skip Alborn

0830	WAGP	88.7	Beauford	SC		1190
0850	WKNC	88.1	Raleigh	NC	RDS read "KNC 88.1"	1061
0856	WQZY	95.9	Dublin	GA	1125	
0920	WWXM	97.7	Garden City	SC		
0935	WMYB	92.1	Myrtle Beach	SC	'star 92.1'	1170
0955	WYAK	103.1	Surfside Beach	SC	1171	
1042	WFSS	91.9	Fayetteville	NC	(RDS test message 'CRL RDS')	1092
1055	KHCP	89.3	Paris	TX	934	
1100	KNTU	88.1	Mc Kinney	TX	977	
1631	KBHT	93.5	Crockett	TX	1094	
1635	WBHM	90.3	Birmingham	AL	981	
1637	WECC	89.3	Folkston	GA	'positive music' g	1254

(The cloud really moved around on July 6th)

July 7 E-skip Alborn

0852	WMAW	88.1	Meridan	MS	RDS read 'MPB'	1032
0910	WMJY	93.7	Biloxi	MS	'magic 93.7'	1164
0915	WAFR	88.3	Tupelo	MS	RDS ID	903
0921	KXRA	88.7	Alamosa	CO	945	
0924	WMAE	89.5	Booneville	MS	877	
0926	WSYE	93.3	Houston	MS	RDS: 'sunny 93'	925
0927	KRVN	93.1	Lexington	NE	'the river'	557
0932	WVAS	90.7	Montgomery	AL	1064	
0941	KATR	98.3	Otis	CO		
0943	KFH	98.7	Clearwater	KS	702	
0952	WLWI	92.3	Montgomery	AL	1064	
0955	WJSP	88.1	Warm Springs	GA	RDS ID	1061
1057	KBYU	89.1	Provo	UT		1060
1101	KUER	90.1	Salt Lake City	UT	1052	
1103	KFRZ	92.1	Green River	WY	RDS ID	
1105	KJYE	92.3	Grand Junction	CO	'kjoy'	973
1108	unid	97.1			1-800-888-TYLER	RDS read: 'VAC' odd
1109	KBEE	98.7	Salt Lake City	UT	'b98.7'	1052
1112	KURR	99.5	Bountiful	UT	RDS ID	1048
1114	KBER	101.1	Odgen	UT	'kbear'	1039
1118	KWKD	102.3	Randolph	UT	'mad dog' (odd slogan)	

1129	unid	107.3			Frontier Ford ad; reference to 'bircher valley?'	
1131	KVFX	94.5	Logan	UT	RDS ID	1017
1200	KUSU	91.5	Logan	UT	1017	

July 11 E-skip Alborn

1159	WLPT	88.3	Jessup	GA	RDS ID	
1200	WUSF	89.7	Tampa	FL	1429	
1200	WUWF	88.1	Pensacola	FL	1192	
1201	WDCO	89.7	Cochran	GA	RDS ID	1124
1215	WFBX	94.5	Parker	FL	'the fox rocks'	
1218	WKGC	90.7	Panama City	FL	RDS ID	1222
1230	WVAS	90.7	Montgomery	AL	" "	1064
1237	WLRQ	99.3	Cocoa	FL	'beach 99'	1443
1245	WGPH	91.5	Vadalia	GA	RDS ID	1157
1247	WJGA	92.1	Jackson	GA		1051
1253	WDCO	89.7	Cochran	GA	RDS text: 89.7 GPB	1124
1259	WAGP	88.7	Beaufort	SC	'the light'	
1303	WMNF	88.5	Tampa	FL	1429	
1310	WEPC	88.5	Belton	SC	RDS ID	
1318	WJSP	88.1	Warm Springs	GA	1061	
1321	WVFJ	93.3	Manchester	GA	'j93.3'	1066
1326	WLLD	98.7	Holmes Beach	FL	hip hop played	1452
1328	WQYK	99.5	St. Petersburg	FL	1438	

**Jim Renfrew Byron NY Equipment: Sansui TU-9900, Conrad RDS Manager, RDS Decoder 3.0, 20' tower, FM antenna \* = new, # = new calls underline = since verified, % = new mode**

JUN 5 Tr

0100	WITF	89.5	Harrisburg	PA	
0112	WICB	91.7	Ithaca	NY	
0730	WRTS	103.7	Erie	PA	(PI 838A = WRTQ!)

JUN 6 Tr

1040	WNIC	100.3	Dearborn	MI	
1340	*CKRZ	100.3	Ohswegen	ON	
1800	WSLU	89.5	Canton	NY	
1809	CIMF	94.9	Gatineau	PQ	
1811	*WSNN	99.3	Potsdam	NY	"99 Hits"
1847	*WBDB	92.7	Ogdensburg	NY	"The Border"
2128	WRCK	107.3	Utica	NY	

JUN 7 Tr

0016	C???	102.3	Belleville	ON	"UCB Canada"
1520	WTKW	105.5	Oswego	NY	"TK"

JUN 8 Tr

1740	#CKBY	105.3	Ottawa	ON	"Kiss FM"
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JUN 9 Tr

0055	*WLLG	99.3	Lowville	NY	"The Moose"
2130	WRVJ	91.7	Watertown	NY	"Classic FM"

JUN 13 Tr

1343	CJLQ	92.7	Sudbury	ON	"Q-92"
1945	*CHVR	96.7	Pembroke	ON	"Star Country"
2005	*CFBG	99.5	Bracebridge	ON	"The Moose"
2048	CKLP	103.3	Parry Sound	ON	"The Moose"
2051	CKMB	107.5	Barrie	ON	"Star 107.5"
2141	CKHA	100.9	Haliburton	ON	"Canoe"
2200	CHMS	97.7	Haliburton	ON	"Moose FM"

JUN 14 Tr

2153	WMMS	100.7	Cleveland	OH	
2200	WHOT	101.1	Youngstown	OH	"Hot 101"
2230	WYFM	102.9	Sharon	PA	"Y 103"

JUN 15 Tr / Es MUF 93.5 FL (CN Tower stations silent or on reduced aux power)

0110	WXXO	104.5	Cambridge Spg	PA	"Kiss 99.3 and 104.5"
0122	*WFGY	98.1	Altoona	PA	"Froggy 98"
0125	*WSAQ	107.1	Port Huron	MI	"Q Country 107"
0129	*WEXC	107.1	Greenville	PA	"Wexie"
0138	*WKCQ	98.1	Saginaw	MI	"KCQ"
0144	WKDD	98.1	Canton	OH	
0200	*WPLC	97.3	Spangler	PA	
0241	WZPT	100.7	New Kensington	PA	"Star"
0245	WOTT	100.7	Henderson	NY	"Real Rock 100.7"
0249	WMMS	100.7	Cleveland	OH	
0300	*WFUM	91.1	Flint	MI	"WUOM, WFUM, WGPR"
1643	WSOR	90.9	Naples	FL	PI 85AD
1645	WWKA	92.3	Orlando	FL	"K-92" PI 93ED
1648	*WEOW	92.7	Key West	FL	"Wow FM"
1649	*WAVW	92.7	Stuart	FL	"Wave" PI A68A
1651	WKRY	93.5	Key West	FL	"Key"
1658	*WRMB	89.3	Boynton Beach	FL	
1715	WKES	91.1	Lakeland	FL	
1759	WAUA	89.5	Petersburg	WV	"WVVG"
1800	*WQED	89.3	Pittsburgh	PA	
2130	WHUZ	94.3	Saegertown	PA	"Wuzz"
2149	WFGO	94.7	Erie	PA	"Froggy"

JUN 16 Tr (More CN Tower fun)

0200	CBFX6	91.1	Maniwaki	PQ	"Chaine Culturelle"
0200	*CBBX	90.9	Sudbury	ON	"Chaine Culturelle"
0210	CBONt	98.1	Sudbury	ON	
0223	WSAQ	107.1	Port Huron	MI	
0244	WFGY	98.1	Altoona	PA	
0245	WKDD	98.1	Canton	OH	
0249	*CBFX	100.7	Montreal	PQ	"Chaine Culturelle"
0251	WYFGt	91.1	Gaffney	SC	"BBN Radio" short burst
0318	WHWK	98.1	Binghamton	NY	
1103	WRUW	91.1	Cleveland	OH	
1200	*WSAJ	91.1	Grove City	PA	
1210	*WRMU	91.1	Alliance	OH	
2228	*WBKX	96.5	Fredonia	NY	"Kicks 96"
2254	*WKWK	97.3	Wheeling	WV	"The Mix"

JUN 17 Tr (More CN Tower Fun)

0132	WHBC	94.1	Canton	OH	(Tesh Show)
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JUN 18 Tr (More CN Tower fun)

0130	WPCL	97.3	Spangler	PA	"PCL"
0134	CBFX	100.7	Montreal	PQ	
0144	CFLG	104.5	Cornwall	ON	"Variety"
0218	WXTA	97.9	Edinboro	PA	(through WPXY)
0222	WXKC	99.9	Erie	PA	"Classy 100"
0253	UNID	104.9			Old Dragnet radio show

JUN 20 Es

1400	UNID	89.5			"Radio Formula XERFR 970" – definitely skip, though nothing else on FM or
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TV, appeared at 1350 and continued past the hour. Network feed, I think, but nothing listed in US or Mexico that I can find. Ideas? If Mexico, at least 1700 miles.

JUN 21 Tr Es MUF 94.1

1100	WSAJ	91.1	Grove City	PA	
1314	*KDQN	92.1	DeQueen	AR	RDS PI 1999
1315	*KZPS	92.5	Dallas	TX	RDS PI 539C
1333	#KLNO	94.1	Ft. Worth	TX	"Estereo Latino"
1343	*KTPW	89.7	Sanger	TX	"Power FM" RDS PI 43C8
1353	*KTSO	94.1	Okmulgee	OK	
1630	WAUA	89.5	Petersburg	WV	

JUN 22 Tr TrS Ms

0118	WKWK	97.3	Wheeling	WV	
0145	*KGMO	100.7	Girardeau	MO	RDS PI 211E

0210	*WMEE	97.3	Ft. Wayne	IN	IN #2
0440	#WRAK	97.3	Bainbridge	GA	RDS 6437 = WFXF old calls

JUN 23 Ms

0215	WRAK	97.3	Bainbridge	GA	again!
0235	*WQRT	98.3	Salamanca	NY	

JUN 24 Ms Es

0117	WRAK	97.3	Bainbridge	GA	again!
1235	KCFN	91.1	Wichita	KS	RDS PI 15D7
2124	*KUVO	89.3	Denver	CO	RDS PI AF47 1405 miles
2151	UNID	92.1			Spanish – KJMN Denver?

JUN 25 Tr Ms Es

0258	CBONt	98.1	Sudbury	ON	
0310	WQKT	104.5	Wooster	OH	RDS PI 7FFF
0339	WONE	97.5	Akron	OH	
0421	KCFN	91.1	Wichita	KS	RDS again!
1041	CJBR-1t	89.5	Riviere du Loup	PQ	Ms burst
1240	*KMOJ	89.9	Minneapolis	MN	
1245	WOSQt	92.3	Spencer	WI	"Real Country"
1248	*WPKG	92.7	Neillsville	WI	
1251	KXRA	92.3	Alexandria	MN	

JUN 26 Tr

0209	*WDSN	106.5	Reynoldsville	PA	"Sunny 106"
1350	KCFN	91.1	Wichita	KS	RDS again!

JUN 27

0300	*CFIE	106.5	Toronto	ON	"Aboriginal Voices Radio"
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JUN 28

0245	WAWNt	89.5	Franklin	PA	"AFR"
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JUL 3

2355	#WLKK	107.7	Wethersfield	NY	NY (ex WNSA)
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JUL 4 Es

0000	#WNVE	107.3	Honeoye Falls	NY	(ex WFXF)
0001	#WFXF	95.1	South Bristol	NY	(ex WNVE)
1231	WEOW	92.7	Key West	FL	"WOW 92.7" RDS A6BA
1232	WEAT	104.3	West Palm Beach	FL	"Sunny"
1239	WCMQ	92.3	Hialeah	FL	"Clasica" RDS 5B38
1243	*WNFK	92.1	Perry	FL	
1243	WDDV	92.1	Venice	FL	RDS PI 5CF7
1244	WAVW	92.7	Stuart	FL	"Real Radio 101.7"
1247	*WPYM	93.1	Miami	FL	"Party 93.1"
1254	*WLVE	93.9	Miami Beach	FL	"Love 94" RDS 73DA
1255	WZZRt	94.3	Riviera Beach	FL	
1256	*WWRM	94.9	Tampa	FL	"New Magic"
1258	WLDI	95.5	Ft. Pierce	FL	RDS 720A
1259	WXOF	96.3	Yankeetown	FL	"The Fox"
1300	*WSUN	97.1	Holiday	FL	"97 X"
1302	*WQHL	98.1	Live Oak	FL	RDS 7FA9
1304	*WXTB	97.9	Clearwater	FL	"98 Rock"
1305	*WRTO	98.3	Goulds	FL	"Salsa 98" RDS 8388
1308	WLRQ	99.3	Cocoa	FL	"Lite Rock" RDS 737E
1312	*WGNX	99.7	Vero Beach	FL	
1313	UNID	101.1			Spanish music
1319	WTUF	106.3	Boston	GA	local ads
1322	*WAOA	107.1	Melbourne	FL	"A1A"
1324	*WILN	105.9	Panama City	FL	"MUSIC" RDS 6AFS
1327	WRBQ	104.7	Tampa	FL	
1328	WHTFt	104.9	Havana	FL	"Hot Music"
1330	*WMIB	103.5	Ft. Lauderdale	FL	RDS 7529
1332	*WMXS	103.3	Montgomery	AL	
1333	*WTBT	103.5	Bradenton	FL	"Thunder" RDS 8701
1335	*WMTX	100.7	Tampa	FL	"Mix 100.7"

1336	#WCKT	100.1	Charlotte Harbor	FL	"The Cat" RDS 5B07
1338	WQYK	99.5	St. Petersburg	FL	
1339	*WEDR	99.1	Miami	FL	"99 Jamz" RDS 5F97
1340	WKNNt	99.1	Pascagoula	MS	MS ad
1341	*WQIK	99.1	Jacksonville	FL	
1342	WLLD	98.7	Holmes Beach	FL	"WiLD 98.7" RDS 72D5
1349	*WDLT	98.3	Chickasaw	AL	
1351	WTKEt	98.1	Holt	FL	Sporting News Radio
1355	WABB	97.5	Mobile	AL	
1401	*WTKL	95.7	New Orleans	LA	"Cool 95.7" RDS 87E3
1403	WKZB	93.5	Butler	AL	"The Buzz"
1405	WSCF	91.9	Vero Beach	FL	"Christian FM"
1410	UNID	93.9			ESPN
1411	WQUE	93.3	New Orleans	LA	"Q-93" RDS 80F4
1424	WCKW	92.3	LaPlace	LA	
1440	*KGRM	91.5	Grambling	LA	
2106	*KRTS	92.1	Seabrook	TX	
2114	*KMMX	100.3	Tahoka	TX	"Mix 100.3" RDS A3FF 1455 miles!
2115	*KONE	101.1	Lubbock	TX	"Rock 101" RDS 364E 1443 miles
2117	*KOFM	103.1	Enid	OK	RDS 3586
2124	*KLZK	104.3	Brownfield	TX	"Stars 104" RDS 2FA0 1478 miles!
2125	KTCYt	104.9	Pilot Point	TX	Dallas area request
2132	*KKYN	106.9	Plainview	TX	
2136	KPSM	99.3	Brownwood	TX	RDS 397C
2140	KLNTt	102.9	Houston	TX	
2155	*KQMX	95.5	Clinton	OK	temps for Elk City
2204	KMMX	100.3	Tahoka	TX	still in!

### Jason Koralja Surf City, NJ Sony ICF-SW7600GR w/ built in whip antenna

June 24 Tr

WJPG	88.1	Cape May Cths	NJ	(51mi)
WBGO	88.3	Newark	NJ	(74mi) [over local WVBH]
WRHU	88.7	Hempstead	NY	(79mi) [over semilocal WXXY]
WLBW	92.1	Fenwick Island	DE	(100mi)
WPRO	92.3	Providence	RI	(205mi)
WGMD	92.7	Rehoboth Beach	DE	(86mi) [over local WOBFM]
WFOG	92.9	Suffolk	VA	(227mi)
WZBH	93.5	Millsboro	DE	(99mi)
WKCK	93.7	Chesapeake	VA	(228mi)
WPTE	94.9	Virginia Beach	VA	(228mi)
WBRU	95.5	Providence	RI	(210mi)
WVKL	95.7	Norfolk	VA	(233mi)
WOSC	95.9	Bethany Beach	DE	(92mi)
WRZE	96.3	Nantucket	MA	(238mi)
WCTG	96.5	Chincoteague	VA	(137mi)
WALK	97.5	Patchogue	NY	(101mi)
WCTK	98.1	New Bedford	MA	(218mi)
WOCM	98.1	Selbyville	DE	(100mi)
WWFG	99.9	Ocean City	ND	(100mi) [between locals WJRZ & WBHX]
WXMM	100.5	Norfolk	VA	(225mi)
WKCI	101.3	Hamden	CT	(138mi)
WNCL	101.3	Milford	DE	(80mi)

### Jeff Lehmann Hanson, MA

Equipment: Tuner: Yamaha T-80 with modified IF filters and Conrad RDS Manager. Antenna: Stereo Probe 9 at 35 Feet. @=New Log

July 5 Es

1150	WVAS	90.7	Montgomery	AL	RDS: WVAS	1077
1154	WZZR	94.3	Riviera Beach	FL	RDS: WZZR	1178
1155	WLTM	94.9	Atlanta	GA	RDS: 94.9Lite	926
@1158	WRLD	95.3	Valley	AL	Boomer 95.3	1010
@1200	WQZX	94.3	Greenville	AL	Q94	1112
1201	WTBF	94.7	Brundidge	AL	RDS: WTBF-FM	1095
@1206	WRKH	96.1	Mobile	AL	96.1 The Rocket	1222
1207	WMJJ	96.5	Birmingham	AL	Magic 96.5	1054
1210	WABB	97.5	Mobile	AL		1222
@1213	WRAX	107.7	Birmingham	AL	107.7 The X	1030
@1215	WMAX	105.3	Bowden	GA	RDS: FM TALK	966
@1218	WWGM	93.1	Alamo	TN	Good News 93.1	1067

@1224	KARH	88.1	Forrest City	AR	RDS: KARH	1159	
1229	KMSX	94.9	Maumelle	AR	RDS: Mix 949	1266	
@1516	ZBM	89.1	Hamilton	Bermuda	ABC Sat. AC approx750		
@1521	ZFB	94.9	Hamilton	Bermuda	approx750		
1533	WSLC	94.9	Roanoke	VA	RDS: 949 STAR	596(!)	
1538	WAEZ	94.9	Greeneville	TN	Electric 94.9	775	
@1540	WOGG	94.9	Oliver	PA	Nascar, local ads	480(!)	
1542	WWRM	94.9	Tampa	FL	Magic 94.9	1174	
@1544	WBPT	95.7	Clearwater	FL	95.7 The Beat	1182	
1548	WDOD	96.5	Chattanooga	TN	96-5 The Mountain	911	
@1549	WMAK	96.3	Murfreesboro	TN	Oldies 96.3	939	
@1553	WIVK	107.7	Knoxville	TN	RDS: 810		
@1603	WGNR	97.9	Anderson	IN	782		
@1607	WYKZ	98.7	Beaufort	SC	RDS PI: 9525	869	
1616	WOMC	104.3	Detroit	MI	Oldies 104.3	624	
@1626	WRLO	105.3	Antigo	WI	Rock 105-3	936	
@1631	WKJZ	94.9	Hillman	MI	RDS: B-ROCK...	682	
@1634	WSPT	97.9	Stevens Point	WI	952		
@1636	WCQM	98.3	Park Falls	WI	Brewers Baseball	1003	
@1638	WSFQ	96.3	Peshtigo	WI	Oldies Radio Q96	872	
@1640	WYHT	105.3	Mansfield	OH	609		
1643	WJCL	96.5	Savannah	GA	Kix 96	898	
@1644	WMQT	107.7	Ishpeming	MI	Q107	879	
@1652	WKHQ	105.9	Charlevoix	MI	106 KHQ	740	
@1655	WGLI	98.7	Hancock	MI	Rockin' Eagle	933	
@1656	WLXT	96.3	Petoskey	MI	Lite 96 W-Lite	732	
@1656	WIHC	97.9	Newberry	MI	The Bear	763	
@1701	WCCW	107.5	Traverse City	MI	Oldies 107.5	764	
@1704	WYKX	104.7	Escanaba	MI	RDS: WYKX	854	
@1710	WVCN	104.3	Baraga	MI	relig.	917	
@1719	CFNO	93.1	Marathon	ON	887		
@1721	WKMJ	93.5	Hancock	MI	Mix 93.5	933	
@1733	CJSD	94.3	Thunder Bay	ON	Rock 94	987	
@1755	CJLB	105.3	Thunder Bay	ON	Hot 105	987	
@1800	CBQT	88.3	Thunder Bay	ON	CBC Radio 1	992	
@1805	CBON-20	89.3	Thunder Bay	ON	CBC French	992	
1036	KQDS	94.9	Duluth	MN	KQ95	1092	
@1851	KKIN	94.3	Aitkin	MN	1160		
1857	WWSA	89.9	Brule	WI	RDS: WWSA	1062	
1915	CHIQ	94.3	Winnipeg	MB	RDS: Q94FM	1365	
1916	CITI	92.1	Winnipeg	MB	92 Citi-FM	1357	

**Rick Shaftan Sparta NJ Equipment: Realistic STA-2280, Conrad RDS Manager, Two APS 14s stagger stacked with two APS 13s. @ is new. First number at end is bearing, second is mileage**

6/26 Es

2041	88.3	WAFR	Tupelo	MS	RDS PI 553B	244	891
2044	92.1	????			Hi in the 80s.	73 degrees in Cleavert	
2045	92.1	KDQN	DeQueen	AR	RDS PI 1999	253	1169
2048	88.3	KAZC	Tishimongo	OK	State Fair of Oklahoma		
					sponsorship. The Gospel Station Today		
2135	89.1	WLBF	Montgomery	AL	Teen Talk Radio on American Family Radio		
2229	89.7@	WDGO	Cochran	GA	RDS PI 5CD6, GPB	222	758

6/28 Ms

1824	94.9	WTNT	Tallahassee	FL	RDS PI EEEE 94.9 WTNT	219	899
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6/29 Ms

2213	88.1	WKNC	Raleigh	NC	RDS PI A764	212	422
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7/2 Es

1908	90.3	@WHLA	LaCrosse	WI	RDS PI 6842 WHLA	288	872
1911	93.1	KXLP	New Ulm	MN	RDS PI 4DE9 KX--	288	1014
1912	93.3	????			Today's Best Country		
1913	95.3	KAGE	Winona	MN	1747 W. Service Drive, Winona	290	890
1916	97.7	????			Sounded like "All Weather Permitting in Muttus, Wisconsin"		
1917	99.7	#WWIS	Blooming Prairie	MN	Pittsburgh vs. Brewers	292	854
1917	100.9	KOWZ	Blooming Prairie	MN	KOWZ	289	974

7/3 Es

0524	88.1	@WJSP	Warm Springs	GA	RDS PI 6E4F	228	790	
2052	88.1	WKNC	Raleigh	NC	RDS PI A764	212	422	
<u>7/5 Es</u>								
1515	89.3	KAYH	Fayetteville	AR	Fayetteville, Springfield mention, Family FM	259	1110	
1518	90.5	@KSMS	Port Lookout	MO	Zorba Pastor	260	1046	
1519	92.3	@KSAR	Thayer	MO	Cardinals BB	256	961	
1109	94.9	KOLI	Electra	TX	12 in a row all day on Great Country 94.9 KOLI	258	1411	
1110	92.9	KNIN	Wichita Falls	TX	92.9 NIN 257	1394		
1129	88.1	WMAW	Meridian	MS	Star Spangled Banner, Port Gibson mention and 601 AC	237	1007	
1137	90.7	WWOZ	New Orleans	LA	here on WWOZ	233	1152	
1139	92.5	WQST	Forest	MS	RDS PI A8CF AFR.NET	238	1011	
1142	94.5	????			Black Gospel. KJIW too far N.			
1144	95.7	????			Johnny Rivers			
1204	89.7	WDCO	Cochran	GA	RDS PI 5CD6, GPB	222	758	
1522	89.1	@ZBM	Hamilton	BE	St. Elmo's Fire Ided per Keith McGinnis	135	792	
1557	90.5	CBHA	Halifax	NS	RDS PI F001, CBC R-1	62	609	
1558	91.5	@CBAX	Halifax	NS	French	62	609	
1558	92.1	@CBHY	Yarmouth	NS	Canada at 5, CBC Nx.	62	478	
1602	92.3	CBAF-5	Halifax	NS	French	62	609	
1603	93.1	@CKBW-2	Shelburne	NS	Yarmouth mention in news	68	510	
1604	93.3	CBH-1	Middleton	NS	Canadian Nx	57	568	
1605	94.9	????			Canadian Nx, Satellite Weather.			
1606	95.9	CBAF-14	Sydney	NS	FF	55	799	
1607	97.7	????			Don't Rock the Jukebox			
1608	98.1	@CHTD	St. Stephen	NB	Canadian Wx. Classic Country. Today's			
			Country Gold Minutes	51	475			
1610	106.5	@CBHM	Middleton	NS	Good News for Nova Scotia businesses	58	568	
1611	105.1	@CBI	Sydney	NS	CBC Classical	55	799	
1612	103.1	@CBH-2	Mulgrave	NS	CBC Classical	60	735	
1613	102.1	@CJRW	Summerside	PEI	What the Cowgirls Do -Vince Gill	53	669	
1613	101.9	@CHFX	Halifax	NS	Grundy County Auction	62	609	
1614	100.9	@CKTO	Truro	NS	Today's Best Variety, Big Dog	100.9		
1616	99.5	@CKTY	Truro	NS	Gretchen Wilson	59	644	
1625	94.9	????			Rap			
1627	95.5	@CBA	Moncton	NB	CBC Classical	51	602	
1629	90.3	@CBAF-18	Lameque	NB	French	43	679	
1630	91.5	????			Canadian Nx, mention of CMP.			
1632	89.3	CBGA-10	Gaspe	PQ	French News	40	740	
1632	90.9	@CBZB	Boiestown	NB	Canadian Nx. Atlantic Lottery	45	554	
1634	92.5	CBSI-7	Havre St. Pierre	PQ	French Talk	36	828	
1635	93.7	@CBV-5	St. Fabien de Panet	PQ	French Talk	28	450	
1635	93.9	????			Alternative Rock thru NY. Too close for ME			
1636	94.3	@CBAL-5	Edmundston	NB	Classical	33	540	
1636	94.5	@CJRG	Gaspe	PQ	French	40	740	
1637	96.9	@WBPW	Presque Isle	ME	Northern Maine Fairgrounds in Presque Isle with Hot Country	96.9	38	516
1638	97.7	@WCXU	Caribou	ME	Call the Caribou Country Club.	38	519	
1639	98.1	CBSI	Sept Iles	PQ	French Mx	29	744	
1640	99.1	????			Reggae			
1641	95.3	CBVM	Magdalen Island	PQ	French Talk	52	807	
1648	96.3	@CJLS	Barrington	NS	742 Exchange, Fort___ Beach. Yarmouth mention	69	496	
1649	88.1	????			Classical			
1650	88.3	????			Classical //88.1			
1651	90.9	CBZB	Boiestown	NB	Still in w/Event at Sussex High School 800- 668-491345	554		
1653	92.9	CKLE	Bathurst	NB	French Singing	42	635	
1655	93.3	CBH-1	Middleton	NB	Arts News on CBC Radio 2	57	568	
1659	103.1	CBH-2	Malgrave	NB	Lo 11, Hi 23, CBC Radio 2 serving mainland Nova Scotia on 103.1 in Malgrave	60	735	
1700	105.1	CBI	Sydney	NS	CBC News	55	799	
1706	94.3	@CBHI	Inverness	NS	French Talk	58	753	
1707	88.1	CBAF-15	Charlottetown	PEI	French Talk	55	669	
1709	100.1	#CIOO	Halifax	NS	RDS PI C100	62	609	
1713	100.5	#CIOK	Saint John	NB	Top 40	51	522	
1718	103.9	????			Blues			
1724	104.5	@CHAUT	Maliotenam	PQ	Indian Tribal Mx and talking. Charles G. thinks from the tape that it is this one as			



opposed to the other Indian one nearby –  
both 50 Watts! 30 754

1726	105.1	@CFAIt	Grand Falls	NB	FF, Soundgarten, commercials	37	541
1727	105.3	@CHRM	Matane	PQ	FF, ID sounded like CHER-FM. Thanks Charles for the ID.	31	646
1729	106.5	@WMEF	Fort Kent	ME	Maine Public Radio	33	526
1732	102.7	@CBH	Halifax	NS	Classical 62	609	
1736	101.7	????			PSAs		
1738	98.9	????			Celtic or Bluegrass mx		
1742	88.7	CBNC	Stephenville	NF	CBC Nx 51	941	
1742	90.3	CBNM	Marystown	NF	CBC Nx 60	1045	
1745	93.1	@CHLQ	Charlottetown	PEI	Broadcasting from the historic Charlottetown Waterfront, you are listening to CHLQ, 93 DOT 1.	55	669
1751	98.9	????			"That's the Police on Z (?) . 98 point."		
1800	89.1	CBNF	Bonne Bay	NF	aih@cbc.ca	48	1000
1801	89.5	CBYP	Portland Creek	NF	CBC News	47	1032
1802	92.3	CKOZ	Corner Brook	NF	7:32 on OZ FM	50	978
1803	93.5	CBGA-8	Magdalen Island	PQ	FF Talk 52	807	
1804	93.7	@CBNH	St. Andrews	NF	CBC 53	888	
1805	93.9	????			"You're listening to .bridge Information Radio"		
1806	94.9	????			R&B		
1807	95.3	CBVM	Magdalen Island	PQ	FF Talk 52	807	
1808	96.1	@CBCT	Charlottetown	PEI	CBC // 88.7	55	669
1808	96.3	CIOZ	Marystown	NF	OZ // 92.3	60	1045
1809	96.9	????			Country		
1812	98.5	@CIOS	Stephenville	NF	OZ // 92.3	51	941
<u>7/6 Es</u>							
0953	92.1	WDDV	Venice	FL	RDS PI 5CF7, PS WDDV	208	1056
1008	94.1	WSJT	Lakeland	FL	Lowry Park Zoo	207	1015
1010	88.3	WLPT	Jesup	GA	RDS PI 734D	214	760
1011	88.5	@WBHY	Mobile	AL	Power 88, CST	229	1025
1014	90.7	WVAS	Montgomery	AL	RDS PI EEEE	231	878
1015	91.3	????			NPR		
1021	91.7	????			White Preacher		
1024	96.1	WEJZ	Jacksonville	FL	Steve Miller, RDS PI 603B	211	836
1027	97.5	@WPCV	Winter Haven	FL	Central Florida Weather	206	973
1028	98.3	WWRZ	Fort Meade	FL	Wet Wild Orlando discounts for Florida Residents	205	1009
1029	98.5	@WINL	Linden	AL	"at WIN 98.5"	233	949
1029	98.5	@WLPF	Ocilla	GA	Religion	219	814
1030	98.7	WKGR	Fort Pierce	FL	RDS PI 6FBD. The Gator200	200	1017
1037	107.7	WRAX	Birmingham	AL	Tuttle and Klein on 107.7 The X	237	827
1039	107.9	WSRZ	Coral Cove	FL	RDS PI 8603, PS es108	208	1056
1040	107.3	WXGL	St. Petersburg	FL	The Eagle, Tampa Bay's Hit Music Station	209	1005
1041	106.5	????			Z-106 or B-106		
1043	106.3	WZMQ	Key Largo	FL	Spanish	199	1150
1047	105.3	WKZN	Selma	AL	Black o/Philadelphia	233	922
1049	104.5	????			Today's Best Country, Country	104	
1050	104.5	WXRR	Hattiesburg	MS	Highway 49 in the Heart of Hub City, Highway 11S, Pit Stop, Rusty Bucket, George's Landing	235	1042
1052	103.5	????			the cool sounds of summer near the warm gulf waters		
1053	103.5	????			Call Kaiser at 888-849-8666		
1054	103.1	WOSM	Ocean Springs	MS	Religious Talk	231	1074
1055	99.5	WKSM	Fort Walton Beach	FL	99 Rock	226	933
1056	99.1	WEDR	Miami	FL	Black	199	1088
1058	88.7	????			Black Gospel		
1059	88.9	WFSU	Tallahassee	FL	NPR, promo for WFSU-TV	219	883
1100	90.5	WTGF	Milton	FL	Highway 90 in Pensacola	228	1001
1101	88.7	????			Classical		
1105	89.3	WFRG	Atlanta	GA		230	734
1106	92.1	WZEW	Fairhope	AL	92.1 The Zoo	231	1033
1107	101.9	@WHHY	Montgomery	AL	The Beat of Montgomery Y-102	231	872
1107	96.3	WUSJ	Jackson	MS	US 96.3	240	1063
1108	96.9	WDJR	Enterprise	AL	RDS PI 5D8F, "CNTRY 969"	225	932
1108	96.9	????			".96.9" and into Johnny Rivers.		
1109	98.1	WTKE	Holt	FL	Sports Talk, delete one AL and add a FL		
1109	98.7	WJKK	Vicksburg	MS	Mix 98.7	240	1063
1110	98.7	@WGBP	Pensacola	FL	Cat Country 98.7	228	1014
1110	98.9	WBAM	Montgomery	AL	98.9 WBAM	230	877
1113	102.1	WRQO	Monticello	MS	"Picky People Pick Polks,		

1114	102.3	@WGOW	Bubba show" Soddy-Daisy	238 TN	polksmeat.com, sponsoring the Rick and 1080 Discussion on tax increase, Nashville and TN mentions. Fits the situation in Hamilton County to a "T"
1115	102.3	@WLKQ	Buford	GA	Spanish 229 698
1116	102.3	WELR	Roanoke	AL	Eagle 102.3 230 806
1118	102.9	WMSI	Jackson	MS	RDS PI 7634, PS MISS 103 240 1061
1119	103.5	????			Country
1120	103.7	????			Hip-Hop
1120	103.9	????			Hip-Hop
1120	104.1	????			Hip-Hop
1122	104.5	@WITT	State College	MS	Hogan Honda 241 956
1123	104.7	@WZZK	Birmingham	AL	104.7 WZZK 236 846
1124	106.1	@WMXU	Starkville	MS	Spanish, then English ad for Mahindra Tractors. Classic Mix 106.1, the Adult Choice for R&B in the Golden Triangle 239 936
1126	106.7	@WSTZ	Vicksburg	MS	DUI Ad for Morgan, Carmody and Gilbert, 969-DUIS 240 1063 frc.org Washington Watch
1131	89.7	????			
1133	90.1	WMPR	Jackson	MS	Black programming, Mississippi mentions
1134	92.5	WQST	Forest	MS	RDS Again 238 1011
1139	94.7	????			ZZ Top
1141	95.5	WHLH	Jackson	MS	Black Gospel 240 1061
1143	95.7	WBHJ	Tuscaloosa	AL	95.7 Jamz 236 883
1143	96.7	KWCL	Oak Grove	LA	Bobby Well Roofing in Bastrop. KWCL ID
1144	96.9	WTCD	Indianola	MS	RDS PI 870B, SUPRTALKMS 244 1003
1144	97.1	WOKK	Meridian	MS	choctawindianfair.com 237 981
1144	97.3	WFMN	Flora	MS	Supertalk Mississippi 239 1045
1146	97.5	WWMS	Oxford	MS	Country, MISS 98244 923
1147	97.9	WBAQ	Greenville	MS	Easy Sounds of WBAQ 245 1040
1148	98.1	WTXT	Fayette website 98txt.com	AL 238	Good luck from 98-TXT and log on to our 896
1151	101.5	????			Alltel Ad
1153	101.1	@WYDE	Cullman	AL	".make the right decision by advertising on The Source." 238 824
1154	101.3	WJDQ	Meridian	MS	RDS PI 6CCA, Q-101. Call me at 693-4101
1155	101.3	????			Rock 101.3 FM WC--
1200	101.5	@WNWS	Jackson	TN	reading list of stations ".and WBFG."
1202	104.7	@WMUF	Henry	TN	The Best Country Around 250 808
1204	106.9	@WKXD	Monterey	TN	RDS PI 7169, KS 106.9 243 664
1205	107.7	????			Black
1207	107.5	@WIOK	Falmouth	KY	Country Gospel 255 542
1209	107.3	WQLT	Florence	AL	Q-107 243 836
1210	106.9	????			Country, "106.9 and 100.9"
1212	106.5	????			Black, either WAID or KCIJ
1215	88.3	WAFR	Tupelo	MS	RDS PI 553B 244 891
1214	89.3	@WMKW	Crossville	TN	Moody 241 665
1217	107.9	WFCA	Ackerman	MS	The Best in Southern Gospel 242965
1221	105.9	WGKX	Memphis	TN	Crichton College ad, then Binion's Horseshoe in Tunica 248 917
1225	104.5	WRVR	Memphis	TN	WRVR Memphis 248 917
1225	104.3	@WGNL	Greenwood	MS	Gospel/Soul. "The Beat of the Delta, WGNL"
1226	103.9	WCLD	Cleveland	MS	Boil Lumber Co. , 2 miles South of Cleveland on Highway 61 245 1013
1227	98.3	@WDFX	Cleveland	MS	Religion, later HCJB World Radio 246 1007
1228	100.5	????			Penny Mitchell (Great American Country)
1230	98.1	@WSRR	Millington	TN	Rockin Hits 98.1 The Cat 248 918
1235	103.5	@WRBO	Como	MS	"the best radio station in Memphis", Memphis Grizzlies ad 248 931
1236	101.7	@WKOM	Columbia	TN	101.7 Oldies Radio 244 768
1237	101.7	@WORM	Savannah	TN	101 The Worm 246 838
1240	101.5	@WWUN	Clarksdale	MS	Religion 247 989
1240	100.5	WRTM	Port Gibson	MS	People throughout Mississippi are turning to Upchurch Services 241 1088
1241	100.1	WQXB	Grenada	MS	Grenada Fire Protection 244 970
1245	97.7	????			Religious Call-in show
1246	97.5	WWMS	Oxford	MS	Miss 98 244 923
1247	97.3	@KDBH	Natchitoches	LA	Mix 97.3 244 1203
1251	96.5	@WKDJ	Clarksdale	MS	96.5 WKDJ 247 993
1251	96.3	KHLS	Blytheville	AR	Thunder Country 96.3 252 894
1301	94.9	WWRM	Tampa	FL	Magic 94.9 208 1008
1302	94.9	KOLL	Maumelle	AR	RDS PI 3621 250 1059
1304	90.9	@WGES	Key Largo	FL	RDS PI 5000, GENESIS 199 1148
1307	91.3	KUAF	Fayetteville Opera.org	AR 258	Inspiration Point near Eureka Springs. 1105

1309	92.3	KIPR	Pine Bluff	AR	Jonesboro and Craighead Counties, Ozark County	250	1060		
1315	94.3	WGMX	Marathon WGMX	FL	Rolex ad for jeweler at Mile Marker 48, Mix 94	200	1188		
1323	89.9	????			Relig				
1325	91.5	????			Gospel Country				
1326	92.9	WMFQ	Ocala	FL	Big Oldies 92.9	210	925		
1327	92.9	WIKX	Charlotte Harbor	FL	Kix Country 92.9	206	1066		
1331	90.5	@WYFB	Gainesville	FL	BBN	212	879		
1334	92.1	WDDQ	Adel	GA	Wild Adventure Theme Park at I-75 Exit 13 near Valdosta	218	839		
1341	91.5	@WLPJ	New Port Richey	FL	Positive Hit Music, WLPJ		210	992	
1623	92.5	WYUU	Safety Harbor	FL	RDS PI 9624 PS OUTLAW, KICKASS COUNTRY ASS		210	1021	
1628	90.5	????			BBN				
1629	91.7	????			Religion, Dr. Ray Brown				
1632	93.7	@WALI	Walterboro	SC	Braves Radio Network, Wally 93.7				
1638	89.3	WRMB	Boynton Beach	FL	Moody	200	1050		
1641	92.1	WDDV	Venice	FL	92.1 WDDV	208	1056		
1642	88.7	WAYJ	Fort Myers	FL	Southwest Florida's Original Christian Hit Radio WAY FM		204	1095	
1644	90.9	WSOR	Naples	FL	RDS PI 85AD	203	1091		
1645	91.3	????			Christian Ministries of Largo				
1646	88.3	WLPT	Jesup	GA	RDS PI 734D	214	760		
1647	90.1	@WXVS	Waycross	GA	RDS PI 9398 GPB Radio	215		808	
1649	89.1	@WUFT	Gainesville	FL	Classic 89 WUFT	212	894		
1700	91.7	@WWET	Valdosta	GA	Georgia Public Radio WWET on 91.7 in Valdosta	217	852		
1704	90.7	@WAYR	Brunswick	GA	Way Radio	212	778		
1705	91.3	WLRN	Miami	FL	Mike Millard, WLRN		199	1086	
1708	88.5	@WMNF	Tampa	FL	813-238-8001	208	1008		
1709	100.7	@WAKS	Tampa	FL	Tampa Bay's	208	1007		
1710	100.7	WWRR	Brunswick	GA	RDS PI 908B, MOSTTH	212		808	
1715	105.9	WILN	Panama City	FL	Island 106 RDS PI 6AF3	223		974	
1717	105.9	WBGG	Fort Lauderdale	FL	Miami's Classic Rock RDS PI 57EE	199	1085		
1723	93.7	WRJM	Geneva	AL	WRJM calls	226	933		
1728	98.1	WTXT	Fayette	AL	WTXT calls	238	896		
1730	98.9	WBAM	Montgomery	AL	Bama Country	230	877		
1731	100.1	WDXX	Selma	AL	News about Selma Police Chief		233	904	
1742	91.9	????			Spanish				
1746	96.1	@WYYL	Tunica	MS	Spanish	248	949		
1750	96.9	WTCD	Indianola	MS	Supertalk Mississippi		244	1003	
1752	102.3	????			Storm 5 Weather Center, Nashville mention. Pretty certain it wasn't 102.5 but I was in the car driving and taking notes. 103 DOT 7				
1755	103.7	????							
1802	104.1	@WIKY	Evansville	IN	WIKY News, Traffic and Weather Together		257	721	
1803	105.9	KULH	Wheeling	MO	Contemporary Christian	272		984	
1805	105.7	@KXKX	Knob Noster	MO	Racing in the Central MO Area		268	1015	
1823	96.1	WHBX	Tallahassee	FL	Jamz	219	917		
1829	97.5	????			Dr. Dean's Rockin Machine				
1830	105.9	@WTZB	Englewood	FL	RDS PI 895F 105.9 The Buzz		207	1060	
1834	99.3	WMFC	Monroeville	AL	Great Oldies	231	961		
1839	105.9	WOCL	DeLand	FL	Orlando's New Rock Alternative		206	917	
1841	101.7	KJMY	Hope	AR	Classic Jamz 101.7	251	1165		
1843	105.9	@WXMK	Dock Junction	GA	"Southeast Georgia's Best Entertainment Experience"		212	778	
1845	98.5	????			Jazz				
1848	95.3	WRLD	Valley	AL	Listen to our sister station WCGQ				
107.3	230	807							
1855	105.9	KLAZ	Hot Springs	AR	Hot Springs mention in ad				
252	1103								
1858	91.9	@KASU	Jonesboro	AR	KASU Jonesboro	252	935		
2030	105.9	KQTZ	Hobart	OK	RDS PI 3C47 KQ-106	261	1402		
<u>7/9 Es</u>									
0835	88.3	????			Black Gospel				
0840	89.1	????			NPR News				
0849	92.9	@KLSC	Malden	MO	New Star 92.9	255	866		
0850	93.1	KTYL	Tyler	TX	Mix 93.1	249	1273		
0856	88.1	WMAW	Meridian	MS	Mississippi News in 4 minutes		237	1007	
0858	89.7	KTPW	Sanger	TX	Dallas News	255	1325		
0901	90.1	????			Native American Chants. Doubt it is much needed KINI.				
0905	90.3	????			Religion				

0910	90.5	@KUT	Austin	TX	here on KUT	248	1491		
0915	90.9	@KAMU	College Station	TX	make your pledge at KAMU.		246	1405	
0920	90.9	KCBI	Dallas	TX	Dallas Traffic	252	1360		
0925	91.3	@KNCT	Killeen	TX	Instrumental	249	1453		
0930	91.5	KANJ	Giddings	TX	RDS PI 115B, KANJ-FM	246	1450		
0951	89.9	????			kauffman.org				
0953	91.5	????			Mission Network news				
0956	91.7	KVTT	Dallas	TX	leadingtheway.org		252	1360	
0959	88.1	KNTU	McKinney	TX	here on KNTU	254	1343		
1000	88.5	KEOM	Mesquite	TX	KEOM Mesquite	252	1337		
1002	88.7	WSIE	Edwardsville	IL	Dr. Science	265	826		
1004	90.7	KOBC	Joplin	MO	Here on KOBC	262	1092		
1020	92.5	WQST	Forest	MS	RDS	238	1011		
1031	107.7	@KPLT	Paris	TX	Jonathan & Mary morning show		253	1232	
1033	107.7	KRXO	Oklahoma City	OK	RDS PI 3F48	261	1290		
1037	107.1	????			DJ Joseph Taylor				
1038	106.7	WSTZ	Vicksburg	MS	Jackson's Classic Rock Z-106.7		240	1063	
1039	106.1	WKSY	Picayune	MS	985-951-8251, Hammond Suzuki		234	1122	
1040	105.9	WGKX	Memphis	TN	".of Memphis."	248	917		
1040	105.9	KLAZ	Hot Springs	AR	Ord Pontiac of Hot Springs		252	1103	
1042	105.1	KPEL	Lafayette	LA	Acadiana mentions		238	1238	
1043	104.7	KNEK	Washington	LA	Black	239	1219		
1044	103.9	WCLD	Cleveland	MS	Miss 104	245	1013		
1047	101.5	WYNK	Baton Rouge	LA	RDS PI 9564 WYNK 1015		237	1187	
1053	100.9	WJXN	Utica	MS	The Warriors will collide in Jackson				
1057	101.1	KRMD	Shreveport	LA	On I-220 in Bossier City	249	1208		
1102	102.9	KAJN	Crowley	LA	Religion	238	1248		
1105	102.1	@KQRA	Brookline	MO	New Rock Alternative		261	1031	
1109	105.9	????			Black Gospel. Too many possibilities.				
1111	107.5	KCIL	Houma	LA	107.5 KCIL	234	1206		
1112	106.3	@KXOR	Thibadoux (which I was aiming at!)	LA	Are you ready to rock? Eagle		234	1194	
1116	96.7	????			Black				
1118	96.3	KTTG	Mena	AR	Sportstalk, RDS PI 4663		254	1136	
1120	96.7	KOYE	Palestine	TX	Mexican Mx.	248	1325		
1122	97.5	WWMS	Oxford	MS	Miss 98	244	923		
1124	97.7	KPCH	Dubach	LA	JJ McKay		246	1146	
1125	98.7	KLBQ	El Dorado	AR	Q-99	248	1128		
1127	99.1	KXKC	New Iberia	LA	99.1 KXKC		230	1014	
1129	93.3	WSYE	Houston	MS	RDS PI 86A4	242	927		
1131	107.9	????			Rap				
1132	7	????			CCI				
1133	106.5	????			First American Real Estate Group		296-0001		
1135	105.1	KPEL	Abbeville	LA	Moon Griffon show complaining about Louisiana tax increase		238	1238	
1138	105.1	WASJ	Panama City Beach	FL	Smooth Jazz	223	974		
1140	104.9	@KNXX	Donaldsonville	LA	104 The X dot net		236	1185	
1142	102.7	KWYX	Jasper	TX	Jasper Music Company		244	1275	
1147	107.3	@KJAS	Jasper	TX	First National Bank of Jasper and Woodside				
1149	96.5	KFTE	Breaux Bridge	LA	Non-stop new rock radio 96.5		238	1228	
1153	97.3	WRAK	Bainbridge	GA	Real Rock 97.3 RDS PI 6437 (WFXF)				
1159	100.1	KRVV	Bastrop	LA	RDS PI 3F1B, KRVV The Beat		245	1112	
1200	100.3	KRRV	Alexandria	LA	100.3 KRRV	241	1209		
1202	89.5	KYFL	Monroe	LA	SRN News	245	1128		
1204	94.1	KQXY	Beaumont	TX	Q-94	241	1318		
1206	94.3	WBAD	Leland	MS	".Chevrolet in Greenville."	245	1039		
1209	99.7	@KMJJ	Shreveport	LA	The Big Station, 99 Jamz	247	1203		
1211	100.9	WJXN	Utica	MS	Magic 100.9 Jackson's R&B Station				
1215	101.1	KBON	Mamou	LA	Local ads	239	1217		
1222	94.9	MORE	Nassau	BS	All New More 94.9 FM		188	1080	
1223	94.9	WZTA	Miami Beach	FL	RDS PI 989A Zeta 94		199	1088	
1224	94.3	WZZR	Riviera Beach	FL	RDS PI 9947	200	1017		
1227	104.5	KJTX	Jefferson	TX	Black Religious Programming		250	1229	
1230	100.3	100 JAMZ	Nassau	BS	Rap. 100 Jamz		188	1080	
1235	102.9	@KBED	Shreveport	LA	Bossier City ad	247	1207		
1245	100.5	????			Real Country, two choices in E. Texas				
1247	100.1	@KUEZ	Lufkin	TX	Brookshire Brothers in Lufkin		246	1298	
1249	88.3	????			Spanish Religion				
1250	89.3	WRMB	Boynton Beach	FL	89.3 WRMB	199	1049		
1251	93.7	KXKS	Shreveport	LA	Kiss More Music	249	1208		
1253	93.7	WQLJ	Oxford	MS	Q-93.7	245	943		
1300	102.1	@MIX 102.1	Nassau	BS	You're listening to Mix 102.1, The Bahamas			188	1080
1306	91.3	WLRN	Miami	FL	RDS PI 737B	199	1086		
1414	88.1	????			Spanish talk, not commercial				
2000	88.7	WERN	Madison	WI	RDS PI A6FF	286	775		
2038	88.7	KLNE	Lexington	NE	RDS PI 2E62	277	1295		

7/11 Es

1218	88.1	KAYT	Jena	LA	Black Gospel	242	1188
1220	88.7	KRVS	Lafayette	LA	Cajun	238	1229
1222	90.9	????			Black Gospel		
1224	91.1	@KLSU	Baton Rouge	LA	KLSU promos	237	1178
1228	88.5	@WJFM	Baton Rouge	LA	Jimmy Swaggert	237	1175
1252	90.7	WKGC	Panama City	FL	RDS PI 6FAW NPR NEWSCLASSICS BLUES	224	974
1254	90.7	KLSA	Alexandria	LA	Red River Radio Network	242	1187
1258	91.3	@KVLU	Beaumont	TX	From our studios at Lamar University, this is member supported KVLU	241	1320
1301	92.1	KRTS	Seabrook	TX	Classical	242	1418
1302	92.9	????			Hip-Hop		
1302	93.1	????			Hip-Hop		
1304	93.7	????			Religion		
1309	94.3	WIZB	Abbeville	AL	Christian	225	877
1311	94.3	????			Metal		
1313	94.5	????			"more Classic Rock on."		
1314	88.3	WAPR	Selma	AL	Bama Theater mention	231	907
1317	89.1	@WPAS	Pascagoula	MS	American Family Radio	231	1060
1318	89.5	????			Religion o/local		
1319	89.9	????			Classical		
1320	90.9	KTSU	Houston	TX	Sponsored by Stewart Cadillac	243	1398
1322	91.3	????			Jazz		
1323	91.1	????			American Family Radio		
1328	90.7	WVAS	Montgomery	AL	RDS PI EEEE	231	878
1338	88.7	WELL	Dadeville	AL	Today's Christian Music,	88.7	The Well
1337	89.3	WFRG	Atlanta	GA	RDS PI 8214	230	734
1339	91.3	WMPN	Jackson	MS		240	1044
1340	90.7	WWOZ	New Orleans	LA	Cajun	233	1152
1344	91.1	????			worldwidekidsclub.com		
1347	92.3	WCKW	La Place	LA	".92.3 New Orleans"	235	1180
1350	107.1	????			Country, ".the music that made you.107 point.FM"		
1357	88.1	WMAW	Meridian	MS	".in Vicksburg, area code 601-."	237	1007
1435	94.9	KMSX	Maumelle	AR	RDS PI 3621, "Mix 94.9" 3621=KOLL old calls		
1439	95.3	KCXY	East Camden	AR	Y-95 Weather w/ Crook & Chase Countdown. RDS PI 17B6 KCXY Y-95	248	1122
1440	95.9	????			Weather, Sunday 93, 20 percent chance of rain, Hi on Wed will be 96		
1447	89.1	????			Car Talk		
1459	100.5	WBLE	Batesville	MS	"Batesville.101"	246	943
1501	88.9	????			Spanish		
1502	89.7	KTPW	Sanger	TX	RDS PI 43C8	254	1325
1504	94.3	@WXRZ	Cornith	MS	RDS PI 9337, SUPRTALK		
1509	97.3	????			Religion		
1511	97.9	WBAQ	Greenville	MS	Standards	245	1040
1512	98.3	WDFX	Cleveland	MS	American Family Radio	246	1007
1516	99.7	WWTN	Manchester	TN	Sports Talk	245	735
1521	100.1	WQXB	Grenada	MS	You can pick up B-100 for 42 miles on I-55	244	969
1529	101.7	KKRN	Humnoke	AR	News on KARN News Radio Starts Now		
1539	90.7	????			NPR		
1540	92.3	KIPR	Pine Bluff	AR	Summer Jam 2004 in Pine Bluff	250	1059
1545	94.1	KKPT	Little Rock	AR	RDS PI 1234	252	1061
1550	92.1	KHPQ	Clinton	AR	Q 92 Country	255	1032
1558	93.1	????			Metal		
1600	88.3	KABF	Little Rock	AR	Pine Bluff mention	252	1060
1602	89.7	KOZO	Branson	MO	Oasis Radio Network	259	1046
1606	89.3	KAYH	Fayetteville	AR	Family FM 89.3	259	1110
1615	93.7	KISR	Fort Smith	AR	Kisser 93 257	1133	
1624	91.7	KOSU	Stillwater	OK	RDS PI 36E0 w/Car Talk	262	1260
1625	90.7	????			Car Talk		
1628	91.5	????			Family News in Focus		
1630	91.3	KBIA	Columbia	MO	RDS PI 1374	267	943
1635	88.1	????			American Family Radio		

Total now 2660 including 197 Floridas, 130 Texas, 121 Missouri, 102 Louisiana and 102 Mississippi but only 87 in my own home state.

**Russ Edmunds Blue Bell, PA ( 360' ASL ) [15 mi NNW of Philadelphia]  
40:08:45N; 75:16:04W, Grid FN20ID  
wb2bjh@yahoo.com Equipment: Yamaha T-80 & APS9B @15'**

7/4 Es ( all relogs )

1353	WTNT	94.9	Tallahassee	FL	Tallahassee promo
1355	WOLZ	95.3	Fort Myers	FL	Oldies, local ad, ID
1535	WAFR	88.3	Tupelo	MS	Relig talk; RDS
2045	KLTY	94.9	Arlington	TX	Contemp Christian, 214 AC
2055	KBCY	99.7	Tye	TX	ID, Country

7/5 Tropo / Es

0942	WYFJ	100.1	Ashland	VA	BBN preaching // WYFI-99.7
1145	WMAW	88.1	Meridian	MS	SSB, classical - Rick S confirmed via IM as he got ID ( relog )
1203	WZNF	95.3	Lumberton	MS	Promo, ID ( relog )
1207	WLTM	94.9	Atlanta	GA	Celine Dion, Promo, website
1211	WJMI	99.7	Jackson	MS	Local ad, slogan ( relog )
1549	CKPE	94.9	Sydney	NS	Rock, ID as K-94 FM
1550	CBAL-2	95.3	Lameque	NB	// other CBAL affils. ReLog
1550	CBA	95.5	Moncton	NB	Classical
1550	CHOE	95.3	Matane	PQ	Presumed 2nd French
1550	CBVMp	95.3	Cap-aux-Meules	PQ	Presumed as 1st French ReLog
1552	CBAF-15	88.1	Charlottetown	PE	French, talk, music // other CBAF net
1553	CBAF10	88.7	New Glasgow	NS	French, talk, music // other CBAF net
1555	CBHC	89.1	Truro	NS	English talk, // 90.5
1556	CBAF-18	90.3	Lameque	NB	French, talk, music // other CBAF net
1558	CBHA	90.5	Halifax	NS	English talk, provincial news RDS: F001 / CBC R1 / 9050MHZ
1601	CBAX	91.5	Halifax	NS	French, Classical
1602	CBHY	92.1	Yarmouth	NS	English talk // 90.5
1604	CJLS-1	93.5	New Tusket	NS	OLD, local mentions
1606	CBAF-14	95.9	Sydney	NS	French, talk, music // other CBAF net
1608	CBCT	96.1	Charlottetown	PE	Talk, ments. Of PEI
1610	unid	97.1			French talk
1613	CIOK	100.5	St. John	NB	Rock, ID as K-100
1614	CIOO	100.1	Halifax	NS	Rock, ID as C-100
1615	CKTO	100.9	Truro	NS	Rock ID as "Big Dog 100.9"
1617	CHFX	101.9	Halifax	NS	C&W, ID as "Country 101"
1619	CBAF-1	102.3	Fredericton	NB	French, talk, music // other CBAF net
1621	CBH	102.7	Halifax	NS	Classical // 103.1
1623	CBH-FM2	103.1	Mulgrave	NS	Classical // 102.7
1625	CFRQ	104.3	Halifax	NS	Rock, promo
1627	CBCH	104.7	Charlottetown	PE	Classical, appeared // 103.1, 102.7
1628	CBI-FM	105.1	Sydney	NS	Classical, appeared // 103.1, 102.7
1633	CBHB	106.7	Mulgrave	NS	English talk // 90.5
1645	CBAF-5	92.3	Halifax	NS	French, talk, music // other CBAF net
1648	CKLE	92.9	Bathurst	NB	MOR, full ID in French
1653	CJLS	96.3	Barrington	NS	Oldies, local mentions
1654	unid	96.9			Drama program
1657	CKEN	97.7	Kentville	NS	Country, promo, Country 97
1700	CHLQ	93.1	Charlottetown	PE	Rock, weather, ID as "Magic 93"
1703	CIEU	94.9	Carleton	PQ	Presumed as French-sepaker ReLog
1715	CKWM	94.9	Kentville	NS	ID, promo "Magic 94.9"
1720	KCOZ	92.3	Corner Brook	NF	Rock, ID as "Oz"
1722	CBN-FM2	91.1	Corner Brook	NF	Classical, CBC Radio 2 ID

As many have observed this was an incredible opening. Unfortunately I didn't discover it until driving home for lunch, so I spent my lunch hour in the DX shack, and DX'ed in the car back to work. Missed the afternoon, which is unfortunate. Other times I might have been able to call out for the afternoon, but wasn't possible this time.

On many occasions there were so many Es stations from so many different directions coming in that frequencies were reduced to interference with peaks consisting of only a few seconds each. I've replayed all of my recordings, but not completed researching the unID's. Count is at 37 new so far, no new states.

July 6 Es

1135	KLSC	92.9	Malden	MO	Star 92.9, rock ReLog
1135	KOMG	92.9	Ozark	MO	Mix 92.9, rock ReLog
1142	KMSX	94.9	Maumelle	AR	Local ad, RDS of former calls KOLL
1143	KASU	91.9	Jonesboro	AR	Classical, ID
1144	KSMU	91.1	Springfield	MO	Classical, // 90.5
1145	KSMS	90.5	Point Lookout	MO	Classical, // 91.1
1146	WMAV	90.3	Oxford	MS	Classical, // 89.9; RDS PI 75EB
1147	WMAB	89.9	State College	MS	Classical, // 90.3; RDS PI 75EB
1149	WMCU	89.7	Miami Beach	FL	Spirit FM, weather, incl shore forecast ReLog
1150	WMAE	89.5	Booneville	MS	Classical, // 89.9, 90.3
1153	KXMS	88.7	Joplin	MO	Tentative w/Classical - no other reasonable possibilities
1155	WAFR	88.3	Tupelo	MS	Talk, RDS PI 553B ReLog

1217	WBVR	96.7	Auburn	KY	Ad for insurance agent in Brownsville, then ad for Greenview Regional Hospital in Bowling Green
1220	KHLS	96.3	Blytheville	AR	Ad C & C Irrigation in Osceola, ID
1230	WDDV	92.1	Venice	FL	RDS ID: PI 5CF7
1237	KDKD	95.3	Clinton	MO	ID, ad Relog
1240	unid	96.3			Paul Harvey to 1245 then gone
1250	WIKX	92.9	Charlotte Harbor FL		Ad, C & W, promo Relog
1253	WMFQ	92.9	Ocala	FL	Promo, "Big Oldies 92.9" Relog
1329	WOLZ	95.3	Fort Myers	FL	Oldies, ad, ID Relog
1634	unid	94.9			"Oldies 94.9"
1637	WZTA	94.9	Miami Beach	FL	Rock, frequent "Zeta" promos Relog
1640	WXCV	95.3	Homosassa Spgs	FL	Presumed w/ ads for Citrus County Relog
1644	WWRM	94.9	Tampa	FL	Rock, "Magic 94.9", weather Relog
1659	WAGP	88.7	Beaufort	SC	Promo for "The Light 88.7, WAGP"
1700	KABF	88.3	Little Rock	AR	Blues program - "The Traffic Jam"
1705	WTUG	92.9	Tuscaloosa	AL	Hip Hop, ID
1710	WKZB	93.5	Butler	AL	Rock, ID as "The Buzz"
1716	WHLH	95.5	Jackson	MS	Gospel, "The new Hallelujah FM"
1719	WQZY	95.9	Dublin	GA	Weather, promo for Crawford County; "Y-96"
1720	unid	100.5			"K-100"
1724	KIYS	101.9	Jonesboro	AR	"Kiss FM", local ad
1733	unid	107.9			"FM 108"
1735	KDEZ	100.5	Jonesboro	AR	Ad for Cavanaugh Liberty Bank; "Z-100"
1741	unid	92.3			Hip Hop
1744	unid	100.1			Severe Storm Watch ; "Mix 100"
1745	unid	100.9			Severe Storm Watch - incl Washington Cnty
1750	KCMO	94.9	Kansas City	MO	Oldies;"Oldies 95" Relog
1808	KMEM	100.5	Memphis	MO	ID as "Tri-States Real Country, KMEM" Relog
1812	unid	101.7			Country
1815	unid	100.1			Paul Harvey to 1820 then gone
1815	unid	100.1			Country
1817	unid	101.9			Religion - preaching
1819	unid	101.7			Ad for Crossroads Restaurant & Lounge
			"KOYL" or similar		
1821	WMC	99.7	Memphis	TN	Ad for TN Lottery, traffic SW TN; "FM 100"
1827	unid	101.7			MOR
1828	KBFC	93.5	Forrest City	MS	Country; "Country For East Arkansas"
1831	unid	107.9			Country
1833	WIKX	92.9	Charlotte Harbor FL		"Kixx Country", weather for Venice area
1834	unid	98.5			Country
1837	KZHE	100.5	Stamps	AR	Promo
1838	WKGR	98.7	Fort Pierce	FL	RDS ID: PI 6FBD
1841	KZBB	97.9	Poteau	OK	Ads for Alford's Carpet, "betw. Lexington & Ft. Smith"; National Bank of Sallisaw
1844	WLDI	95.5	Fort Pierce	FL	Weather for Palm Beach; RDS PI 7F55 "The Palm Beaches Hit Music Station"
1847	KDEW	97.3	DeWitt	AR	Tractor ad - Stuttgart; ad for community college w/ campuses in DeWitt and Stuttgart
1853	KOMS	107.3	Poteau	OK	C&W, CNN News, "Big Country 107.3"
1855	unid	107.7			Oldies
1858	unid	106.7			Rock
1902	KEZA	107.9	Fayetteville	AR	Promo for U of AR Football; "right here in Fayetteville"
1904	KABZ	103.7	Little Rock	AR	Ads w/ 501 AC, ment. Of Little Rock
1907	KTMO	106.5	New Madrid	MO	ID; "106 Days of Summer"
2030	WDAF	106.5	Liberty	MO	RDS PI 1630 ( KCIY - prior call )
2030	KYQQ	106.5	Arkansas City	KS	Mexican music - only such format on freq.
2032	KMAJ	107.7	Topeka	KS	Delilah - presumed per a couple of suggestions
2034	KBBK	107.3	Lincoln	NE	Ad for CornhuskerHelp.com
2037	unid	107.1			Cardinals BB;
2041	KLBC	106.3	Durant	OK	ID
2048	KBOA	105.5	Piggott	AR	MoYL promo, ID
2049	unid	105.5			Country
2050	KRXO	107.7	Oklahoma City	OK	Classic Rock; RDS PI 3F48; ID
2055	KGBX	105.9	Nixa	MO	Promo for www.greencountymo.org
2058	unid	101.9			DARE promo
2059	unid	103.1			Country
			KDFM-103.3 Falfurrias, TX		Country, RDS PI 3586, which shows as
2109	KRTQ	102.3	Sand Springs	OK	Rock, ID as "Rock 102.3"
2109	unid	102.3			Cardinals BB;
2111		102.3			Smooth jazz format, slogan sounded like "Chillin"
2112	KQEW	102.3	Fordyce	AR	Local baseball game, ID
2113	unid	102.3			Oldies
2114	unid	102.3			MYL/MOR

I tried to locate a listing of the Cardinals' BB network on their website, but no luck - hopefully someone can help me pin those down.



# SATELLITE NEWS

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Lots of changes and odds and ends. First - an odd and end - **RAINBOW 1** AT 61.5 W is completely HDTV with at least 150 channel offerings. This is in Digicipher 2 8PSK with a right polarity and except xpdr 24 is on odd numbered transponders - 13 of them. This is on Ku Band only. The service is called VOOM.

And now to other changes. On **Satcom C4 6** - have lately noticed E Entertainment Television, 601 - Discovery West. On **Satcom C3 131W** - delete the following - E Entertainment TV, 24 - Oxygen, and note name change of 616 Health to Fit TV. ON IA7 at 129 - XPDR 14 - MPEG - 3980V/27690 Fuse seems to be Much Music. On Transponder 21 - Americas Collectibles is now Jewelry TV AND IS ALSO THE NEW HOME OF YESTERDAY USA RADIO SUBCARRIER at 5.8 Wide. Also on XPDR 18 MPEG 4060V/10854 is Sopresa and the old AMERICA ONE. New on XPDR 1 MPEG 3724H/3002 is the Sportsman Channel. Also new on this bird are the Cable Radio Network Stations on 891 to 896 as carried on transponder 15 subcarriers. On **GALAXY 10** - drop the following Sub-Carriers - XPDR 3 - Trinity, 7 - WFMT (now on T7 with Yesterday USA), and Yesterday USA from XPDR 7. NOTE - CNBC is no longer on XPDR 13 - it has moved elsewhere. NOTE - On GALAXY 10 Ku - delete ALL TARBS transponders and programming. NEW - Department of Veteran's Affairs MPEG2 11732H/15450. STEP Star Network 11748V/8500. In the EQUITY Clump on XPDR 5 - add KWBM Hollister, California. Also add - Research Channel, University of Washington TV and KEXP FM 90.3 FM Seattle at 11805H/4580.

AND on XPDR 12114V /4444 - KPBI Fayetteville and KFDF Fort Smith and also on 21 - 12127V/12644 - Mas Musica On **Satmex 5** at 116 are the following - all MPEG2 - XPDR 11 - 3905V/2963 - Sports Book, 3913V/2947 - Sotel Canal 11 and 3917V/3328 - CNI Canal; 40 I have a complete list of the XM and XR Radio channels and maybe will run these at a later date. I NEED HELP WITH THE PROGRAMMER LIST OF STAR CHOICE ON ANIK E2R. I have a list but it doesn't seem to match what I see. The same applies to F1 as well. On **AMC1** at 103 W - add to xpdr 19 MPEG2 1070H/2300 - The Liberty Channel, delete on the same bird 750 Gol TV, add 751 - Wizebuys TV and have noted 752 KBEH CH 63 Spanish from somewhere. ON **AMC 4** - Delete Golden Eagle from XPDR 9 and add it in MPEG to XPDR 1 3716V/4340 and delete subcarrier KMUS. Golden Eagle has taken the place of TVU in this clump. On XPDR 6 - ADD - 3ABN with 3ABN and 3ABN Latino as well as 3ABN Radio and Radio 74 Internationale 11822H/5700. On transponder 8 - there is a large clump of Chinese Taiwanese channels in the clear at the moment 11860H/28138. On xpdr 21 there is a mishmash of stuff I can't quite ID 12120V/30000. What can you figure out here. On 24 - RTP Portugal 12169H/3003. On GALAXY 4 - delete XPDR 1 - Big Brother. If I can ever figure out the changes (and there are a few dozen on T5 Ku International Broadcasters) this will constitute the bulk of next month's column. Some new countries are Sudan, Oman and Somalia. That's it for this month - see you in 30 AND from what I caught sight of, may the skip continue. "73's

*George*



## **RF Technology: Doug Lung**

### **RF@NAB: DTV Reception and Interference**

At NAB2004, broadcast engineers were focusing on getting ready for the shutdown of analog TV. At past NAB conventions, the date was uncertain. Some engineers believed analog TV would never be shut down, and I don't think anyone thought the Dec. 31, 2006, date set by Congress and the FCC was realistic. The consensus at this year's NAB seemed to be analog TV broadcasting will end sometime in 2009 or 2010. This realization had broadcasters concerned about DTV reception and coverage issues, both before and after the transition. I'll look at some of the papers that focused on these issues this month. Most of them were not in the NAB2004 Broadcast Engineering Conference Proceedings and are based on notes I took during the sessions.

#### **HANDLING CONGESTION**

One major concern among broadcasters is how well current ATSC receivers perform in today's congested TV bands. Andy Bater reported on ATSC T3-S10's recommended practice for ATSC DTV tuners, which was sent to the full ATSC group in April. The recommended practice had not been posted on the ATSC Web site ( [www.atsc.org](http://www.atsc.org) ) when this column was written, but here are some highlights from Andy's paper.

Receivers should be able to handle signal inputs ranging from -83 dBm up to -8 dBm. The -83 dBm input is based on the minimum signal level needed for DTV reception. The -8 dBm maximum level was determined by looking at the expected signal level from a UHF DTV station operating at the maximum power the FCC allows-1,000 kW-using an antenna with an elevation gain of 30. The elevation gain is inversely proportional to the elevation beamwidth of the antenna and thus affects the amount of signal hitting the ground close to the tower.

Andy Bater noted that transmitter performance can have an impact on DTV reception. Many NTSC transmitters put out excessive spurious signals on adjacent channels, making receiver adjacent-channel rejection moot. Also, although there is a phase noise recommended practice for receivers, some DTV transmitters transmit signals with excessive phase noise, eating up much of the margin provided by the receiver. He emphasized the need for broadcasters to emit a clean signal.

When the original DTV planning factors were developed, it was assumed DTV tuners would utilize double conversion receivers. In practice, most are single conversion. Based on this, some of the UHF channel taboos

eliminated for interference into DTV tuners may have to be reinstated.

William Meintel addressed this situation in his paper, Computing Interference under Moderate and Strong Signal Conditions-Proposed Changes to the FCC TV Analysis Model, which detailed problems with the initial planning factors and inappropriate use of the FCC Bulletin OET-69 and Longley-Rice for analyzing such things as analog transmitter site moves. OET-69 never considered aggregate interference from multiple stations. The desired-to-undesired ratio used in OET-69 assumed weak signal conditions. The antenna elevation patterns that stations actually use, especially LPTV stations, do not match those in the planning model. As Meintel pointed out in a previous NAB paper, the Longley-Rice model overpredicts signal strength under many conditions.

He recommended developing an improved methodology for predicting coverage and interference for use in repacking DTV channels when analog ends. Some of the improvements needed include moderate and strong signal desired-to-undesired (D/U) ratios, taboo channel D/U ratios for DTV and consideration of the aggregate of interfering signals. When looking at interference D/U ratio, the placement of the transmitters should be considered, as the weak signal D/U ratios can be relaxed by 10 to 15 dB for collocated transmitters.

Meintel's paper was not published in the proceedings and he rushed through the recommended D/U ratio slides too fast for me to catch them all. For taboo channel interference offset from the desired channel by 2 to 15 channels, he recommended D/U ratios of -20 dB in strong signal environments and -40 dB in moderate signal environments. In a weak signal environment, the ratios vary depending on the offset.

Of course, the overprediction of signal level by Longley-Rice poses problems in determining what constitutes a strong, moderate or weak signal level. This problem could be addressed to some extent by including land-use clutter factors in the Longley-Rice calculations or development of a new propagation model.

#### **MSTV PROPOSAL**

Victor Tawil described the DTV repacking dilemma in his presentation at NAB. It now appears likely analog broadcasting will be shut down in 2009 or 2010. While this seems like a long time, a lot of work is required to

move stations with out-of-core DTV channels back into the core, determine what channel stations with two in-core DTV channels want to keep after the transition and accommodate other channel changes stations may need to make to avoid interference and maintain coverage.

This is not a trivial problem. Tawil used the New York and Philadelphia markets as an example. These markets are close enough that channels cannot be shared between them without creating areas of interference that reduce coverage. There are 43 DTV licensees in the market and five UHF channels assigned for land-mobile use. After the transition, 49 channels will be available if low VHF is included. Tawil asked rhetorically, is there enough spectrum? He said "yes," but warned stations may not have the same service area. Can VHF be abandoned? Yes again, but this will also result in some service reduction.

Other issues have to be considered in repacking the channels, including the accuracy of the FCC database, coordinating DTV channels with Mexico and Canada, and the adequacy of the current interference model.

On May 13, MSTV sent the FCC a five-step process for repacking TV channels after analog broadcasting ends. For details on the plan, check my article in the May 18 issue of my weekly RF Report e-mail newsletter (<http://www.tvtechnology.com/dlrf/issue.php?w=2004-05-18>).

### **NEXT-GENERATION RECEIVERS**

Wayne Bretl from Zenith and Victor Tawil presented an update on the performance of fifth-generation 8-VSB receiver chips in the paper, "Fifth Generation VSB Receiver Field Test Report." Some of these newer chips are able to take advantage of multiple echoes and provide reception, even when the uncorrected signal-to-noise ratio is less than 15.5 dB. Equalizer response has been extended and is now symmetrical, which should greatly improve reception from distributed transmission networks or on-channel boosters, where multiple transmitters may be received at one location, leading to "pre-echoes" that older 8-VSB receivers had trouble handling. Fifth-generation receivers now initialize the equalizer based on channel impulse noise response, reducing acquisition time. The newer chips also have improved capability for handling reflections with higher Doppler rates, making them more suitable for portable and mobile use.

Tawil also presented the field-testing results of the fifth-generation receivers in Washington D.C. The D.C. sites were the same as those used in the testing of the Linx receiver

technology reported at NAB2003. The test procedure was similar to the Linx testing—a dipole antenna mounted on a tripod five feet above street level. The tests found that the fifth-generation receiver provided successful reception for 66 percent of the tests, intermittent reception for 21 percent of the tests and no reception in 14 percent of the tests. An error in transcribing the fractional percentages from the presentation or rounding to the nearest full percentage point resulted in the total of 101 percent.

See my July 9, 2003 RF Column ([http://www.tvtechnology.com/features/On-RF/f\\_dl\\_rf\\_technology-07.09.03.sht](http://www.tvtechnology.com/features/On-RF/f_dl_rf_technology-07.09.03.sht) ml) for details on the Linx tests and procedures. In Washington D.C., the Linx prototype failed in 17.7 percent of the tests, provided intermittent reception in 22.3 percent of the tests and provided successful reception in 60 percent of the tests, compared with failure rates of 62.6 and 63.6 percent for each of two reference receivers. The link for the Linx test report in my June 2003 column is no longer working. It is now available here. Note that these tests were based on an older Linx prototype receiver and newer versions should be expected to provide better reception.

Tawil warned that the sites used for the testing were selected as worst case sites and cannot be used to determine service availability. Based on pictures of the sites in the Linx report you can see he isn't exaggerating!

### **E-VSB UPDATE**

Bretl also reported that based on simulations, adding enhanced VSB (E-VSB) packets to a DTV signal does not offer much improvement in the Brazil A echo ensemble with fourth- and fifth-generation VSB receivers. Adding E-VSB packets to the Brazil C ensemble provided improvement ranging from 20 to 25 percent on fourth-generation receivers, but minimal improvement on fifth-generation receivers. He concluded that recent receiver designs do not need much help from E-VSB—the main benefit is the 6 dB gain in SNR performance on the E-VSB signal itself. Unfortunately, I didn't see any over-the-air demonstrations of E-VSB at NAB this year.

Adding E-VSB packets does improve equalizer convergence, however. In the Brazil C echo ensemble, fifth-generation receiver equalizer convergence time with 5 percent enhanced packets improved from 230 to 83 milliseconds. For the Brazil E ensemble under the same conditions, convergence time improved from 500 to 220 milliseconds. Adding 7.5 to 15 percent enhanced packets improved Doppler performance in early fourth-generation hardware but was not needed with the new demodulators.

## TRANSLATOR NEWS

### New FM Stations, Translators, Low Power FM Stations Granted

*Translators have less than 100 watts unless shown otherwise; technical parameters for most LPFM stations are not announced, but can be up to 100 watts at 30 meters above average terrain (horizontal, vertical or both h & v).*

**Compiled by Bruce Elving, WTFDA member, and founder *FMedia!* newsletter, who says, "watch these stations clutter up the dial for DXing!"**

- AL Abbeville W236AU \*95.1 (WAXU 91.1 Troy AL translator), h,v  
AL Auburn \*94.3 Auburn Chinese Ministry Assn., LPFM [to share time.  
\*94.3 A. Christian Fellowship, LPFM. These two/ W242AX \*96.3 (WAXU), h,v  
AL Citronelle W258AQ \*99.5 (WPAS 89.1 Pascagoula MS), h,v  
AL Enterprise W240BL \*95.9 (WAXU), h,v  
W236AW 95.1 (WVJ 93.3 Manchester GA), h,v  
AL Eufaula W243BC \*96.5 (WPWB 90.5 Byron GA translator), h,v  
AL Greenville W224BH \*92.7 (WAXU), h,v  
W242AY \*96.3 (WAQU 91.1 Selma), h,v  
W267AQ \*101.3 (WAQU), h,v  
AL Henagar W254BD \*98.7 (WJSP-FM 88.1 Warm Springs GA), h,v  
AL Livingston W242AW \*96.3 (WALN 89.3 Carrollton AL), h,v  
AL York W258AR \*99.5 (WQST-FM 92.5 Forest MS), h,v  
AK Allakaket K232DM 94.3 (KYKD 100.1 Bethel AK via satellite), 250 v  
AK Elfin Cove K221EP \*92.1 (KCAW 104.7 Sitka), 250 h  
AK Hughes K232DK 94.3 (KYKD via satellite), 250 v  
AK Kodiak K256AW 99.1 (KRXX 101.1 Kodiak), 250 v  
AK McCarthy K232DL 94.3 (KYKD via satellite), 250 v  
AK North Pole K223AX \*92.5 (College Place 90.7 application by the Educational Media Foundation), h,v  
AK Perryville K232DJ 94.3 (KYKD via satellite), 250 v  
AK Prudhoe Bay K232DI 94.3 (KYKD via satellite), 250 v  
AZ Chinle K277AY \*103.3 (KTGW 91.7 Fruitland NM), h,v  
AZ Eloy K278AV \*103.5 (KVJC 91.9 Globe), v  
AZ Indian Pine (former town, just west of McNary) K265DZ \*100.9 (KNNB 88.1 Whiteriver), h,v  
AZ Prescott K267AT 101.3 (KZUL-FM 104.5 Lake Havasu City), v  
AZ Tuba City K300BL \*107.9 (KGCB 90.9 Prescott), h,v  
AZ Winslow K273AY \*102.5 (KBMH 90.3 Holbrook), h,v  
AZ Vernon K287AI \*105.3 (KNNB), h,v  
AR Blytheville K257EE \*99.3 (KAOG 90.5 Jonesboro), h,v  
AR De Queen K225AT \*92.9 (KARG 91.7 Poteau OK), 120 h,v  
AR Greenbrier K233BF \*94.5 (KBMJ 89.5 Heber Springs), h,v  
K237DJ \*95.3 (KANX 91.1 Sheridan), h,v  
AR Lake Village K266AR \*101.1 (KBPW 88.1 Hampton), 210 h,v  
AR Little Rock K288EZ \*105.5 (KANX), 250 h,v  
AR Piggott K267AS \*101.3 (KAOG), h,v  
AR Warren K224DD \*92.7 (KANX), h,v  
CA Atwater K256AV \*99.1 (KLVN 88.3 Livingston), h,v  
CA Banning K250AL \*97.9 (KXRD 89.5 Victorville), h,v  
CA Cambria K239AR \*95.7 (KGZO 90.9 Shafter), h,v  
K243AX \*96.5 (KDKL 88.3 Coalinga), h,v  
CA Concord K216FV \*91.1 (KCSM 91.1 San Mateo), v. The FCC granted this translator after determining it was not a booster.  
CA El Paso de Robles (Paso Robles) K224DX \*96.7 (KFYE 106.3 Kingsburg), h,v  
K293AW \*106.5 (KDKL 88.3 Coalinga), h,v  
CA Homewood K232DN 94.3 (KYM 96.1 Sacramento), h,v  
CA King City K243AW \*96.5 (KQKL 88.5 Selma), h,v  
CA La Grange \*107.5 La Grange Historical Association, LPFM  
CA Mendocino K270AV \*101.9 (KNHT 107.3 Rio Dell), v  
CA Modesto K292FN \*106.3 (KAMB 101.5 Merced), 170 h  
CA Nevada City K225AU \*92.9 (KLV 99.3 Grass Valley), h,v  
CA North Highlands K227AU \*93.3 (KARA 99.1 Williams CA), h,v  
CA Santa Maria K269EW \*101.7 (KGZO), h,v  
CA Stockton K299AQ \*107.7 (KLVR 91.9 Santa Rosa), h,v  
CA Tehachapi K240DH \*95.9 (KGBM 89.7 Randsburg), h,v  
CA Yucaipa K231BD \*94.1 (KXRD 89.5 Victorville), h,v  
CO Boone K262BB \*100.3 (KCFP 91.9 Pueblo), h  
CO Creede (S. Gunnison, SE Lake City) K269EZ \*101.7 (KTPS 89.7 Crested Butte), h,v  
CO Crested Butte K260AV \*99.9 (KTPS), h,v  
CO Denver K292FM \*106.3 (KTLF 90.5 Colorado Springs), h,v  
CO Estes Park K258BE \*99.5 (KTPL 88.1 Pueblo), h  
K265EC \*100.9 (KTAH 88.5 Steamboat Springs), h  
CO Lafayette K221EQ 92.1 (KTLF), 100 h  
CO Littleton K268BC \*101.5 (KTLF), h  
CO Mancos K300BN 107.9 (KLJH 107.1 Bayfield), 200 (watts) h(orizontal only)  
CO New Castle K275AR 102.9 (KMGJ 93.1 Grand Junction), v(ertical only)  
CO Rifle K298AT 107.5 (KNFO 106.1 Basalt), h,v  
CO Silverton K246AN \*97.1 (KTGW), 250 h,v  
CO Wray K269EY \*101.7 (KTAD 89.9 Sterling), 210 watts h,v (horizontal and vertical polarizations)  
DE Lewes W282AU \*104.3 (WSDL 90.7 Ocean City MD), h,v  
FL Apalachicola W259AN \*99.7 (WAYT 88.1 Thomasville GA), h,v  
FL Carrabelle W266AS \*101.1 (WAYT), h,v  
FL Fort Pierce W243BN \*96.5 (WEJF 90.3 Palm Bay), h,v  
FL Jacksonville Beach W272BG \*102.3 (KHRI 90.7 Hollister CA, via W208AV 89.5 San Jose FL (see also "Facilities," below), h,v  
FL Merritt Island \*93.5 Calvary Chapel of Merit Island, Inc., LPFM  
FL North Key Largo W280DP \*103.9 (WSOR 90.9 Naples), h,v  
FL Palm Coast W274AR \*102.7 (WKTO 88.7 Edgewater), h,v  
FL Suncoast Estates (just north of North Fort Myers) W243BM \*96.5 (WSMR 89.1 Sarasota), h,v  
FL Woodmere W298AU \*107.5 (WAYJ 88.7 Fort Myers), h,v  
GA Albany W232BI \*94.3 (WJWV 90.9 Fort Gaines), h,v  
W249BQ \*99.7 (WJSP-FM), h,v  
W267AR \*101.3 (WKVH 91.9 Monticello FL), h,v  
W286AZ \*105.1 (WKVH), h,v  
GA Augusta-Richmond County (with transmitter in West Augusta) W238AU \*95.5 (WACG 90.7 Augusta), h,v. This translator is redundant, because there already is a WACG relay in Augusta, W280DM 103.9.  
GA Brunswick W279BC \*103.7 (WXVS 90.1 Waycross), h,v  
GA Culloden W286AV \*105.1 (WPWB 90.5 Byron), h,v  
GA Dublin W246BC \*97.1 (WJSP-FM), h,v  
GA Elberton W226AU \*93.1 (WLPE 91.7 Augusta), h,v  
GA Hartwell W269BN \*101.7 (WLPE), h,v  
GA Higgston W283AR \*104.3 (WGPH 91.5 Valdosta), h,v  
GA Irwinville W235AS \*94.9 (WGPH), h,v  
GA Kennesaw W275AQ \*102.9 (WJSP-FM), h,v  
GA Lumber City W237BN \*95.3 (WGPH), h,v  
GA McRae W254BC \*98.7 (WAEF 90.3 Cordele), h,v  
GA North Augusta W268AS \*101.5 (WLPE), h,v  
GA Ocala W251AU \*98.1 (WAYT), h,v  
GA Rincon W269BO \*101.7 (WSVH 91.1 Savannah), h,v  
GA Rutland (between Macon and Warner Robins) W240BK 95.9 (WYNF 96.5 Gray), 250 h,v  
GA Saint Marys W258AT \*99.5 (WASW 91.9 Waycross), h,v  
GA Swainsboro W300BA \*107.9 (WDKO-FM 89.7 Cochran), h,v  
GA Sylvester W273AW \*102.5 (WJSP-FM), h,v  
GA Tallapoosa W261AS \*100.1 (WJSP-FM), h,v  
GA Thomasville W279BD \*103.7 (WAEF), h,v  
GA Waycross W290AX \*105.9 (WBKY 89.3 Americus), h,v  
HI Napili K277AW 103.3 (KNUQ 103.7 Paaulo), h  
HI Paia K277AX 103.3 (KNUQ), h  
HI Princeville K280EZ 103.9 (KSRF 96.9 Poipu), h  
ID American Falls K238AQ \*95.5 (KLRI 89.5 Rigby), h,v  
ID Idaho Falls K279AU \*103.7 (KUSU 91.5 Logan UT), h,v  
K300BK \*107.9 (KLRI), 250 h,v  
ID Lewiston K247AW 97.3 (KFFR 97.7 Pullman WA), 170 h,v  
ID Rexburg K254AX \*98.7 (KUWJ 90.3 Jackson WY), h,v  
ID St. Anthony K243AU \*96.5 (KUSU), 250 h,v  
ID Soda Springs K258BC \*99.5 (KUSU 91.5 Logan UT), h,v.  
Granted despite K213BB \*90.5, another KUSU relay in Soda Springs.

IL Carthage W292CV \*106.3 (KAYP 89.9 Burlington IA), h,v  
 IL Clinton W246BD \*97.1 (WLUJ 89.7 Springfield), 250 h,v  
 IL De Kalb W259AM \*99.7 (WSRI 88.7 Sugar Grove IL), h,v  
 IL Dixon W289AT \*105.7 (WJTY 88.1 Lancaster WI), h,v  
 IL Kewanee W270AZ \*101.9 (WAXR 88.1 Geneseo), h,v  
 IL Lincoln W277BF \*103.3 (WSCT 90.5 Springfield), h,v  
 IL Long Creek (west side of Decatur) W273AS \*102.5 (KLOV 89.3 Winchester OR, via W203BD 88.5 Decatur IL (see "Facilities," below), h,v  
 IL Mattoon W296BG \*107.1 (WBGL 91.7 Champaign), h,v.  
 IL McLeansboro W300BD \*107.9 (WAWJ 90.1 Marion IL), h,v  
 IL Monticello W277BE \*103.3 (WCIC 91.5 Pekin), h,v  
 IL Newton W243BL \*96.5 (WBMV 89.7 Mount Vernon), h,v  
 IL Park Ridge W244BQ \*96.7 (WSRI 88.7 Sugar Grove IL), h,v  
 IL Savannah W238AX \*95.5 (WNWC-FM 102.5 Madison WI), h,v  
 W290AW \*105.9 (WAXR), h,v  
 IL Sterling W243BE \*96.5 (WAXR), h,v  
 IL Tuscola W251AV \*98.1 (WBGL), h,v  
 IN Bloomington W299BD 107.7 (WVNI 95.1 Nashville IN), 100 h,v  
 IN Logansport W248AJ 97.5 (WSHW 99.7 Frankfort IN), 250 h,v  
 W291BE 106.1 (WSHW), 250 h,v  
 IN Princeton W249BP \*97.7 (WATI 89.9 Vincennes), h,v  
 W255BA \*98.9 (WBMV 89.7 Mount Vernon IL), h,v  
 IN Richmond W269BP \*101.7 (WOKL 96.9 Troy OH), h,v  
 IN Spencer W262BA \*100.3 (WBGL), h,v  
 IN Sullivan W262AZ \*100.3 (WCRT 88.5 Terre Haute), h,v  
 IA Anamosa K280EX \*103.9 (WJTY), 100 h,v  
 IA Davenport K291AT \*106.1 (WAXR), h,v  
 IA Des Moines K290AS \*105.9 (KAYP, which supposedly is to be received direct-off air; I wonder how, at that distance [Burlington IA])?; h,v.  
 IA Morningside (E. of Sioux City) K226AS 93.1 (KSFT-FM 107.1 South Sioux City NE), h,v  
 IA Onawa K255BC \*98.9 (KAYQ 91.3 Hubbard NE), h,v  
 IA Sioux City K262AY \*100.3 (KMSC 90.3 Sioux City), 250 h,v  
 IA Spencer K53AO \*98.5 (KBDC 88.5 Mason City), h,v  
 KS Marysville K286AX \*105.1 (KBUZ 90.3 Topeka), 120 h,v  
 KY Lexington-Fayette W280DO \*103.9 (WVRB 95.3 Wilmore), 250 h,v  
 W290AV \*105.9 (WAPD 91.7 Campbellsville), h,v  
 KY Princeton W243BK \*96.5 (WBEL 88.5 Cairo IL), h,v. It seeks 170 watts h,v.  
 LA Bogalusa W260AZ \*99.9 (WAOY 91.7 Gulfport MS), h,v  
 LA Buras-Triumph K235AZ \*94.9 (KSUL 91.5 Port Sulphur LA), h,v  
 LA Lake Charles K281AU \*104.1 (KSJY 90.9 Lafayette), 170 h,v  
 LA Natchez (transmitter NW side of Nacogdoches) K256AU \*99.1 (KAYT 881 Jena), 250 h,v  
 LA New Orleans K260AT \*99.9 (WPAS), h,v  
 LA Vinton K243AV \*96.5 (KLBT 88.1 Beaumont TX), 210 h,v  
 ME Ellsworth W221BO 92.1 (WRMO 93.7 Milbridge), 250 h,v  
 ME Orono W227BE \*95.3 (KLOV 89.3 Winchester OR, as received by W218BJ 91.5 Bangor), h,v  
 ME Sanford W300BC \*107.9 (WMSJ 89.3 Freeport), h,v  
 MD Crisfield W296BH \*107.1 (WSDL), h,v  
 MD Cumberland W271AT \*102.1 (WDTF-LP 107.9 Berkeley Springs WV), h,v  
 MD Fairlee W272BJ \*102.3 (WVBV 90.5 Medford Lakes NJ), h,v  
 MD Havre de Grace W284BE \*104.7 (WVBV), h,v  
 MD Ocean Pines W286BB \*105.1 (WSDL), h,v  
 MD Pocomoke City W264BJ \*100.7 (WSDL), h,v  
 MD Salisbury W286AX \*105.1 (WSCL 89.5 Salisbury), h,v  
 MD Waldorf W284BC \*104.7 (WTRM 91.3 Winchester VA), h,v  
 MD White Marsh (between Baltimore and Bel Air) W287AS \*105.3 (WVBV), h,v  
 MA New Bedford W243BG \*96.5 (WERS 88.9 Boston), h,v  
 MI Alpena W225AO \*92.9 (WTLI 89.3 Bear Creek Township), h,v  
 W231BF 94.1 (WKLZ-FM 98.9 Petoskey), 170 h,v  
 W237BN \*95.3 (WBLW 881 Gaylord), h,v  
 W270AY \*101.9 (WEJC 88.3 White Star), h,v/h,v  
 MI Bad Axe W225AL \*92.9 (WMSQ 89.3 Marlette),/  
 W231BE \*94.1 (WWKM 881 Goodland Township), h,v  
 W257BO \*99.3 (WEJC), h,v  
 W261AQ \*100.1 (WJOJ 89.7 Harrisville), h,v  
 MI Battle Creek W279BG \*103.7 (WJOM 88.5 Eagle MI), h,v  
 MI Boyne City W258AS \*99.5 (WBLW), h,v  
 MI Cheboygan W221BT \*92.1 (WBLW), h,v  
 MI Dowagiac W286AW \*105.1 (WRXH 89.3 Plymouth IN), h,v  
 MI East Tawas W221BR \*92.1 (WTLI), h,v  
 W235AU \*94.9 (WJOJ), h,v  
 W243BJ \*96.5 (WEJC), h,v  
 MI Fremont W227BB \*93.3 (WAIR 104.9 Lake City), h,v  
 W243BI \*96.5 (WEJC), h,v  
 W285DU \*104.9 (WPQZ 88.1 Muskegon), h,v  
 MI Gaylord W237BU \*93.3 (WJOG 91.3 Good Hart), h,v  
 W250AS \*97.9 (WJOJ), h,v  
 MI Grand Haven W277BB \*102.3 (WPQZ), h,v  
 MI Hastings W279BF \*103.7 (WEMU 89.1 Ypsilanti), h,v  
 MI Holly W232BH \*94.3 (WAKL 88.9 Flint), h,v  
 MI Iron River W221BP 92.1 (WMXG 106.3 Stephenson), 250 h,v  
 MI Ishpeming W265BN 100.9 (WMXG), h,v  
 MI Kalamazoo W236AV 95.1 (WUFN 96.7 Albion), h,v  
 MI Kalkaska W273AU \*102.5 (WBLW), h,v  
 MI Ludington W285DY \*104.9 (WPQZ), h,v  
 MI Manistee W253AR \*98.5 (WPOZ), h,v  
 W276BP \*103.1 (WIAA 88.7 Interlochen), h,v  
 MI Manistique W256AS 99.1 (WSRG 97.7 Sturgeon Bay WI), 250 h,v  
 W295AS 106.9 (WMXG), 250 h,v  
 MI Marquette W286BC \*105.1 (WRGX 88.5 Sturgeon Bay WI), h,v  
 MI Mio W237BT \*95.3 (WBLW), h,v  
 MI Muskegon W243BH \*96.5 (WPQZ), h,v  
 MI Newberry W271AS 102.1 (WMXG), 250 h,v  
 MI Paw Paw W262AY 100.3 (WUFN), h,v  
 W273AR \*102.5 (WLGH 88.1 Leroy Township), h,v  
 MI Petoskey W221BQ \*92.1 (WJOG), h,v  
 MI Rogers City W221BU \*92.1 (WBLW), h,v  
 W237BS \*95.3 (WTLI), h,v  
 W273AQ \*102.5 (WJOG), h,v  
 MI Sandusky W230AZ \*93.9 (WEJC), h,v  
 MI South Haven W273AP 102.5 (WUFN), h,v  
 W286BA \*105.1 (WPOZ), h,v  
 MI Yale (SW Lexington) W256AU \*99.1 (WEMU 89.1 Ypsilanti), h,v  
 MN Brainerd W222AR \*92.3 (KTIS-FM 98.5 Minneapolis), h,v  
 MN Mankato K286AW \*105.1 (KQRB 89.9 Windom), h,v  
 K290AU \*105.9 (KBDC), 130 h,v  
 MN New Ulm K239AQ \*95.7 (KNWC-FM 96.5 Sioux Falls SD), 250 h,v  
 K291AU \*106.1 (KNWC-FM), 100 h,v, plus there is a 98.3 KNWC-FM translator there.  
 MN Olivia K276EW \*103.1 (KKLW 90.9 Willmar), h,v  
 K289AX \*105.7 (KKLW), 170 h,v  
 MN Ortonville K280EW \*103.9 (KBPG 89.5 Montevideo), h,v  
 MN St. Charles K280FA \*103.9 (KTIS-FM), h,v  
 MN St. Peter K230AR \*93.9 (KNWC-FM), 120 h,v  
 MN Shoreview W227BF \*93.3 (KLOV, via K2124DF 90.7 Golden Valley MN), h,v  
 MN Sleepy Eye K276EV \*103.1 (KNWC-FM), 250 h,v  
 MN Wadena K229AP \*93.7 (KFNW-FM 97.9 Fargo ND), h,v  
 MN Waite (transmitting from near Hwy. 5 and Mounds Boulevard, downtown St. Paul; "Waite" is or was a small town in neighboring Washington County; it is not to be confused with Waite Park, a St. Cloud suburb) W221BS \*92.1 (KHRI 90.7 Hollister CA, as received from an ungranted application, including 97.5 Fridley and 102.5 Albertville MN; they claim they'll receive their signal from 92.1 Albertville, which will probably get its signal from K208DV 89.5 St. Cloud), h,v.  
 MN Walker K285FK 104.9 (KKEQ 107.1 Fosston), 190 h,v  
 MS Holly Springs W243BB \*96.5 (WAVI 91.5 Oxford), h,v  
 MS Indianola W247BA \*97.3 (WDFX 98.3 Cleveland MS), h,v  
 MS Macon W257BR \*99.3 (WQVI 90.5 Forest), h,v  
 W294AT \*106.7 (WQST-FM), h,v  
 MS Winona W278AT \*103.5 (WAVI 91.5 Oxford), h,v  
 MO Independence K225AW \*92.9 (KBJQ 88.3 Bronson KS), h,v  
 MO Lees Summit K229AU \*93.7 (KBJQ), h,v  
 MO Jefferson City K293AX \*106.5 (KWND 88.3 Springfield), 140 h,v  
 MO Joplin K271AL \*102.1 (KWRI 89.1 Bartlesville OK), 120 h,v  
 MO Lebanon K281AT \*104.1 (KWND), h,v  
 MO Miami K237DO \*95.3 (KLRQ 96.1 Clinton), h,v  
 MO Poplar Bluff K229AR \*93.7 (KAOG), 250 h,v  
 MT Black Eagle K274BC 102.7 (KINX 107.3 Great Falls), 250 h,v  
 MT Conrad K233BG \*94.5 (KGFC 88.9 Great Falls), h,v

MT Great Falls K289AW \*105.7 (KXEI 95.1 Havre), h,v  
K300BH \*107.9 (KVCM 103.1 Helena), h,v  
MT Lockwood K267AR 101.3 (KRZN 96.3 Billings), h,v  
MT McQueen (just north of Butte) K234AT 94.7 (KMBR 95.5 Butte), 250 h,v  
MT Missoula K239AP 95.7 (KGGL 93.3 Missoula), 250 h,v  
K245AP 96.9 (KBQQ 106.7 Pinesdale), 250 h,v  
K266AQ 101.1 (KZOQ-FM 100.1 Missoula), 250 h,v  
NE Nebraska City K255BD \*98.9 (KMLV 88.1 Ralston NE), h,v  
NE North Platte K300BM \*107.9 (KGRD 105.3 Orchard), h,v  
NE Sidney K257EC \*99.3 (KXWA 89.7 Loveland CO), 120 h,v  
NV Winnemucca K283AP \*104.5 (KQMC 90.1 Hawthorne), h,v  
NH Manchester W270AV \*101.9 (WLMW 90.7 Manchester), h,v  
NH Plymouth W233AY \*94.5 (WMSJ 89.3 Freeport ME), h,v  
NJ Millville W277BA \*103.3 (WVBV)  
NJ New Gretna W272BH \*102.3 (WVBV), h,v  
NM Artesia K273AZ \*102.5 (KLYT 88.3 Albuquerque), 250 h,v.  
This makes a total of four KLYT translators there!  
NM Carlsbad K229AS \*93.7 (KLOV, to be received from a new application in the area), h,v  
NM Clovis K288FK \*105.5 (KAQF 91.1 Clovis), h,v  
NM El Dorado K283AQ 104.5 (KTAO 101.9 Taos), h (seeks h,v)  
K288FL 105.5 (KKIT 999 AngelFire), h  
NM Ruidoso Downs K251AO 98.1 (KNUW 95.1 Santa Clara), h,v  
NM Santa Rosa K229AQ \*93.7 (KFLO 91.5 Albuquerque), h,v  
NM Shiprock K231BB 94.1 (KYVA-FM 103.7 Grants), h,v  
NM Tucumcari K258BD \*99.5 (KBAH 90.5 Plainview TX), h,v  
K262BA \*100.3 (KXLV 89.1 Amarillo TX), h,v  
NY Alfred W285DX \*104.9 (WZ XV 99.7 Palmyra NY), h,v  
NY Amsterdam K258BD \*99.5 (WKVU 100.7 Utica), h,v  
NY Dannemora W266AP 101.1 (WYZY 106.3 Saranac Lake), h  
NY Highland W234AY \*94.7 (WRPJ 88.9 Port Jervis), h,v.  
Received via W295AA 106.9 Middletown NY. See "Facilities," below.  
NY Hornell W289AR \*105.7 (WZ XV), h,v  
NY Olean W289AS \*105.7 (WZ XV 99.7 Palmyra), h,v  
NY Schuyler Falls W290AT 105.9 (WYZY), h  
NY Shirley W243BF \*96.5 (WRDR 89.7 Freehold Township-Howell NJ), h,v  
NC Ahoskie W232BG \*94.3 (WSHA 88.9 Raleigh), h,v  
NC Belmont W254AZ \*98.7 (WPIR 88.1 Hickory), h,v  
NC Burlington W275AP \*102.9 (WXRI 91.3 Winston-Salem), h,v  
W290AU \*105.9 (WOKD 91.1 Danville VA), h,v  
NC Colfax W277AZ \*103.3 (WXRI), h,v  
NC Fairmont W237BQ \*95.3 (WKVC 88.9 North Myrtle Beach SC), h,v  
NC Indian Trail W255BB \*98.9 (WTJY 89.5 Asheboro), h,v  
NC Kings Mountain W261AP \*106.1 (WXRI), h,v  
NC Laurinburg W237BP (WBFY 90.3 Pinehurst), h,v  
NC Lumberton W276BN \*103.1 (WSHA), h,v  
NC Morehead City W256AT \*99.1 (WXBE 88.3 Beaufort NC), h,v  
NC New Bern W225AN \*92.9 (WWIL-FM 90.5 Wilmington NC), h,v  
NC Pumpkin Center [N. of Jacksonville] W252BO \*98.3 (WKVC 88.9 North Myrtle Beach SC), h,v  
NC Sanford W270AW \*101.9 (WZRI 89.3 Spring Lake NC), h,v  
NC Tabor City W237BO \*95.3 (WBFY), h,v  
NC Wilmington W238AV \*95.5 (WKVC), h,v  
W272BK \*102.3 (WLPG 91.7 Florence SC), h,v  
ND Dickinson K245AO \*96.9 (KVLO 89.1 Lincoln ND), h,v  
ND Grand Forks K300BG \*107.9 (KFNW-FM), 250 h,v  
ND Potter (between Valley City and Tower City) K245AQ \*96.9 (Jamestown 89.3 application), h,v  
ND Wahpeton K289AV \*105.7 (KFNW-FM), 120 h,v  
OH Lima W300BB \*107.9 (WOKL 96.9 Troy), h,v  
OH Logan W284BD \*104.7 (WVWX 89.5 West Union), h,v  
OH Middleton Township (between Maumee and Bowling Green) W225AM \*92.9 (KLOV, to be received from a new application), h,v  
OH Parma W273AV \*102.5 (KLOV, via a new application), h,v  
OH Riverside (E. side of Dayton) W254BA \*98.7 (WOKL), h,v  
OH Springfield W244BR \*96.7 (WOKL), h,v  
OH Willard W228BN \*93.5 (WVMC-FM 90.7 Mansfield), h,v  
OK Antlers K235AW 94.9 (KITX 95.5 Hugo), 250 h,v  
OK Atoka K225AS 92.9 (KKNK 93.3 Newcastle), 250 h,v  
OK Bartlesville K289AU \*105.7 (KCFN 91.1 Wichita KS), 140 h,v  
OK El Reno K265EB \*100.9 (KJCC 89.5 Carnegie OK), v  
OK Enid K227AT \*93.3 (KYCU 89.1 Clinton OK), 250 h,v  
OK Lindsay K257ED \*99.3 (KYL V 88.9 Oklahoma City), h,v  
OK McAlester K298AR 107.5 (KKNK), h,v  
OK Muskogee K285FI \*104.9 (KWRI), 140 h,v  
OK Norman K276EX \*103.1 (KYL V), 120 watts h,v  
OK North Enid (actually southeast of the main part of Enid) K291AV \*106.1 (KYL V), 250 h,v  
OK Tulsa K255BE \*98.9 (KWRI), h,v  
OK Valliant K293AV 106.5 (KITX), 130 h,v  
OR Coburg K297AJ \*107.3 (KLVU 107.1 Sweet Home), h,v  
OR Elkton-Oakland K287AH 105.3 (KCNA 102.7 Cave Junction), h,v  
OR Glide K285FH 104.9 (KCNA), h,v  
OR Hermiston K237DS \*95.3 (KGTS 91.3 College Place WA), h,v  
OR Prineville K287AK \*105.3 (KYPL 91.1 Yakima WA), h,v  
OR Riddle-Days Creek K257EB 99.3 (KROG 96.9 Grants Pass), h,v  
OR Shady Cove \*99.1 City of Shady Cover, LPFM  
OR Union K228EG 93.5 (KUJ-FM 99.1 Walla Walla WA), h,v  
PA Berwick W233AX \*94.5 (WGRC 91.3 Lewisburg), h,v  
PA Brookville W291BF 106.1 (WDSN 106.5 Reynoldsville), 150 v  
PA Carbondale W275AO \*102.9 (WXPN 88.5 Philadelphia), h  
PA Coatesville W235AT \*94.9 (WVBV), h,v  
PA Du Bois W299BB 107.7 (WDSN), 250 h,v  
PA Ephrata W256AV \*99.1 (WVBV), h,v  
PA Fogelsville W229AO \*93.7 (WDIY 88.1 Allentown), h,v  
PA Folstown (just south of Nanticoke) W265BM 100.9 (WKAB 103.5 Berwick), h,v  
PA Hazleton W234AX \*94.7 (WXPN), h,v  
W248AK \*97.5 (WPGP 88.3 Tafton), h  
PA New Holland W236AX \*95.1 (WVBV)  
PA Punxsutawney W234AV 94.7 (WDSN), 250 h,v  
PA Sunnyburn W231BG \*94.1 (WVBV), h,v  
PA Towanda W276BO \*103.1 (WPGP), h,v  
PA Waymart W241AM 96.1 (WDNH 95.3 Honesdale), h,v  
PA White's Crossing (N.E. Scranton, W. Honesdale) W269BM (WYCY 105.3 Hawley), h,v.  
PA Wilkes-Barre W260AY \*99.9 (WXPN), h,v  
SC Beaufort W233AW \*94.5 (WSVH), h,v  
SC Charleston W286AY \*105.1 (WSVH), h,v  
SC Chester W253AT \*98.5 (WACG), h,v  
SC Edgefield W261AR \*100.1 (WACG), h,v  
W280DQ \*103.9 (WDCO-FM), h,v  
SC Estill W264BI \*100.7 (WLPE), h,v  
SC Greenwood W235AR \*94.9 (WLPE), h,v  
SC Greer W239AT 95.7 (WCSP 104.9 Clemson), h,v  
SC Hilton Head Island W282AT \*104.3 (WSVH), h,v  
SC Hollywood W257BQ \*99.3 (WSVH), h,v  
SC Mauldin W235AQ 94.9 (WHLC 104.5 Highlands), h,v  
SC Marion W237BK \*95.3 (WKVC 88.9 North Myrtle Beach), h,v.  
Granted despite W228BJ 93.5 there, another WKVC relay.  
SC Mount Pleasant W285DV \*104.9 (WSVH), h,v  
SC Murrells Inlet W238AY \*95.5 (WLPG), h,v  
SC Sumter W278AV 103.5 (WWKT 99.3 Kingstree), 250 h,v  
W290AY 105.9 (WICI 94.7 Sumter), 250 h,v  
SC West View (transmitter S.W. edge of Spartanburg) W238AW \*95.5 (WNEE 88.3 Jackson GA, via W201CR 88.1 Simpsonville [not W201CH, as shown p. 170 *FM Atlas-19*; W201CH is in South Charleston SC]), h,v  
SD Chamberlain K261DD \*100.1 (KGRD), 120 h,v  
SD Mitchell K237DR \*95.3 (KGRD), h,v  
SD Rapid City K284BA \*104.7 (KCSP-FM 90.3 Casper WY), h,v  
SD Sturgis K279AS 103.7 (KGWY 100.7 Gillette WY), h,v  
SD Watertown K237DQ \*95.3 (KFNW-FM), 170 h,v  
K280EY \*103.9 (KNWC-FM), h,v  
TN Centerville W253AS \*98.5 (WIGH 88.7 Lexington), h,v  
TN Covington W271AU \*102.1 (WKVZ 94.9 Ripley TN), h,v  
TN Ellendale W249BN \*97.7 (KKLV 94.7 Turrell AR), h,v  
TN Hendersonville W233AF \*94.5—the FCC affirmed this grant for a WAYM 88.7 Col.umbia TN relay (h,v) in a settlement agreement.  
TN Knoxville W267AS 101.3 (WSEV-FM 105.5 Gatlinburg), v  
TN Lewisburg W279BE \*103.7 (WAWI 89.7 Lawrenceburg), h,v  
TN Pigeon Forge W274AS \*102.7 (WHCB 91.5 Bristol TN), h,v  
TN Pulaski W234AW \*94.7 (WDNX 89.1 Olivehill), 250 h,v  
TN Union City W254BB \*98.7 (WKVZ), h,v  
TX Allce K254AZ \*98.7 (KZLV 91.3 Lytle), h,v  
K269EX 101.7 (KTNR 92.1 Kenedy), 120 h,v

TX Athens K228EF \*93.5 (KGLY 91.3 Tyler), 250 h,v  
K233BE \*94.5 (KVNE 89.5 Tyler), 250 h,v  
K299AS \*107.7 (KBJ5 90.3 Jacksonville), 210 h,v  
TX Bastrop K288FJ \*105.5 (KTSW 89.9 San Marcos), 250 h,v  
TX Bay City K285FL 104.9 (KTXN 98.7 Victoria), 250 h,v  
TX Bonham K297AM 107.3 (KKNQ), 250 h,v  
TX Borger K255BA \*98.9 (KAVO 91.5 Borger), 120 h,v  
K279AT \*103.7 (KAXH 90.9 Pampa), h,v  
K284AZ \*104.7 (KXRI 91.9 Amarillo), h,v  
TX Burnet K273AX \*102.5 (KTSW), 250 h,v  
TX Cleburne K252EB \*98.3 (KBDE 89.9 Temple TX), h,v  
TX Dalhart K235AY \*94.9 (KXLV), 120 h,v  
TX Dumas K252EC \*98.3 (KAVW 90.7 Amarillo), h,v  
TX Gun Barrel City K300BD \*107.9 (KVNE), 250 h,v  
TX Hemphill K248BD 97.5 (KLSN 96.3 Hudson), 100 h,v  
K300BJ 107.9 (KJAZ 107.3 Jasper), 100 h,v  
TX Jacksonville K279AR \*103.7 (KGLY), 200 h,v  
TX Jasper K260AS 99.9 (KLSN), 100 h,v  
TX Kenedy K235AX \*94.9 (KZLV), h,v  
TX Kilgore K287AJ \*105.3 (KZQX-LP 104.7 Chalk Hill), h,v  
TX Longview K270AW \*101.9 (KZQX-LP), h,v  
TX Lubbock K231BE \*94.1 (KLVW 88.7 West Odessa), 250 h,v  
TX Lufkin K230AQ \*93.9 (KGLY), 250 h,v  
K250AK \*97.9 (KVNE), 250 h  
TX Mauriceville K255BB \*98.9 (KLBT 88.1 Beaumont), h,v  
TX Midland K225AV \*92.9 (KAWZ 89.9 Twin Falls ID, as  
received via K206DC 89.1 Odessa), 210 v  
K296FG \*107.1 (KLVW), h,v  
TX Mount Pleasant K282AM \*104.3 (KVNE), 250 h,v  
TX Nacogdoches K239AN \*95.7 (KGLY), 250 h,v  
K251AN \*98.1 (KGLY), 250 h,v  
TX Palestine K239AM \*95.7 (KGLY), 250 h,v  
K284BB \*104.7 (KTPB 89.7 Kilgore), 170 h,v  
K288FH \*105.5 (KVNE), 170 h,v  
K300BI \*107.9 (KBJ5 90.3 Jacksonville), 170 h,v  
TX Paris K242BC \*96.3 (KGLY), 250 h,v  
K274BA \*102.7 (KVNE), 250 h,v  
K286AV 105.1 (KITX), 250 h,v  
TX Pleasant Valley (transmitter SE side of Wichita Falls) K275AT  
\*1029 (KLOV 89.3 Winchester OR, as received from K211ED  
90.1 Wichita Falls), 250 h,v  
TX Quanah K251AP \*98.1 (KBAH), h,v  
TX Quitman K232DG \*94.3 (KGLY), 250 h,v  
TX San Angelo K284AX \*104.7 (KAGT 90.5 Abilene), 250 h,v  
TX Seagraves K250AM \*97.9 (KVVW 88.7 West Odessa), 210 h,v  
TX Sunset Valley (W. side of Austin) K246BD \*97.1 KNCT-FM  
91.3 Killeen), h,v [TX], h,v  
K253AN \*98.5 (KDRP-LP 99.9 Dripping Springs/  
TX Texarkana K288FI \*105.5 (KVNE), 250 h  
TX Trinity (NE of Huntsville) K275AS 102.9 (KLSN), 100 h,v  
TX West Odessa K252ED \*98.3 (KCX 91.5 Big Spring), h,v  
TX Wichita Falls K296FE \*107.1 (KCCU 89.3 Lawton OK), 250  
h,v  
TX Woodville K272EB 102.3 (KLSN), 100 h,v  
UT Monticello K229AT \*93.7 (KTGW), h,v  
UT North Salt Lake K280EV 103.9 (KDUT 102.3 Randolph), h,v  
UT Smithfield K280AO 104.5 (KBNZ 104.9 Tremonton), 250 h,v  
VA Chantilly (west of Arlington) W270AX \*101.9 (WPER 89.9  
Culpeper), h,v  
VA Charlottesville W244BP \*96.7 (WPER 89.9 Culpeper), h,v  
VA Christiansburg W226AT \*93.1 (WPIN-FM 91.5 Dublin), h,v  
W231BC \*94.1 (WPAR 91.3 Salem), h,v  
W292CU \*106.3 (WRXT 90.3 Roanoke), h,v  
VA Clifton Forge W250AR \*97.9 (WRXT), h,v  
VA Crewe W246BB \*97.1 (WAUQ 89.7 Charles City), h,v  
VA Dillwyn W222AQ \*92.3 (WPER), h,v  
W231BD \*94.1 (WRXT [or, as an alternative, WPER]), h,v  
VA Hampton W293AO 106.5 (WJLZ 88.5 Virginia Beach), h,v  
VA Hot Springs W271AR \*102.1 (WPAR), h,v  
VA Marion W241AL \*96.1 (WCQR-FM 88.3 Kingsport TN), h,v  
W287AR \*105.3 (WPIB 91.1 Bluefield WV), h,v  
VA Max Meadows (E. Wytheville, SW Pulaski) W262BB \*100.3  
(WHCB 91.5 Bristol TN), h,v  
VA Newport News W249BM \*97.7 (WBKU 91.7 Ahoskie NC), h,v  
VA Timberlake W227BG 93.3 (WTTX 107.1 Appomattox), h,v  
VA Virginia Beach W269BQ \*101.7 (WJLZ), h,v  
VA Waverly W249BO \*97.7 (WRVL 88.3 Lynchburg), h,v  
W277BC \*103.3 (WJLZ), h,v  
VA West Point W298AT \*107.5 (WAUQ), h,v  
VA Wise W284BB \*104.7 (WCQR-FM), h,v  
VA Woodlawn (N.E. Galax) W277BD \*103.3 (WWZE-LP 101.1  
Hillsville VA), h,v  
VA Wytheville ("WITH-vil") W277BC \*93.3 (WHCB), h,v  
WA Brinnon K220IC \*91.9 (KEFX 88.9 Twin Falls ID), v  
K285FJ \*104.9 (WNEE 88.3 Jasper GA, as received from  
K206CJ 89.1 Issaquah WA), h,v  
WA Chelan K223AZ 92.5 (KEYG-FM 98.5 Grand Coulee), h,v  
WA Colville K231BC 94.1 (KMJY 104.5 Newport), h,v  
WA Dartford (transmitting from the N.E. edge of Spokane)  
K223AW \*92.5 (KYRS-LP 95.3 Spokane), h,v  
WA Enumclaw K293AY \*106.5 (WNEE, as received from  
K206CJ), h,v  
WA Kennewick K237DP \*95.3 (KRKL 93.3 Walla Walla), h,v  
K272ED \*102.3 (KGTS), h,v  
K276EU \*103.1 (KRKL), h,v  
WA Malaga K253AM 98.5 (KHTO 97.5 Othello), h,v  
WA Moses Lake K295AU 106.9 (KUJ-FM 99.1 Walla Walla), 250  
h,v  
WA Ocean Shores K228EI \*93.5 (KUOW 94.9 Seattle), 250 h,v  
WA Omak K270AU 101.9 (KEYG-FM), h,v  
WA Othello K298AQ 107.5 (KZTB 96.7 Benton City WA), h,v  
WA Pottlatch (just N. Pullman, not the Pottlatch S.W. Bremerton)  
K227AV \*93.3 (KKRS 97.3 Davenport), v  
WA Tacoma K281AS \*104.1 (KNHC 89.5 Seattle), h,v  
WA Twisp K244DY 96.7 (KZPH 106.7 Cashmere), h,v  
WA Walla Walla K237DM \*95.3 (KYPL 91.1 Yakima), h,v  
K272EC \*102.5 (KRKL 93.3 Walla Walla), h,v  
K295AV 106.9 (KFFR 97.7 Pullman), h,v  
WA Winthrop K284BC 104.7 (KEYG-FM), h,v  
WA Woodlawn (between Hoquim and Aberdeen) K223AV \*92.5  
(KYAO-LP 100.1 Ocean Shores), h,v  
WV Bluefield W246BE \*97.1 (WHCB), h,v  
WV Oak Hill W266AR \*101.1 (WKVW 93.3 Montgomery), h,v  
WV New Martinsville W252BP \*98.3 (WDLK 95.9 Grafton), h,v  
WV Ripley W281AJ \*104.1 (WPCN 88.1 Point Pleasant WV), h,v  
WV Salem W283AS \*104.5 (WAPS 91.3 Akron OH), h,v  
WV Weirton W257BP \*99.3 (WBJV 88.9 Steubenville OH), h,v  
WV Westover W230AY \*93.9 (WDLK 95.9 Grafton), h,v  
WI Appleton W268AU \*101.5 (WNWC-FM), h,v  
WI Green Bay W278AU \*103.5 (WNWC-FM), h,v  
W291BG \*106.1 (WORQ 90.1 Green Bay), h,v  
WI Marshfield W262AX \*100.3 (WCLQ 89.5 Wausau), h,v  
W272BI \*102.3 (WJTY 88.1 Lancaster), h,v  
WI Omro W264BK \*100.7 (WCLQ 89.5 Wausau), h,v  
WI Port Washington W273AT \*102.5 (WPQZ), h,v  
WI Sturgeon Bay W299BC 107.7 (WMXC 106.3 Stephenson MI),  
250 h,v  
WI Whitewater W266AQ \*101.1 (WNWC-FM), h,v  
WY Bondurant K286AY \*105.1 (KCSP-FM, 250 h,v  
WY Casper K298AS \*107.5 (KDUW 91.7 Douglas), h,v  
WY Douglas K259BA \*99.7 (KUWR 91.9 Laramie), h,v  
WY Green River K300BF \*107.9 (KCSP-FM), h,v  
WY Laramie K224DE \*92.7 (KCSP-FM), 250 h,v  
K258BB \*99.5 (KHRI 90.7 Hollister CA, received by K205EL  
88.9 Laramie; see also "Facilities," below), h,v.  
WY New Castle K228EH \*93.5 (KCSP-FM), h,v  
K242BD \*96.3 (KUWN 90.5 Newcastle), h,v  
WY Thermopolis K221EN \*92.1 (KUWT 91.3 Thermopolis), h,v  
WY Wheatland K223AY \*92.5 (KXWA 89.7 Loveland CO), h,v  
WY Worland K239AO \*95.7 (KCSP-FM), h,v  
K254AY \*98.7 (KEMC 91.7 Billings MT), h,v

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