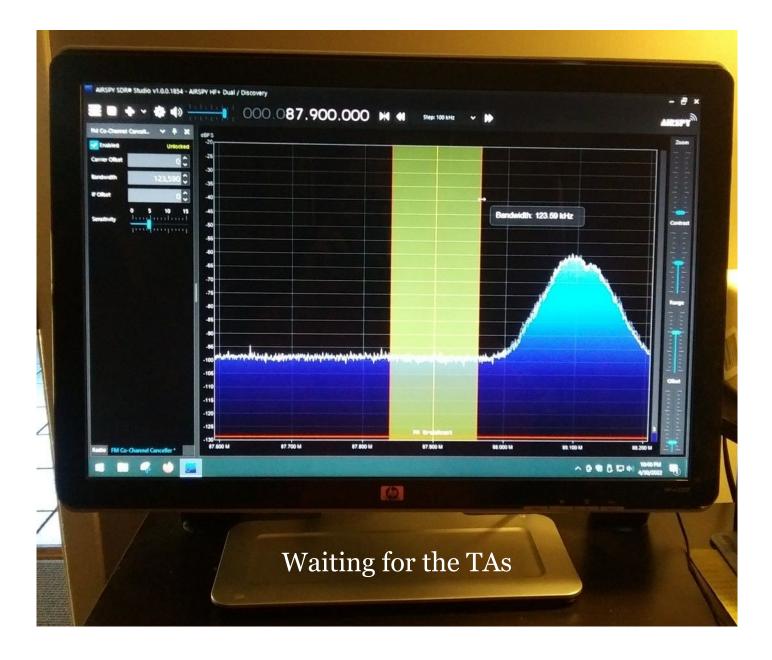


The Official Publication of the Worldwide TV-FM DX Association MAY 2022



In this Issue...WTFDA's List of Lowband DTV Stations just in time for skip season plus a listing of European TA FMs on 88.1mhz and below, just in case...

THE VHF-UHF DIGEST

The Worldwide TV-FM DX Association

Serving the TV, FM, 30-50mhz Utility and Weather Radio DXer since 1968

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: KEITH MCGINNIS, JAMES THOMAS, NICK LANGAN, MIKE BUGAJ AND JON KLINGERMAN



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MAY 2022

HERE WE GO!

I think we could call May the official start of the skip season. Somebody somewhere, and we hope it's you, is going to experience a decent skip opening between the first and the end of the month. Even the Dxers up north who are still thawing out will experience one. DX Maps will notice a surge in visitors, as will the WTFDA FM database.

This issue features our third annual listing of lowband DTV stations compiled by Chris Lucas. Some of these could skip to your location. Check it out. FM Dxers can check out our listing of European TA FM stations transmitting below 88mhz. Don't think you haven't a chance of hearing FM skip from Europe because it happened at least twice last summer for east coast Dxers. And lastly we have an article written back in the '70s by the late Mel Wilson where he attempts to answer questions regarding Es reception. Much of that information is still valid today.

So enjoy this issue. Then go out and start looking for E skip.

NEW MEMBERS AND RENEWALS

This month we say welcome to David Lines (IL), William Hohnstein (NE) and Carl DeWhitt (TN). I've been told that William has been doing some TV preamp comparisons and I hope that at some point he'll share the results with all of us. Welcome to all three of you!

Renewals were received this month from Frank Drobny, Larry Weisberg, Mike Schaffer, Rick Shaftan, Jon Hamilton, Ivan Cholokov, Doug Allen, Rod O'Connor, Christian Ferland, Jim Montgomery, Andrew Knafel and William Thompson. Thank you all for your renewals.

WILL WMC VACATE CHANNEL 5 BEFORE SKIP SEASON BEGINS?

I asked the question and Doug answered. His answer: "I wouldn't expect them to be off channel 5 that fast. The NPRM starts the comment period (runs 30 days after publication in the Federal Register), then there is a period for reply comments (15 days after that), then at some point after that the order is issued. Then the order has to be published in the Federal Register. If the effective date isn't immediately upon publication, then WMC would have to wait until it's effective. Then it has to file for a CP and then receive a grant of that CP.

After all of that, they can order equipment and start building. A permit lasts for three years. And Gray already has a heap of permits for moving stations from VHF to UHF that it already has in-hand to work on. They might prioritize this one, or they might not."

SPECTRUM MONITOR

Bill Hepburn has written an article in the May Spectrum Monitor about international analog TV Dxing in 2022. What I've heard is that it's a very good article. A download will cost you about \$3.00. See you all next month.



It's the 3rd year for the VHF Low TV List. E-skip is right around the corner! It's time to get ready for an improving Solar cycle. More stations have moved on the dial and some have been licensed to broadcast on VHF 2-6. To help you navigate all of the changes, WTFD A's DTV research specialist Chris Lucas has put together this handy list to tell you who is assigned to which channel. Enjoy and stay tuned! - Editor

text and dtv list Chris Lucas

editorial, design & graphics Jim Thomas **THE VHF LO LIST** - Channels 2 through 6 are included, listed by state within each channel. Puerto Rico and Virgin Islands are included for southeast coast DXers. Power levels are indicated. And the list is generally limited to stations with 1000 watts or more. (Stations with less would be very hard to log, especially with the growing number of co-channel stations, some with much higher powers.) Also I have highlighted (**BOLD**) all stations with more than 3000 watts These are the stations that will be the most often encountered.

Also, on rf channel 6, the "Franken FM's" are listed separately. They must include video/audio programming in ATSC-3.0 on channel 6 in addition to carrying FM programming on 87.75 MHz.

Included are CP expiration dates for those stations whose CP's expire this year. Watch for some of these to come on the air at any time this season. Note too that a number of stations want to change channels and have started the application process. This is indicated in the listings.

The RabbitEars.info website was invaluable in the preparation of this list. - CL.

Channel 2	CI	ha	n	ne	J	2	
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Channel 2	WHDF KBFY-LD K02RL KHIZ-LD KFTY-LD KQRO-LD KREX G	Florence, AL Fortuna, AZ Indio, CA Los Angeles, CA Middletown, CA Morgan Hill, CA Frand Junction, CO	3kw	DA - S/SE/S DA - S/SE/W DA - S DA - S/W DA - N	
	KBRO-LD	Lyons, CO	3kw	DA - E	NEXTGEN
	WDPN WKWT-LD	Wilmington, DE Key West, FL		DA - SW	MAY BE SILENT
	WUVM-LP KFAK-LD	Atlanta, GA Boise, ID	3kw 3kw		СР
	WLMO-LD WLBZ	Fort Wayne, IN	3kw 3kw		
	KNOP	Bangor, ME North Platte, NE	3KW 16kw		
	KHSV	Las Vegas, NV	27.7k	W	*wants rf 21
	W02CU	Mayaguez, PR			POSSIBLY SILENT
	W02CS	Ponce, PR		DA - SW	POSSIBLY SILENT
	WWXY-LD	San Juan, PR	3kw	DA - NE/NW	V CP
					(Current STA RF 6)
	WSBE	Providence, RI	13.6k	W	
	WGGS KHME	Greenville, SC Rapid City, SD	33kw 18.2k	**7	
	KSFW	Dallas, TX	3 kw	vv	SILENT
	KLNK-LD	Groveton, TX	3kw	DA - S	CP Non-DA
		Charlottesville, VA		211 2	
		Manchester, VT	3kw	DA - W	СР
	G IAG A	(To be located in			
	CKSA	Lloydminster, AB			
	CKPR	Thunder Bay, ON	1.2KW		
Channel 3	WDVZ-CD	Greensboro, AL	3kw	DA - NE	
	KIEM	Eureka, CA		w DA - N/S	CT A
	KCSO-LD K031Z	Sacramento, CA	5kw 3kw	DA - E DA - N	STA CP
	KUSIZ KURK-LD	Salinas, CA San Francisco, CA			Cr
	K03JB	Temecula, CA	3kw	DA	СР
	110000	remeeuw, err	01111	May be on a	
	K03IY	Denver, CO	3kw	5	
	WSBS	Key West, FL	1kw	DA - E	
	W03BU	Miami, FL	3kw	DA - E	
	WOME-LD	Orlando, FL	3kw		CP ONLY
	WTHC-LD	Atlanta, GA	3kw		
	WUVI-LD WHNE-LD	Chicago, IL Detroit, MI	3kw 3kw	DA - NW/NI	E / S W
	WCBI-LD	Starkville, MS	3kw	DA - NW	V C V
	KYUS	Miles City, MT	1kw		
	WJLP	Middletown, NJ	26.5k	W	
Digital Television	KCNL	Reno, NV	3kw	DA - S	
E-SKIP 2022	WGGN WRZH-LD	Sandusky, OH Red Lion, PA	10kw 3kw		



Channel 3		Guaynabo, PR Florence, SD Clarkrange, TN College Station, TX Corpus Christi, TX Dallas, TX Houston, TX Victoria, TX Wendover, UT Roanoke, VA Ste-MargMarie, QC	14.4k 3kw 3kw 3kw 2.5kw 3kw 1kw 3kw 9.8kw	DA - NW DA - W	MAY BE SILENT CP CP (8/01/22) 22kw STA
Channel 4	W04DN WNHT-LD	Auburn, AL Montgomery, AL	3kw 3kw	DA - S DA - SE	СР
		(Located at Alabaster	- /		
	K04QP	Casas Adobes, AZ	1.7kw		
	KAKZ-LD	Cathedral City, CA	3kw	DA - SE	MAY BE SILENT
	KWHY	Los Angeles, CA		DA - SE	
	K04QC	Palermo, CA	3kw	DA - NE	
	KQSL-LD	San Rafael, CA	3kw	DA - E	CP: non-DA (5/15/22)
	KBIS-LD	Turlock, CA	1kw	DA - NW/SE	
	KHDE-LD	Denver, CO	2.4kw		
	WMDF-LD	Miami, FL	3kw		
	WTSP-drt	St. Petersburg, FL		DA - NE/W	
	WNOII	(Located at Hernando	. ,		
	WNGH	Chatsworth, GA	11.2kv	V	
	K04RX	Preston, ID	1kw	DA N/E/C	
	WOCK-CD	Chicago, IL	3kw	DA - N/E/S	
	WHBF	Rock Island, IL	33.7kv		
	K04SA WHDT-LD	Alexandria, LA	3kw 3kw	DA - NE/SW STA 1kw	
	WIDT-LD W04DY	Boston, MA			SII ENT
		Maple Valley, MI	3kw	DA - NW/SE	SILENI
	WAUG-LD WACP	Raleigh, NC	3kw		
	KRMF-LD	Atlantic City, NJ Reno, NV	34kw 3kw	DA - S	
	WTLW	Lima, OH	10kw	DA-3	
	WQED	Pittsburgh, PA	10kw		
	WVDO-LD	Carolina, PR	1kw	DA - W	
	W24EI	Naranjito, PR	1kw		CP 3kw
	KWDA-LD	Dallas, TX		SILDI W	SILENT
	K04SD	Victoria, TX	1kw	DA - W	
	KAHO-LD	Woodville, TX	3kw		
	CITL	Lloydminster, AB	9.1kw		
	CIMT-1	Edmundston, NB		DA - NW/SE	
	CHFD	Thunder Bay, ON	1.2kw		
	CFTF-4	Forestville, QC		DA - SW/NE	
	CHAU-7	Riviere-au-Renard, Q			
		· · · · · · · · · · · · · · · · · · ·			



Channel 5

KQRY-LD K05MY KRCB KVHF-LD KVCR	Fort Smith, AR Bakersfield, CA Cotati, CA Fresno, CA San Bernadino, CA	3kw 1kw 18.6kw DA - E 1.6kw DA - S 25.8kw	
KRDH-LD	Cripple Creek, CO	1.5kw DA-N	
WMDE	Dover, DE	10kw	
W05DH	Jupiter, FL	3kw DA - N/S	
WDGT-LD	Miami, FL	3kw DA - S	
WDTO-LD	Orlando, FL	3kw	
WJSP	Columbus, GA	21.4kw	
WOI	Ames, IA	13.9kw	
WGBH	Boston, MA	34kw	
WEXZ-LD	Bangor, ME	3kw	
WBKP	Calumet, MI	6.4kw DA - NE/SW	
WGVK	Kalamazoo, MI	10kw	
W05BV	Starkville, MS	1kw	
KXLF	Butte, MT	10kw	*wants rf 15
KXGN	Glendive, MT	1kw	
KNHL	Hastings, NE	45kw	
WNYB	Buffalo, NY	4kw	
WRGB-drt	Schenectady, NY	3kw DA - S	
	(Located at Pittsfield	l, MA)	
WLMB	Toledo, OH	10kw DA-E	CP rf 35
KOBI	Medford, OR	6.4kw	
W05CY	Mayaguez, PR	3kw DA-W	//WORA
KHSD	Lead, SD	9.2kw	
WTNB-CD	Cleveland, TN	1.7kw DA-E	
WMC	Memphis, TN	34.5kw	*wants rf 30
WTVF-drt	Nashville, TN	3kw	22kw STA
KPFW-LD	Dallas, TX	3kw DA-W	
KTDJ-LD	Dayton, TX	3kw	
KCWX	Fredericksburg, TX	45kw	CP rf 8
KXDA-LD	Garland, TX	3kw DA - NE	
WCYB	Bristol, VA	29.9kw	CP rf 35
WFIG-LD	Charlotte Amalie, VI	2.8kw DA - N	//WSVI
WIWN	Fond du Lac, WI		A 34kw *wants rf 7
WDTV	Weston, WV	10kw	*wants rf 33
CHAU	Carleton, QC	9.8kw DA - S	
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	XX/X / T T A	Turnelesse AI	261			
Channel 6	WVUA	Tuscaloosa, AL	26kw			
	KWFT-LD	Fort Smith AR	3kw			
	KNXT-LP	Bakersfield, CA	3kw	DA - SW	CD(7/1)	
	KFMY-LD	Petaluma, CA	2kw	DA - N	CP (7/16/2	/
	KMCF-LD	Visalia, CA	3kw	DA - W	NEXTGEN	N (No 87.75)
	W06DI	Jasper, FL	1kw	DA - E		
	WFIB-LD	Key West, FL	3kw	DA - E	MAY BE	SILENT
	WATV-LD	Orlando, FL	3kw			
	WHDY-LD	Panama City, FL	3kw	DA - S		
	WABW	Pelham, GA	10.5kv	V		
	WCES	Wrens, GA	7.9kw			
	KTVJ-LD	Boise, ID	3kw	DA - SW		
	KBSD	Ensign, KS	31kw			
	WDHC-LD	Lebanon, KY	3kw		СР	
	K06PT	Columbia, MO	3kw		СР	
	KTVM	Butte, MT	19.2kv	v	CP rf 20	
	KWNB	Hayes Center, NE	11.9kv	V	CP 45kw	
	WOUC	Cambridge, OH	7.1kw	DA N/W/S	S	
	WDMY-LD	Toledo, OH	1.5kw			
	KPWC-LD	Tillamook, OR	3kw			
	WKBS	Altoona, PA	3.1kw			
	WPVI	Philadelphia, PA	34kw			
	W06DA	Aguada, PR	3kw	DA - S	CP Non-D	DA
	WWXY-LD	San Juan, PR	2kw	STA DA -	NE CP rf 2	
	W06DK	Florence, SC	3kw	DA - NW/	E MAY BE	SILENT
	K06QJ	Sioux Falls, SD	3kw	DA - N	CP	
	KCVH-LD	Houston, TX	3kw			
	K06QA	Odessa, TX	1kw	DA - SW		
	KFLZ-LD	San Antonio, TX	3kw	DA - NW		
	KYMU-LD	Seattle, WA	3kw	DA - E		
	KZNO-LD	Big Bear Lake, CA	3kw	DA - S	NEXTGEN	87.75 STA
Franken FM's:	KEFM-LD	-			NEXTGEN	87.75 STA 87.75 STA
	KEPM-LD KRPE-LD	Sacramento, CA	3kw 650w	DA - SE	NEXTGEN	87.75 STA 87.75 STA
	KBKF-LD	San Diego, CA	2kw	DA - N	NEXTGEN	87.75 STA 87.75 STA
	KDKI-LD KXDP-LD	San Jose, CA Denver, CO	2kw 3kw	DA - N DA - E	NEXTGEN	87.75 STA 87.75 STA
	WEYS-LD	Miami, FL	3kw	DA - E DA - S	NEXTGEN	87.75 STA 87.75 STA
		-		DA - 3		87.75 STA 87.75 STA
	WTBS-LD WRME-LD	Atlanta, GA	1.5kw 3kw	DA - W	NEXTGEN NEXTGEN	87.75 STA 87.75 STA
	KGHD-LD	Chicago, IL Las Vegas, NV		DA - W DA - N	NEXTGEN	87.75 STA 87.75 STA
	WNYZ-LD	U ,	3kw			
		New York, NY Momphia, TN	3kw	DA - E	NEXTGEN	87.75 STA 87.75 STA
	WPGF-LD	Memphis, TN	3kw		NEXTGEN	87.75 STA 87.75 STA
	WDCN-LD	Fairfax, VA	3kw	DA -W	NEXTGEN	87.75 STA 87.75 STA
	WMTO-LD	Norfolk, VA	3kw		NEXTGEN	87.75 STA



2022 TA FM Es Wishlist

(88mhz and below)

This list is a few years old but still revelant. It gives a good idea of what stations from Europe could be heard in North America via multi hop Es below 88mhz. In fact, the stations highlighted in yellow *were* heard on the East Coast in July 2021.

Freq	ERP-kw	Town	Country	Network
87.50		Flores	Azores	RTP Antenna1
87.50	15	Madrid	Spain	Dynamis Radop
87.60	25	Hoogersvilde	Netherlands	Radio 10
87.60		Flores	Azores	RTP Antena 1
87.70	115	Lelystad	Netherlands	Radop 10
<mark>87.70</mark>			<mark>Azores</mark>	RTP Antena 2
87.70	50	Strousbourg	France	
87.70	7		Canary Is	RNE Radio Clasica
87.70		Serra do Mendro	Portugal	RTP Antenna 1
87.70	20	Barcelona	ESP	
87.70	20	Serra do Mendro	Spain	
87.70	11.8	Gagnheidi	Iceland	
87.80	63	Troyes	France	
87.80	40	Clermont Carn	LH	
87.80	4	Vigo	Spain	COPE
87.80	40	Northeast Ireland	Ireland	RTE Radio 1
87.90	100	Mallorca	Spain	Alpicat
87.90	80	Catalulna	Spain	
87.90	79	Toulouse	France	
87.90	60	Cambil	Spain	
87.90	10	Asturias	Spain	Radio Clasica
87.90	15	Goes		
88.00	90	Hoogersmilde	Netherlands	
88.00	80	Punta Umbria	Spain	
88.00	40	Vilanlana	CAT-T	
88.00	44	Madiera	Portugal	Radio Renascensa
88.00	30	Mijas	Spain	
88.00	24	Bilbao	Spain	
<mark>88.00</mark>	<mark>18</mark>	Stykkisholmsbaer	lceland _	
88.00	13	Alencon	France	

E SKIP IN DEPTH

By Mel Wilson From an article in the May 1975 VHF-UHF Digest

Is there any way to predict how long an Es opening will last?

I don't know of any way to predict the duration of an intense Es occurrence. Until the mechanism of the phenomenon is understood, trying to predict its behavior is at best a precarious exercise However, there are indications which can lead to an educated guess; that is, play the probability game. Such indicators would include the large scale weather conditions, the temporal occurrence, and the general intense Es occurrences to date. If I am correct in the assumption that intense Es is the result of turbulence within a large sheet of Es, then conditions (like the wind sheer theory) must exist, and a triggering mechanism must be present within the area of the Es sheet to cause the turbulence. A higher probability for a long duration of intense Es is present if large scale weather conditions indicate wide spread possible locations for "generators." The more generators that appear, the more intense Es is spread, and the longer the "band is open."

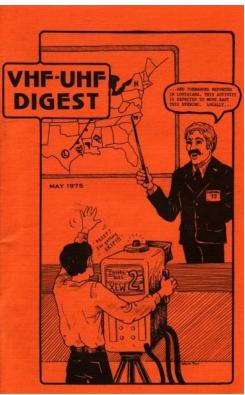
If the generators are strong, they will shed some long lived clouds which will drift for many hours.

Often the more intense and strong generators will support quite high frequencies (FM and higher), and this is an indication that probably the conditions will last for a while. In some cases, it appears that a cloud can become more intense by passing through another turbulent area.

An understanding of propagation paths is a required prerequisite to any attempt to predicting where, or how long, an opening might last. The more precise one can observe existing conditions, and the manner in which they change, the better an educated guess becomes. Plotting of data combined with basic knowledge of the possible wave propagation paths can often result in quite accurate assessment of actual conditions.

If a model can thus be established, and the behavior watched carefully, predictions of duration and area coverage can be accomplished by a single observer. The radio amateurs on 50 MHz have a distinct advantage, since they can trade information and get two points of view.

It is useful to the TV/FM DXers to listen in on 50 MHz for such information. Recording devices, scanning receivers, and spectrum displays are useful to the single observer, since such techniques add information.



Is most Es purely Single hop or is it a cloud to cloud condition?

In any wide spread opening, the probability of a two cloud propagation path is high, especially as the higher frequencies are propagated. When the band at 50 MHz is just open, the chances are that all skip is single cloud. The data I have shows that with very few possible exceptions, all reported 144

MHz skip observed over the past 25 years has been cloud to cloud. By far the majority of FM propagation has been two cloud, and many of the 50 MHz and low TV paths have been cloud to cloud. When wide spread intense Es is present, the lower frequencies usually have more than one path open simultaneously, both cloud to cloud and single cloud. This causes very strong stations to have very deep fades. Very complex wave paths can develop in such conditions.

Why does Es peak in spring and summer and re-peak in December-January?

I don't believe anyone has yet figured this one out! I would think that the mechanism for triggering turbulence is present much of the time, at least on an annual basis, and therefore the difference between the solstice and equinox occurrence of Es must be a result of the basic establishment and behavior of the basic sheet of ionization. This probably is a very complex phenomenon. Some feel that the basic ionization generation must be a result of the energy from the sun (excluding aurora and meteors) and thus the zenith angle of the sun relative to the coupling magnetic field lines between conjugate points) between the hemispheres probably controls this formation. There is some evidence that the plas-mapause controls the boundary of Es in the temperate zone, (L = 4, approx 60 degrees mag latitude), and thus not too far out to give serious consideration to this form of coupling. When the sun is over the equator its coupling to the midlatitudes is minimum, and this could account for the minimum Es occurences during equinox. During our summer, the sun's angle is such as to directly couple with the northern hemisphere, and the effect should be greater than during our winter solstice when the proper zenith angle of the sun must be coupled through the magnetic lines from our conjugate point.]

About what percentage of the Es openings that reach TV channel 2 will reach channel 6? FM? Channel 7?

The general rule of thumb is that doubling the frequency reduces the probability to 1/10th. *Thus if channel 2 is assumed 50 MHz, then 100 MHz will be propagated one-tenth the time that channel two is open, and 200 MHz will be open one-hundredth of the time.* However, this assumes a single cloud propagation path. Since most higher frequency propagation paths are multi-cloud, the probability is higher than these figures. The MUF of a single cloud can be below the frequency propagated by a two cloud path. In practice, it is difficult to know of a possible propagation path for the highest frequency because of the geometric restrictions imposed, and unless the observer and the transmitter are in precise relative positions, it will go undetected. This seems to be the experience on the two meter ham band. I expect that this will change somewhat with the advent of many repeaters coming on the air and many more people listening, and many openings will be reported.

In the case of channel 7 stations, the probability of hearing them is not very good, since there are relatively few of them, and the propagation paths very restrictive. FM stations, on the other hand, are geographically well spread out, have a relatively high density, and transmit continuously, and openings are observed a high percentage of the time. It is interesting to note that since there are so many more FM stations (than say channel 2 stations, that an observer may hear FM stations) although not channel 2 stations.

This doesn't mean that the band is not open for channel 2, but there is no channel 2 station for the particular wave path. It is possible that no TV stations can be heard and only FM stations can be heard. (Such information is of great importance when plotting an opening).

What characteristics should be found in a good antenna system for Es DX?

There is no single good antenna for Es DX. The serious DXer must have more than one antenna, and depending upon what he wishes to accomplish must be able to change antennas rapidly (preferrably scan).

I would guess the minimum would be a good yagi, stacked as much as possible, and as high above ground as possible (height probably is not important as long as it is greater than 1000 feet), Of course it must be rotated. A second antenna lower, a small beam type with an excellent null. The high, sharp beam antenna is useful most of the time, because of its gain and its area coverage (low angle of radiation covers a larger geographical area). The lower smaller antenna is useful for higher angle of radiation (when clouds are closer) and the deep null is useful for cutting down interference. The smaller beam should be independently rotated, and for local interference and also strong skip (if azmuthal angle is different) the smaller antenna can be electronically combined with the higher antenna to produce a null on the unwanted station. Beyond the minimum there are all kinds of special types, with polarization changes being the most useful, although it should be sampled fast.

How can a DXer recognize conditions favorable to "doublehop" Es?

The probability of successfully recognizing the possibility of double hop skip is directly related to ones understanding of transmission paths, and knowledge of conditions existing at the time. Plotting of conditions for propagation for an opening is most useful. This is the technique of drawing propagation paths as they are observed on a map, and trying to establish where the clouds started and where they are going. Listening to the radio amateurs on 50 MHz is most useful for finding the paths that are present but beyond ones own radio horizon. I believe that weather maps are very useful for guessing the direction and extent of possible intense Es. The place where skip starts is often along a front, very unstable air mass interfaces, and seem to favor low pressure areas. Once clouds are formed and drift off they may well drift into high pressure areas. Intense Es does not seem to form in stable high pressure areas, although on double skip remember that a ground reflection point can be in the high, so one can received through the area as long as a cloud is not required in the area. Thus the probability of double skip is higher if low pressure cells dominate the country, or the fronts are spaced properly for the observer. Of course when the band is wide open over a large area there is no need to recognizing conditions for double skip, its already there,'

Can meteor showers trigger an Es opening?

Meteors can well be the chief supply of metallic ion debris so important to the duration of Es, but I doubt very much that meteors could trigger an opening. Meteors do heat the ionosphere in an extremely small volume causing "ping" type VHF propagation, and dense shower can sustain propagation (sometimes double skip) for a relatively short duration. Meteor trails often produce field aligned scatter signal propagation and are very aspect limited. Although the energy released by the transit of the meteor through the E layer is small, some of the "over dense" meteors can extend the duration of propagation for many minutes. This mode of propagation is quite different from the intense Es.

-end-



It's here! Now you can show off your club pride by ordering a WTFDA logo shirt from the brand new WTFDA Merchandise Store. We're proud to launch the store with a variety of 125 different shirt styles, notebooks for your logs, and unique wall clocks for your DX shack!



Even more products will be arriving soon, so make sure to check back often to see what's new. You will also be helping support the club as a portion of sales goes to the WTFDA.

The store can be found at https://www.redbubble.com/people/wtfda/shop? artistUserName=wtfda

Any questions, comments, or feedback can be directed to store@wtfda.org

THE MONTHLY DX ROUNDUP

5 TROPO LOGS WE SALUTE

4/13: WRAZ-DT Raleigh, NC (Chris Dunne, Pembroke Pines, FL @ 682 mi.)

4/21: KWCH-DT Hutchinson, KS (Steve Rich, Milford, IL @ 570 mi.)

4/11: 93.9 XHPMEN-FM Cd. Del Carmen, CAMP (Bobby, Baton Rouge, LA @ 818 mi.)

4/12: 106.5 WSFL New Bern, NC (Chris Dunne, Pembroke Pines, FL @ 657 mi.)

4/13: 98.5 WKTK Crystal River, FL (Rick Shaftan, Rodanthe, NC @ 602 mi.) May 2022 - Nick Langan, Tabernacle, NJ - <u>nickl@wtfda.org</u> (717)685-9785

If you have a suggestion for inclusion in the Monthly DX Roundup, please e-mail me at <u>nickl@wtfda.org</u>.

TV DX HIGHLIGHTS

We made it through another off-season! This past winter, in particular, seemed pretty barren for DX anywhere, thought that may have just been me. It has been like pulling teeth to even get a regional tropo opening to form up here in the Northeast/Mid-Atlantic! As I glance at my home weather station and see a dewpoint reading of 15.6F, I can probably surmise as to why. Early spring is rather fickle for DX.

That said, there have been signs of life. Steve Rich's Milford, IL autologger had tropo out to Wichita on April 21. The Atlantic coastal paths from Florida northward often form this time of year, and Chris Dunne capitalized with WRAZ-DT-15 from Raleigh on April 13.

FM DX HIGHLIGHTS

The southern paths also manifested along the Gulf of Mexico. DX'er Bobby in Baton Rouge had 93.9 XHPMEN from Cd. Del Carmen at over 800 miles via tropo on April 11. Chris Dunne had up to 106.5 WSFL in New Bern, NC (a familiar tropo catch for those of us up north) on the 12th. Rick Shaftan's excellent DX location on the Outer Banks of NC meanwhile has had FM as far south as Orlando via tropo during the month. Josh in Mountain Home, AR got as far as Houston and Abilene, TX via tropo on April 23.

LOOKING AHEAD

Who will report the first Es logging on DTV or FM? When will it be? Is hard, painful regression in store after the undisputed GOAT of all E-Skip seasons took place last year in 2021? These are questions I do not have the answer to. But, after feeling almost burnt out after the ridiculous amount of skip last season, I am ready to pour copious amounts of time to DX'ing FM skip through IBOC and translators again! It is a wonderful time of year.

TV News – May 2022

Douglas E. Smith Nashville, TN dougw9wi@gmail.com

Stations **in boldface** are full-power; all others are LPTV, translators, or Class A. In Canada & Mexico, stations of more than 3kw (VHF) or 15kw (UHF) are marked **in boldface**. Stations *in italics* are analog. There are no operating analog stations left in the USA or Mexico. USA analog listings are off the air, either temporarily pending conversion to digital or permanently deleted.

Location	RF Ch	Callsign	Notes
Alabama		-	
Andalusia	25	WKNI-LD	License canceled Apr. 1 st .
Andalusia	35	WKNI-LP	License canceled Apr. 1 st
Opelika	17	WGBP-TV	Update to last month's report: the transmitter operating at 25%
		-	power since March 16 th is Site #2 near Manchester, Georgia.
			Site #1 in Alabama is still at full power.
Selma	35	K35OX	New station on the air, 15kw/64m, 32-24-58/86-59-17.
			K callsign is not a typo.
Tuscaloosa	36	WSES	Returned to full power Mar. 30 th .
Vernon	4	NEW	Granted new allocation, requested by Alabama Educational TV
			Commission.
Alaska			
North Pole	20	KJNP-TV	Returned to full power April 20 th .
			······································
Arizona			
Fortuna	2	KBFY-LP	Converted to digital from analog ch. 41, 3kw/382m,
			33-03-02/114-49-41.
Show Low	10	KWKM-LP	License canceled Apr. 22 ^{nd.}
Show Low	13	KWKM-LD	License canceled Apr. 22 nd .
Snowflake	12	KWSJ-LP	License canceled Apr. 22 nd .
Snowflake	9	KWSJ-LD	License canceled Apr. 22 nd .
Arkansas			
Bonnerdale	16	K16IP	OFF Apr. 6 th pending relocation.
Texarkana	19	KTEV-LD	Granted power increase to 15kw/119m, 33-22-39/94-10-31.
British Columbia			
Burns Lake	7	CH4333	Created equivarian from analog, 102 watto/206m
Buills Lake	1	СП4333	Granted conversion from analog, 102 watts/296m, 54-15-22/125-40-43 (CBUT Vancouver)
Burns Lake	10	CH4374	Permit granted for new station, 106 watts/296m,
Durns Lake	10	0114374	54-15-22/125-40-43 (APTN/Aboriginal Peoples Television Network)
Burns Lake	13	CH4375	Permit granted for new station, 130 watts/296m,
Barrio Eane	10	0111070	54-15-22/125-40-43 (Knowledge Network) (replaces analog CKHS)
California			
Fort Bragg	8	KQSL	Power at DTS site #2 (Cloverdale) increased to 1kw/593m.
	-	·• -	Site #1 (Laytonville) remains unchanged.
Los Angeles	7	KABC-TV	Requests power reduction to 25kw/906m (aux); granted.
-			Requests power increase to 50kw/978m at main site.

Location	RF Ch	Callsign	Notes
Los Angeles	27	KEDD-LD	Requests power increase to 9kw/-83m, 34-16-32/118-25-23; granted.
Los Angeles	36	KNBC	Requests power increase to 1000kw/1005m; granted.
Modesto	6	K06QL	Requests power increase to 3kw/60m; granted.
Monterey	24	KMCE-LD	Returned to the air Apr. 15 th .
Ontario	27	KPOM-CD	Requests power increase to 15kw/906m, 34-12-46/118-03-45; granted & increased.
Palermo	4	K04QC	Requests STA 3kw/5m; operating at 20% power since April 8 th due to module failure.
Pasadena	3	STA-775511	Live Sports Radio requests temporary station, 5 watts/-104m, 34-08-38/118-08-43; Pasadena Convention Center, May 16 th -18 th .
Riverside	7	KRCA	See sharing host KABC-TV Los Angeles.
Sacramento	12	KRJR-LP	Requests power increase to 700 watts/145m; granted.
Salinas	4	K04RS	Granted power increase to 600 watts/728m, 36-32-06/121-37-18.
San Luis Obispo	15	KSBY	Operating at just shy of 5% power since Feb. 3 rd due to transmitter failure. Able to increase to 50% power in early March. Returned to full power April 13 th .
Colorado			
Aspen	4, 6, 8	, K04HH,	OFF June 16 th , 2021. Site damaged by wildlife & will not be
	12, 19 21	, K06HU, K08HN,	restored, working on moving to a new site.
		K12QO, K19FH, &	
Aven	26	K21HF	Deguasta STA 52 5 watta / 555m 20.27 10/106 20 10: transmitter
Avon	36	K36DB	Requests STA 53.5 watts/-555m, 39-37-19/106-28-48; transmitter only able to make half power. Granted. Returned to full power Mar. 31 st .
Collbran	28	K11PS	From 11, 100 watts/-381m. Co-located K24LQ receives a channel 10 signal, which was suffering adjacent channel interference from K11PS. Granted.
Colorado Springs	29	KTLO-LD	OFF Mar. 24 th , transmission line or antenna failure. Returned to the air Apr. 10 th .
Romeo	33	K33OA	License canceled Apr. 5 th .
Romeo	45	K45GD	License canceled Apr. 5 th .
Sterling	27	K27KY	License canceled Apr. 12th.
Vail	22	K22OE	License canceled Apr. 12th.
District of Columbia			
Washington	4	W04ST	Requests STA 5 watts/-32m, 38-52-23/77-00-27; Live Sports Radio, Washington Nationals stadium, full season Apr. 11 th – Oct. 11 th . Granted.
Durango			
Durango	7	XHFGL	Granted site change to 24-01-13/104-41-05; 21.58kw/-63m.
Florida			
Dunnellon	27	WOCD-LD	Requests power increase to 10kw/54m, 29-07-31/82-10-56. Granted. Requests modification to 8kw; granted. Requests modification to 4.25kw/78m; granted.
Homestead	16	W16CA	Requests power increase to 9kw/175m, 25-32-24/80-28-06; granted.
Jupiter	5	W05DH	License canceled Apr. 12th.
Kissimmee	3	STA-775515	Live Sports Radio requests temporary station, 5 watts/19m,

Location	RF Ch	Callsign	Notes
			28-20-58/81-32-21; Gaylord Palms Resort & Convention Center, June 9 th -11 th .
Kissimmee	4	STA-775517	Live Sports Radio requests temporary station, 5 watts/19m, 28-20-58/81-32-21; Gaylord Palms Resort & Convention Center, June 9 th -11 th .
Miami	10	WPLG	Power increased to 156kw/309m.
Naples	32	WXCW	Power changed to 1000kw/393m, 26-48-03/81-45-44.
Ocala	18	WQFT-LD	Requests power increase to 15kw/86m, 28-50-56/82-03-08. Granted.
Panama City	23	W23FM	License canceled Apr. 12th.
Pensacola	22	WCTU-LD	Converted to digital from analog ch. 69, 5kw/98m. Appears to have been operating in digital on channel 46 for some time under STA.
Tampa West Palm Beach	35 19	WTAM-LD WBWP-LD	Returned to the air Apr. 16 th , replaced transmitter. Requests power increase to 15kw/153m, 26-48-00/80-04-32;
West Fain Deach	19		granted.
Georgia			
Albany	48	W48DU	OFF Mar. 7 th pending construction.
Athens Bluffton	33	W33EU W27DV	From W36FL, 600 watts/28m, 34-04-01/83-08-19; granted. License canceled Mar. 30 th .
Columbus	27 23	WAUA-LD	Calls changed from WUED-LD.
Macon	23	W24EW	License canceled Apr. 12th.
Idaho			
Idaho Falls	29	K29KG	Requests power increase to 710 watts/290m, 42-51-50/112-31-13; granted.
Twin Falls	36	K36KU	License canceled Apr. 11 th .
Illinois			
Champaign	14	WXSL-LD	Calls changed from W26DZ.
Chicago	12	WBBM-TV	Power increased to 10.9kw/500m. Requests power increase to 22.9kw/418m for aux; granted & increased.
Chicago	19	WGN-TV	Requests STA for reduced power of 645kw/498m (vs. licensed 803kw). Combiner won't handle full power.
			Requests permanent permission for this power level; granted & reduced.
Decatur	20	WAND	New aux on the air, 233.9kw/367m.
Effingham	33	W33EK	Requests STA for reduced power of 11.4kw/102m pending
			transmitter repairs. (WAND-17 Decatur) Withdrawn, station returned to full power April 15 th .
Jacksonville	24	WXSG-LD	Calls changed from W24EV.
Springfield	33	W33AY	OFF Mar. 7 th pending relocation.
Indiana			
Evansville	14	W14EV	License canceled Apr. 12th.
Indianapolis	29	W29EL	Requests power increase to 3.2kw/240m, 39-53-57/86-12-02;
·			granted.
Indianapolis	31	WQDE-LD	Returned to the air Apr. 27 th , transmitter replaced.
lowa			
Mason City	27	K27MI	License canceled Apr. 12th.
-			
Kansas Emporio	24	K24ON	License equaled Apr. 12th
Emporia	34	K34QN	License canceled Apr. 12th.

<i>Location</i> Garden City	RF Ch 17	Callsign K17Ol	<i>Notes</i> License canceled Apr. 12th.
Garden City	48	K48MV	License canceled Apr. 12th.
Kentucky			
Bowling Green Louisville	16 3	WNKY-LD STA-775512	Calls assigned to new station. Live Sports Radio requests temporary station, 5 watts/-8m, 38-15-17/85-45-22; Kentucky International Convention Center, June 11 th -14 th .
Louisiana			
Baton Rouge	13	WBRZ-TV	Requests power increase to 45.9kw/525m, 30-17-49/91-11-37; granted.
Houma	30	KFOL-CD	Site changed to 29-36-56/90-47-34; 15kw/74m.
Maine			
Augusta Bangor Etna	20 19 36	WCBB W19FA W36FM	Proposed reallocation from ch. 10, 1000kw/304m. Requests power increase to 15kw/392m, 44-42-12/69-04-45. Requests power reduction to 15kw/231m, 44-45-37/68-33-55.
Maryland			
Havre de Grace	24	WWDD-LD	Requests STA 5kw/145m, 39-30-54/76-14-25; to operate newly- permitted ch. 24 facility at reduced power pending completion of full power facilities.
Michigan			
Cadillac	9	WWTV	Operating at 25% power since April 15 th due to antenna issues.
Cadillac	32	WFQX-TV	STA to add MPEG-4 subchannel dismissed.
Charles	28	W28EJ	Requests power increase to 15kw/186m, 46-03-36/84-05-57; granted.
Charles	30	W30DQ	Requests power increase to 10kw/142m, 46-03-36/84-05-57; granted.
Elmhurst	27	W27DQ	Granted power increase to 15kw/261m, 45-30-05/85-01-49.
Elmhurst	31	W31FA	Granted move from W38FO, 15kw/261m, 45-30-05/85-01-49.
Houghton Lake	15	W15DF	Requests power increase to 15kw/232m, 44-08-12/85-20-33; granted & increased.
Houghton Lake		W19EZ	New to the air, 15kw/232m, 44-08-12/85-20-33.
Marquette	16	W16EF	License canceled Apr. 12th.
Marquette	35		Requests STA 40.9kw/257m; to operate at 65% power pending transmitter replacement.
Traverse City Traverse City	16 27	W16DN W27DU	Granted power increase to 15kw/254m, 44-45-37/85-40-58. Granted power increase to 15kw/254m, 44-45-37/85-40-58.
Vanderbilt	20	W20DT	Requests power increase to 15kw/275m, 45-10-12/84-45-04.
Vanderbilt	22	W22EL	Requests power increase to 15kw/275m, 45-10-12/84-45-04.
Minnesota			
Austin	20	KSMQ-TV	STA for 80% power dismissed, presumably the transmitter has been repaired.
Duluth	20	K20OP	License canceled Apr. 12th.
Duluth	21	K21KZ	License canceled Apr. 12th.
Minneapolis	9	KMSP-TV	Power increased to 36.2kw/435m, 45-03-30/93-07-28.
Minneapolis	26	WDMI-LD	Granted move from ch. 31.
Rochester	35	KXSH-LD	Calls changed from K33LJ.
Mississippi			
Booneville	9	WMAE-TV	Application for new aux, 30kw/177m; granted & on the air.

<i>Location</i> Bruce Eastabutchie Greenville	31 V 14, V 22, V 23, V 24, V	<i>Callsign</i> WYMP-LD W31FB W14EH, W22EO, W22EO, W23FB, W24EJ, W36EV	<i>Notes</i> Requests power increase to 15kw/244m, 35-10-07/89-53-06. Requests power increase to 4.5kw/328m, 30-41-17/87-47-54; granted. License canceled Apr. 12th.
Missouri			
Cape Girardeau <i>Carthage</i> Jefferson City Joplin Springfield	5 H 36 H 34 H	K16NP K <i>DSI-LP</i> KGKM-LD K41KX KCNH-LD	License canceled Apr. 12th. <i>License canceled Apr. 11th.</i> Calls changed from K36LJ. OFF July 1 st ; lost site. OFF April 7 th pending replacement of "signal converter", whatever that is Back on the air April 21 st .
Montana	<u> </u>		
Billings Helena Helena Troy Troy Troy	7 k 34 k 8 k 10 k	KTVQ KJJC-LD KJCX-LD K08BG K10AF K12AA	Granted reallocation from ch. 10, 1000kw/180m. License canceled Apr. 5 th . License canceled Apr. 5 th .
Nebraska			
Beatrice Columbus		K23AA K14SY	Requests STA 6.1kw/162m; operating at approximately 70% power since Mar. 29 th antenna failure. License canceled Apr. 12th.
Nevada	45 1		Now to the size 500 wetter (02m - 20 40 55/114 02 24
Mesquite Sparks		KMSQ-LD KGLR-LD	New to the air, 500 watts/-62m, 36-49-55/114-03-34. Requests power increase to 15kw/126m, 39-35-02/119-47-59; granted.
New Hampshire			
Hanover	36 V	W50DP	Moved from 50. (WENH-TV 11 Durham)
New Jersey Hammonton	27 V	WPSJ-CD	Requests STA for reduced power of 4.25kw/160m pending antenna
hammonion	21 V	WI 33-CD	replacement.
New Mexico			
Farmington		K31PM	Moved from K43AI.
Forrest Taos		K31GC KCEI-LD	License canceled Apr. 4 th . Requests power increase to 2.16kw/-278m, 36-24-33/105-34-23; granted.
New York			
Albany	21 V	WNYT	Granted reallocation from ch. 12, 970kw/414m. Application to increase power on ch. 12 to 86kw/414m withdrawn.
Ithaca	34 V	W07BJ	From ch. 7, 15kw/126m, 42-26-30/76-34-39. Requests permission to operate this facility at 7.3kw pending Canadian approval of 15kw/

Location Plattsburgh	RF Ch 14	Callsign WPTZ	<i>Notes</i> Operating at 86% power since April 15 th pending transmitter replacement.
North Carolina			
Biscoe	36	W36FB	Granted STA 3.4kw/73m; to operate at 50% power pending amplifier repairs. (WCNC Charlotte)
Charlotte	15	W15EB	Granted power to 15kw/149m, 35-11-56/80-52-36; changed.
Marion	22	W22FB	Operating at about 25% power (2.25kw) after Mar. 15 th HVAC
New Bern	27	W27DP	failure. Returned to full power Mar. 28 th .
	21	VV27DP	License canceled Apr. 12th. Or maybe not Granted power reduction to 3kw/9m, 34-42-36/77-14-05 on April 15 th .
New Bern	31	WFEJ-LD	License canceled Apr. 12th.
North Dakota			
Fargo	14,	K14PP,	License canceled Apr. 12th.
	17,	K17LT,	
	32,	K32KX,	
	33	K33ML	
Oaxaca			
Oaxaca	36	XHCPBR-n	Calls changed from XHAOX.
			5
Ohio			
Cleveland	20	WTCL-LP	Granted STA to activate new site at reduced power of 4.6kw/307m
Columbus	24		pending Canadian approval.
Columbus	24	WDEM-CD	Requests STA to operate at half power (7.5kw) pending replacement of damaged amplifier.
Columbus	25	WCPX-LD	Requests power to 15kw/56m, 40-03-01/82-57-03; granted.
Springfield	24	WLWD-LD	Granted move from ch. 20, 6.5kw/261m, 39-43-29/84-15-18.
Oklahoma			
Claremore	32	KRSU-TV	Power reduced to 123kw/214m.
McAlester Tulsa	14 3	K14SV	License canceled Apr. 12th.
TUISA	3	51A-775515	Live Sports Radio requests temporary station, 5 watts/14m, 36-05-06/95-56-50; Southern Hills Country Club, May 15 th -22nd.
Tulsa	4	STA-775514	Live Sports Radio requests temporary station, 5 watts/14m,
			36-05-06/95-56-50; Southern Hills Country Club, May 15 th -22nd.
Tulsa	29	KTZT-CD	Power increased to 15kw/129m, 36-09-46/95-58-45.
Ontorio			
Ontario Hamilton	15	CHCH-DT	Requests power increase to 456.5kw/337m, 43-18-12/79-57-43.
паннион	15		Requests power increase to 450.5kw/557111, 45-16-12/13-57-45.
Oregon			
Bend	20	KQRE-LD	Power changed to 9.3kw/680m, 44-26-12/120-57-15.
Bend	27	K27DO	Requests power to 5kw/680m, 44-26-12/120-57-15; granted.
Mapleton	25	K25NI	Returned to full power Apr. 1 st .
Portland	29	KJYY-LD	Requests power increase to 15kw/492m, 45-30-58/122-44-03.
Pennsylvania			
Erie	18	WXTM-LD	OFF April 26 th , antennas removed for roof repairs.
Erie	19	WEPA-LD	OFF April 26 th , antennas removed for roof repairs.
Lebanon	31	WLHY-LD	STA for reduced power of 3kw, to avoid interference to WTXF-TV
			Philadelphia, dismissed.
Millersburg	17	W17DU	Requests power increase to 15kw/487m. (WBPH-TV Bethlehem)

Location	RF Ch	Callsign	<i>Notes</i> Granted.
Uniontown	22	WWKH-CD	Requests power to 4.92kw/332m, 39-51-17/79-39-21; granted & changed.
Puerto Rico			
Aguada Bayamon Caguas	25 24 24	WQHA WDWL WUJA	Requests power increase to 21kw/839m, 18-10-21/66-35-30. See sharing host WUJA Caguas. Requests power increase to 120kw/315m.
South Carolina			
Florence	6	W06DK	Requests power increase to 3kw/107m, 34-16-18/79-43-33; amendment from 37 meters. Granted.
South Dakota			
Caputa Lowry Lowry Lowry Lowry	22 44 46 48 50	K22OV K44ME K46MX K48OQ K50NL	Requests power increase to 15kw/166m; granted. License canceled Apr. 5 th . License canceled Apr. 5 th . License canceled Apr. 5 th . License canceled Apr. 5 th .
Tennessee			
Memphis Memphis Nashville	14 30 31	WMC-DRT WMC-TV WWHL-LD	Application for new DRT withdrawn. Has acquired an existing LPTV to relay the WMC signal on UHF. Proposes reallocation from ch. 5, 515kw/308m. Requests power increase to 15kw/154m, 36-00-17/86-50-02; granted. (Holly Tree Gap Rd., Brentwood) Requests further increase to 14.3kw/170m, 36-02-47/86-49-47 (WKRN-2 tower) Granted.
Texas			
Amarillo Amarillo Austin Corpus Christi Corpus Christi Dallas Dallas Fredericksburg Houston	16 23 33 32 33 12 26 8 29	KXAD-LD KXAD-LD KVUE K32OC K33QP KJJM-LD KLHP-LD KCWX KEHO-LD	 OFF Mar. 1st pending move to ch. 23. From 16, 2kw/140m; granted. Returned to full power Mar. 11th. OFF April 10th pending transmitter repairs. Requests power increase to 15kw/98m, 27-50-27/97-32-47. Moved from 34, 2.5kw/125m, 32-44-20/97-05-30. Calls changed from K50NF. From ch. 5, convert to DTS. Granted. See details below. OFF Mar. 16th pending equipment replacement. Granted permanent permission for this channel, 15kw/95m, 29-48-06/95-14-04.
Lubbock Lubbock Lubbock <i>Lubbock</i> Lufkin Midland San Antonio Snyder Texarkana Tyler Tyler	14 15 31 36 49 32 24 13 32 19 13 14	K14PZ K15LV K31MX KYLU-LD <i>KYLU-LP</i> KLNM-LD KEOO-LD KQVE-LD KABI-LD KTEV-LD KXXW-LD K14NR	License canceled Apr. 12th. License canceled Apr. 8 th . License canceled Apr. 7 th . License canceled Apr. 7 th . Power reduced to 2kw/110m, 31-21-54/94-43-09. Granted power to 15kw/243m, 32-05-51/102-17-23. Requests power increase to 760 watts/99m, 29-26-30/98-30-23. OFF Mar. 3 rd , transmitter malfunction. Returned to the air Apr. 15 th at reduced power of 660 watts/99m, 32-45-34/100-54-47. OFF Mar. 29 th pending modification. Calls changed from K13NY. Requests power increase to 15kw/99m, 32-27-16/95-07-50;

Location	RF Ch	Callsign	Notes
Tyler Tyler	24 27	K46KW KDKJ-LD	granted. OFF Mar. 8 th pending completion of facilities. OFF Mar. 17 th pending HVAC repairs. Returned to full power Mar. 23 rd .
Tyler	29	KBJE-LD	OFF Mar. 17 th pending HVAC repairs. Returned to full power Mar. 23 rd .
Tyler	30	KKPD-LD	OFF Mar. 17 th pending HVAC repairs. Returned to full power Mar. 23 rd .
U.S. Virgin Islands			
Charlotte Amalie Christiansted	36 5	WTJX-TV W05AW	Application for new aux, 50kw/456m; granted & on the air. OFF Apr. 4 th pending replacement of transmitter destroyed by roof leak.
Utah			
Logan <i>Wendover</i>	26 27	KCVB-CD <i>K27KM</i>	Requests power increase to 15kw/551m; granted. License canceled Apr. 12th.
Wendover	31	K31OW	License canceled Apr. 13 th .
Vermont			
Montpelier	14	WNNE	See sharing host WPTZ Plattsburgh, N.Y.
Virginia			
Crozet	13	W13DV	Requests power reduction to 200 watts/-78m, 38-17-51/78-26-32. Granted & reduced.
Hampton	35	WVEC	Proposes reallocation from ch. 11.
Madison Newport News	30 34	WVIR-DRT WJHJ-LP	Permit granted for new DRT, 15kw/287m, 38-18-39/78-00-12. Moved from 39, 15kw/116m.
Woodstock	20	WDME-CD	Calls changed from WAZT-CD.
Yorktown	36	WYSJ-CD	Requests power increase to 15kw/364m, 36-49-00/76-28-05.
Washington			
Bellingham	19	KBCB	Power increased to 208kw/757m.
Colville	9	K09UP K27OO	Returned to the air Mar. 12 th .
Ellensburg	27	K2700	License canceled Mar. 28^{th} . (last operated as K39DM)
West Virginia			
Charleston	33	WOCW-LD	OFF Mar. 27 th pending HVAC repairs. Returned to full power April 6 ^{th.}
Parkersburg	14	W14EO	License canceled Apr. 13 th .
Parkersburg	16	W16CV	License canceled Apr. 12th.
Wisconsin			
Eau Claire Janesville	14 21	WECX-LD WIFS	Granted power increase to 10.1kw/492m, 44-39-50/90-57-41. Operating at 60% power since Mar. 21 st , pending mask filter
Janesvine	21	WIFS	replacement. Returned to full power Apr. 12 th .
Minocqua	2	W02CF	License canceled Apr. 12th.
Wausau	31	W31EV	Granted power reduction to 1.2kw/21m, 44-40-32/89-39-12; reduced.
Wyoming			
Cheyenne	18	KXCY-LD	Calls changed from K46LN.
Cheyenne	26	KFWY-LD	Requests power increase to 6.18kw/45m, 41-09-35/104-43-20.

As always, thanks to Raymie Humbert for information from Mexico. (Other information, unless

otherwise noted, comes from the FCC and Industry Canada.)

FROM ONE SITE TO SIX

KCWX is located between Austin, Texas and San Antonio. The station has attempted to reach both cities since it signed on in analog, on channel 2, 22 years ago. In digital, KCWX's service was limited by its assignment to physical channel 5. Most recent receiving antennas are, frankly, defective – they are designed to look nice. If they receive TV signals, that's a bonus. Low-VHF channels 2-6 are especially affected. The FCC evaluated a number of receiving antennas a few years back, finding most were significantly less effective in the *high*-VHF channels 7-13 when compared to UHF. They didn't even bother testing them at *low*-VHF.

KCWX first obtained permits for two Digital Replacement Translators. (DRTs) These stations, in the market's two most important cities San Antonio and Austin, rebroadcast the KCWX signal on channel 8.

It would appear the station liked the results. They have requested permits for three more relay transmitters, and to convert the main transmitter from channel 5 to channel 8. From a legal standpoint, this establishes a Distributed Transmission System (DTS) and converts the San Antonio and Austin DRTs to DTS sites. These permits were granted in early April.

The sites:	
#1 Fredericksburg	
#2 Austin	
#3 San Antonio	
#4 D'Hanis	
#5 Mountain Home	
#6 San Saba	

28.5kw/412m 3kw/166m 3kw/117m 1kw/112m 7kw/165m 3kw/178m 30-08-14/98-36-36 30-19-21/97-48-04 29-14-40/98-44-28 29-18-46/99-21-37 30-15-13/99-28-01 30-57-56/98-56-57

SCORECARD

The quarterly FCC Broadcast Station Totals have been released.

One non-commercial TV authorization was canceled in the first quarter of 2022. This leaves 384 such stations authorized. Commercial TV totals are unchanged. 69 new low power TV stations (including TV translators and Class A) were authorized, an increase of 1.28%.

For what it's worth, there was a net gain of *one* full-power radio authorization. 53 new FM translators were authorized. There are now 33,569 broadcast stations of all types authorized.

ATSC 3.0 SCORECARD

<u>Omaha, Nebraska:</u>	
KXVO 29:	ATSC 3.0 host carrying KETV, KMTV-TV, KPTM, and WOWT.
KETV 20:	ATSC 3.0 guest carrying KXVO 15.3 Charge!
KMTV-TV 31:	ATSC 3.0 guest carrying KXVO 15.2 Stadium.
KPTM 26:	ATSC 3.0 guest carrying KXVO 15.1 TBD.
WOWT 22:	ATSC 3.0 guest

FM Slogans and Formats

MAY 2022

Data taken from Radioinsight, Stationintel, listener reports and other internet sites. Keith McGinnis

State	Calls	Freq	Location	Comment
AZ	KVSU	106.3	Desert Hills	New sign on as "Jill FM 106.3" with "Classic Rock"
CA	KRBQ	102.1	San Francisco	From "Rhythmic AC" to "Classic Hip Hop" - "Q102.1" to "102 Jams"
CA	KBAY	94.5	Gilroy	From "AC" to "Country" as "Bay Country 94.5"
CA	KKDV	92.1	Walnut Creek	From "AC" to "Country" as "Bay Country 94.5"
CT	W233CF	94.5	Danbury	From "Classic Rock" to "Classic Hits"
GA	W255DP	98.9	La Grange	From "Classic Hits" to "Classic Country" - "Troup 98.9" to "Classic Country 98.9"
IL	W273DR	102.5	Springfield	From "News/Talk" to "Classic Hits" as "102.5 The Lake"
KS	KSOK	95.9	Wichita	From "Country" to "Variety Hits" - "Country 95.9" to "95.9 Bob FM"
KY	WLVK	105.5	Fort Knox	From "Country" to "Oldies" - "Cat Country 105.5" to "105.5 WAKY"
MA	W263DE	100.5	Greenfield	From "Adult Standards" to "Oldies" as "Pure Oldies 96.9"
NC	W284DK	104.7	Burnsville	From "WKYK 940 Real Country" to "104.7 Real Country Stars"
NC	W266DO	101.1	Spruce Pine	From "WTOE 101.1 FM/1470 AM" to "101.1 Rolling the Oldies"
NE	KKPR	98.9	Kearney	From "Power 99" to "98.9 The Vibe"
NJ	W225DJ	92.9	Burlington	From "Spanish AC" to " Hip Hop" - "Amor 92.9" to "Jamz 92.9"
ОН	WJKR	103.9	Worthington/Columbus	From "Variety Hits" to "Country" - "103.9 Jack FM" to "Country 103.9"
OR	KRCO	95.7	Bend	From "KLTW" to "KRCO"
OR	K227DC	93.3	Pineville	From "Variety Hits" to "Classic Country" - "95.7 FM" to "95.7 The
		04.0	Pineville	Ranch"
OR	K245BC	96.9		From "Classic Country" to "Sports" as "96.9 The Ticket" Calls from "KWBX" to "KSAI"
OR OR	ksai Krco	90.3 95.7	Salem Bend	From "Variety Hits" to "Classic Country" - "95.7 FM" to "95.7 The
UK	KKCU	95.7	Benu	Ranch"
PA	W99CM	107.7	Towanda	From "Oldies" to "Adult CHR" - as "Valley 107.7"
PA	WLOQ	96.3	Oil City	Calls from "WKQW" to "WLOQ"
PA	WLOQ	96.3	Oil City	From "AC" to "Contemporary Christian" - "Mix 96" to "K Love"
PA	WTTC	95.3	Towanda	From "Classic Hits" to "Classic Rock"
PA	W267CM	101.3	Johnstown	From "Classic Hits" to "Variety Hits" as "Jack FM"
PEI	CHLQ	93.1	Charlottetown	From "Q93" to "Max 93.1"
SC	W246AW		Florence	From "Variety Hits" to "Adult CHR" - "Star 93.7" to "Star 97.1"
SC	WSIM	93.7	Lamar	From "Adult CHR" to "Variety Hits" - "97.1 Frank FM" to "93.7 Frank FM"
TN	WHBQ	107.5	Germantown	From "All the Classic Hits" to "107.5 WHBQ"
TN	WPGF-LD	87.7	Memphis	From "Silent" to "Classic Hip Hop" as "Bumpin 87.7"
ТΧ	K239AM	95.7	Palestine	From "Conservative Talk" to "Classic Hits" as "KNET Rock's Greatest Hits"
VI	WZIN	104.3	Charlotte Amalie	From "Rock" to "Contemporary Christian" - "The Buzz 104.3" to "Liena de Fe, Amor y Esperanza"

WA	КОНО	101.1	Leavenworth
WA	KJYR	104.5	Newport
WI	W251CD	98.1	Superior
WY	KYDT	103.1	Pine Haven

From "AC" to "Jazz" as part of NW Public Radio Calls from "KZIU" to "KJYR" From "Sports" to "CHR" - as "Hot 98.1" From "Country Twins" to "Dirt Road Radio"



American Meteor Society founded in 1911

SHOWER	DATE OF MAXIMUM ACTIVITY	CELESTIAL POSITION	ENTRY VELOCITY	CULMINATION	HOURLY RATE	CLASS
		RA (RA in Deg.) DEC	Km/Sec	Local Daylight Saving Time	North-South	
h Virginids (HVI)	May 01	13:35 (204) - 11	18	01:00	<1 - <1	IV
alpha Virginids (AVB)	Арг 18	13:55 (209) +04	18	01:00	<1-<1	IV
Anthelions (ANT)	_	15:32 (233) - 19	30	02:00	2 – 3	II
eta Aquariids (ETA)	May 05	22:19 (335) - 03	65	09:00	1-3	I



FM Facility Changes

Abbreviations: AF- New Station Applied For Aux- Auxiliary Backup Transmitter CC- Call Change CL-City of License CX-Canceled

NS-New Station Permit Granted NW-New Station on the Air PC-Power/Height Change Granted PG-Power Change Granted QG-Frequency Change Granted RA-Returns to the Air ROA-Request of Applicant XG-new site granted XC-transmitter site changed PR/QR-Power or Freq requested

May 2022

AL Dothan 105.9 W290DG PC>250w/86m, 31-11-34/85-24-43 13 (WGMY-107.1 Thomasville, Ga. via Internet) (WARB-700 via Internet) FL Tallahassee 95.3 W237FB PG>99w/135m, 30-25-41/84-14-55 AL Huntsville 92.9 W225AH PC<75w/260m (WHVK-103.5 New (WTAL-1450 via Internet) GA Augusta 98.9 W255AS PG>115w-V/118m, 33-30-23/81-57-Hope OTA) AL Lisman 107.7 WHSL Returned to the air Mar. 31st at reduced 43 (WEKL-102.3 OTA) power of 1kw pending transmitter replacement. GA Douglas 95.1 W236AB OFF Apr. 2nd, tower dismantled, in AK Igiugig 106.9 KIGI NW 99w-V/6m, 59-18-57/155-54-31 (BAY poor condition. **BROADCASTING COMPANY**) GA Savannah 104.3 W282AR OFF Apr. 1st, priMD station WSEG AK Juneau 91.7 KAUK CC for NS (KTOO Public Media) damaged by rodent infestation. GA Statesboro 99.7 W259CH PG>250w/79m, 32-27-57/81-49-AB Airdrie 106.1 CFIT-FM PG>4.9kw/493m AZ Chinle 98.3 K252ER CX10 58 (WPTB-850 via microwave) GA Tifton 88.3 WJYI CC for NS (Abraham Baldwin Agricultural AZ Desert Hills 106.3 KVSU NW 900w/23m, 34-36-04/114-22-16 AZ Green Valley 97.1 KMIY PC>25kw/100m, 32-00-12/110-47-College) ID Boise 104.7 K284CY PG 250w/22m, 43-30-38/116-29-15 51 AZ Heber-Overgaard 91.7 KXGX CC for NS (NEW PATH (KYWN-890 Meridian) IA Council Bluffs 102.3 K272FE PG<99w-V/107m, 41-15-25/95-COMMUNICATIONS) AZ Salome 90.7 KXKB CC for NS (NEW PATH 57-04 (KFFF-93.3 Bennington, Nebr. OTA) KS Kansas City 92.7 K224FF PG 70w-H/233m, 38-58-42/94-32-COMMUNICATIONS) AZ Tusayan 88.3 KLZI CC for NS (NEW PATH 02; CL from Lenexa (KCWJ-1030 Blue Springs, Mo. via Internet) COMMUNICATIONS) KY Garrison 98.3 WITO CC from WFHT AZ Yuma 90.1 K211DD PG>40W-V/23m (KAWZ-89.9 Twin Falls, KY Harlan 88.1 NEW_762690 NS 3kw/407m, 36-48-05/83-22-37 Ida. via satellite) (Torstrick Ministries) AR Favetteville 96.7 KXRD PG 25kw/216m. 35-54-06/94-06-05 KY Prospect 104.9 W285ER PC>250w/56m, 38-23-47/85-35-17; AR Harrison 91.9 KHLR CC from KBPB CL from Middletown. (WAKY-620 Louisville via W261CO) AR Osceola 107.3 KQXF OFF April 15th, storm damage. Station KY Stamping Ground 96.9 WGKS CL changed from Paris. ME Caribou 90.3 NEW-763718 NS 7kw/187m, 46-36-11/68-00was already operating at reduced power but is now off entirely. BC Kitimat 101.1 CBUK-FM PG>261w/-287m, XG 24 (Christian Education Center) CA Clearlake 90.3 K212DJ PG 10w/836m, 38-48-26/122-44-26 ME Greenville 89.7 NEW 762375 NS 1.7kw/172m, 45-25-(KAWZ-89.9 Twin Falls, Ida. via satellite) 01/69-35-03 (MEe Public Broadcasting Corporation) CA El Cajon 101.1 K266CO NS 10w-H/544m, 32-41-46/116-56-ME Howland 89.5 NEW_768737 NS 300w/149m, 45-20-41/68-10 (KECR-910) 30-28 (Light of Life Ministries) CO Denver 95.7 KDHT CC from KPTT MD Berlin 103.9 WRDE-FM CC from WOCQ MD Frederick 91.1 W216CM OFF Apr. 4th pending transmitter CO Denver 99.1 K256CT OFF Mar. 31st pending relocation. CO Lamar 88.3 KRHJ NW 100w/30m, 38-02-03/102-35-38 repairs. CO Minturn 90.9 KVNC OFF Apr. 5th, lost programming feed to MD Pocomoke City 95.5 W238BY PC<50w/81m, 38-04-36/75-32-17 (WJKI-1320 Salisbury via Internet) transmitter in windstorm. FL Bayshore 103.3 W277AP PG>160w/148m (WHEL-93.7 MI Atlanta 92.5 WFDX OFF April 19th for financial reasons. Sanibel OTA) MI Burtchville 89.7 WPHO NS 31kw-H/27m, 43-04-08/82-28-48; FL Dunnellon 90.3 W212CP QG from W209BW-89.7, calls assigned. (Smile FM) 250w/71m, 29-13-28/82-16-39 (WMYZ-88.7 The Villages OTA); MI East Lansing 102.3 W272EM PG>250w/172m (WKAR-FM QC 90.5 via microwave) FL Fort Myers 91.9 WMYE PG>1.05kw/221m MI Saginaw 105.1 W286CI PG 250w-V/37m, 43-24-15/83-58-16 FL Tallahassee 100.3 W262CC PG>99w/172m, 30-29-33/84-17-(WEJC-88.3 White Star OTA)

MN Grand Rapids 88.1 NEW 763944 NS 24kw/55m, 47-13-OH Racine 93.1 WJEH-FM PC 4.1kw/122m OK McAlester 90.9 NEW-768772 NS 10kw/85m, 34-48-38/95-06/93-32-51 (University of Northwestern - St. Paul) MN Grand Rapids 88.9 K205GG PG 250w/54m, 47-13-06/93-32-51-09 (St. John Parish) ON Kingston 91.9 CKVI-FM PG>30w/33m 51 (KLBF-89.1 Lincoln, N.D. via Internet) MN Harmony 88.3 NEW 768698 NS 10kw/91m, 43-26-59/91-OR Corvallis 93.7 K229DI PG<120w/6m (KEJO-1240 studio feed) OR Corvallis 96.5 K243CW PG<80w/6m (KLOO-1340 studio 51-43 (The Salvation Poem Foundation) MN Hutchinson 89.5 NEW_762425 NS 130w/89m, 44-52feed) 40/94-20-12 (MN-Iowa Christian Broadcasting) OR Huntington 91.1 NEW-763433 NS 600w/500m, 44-25-MN Olivia 103.9 K280ET OFF April 11th, antenna failure. 54/117-14-58 (Radio Bilingue) MS Raymond 90.7 W214BE PR>250w-V/141m (WJLV-94.7 OR Salem 90.3 KSAI CC from KWBX Jackson OTA) PA Athens 107.7 W299CM PC>250w/123m, 42-03-48/76-31-27 MO Kansas City 100.5 KOJH-LP PG 100w/15m, 39-05-25/94-33-(WTTC 1550 Towanda via microwave) PA Blossburg 91.5 NEW-763700 NS 25kw/41m, 41-39-57/77-43 MT Conrad 89.7 NEW 766710 NS 2.5kw/51m, 48-07-50/111-04-09 (Central PAsylvania Christian Institute) 55-11 (Holy Spirit Radio) PA Clintonville 88.7 WCGT PC>2.9kw/141m, 41-19-08/79-56-58 MT Great Falls 107.9 K300BH PG<140w/27m, 47-30-12/111-07-PA Greensburg 105.1 W286CZ OFF Mar. 6th, transmitter issues; 52 (KSMR-LP 97.1 OTA) returned to the air Apr. 7th. MT Little Browning 90.7 NEW_763581 NS 100w/2m, 48-37-PA Lebanon 100.1 WFVY PG>1.55kw/198m, 40-25-16/76-38-53 40/112-20-53 (BLACKFEET TRIBE) PA Lewisburg 102.3 W272ED PG 242w/196m, 41-03-33/76-57-MT Lockwood 88.9 KYWH OFF April 22nd, financial difficulties. 47 (WLYC-1050 Williamsport) PA Oil City 96.3 WKQW-FM OFF Mar. 30th pending sale, but MT Pryor 88.3 KPGB License surrendered Mar. 31st NE Omaha 94.9 K235CD PG>250w-V/107m, 41-15-25/95-57-04 returned to the air April 5th. (KISO-96.1 OTA) PA Oil City 96.3 WLOQ CC from WKQW-FM NE Scottsbluff 90.1 KYBF CC for NS (Bible Broadcasting PA Philadelphia 106.1 WUMR CC from WISX Network) PA State College 102.3 W272EN QC from W269BZ-101.7, NH Bow 91.5 WSPS CX07 10w/269m (WJRC-90.9 Lewistown OTA) NH Conway 91.1 WJNH CC from WMTP PR Faiardo 97.3 WOYE-FM2 PC<200w, 18-16-43/65-40-12 NH Durham 91.3 WUNH Returned to the air Mar. 5th, STL PR Vega Baja 101.3 W267DD NW 250w/60m, 18-26-25/66-23repaired. 32 (WJIT-1250 Sabana) NJ WAington 89.1 WNJQ CC for NS (Calvary Chapel Morris Hills) SD Hot Springs 96.3 KZMX-FM QG from 96.7 NM Clovis 88.1 KYHA CC for NS (Bible Broadcasting Network) SD Redfield 99.9 K260DG PG>250w/45m (KQKD-1380 via NM Lordsburg 89.7 NEW-762521 NS 250w/-45m, 32-20microwave) 57/108-42-22 (COCHISE COMMUNITY RADIO CORPORATION) TENN Algood 96.9 WUCH QC from 104.7, 1.5kw/201m, 36-11-NM Lordsburg 91.5 NEW-762522 NS 250w/-45m, 32-20-03/85-24-41; CL from MTerey 57/108-42-22 (COCHISE COMMUNITY RADIO CORPORATION) TN Baxter 93.7 WBXE PC 7.2kw/188m NM Virden 88.7 NEW-762150 NS 1.6kw/682m, 32-53-22/109-TN Columbia 98.9 W255DK PG>250w/132m, 35-35-31/87-03-19-25 (COCHISE COMMUNITY RADIO CORPORATION) 36 (WMCP-1280 via Internet) NM Virden 89.5 NEW-762450 NS 1kw/682m. 32-53-22/109-19-TN Selmer 105.5 WXOQ CX15 ROA 25 (COCHISE COMMUNITY RADIO CORPORATION) TX Allen 103.3 KVDT CC from KESN NY Buffalo 88.1 W201BE PG>80w/38m (WXHL-FM 89.1 TX Austin 94.1 K231CZ PC>50w/-17m (KTXZ-1560 West Lake Christiana, Del. via satellite) Hills) NY Limestone 98.7 W254BQ Returned to the air March 31st at TX Ennis 95.9 KYEN-LP OFF Nov. 22nd, financial difficulties. new site. TX Farwell 92.3 KIJN-FM PC<50kw/108m NY Troupsburg 91.7 NEW-768393 NS 1kw/135m, 41-56-22/77-TX Ganado 94.9 KEON CC from KHTZ 35-46 (Family Life Ministries) TX Johnson City 107.9 KFAN-FM OFF Mar. 10th pending NC Cherryville 92.9 W225DL QC from W222CO-92.3, relocation. 250w/237m, 35-13-57/81-16-35 (WCSL-1590 via Internet) TX Llano 96.3 KTHE PG<8kw/94m NC Harrisburg 92.7 WFNZ-FM CC from WQNC TX Mount Pleasant 92.5 KKXI-LP QC from 92.3, 100w/30m, 33-OH Cleveland 90.3 WCLV CC from WCPN 03-25/94-52-28 OH Logan 88.5 NEW-765923 NS 13.5kw/47m, 39-31-43/82-23-TX Pampa 102.5 K273CR QC from 91.9, 95w-H/45m, 35-31-31/100-59-21 (KPDR-90.3 Wheeler OTA) 06 (Positive Alternative Radio) OH Lorain 104.9 WCPN CC from WCLV TX Stratford 91.5 KUHC PG 300w/25m, 36-20-01/102-04-31 OH Loudonville 96.1 WZLP-LP PG 100w/1m, 40-37-56/82-14-51 UT St. GAge 102.7 K274CQ PG>99w/71m, 37-03-49/113-34-21 OH Loudonville 96.1 WZLP-LP QC from 95.7 (KONY-HD2 18140) OH Newark 88.3 NEW-766443 NS 500w-H/1.5kw-V/72m, 40-UT St. GAge 93.1 K226BQ PG<99w/70m (KCLS-101.5 Leeds via 04-42/82-22-26 (Strong Tower Christian Media) microwave)

VA Farmville 99.9 W260DJ NW 250w/29m, 37-18-48/78-23-40 (WPAK-1490 studio feed)

WA Aberdeen 88.7 K204ET PG>115w/76m, 46-56-44/123-47-53 (KAWZ-89.9 Twin Falls, Ida.)

WA Deer Park 95.3 KPND PC 100kw/572m, 47-39-36/116-57-15 WA Newport 104.5 KJYR CC from KZIU-FM

WA Oroville 89.3 NEW_768228 NS 6kw/-394m, 48-56-06/119-

26-12 (Ruth's House of Hope)

WA Seattle 93.3 KJR-FM CC from KUBE

WA Seattle 95.7 KJEB CC from KJR-FM

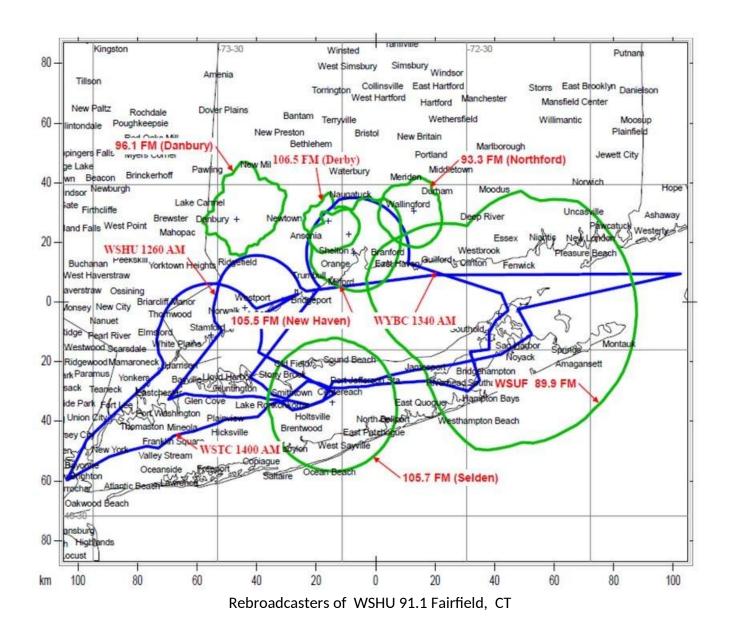
WA Spokane 100.3 KVFS-LP PG<50w/-46m, 47-38-54/117-23-28

WI Columbus 91.1 NEW-768625 NS 20kw/24m, 43-22-14/89-03-12 (Columbus Community Radio)

WI Madison 99.5 W258CM OFF Apr. 8th pending move to a safer site. Existing site is the roof of the Esquire Club on Sherman Avenue.

WY Cheyenne 88.1 KFCY PC>3.5kw/64m

WY Thermopolis 89.5 K208GF QG from K269CK-101.7, 250w-H/58m, 43-39-07/108-15-09 (KCSP-FM 90.3 Casper via satellite) WY Worland 89.5 K208GG PG 170w-H/16m, 44-03-56/107-51-45 (KCSP-FM 90.3 Casper via satellite)



SIGN UP & Renewal Form YEARLY DUES \$10.00 USD For Monthly VUD E-ZINE Print this form and send it with your dues.				
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City	State/Prov	Zip		
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Email Address				
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