



VHF-UHF DIGEST

The Official Publication of the Worldwide TV-FM DX Association

MAY 2021

IT'S

OPEN SEASON

For FM & TV E-Skip



INSIDE:

The Chris Lucas 2021 List of Lowband DTV Stations

April 2021 Es Results

Vintage 1969 VHF Ionospheric Propagation Article

**First Event of the 2021 Season noted April 19th in the
Northeastern USA. Let's hope for more to come!**

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: DOUG SMITH, SAUL CHERNOS, KEITH MCGINNIS, JAMES THOMAS AND MIKE BUGAJ

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The public WTFDA FM Radio Station Database is administered and updated daily by your fellow WTFDA members. It is completely free to use and serves over 500 users daily in season.

Our new social media site is at Weme.com. <https://mewe.com/join/tvandfmradiodx>. Register and join the group. Only WTFDA members can participate and many already have.





The Mailbox

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MAY 2021

By the time you read this, our antennas will be dusted off and we'll have an early sense of what the 2021 TV-FM DX season might look like.

First, some club business. We have a new ink-stained wretch (look up the phrase if you're curious) behind the WTFDA Mailbox. I'm also the newest addition to the club's board of directors — I joined last summer to offer the four members an extra hand.

Mike Bugaj (CT), in particular, has carried the torch — indeed, many torches — for years. And, with new communications technologies coming to the fore at a dizzying pace, profoundly affecting the club's many offerings and platforms, not to mention the DX itself that we chase, your club finds itself at the cusp of a million challenges, on one hand, and a million opportunities, on the other.

One of my priorities as the newcomer to the board has been to nudge from outside, to find ways to bring new ideas to the fore. But it's been evident my fellow board members have been thinking the same thing all along. Our web-conference meetings and e-mail and phone conversations have been wide-ranging as we've tossed about all sorts of ideas, weighed them against each other, and considered the talents, skills and interests of our diverse membership.

We're still sorting things out, but we've begun shifting some areas of responsibility so they're more equally shared. Effective this column, I am responsible for Mailbox, and also for club communications and outreach. If you have any questions or thoughts about the club, any special requests or ideas, want to volunteer to help out, have a question about the hobby and aren't sure where to turn, and so on — please drop me an e-mail. If there's important news to share in a venue like Mailbox, pass it along!

During the last month, we've welcomed two new members — Timothy Land (TN) and Paul Logan (Ireland). Over the years, Paul has reported some of the wildest FM DX in recent memory. He's literally crossed the Atlantic Ocean with multi-hop Es from stations such as 90.7 WVAS Montgomery AL and 97.5 WFRY Watertown NY. WFRY is a tropo-scatter regular for me, so I must have been seriously asleep at the switch the day he heard that one! Or, more likely, not thinking to look for it.

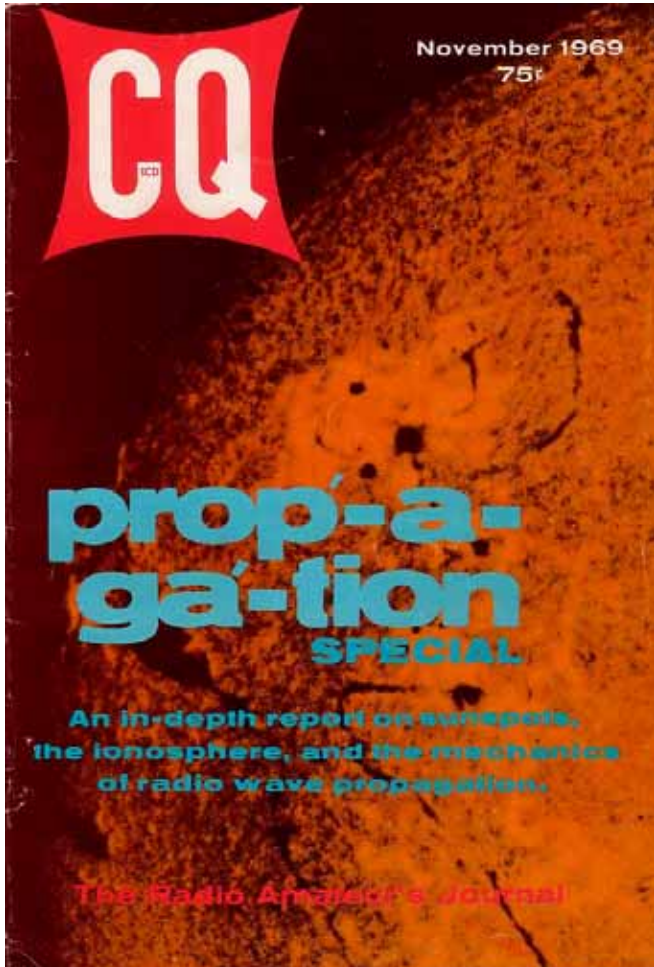
As well, this past month, James Bagge (MA) has rejoined the club. And renewing members include Lynn Burke (VA) for two years, Adam Ebel (VA), Doug Allen (SC), Jon Hamilton (ON), Andrew Knafel (OH), Christian Ferland (QC), Frank Drobny (CA), and Michael Beu (TX), Dan Oglethorpe (LA) and Peter Taylor (WA).

Now for some early-season DX news. Bryce Foster (MA), who designed and maintains the new WTFDA Logger, reported the spring's first top-of-band FM Es on April 19 at 15:13 EDT — 107.9 WSRZ Coral Cove FL. Mike Bugaj (CT), Nick Langan (NJ) and Chris Lucas (NY) also reported FL on FM. Andrew Knafel (OH) and Bill Hepburn (ON) reported TV from Cuba, and later that evening Fred Nordquist

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VHF IONOSPHERIC PROPAGATION

By GEORGE JACOBS, W3ASK and STANLEY LEINWOOL
CQ MAGAZINE NOVEMBER 1969



Long-distance propagation via ionospheric reflection normally takes place over the frequency range 3 to 30 mc. Higher frequencies are generally propagated through the troposphere and are often limited to distances not much greater than line-of-sight. From time-to-time, however, ionospheric propagation is possible in the lower v.h.f. range and openings on the 50 mc amateur band may take place over distances of up to several thousand miles, while openings on 144 mc may be possible up to approximately 1300 miles.

This article reviews the conditions under which ionospheric propagation may be possible on the 50 and 144 mc bands, and the characteristics of such openings that may result from regular F2—layer reflection sporadic-E, auroral and meteor ionization, and trans-equatorial and ionospheric scatter.

Regular F2-layer ionospheric openings may be possible on 50 mc during years of high solar activity. Openings on this band took place for many hours at a time for distances of 2000 miles or more, and between the United States and all other continents during the maximum periods of the past two sunspot cycles, 1947-1950 and 1956

to 1960. Many trans-continental openings and openings between north and south America have been reported during the present period of peak solar intensity.

F2-layer openings on the 50 mc band peak during the winter months to Europe and the Far East, and during the spring and fall months to Africa, South America, Australasia and other areas in a more-or-less southerly direction. Signal levels are often exceptionally strong during these openings, and communication over very great distances may be possible with relatively low power levels.

Regular F2-layer openings on 50 mc are a daytime propagation phenomena, with the band opening to Europe during the hours before noon, to Africa during the noontime period, to South America during the afternoon and sometimes extending into the early evening, and to the Far East and Australasia during the late afternoon and early evening hours, local standard time in the United States.

Propagation conditions in the 28 mc band may often provide clues to 50 mc openings during the fall, winter and spring months. When F2-layer openings are observed on 28 mc over distances of 1200 miles or less, the m.u.f. is rising rapidly and 50 mc may also be open in the same general direction, but over a considerably greater distance.

For the next year or two, solar activity may still be high enough to permit some F2-layer 50 mc openings from the fall through the spring months in the United States. Openings of this type will, however, decrease as the solar cycle declines, with little likelihood of any taking place during years of low solar activity.

The regular F 2 layer of the ionosphere is never sufficiently electrified to propagate signals on the 144 mc band. Not even during the unprecedented peak years of 1957-58 were frequencies in this range propagated via the F2-layer.

Sporadic E- Ionization

There frequently forms in the vicinity of the normal E-layer of the ionosphere, clouds or patches of abnormally intense ionization, which are capable of reflecting radio waves of frequencies much higher than those reflected by the regular E or F layers. These clouds usually cover a rather small geographical region, approximately 50 to 100 miles in diameter. They occur more or less at random

and are relatively short lived, usually dissipating within a few hours. This sporadic ionization generally occurs about 60 miles above the earth's surface, at about the same height as the regular E layer. For this reason it is called sporadic-E ionization, or Es.

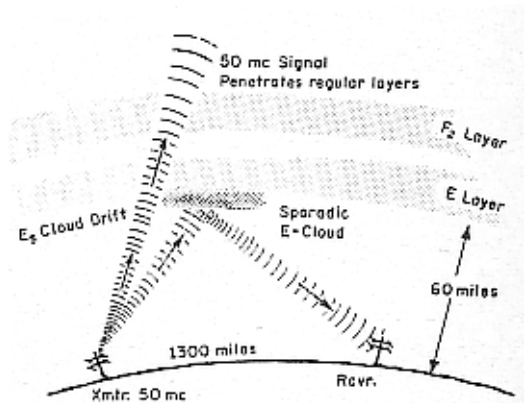


Fig. 1—50 mc short-skip propagation by means of sporadic-E reflection.

As a result of an intensely ionized sporadic-E cloud, it is at times possible to communicate over relatively long distances on the 50 mc band, and on some occasions on 144 mc as well (See fig. 1).

The height at which sporadic-E ionization occurs limits one-hop propagation to a maximum distance of approximately 1300 miles. During periods of widespread Es ionization, two-hop propagation may sometimes be possible up to distances of approximately 2400 miles. Band openings due to Es are often referred to as short-skip openings for this reason.

Reflection from sporadic-E clouds takes place with very little signal loss, resulting in exceptionally strong signal levels during most openings, even when very low power levels are used. Quite often it is possible to maintain communications considerably off the great circle path between two stations by means of back and side scatter from sporadic-E clouds. For example, a station in eastern New York State may work another station in the central part of the State by both stations pointing their antennas toward a common Es cloud, say for example, located over Georgia.

Sporadic-E ionization varies diurnally, seasonally and geographically. It occurs most frequently, and with greatest intensity, in polar and equatorial regions. In mid-latitudes, for example in the United States and Europe, it occurs most often during the late spring and summer months and during December, and has a tendency to peak during the late morning hours and again about sunset, although it can occur at any time.

In equatorial regions, Es is essentially a daytime phenomenon, with little seasonal variation. In polar regions, sporadic-E occurs most frequently during the nighttime hours, and again there is little seasonal variation, except for somewhat of an increase during the spring and fall.

Sporadic-E ionization is subject to erratic and often rapid variation. The ionized clouds are known to drift, generally in a westerly or north-westerly direction, at approximately 150 to 250 miles per hour. The drift appears to be due to winds that are believed to exist in the ionosphere. Because of this drift, reception areas can change within a relatively short period of time, and it is not uncommon for a sporadic-E opening to fade out completely from an S-9 plus level in a matter of a few minutes.

While the relationship between Es and the sunspot cycle is not yet fully understood, it appears that Es occurs somewhat more frequently in mid-latitudes as the solar cycle declines. If this is true, sporadic-E propagation on 50 mc is likely to be more prevalent during the next several years.

What causes sporadic-E ionization is not yet fully known. Since it occurs more often during the hours of daylight, it seems that ultra-violet radiation might play some role in its formation. Since it also occurs at night, especially in polar regions, auroras and meteor trails are other suggested possible sources of ionization. More recent theories indicate that the ionization might be caused by shearing forces associated with rapid wind movements in the ionosphere.

Since little is known about the ionizing sources for Es, its behavior cannot be predicted by positive means at the present time. Statistical studies show, however, that a sharp increase takes place at mid-latitudes during the late spring and summer when short-skip openings up to distances of about 1300 miles should be possible on the 50 mc band between 5 and 10% of the time, during the daylight hours. Occasional openings up to approximately 2400 miles may also be possible on 50 mc, and up to 1300 miles on 144 mc. The optimum time for v.h.f. short-skip openings is between 8 and 11 A.M. and 6 and 8 P.M., local standard time.

Here's a useful tip for predicting 50 mc short skip openings. The geometry of propagation is such that as the skip distance decreases on the 28 mc band, the highest frequency that will be reflected by a sporadic-E cloud is increasing. By observing the minimum skip distance heard on 28 mc during an Es opening, and using the chart shown in Fig. 2, it should be possible to tell whether or not 50 mc is open, and what the skip distance might be.

For example, if the minimum skip heard on 28 mc in a south westerly direction is observed to be 400 miles (it's the distance to the nearest skip station heard that counts, not others), from fig. 2 the intersection between 400 miles and the 28 mc curve corresponds to an muf of 60 mc. This means that 50 mc short-skip openings in a south-westerly direction is very likely. The minimum skip

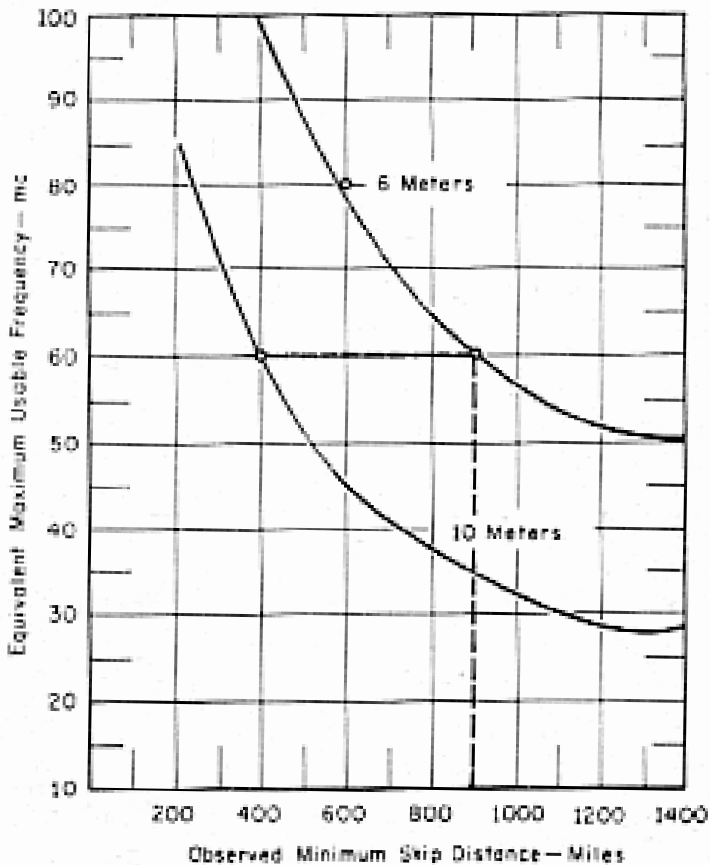


Fig. 2—Chart describing correlation between sporadic-E openings on the 10 meter amateur band and possible 6-meter openings at the same time. The example shows a minimum skip distance of 400 miles observed on 10 meters; from the chart 6 meters should be open with skip greater than 900 miles.

distance that can be expected on 50 mc can be found from fig. 2 by locating the intersection between 60 mc and the 50 mc curve. The resulting distance is found to be 900 miles. A useful rule of thumb to remember is that when skip stations are heard less than 500 miles away on 28 mc, the chances are very good that 50 mc will open in the same general direction.

Auroral Ionization

Corpuscular radiation, consisting of charged particles emitted time-to-time from the sun's surface (usually from solar flares), bombard the atoms and molecules of the gases present in the rarified atmosphere at the extremities of the earth, causing them to ignite, forming an auroral display.

Of all natural phenomena, auroras are probably the most breathtaking and spectacular. They arc across the night sky as weird, yellowish-green, dancing ribbons and violently throbbing rays, or as great draperies folding and unfolding. Some of the rarer displays may also contain shades of red and purple. They occur at E layer height in the ionosphere, about 60 miles above the earth's surface, and can be seen obliquely from the ground for distances up to about 600 miles from the zenith point (See fig. 3).

Observations made over the past 100 years, and intensified during the past decade

with investigation by high flying airplanes and satellites, have defined areas of the world where auroras occur most frequently. The zones of maximum occurrence, where they are seen on approximately 250 nights a year, are belts about 23 degrees wide centered on the northern and southern magnetic poles. In the northern hemisphere, the zone arcs across northern Alaska, central Canada, the southern tip of Greenland and Iceland, the northern tip of Norway, and the northern coast of European Russia and Siberia.

Auroras are seen less frequently as one proceeds south of this zone. In the northern areas of the U.S. mainland, they are seen between 10 and 40 nights a year, while in southern states several years may pass before one is seen.

Auroras play havoc with shortwave communications. The excessive ionization which causes auroras also causes severe signal absorption. As a result, an aurora acts like a screen, shielding shortwave transmissions from passing through. For this reason, trans-polar communication from the United States is extremely difficult and often unreliable. The presence of auroral effects on propagation can frequently be detected by a unique fading component, consisting of a low frequency "flutter" of from 100 to 1000 c.p.s. which the aurora superimposes on a signal. During intense auroral activity, this fading component is often strong enough to render a voice signal unintelligible.

There is a very close relationship between ionospheric storms and the occurrence of auroras. During storms, the zones in which auroral effects are most pronounced expand and move southward. The more severe the storm, the further south the affected area. During great storms auroras have been seen as far south as Cuba, virtually blacking out shortwave communications throughout the entire northern hemisphere.

While auroral displays can seriously disrupt communications on the amateur h.f. bands, propagation on 50 and 144 mc often improves during these periods. Ionization associated with an aurora is often intense enough to reflect or scatter 50 and 144 mc signals over distances up to about 1300 miles, when propagation over these paths by other modes may not be possible.

Auroral ionization varies rapidly in intensity and height. This often causes severe multipath distortion on v.h.f. signals reflected from an aurora. Voice modulation is often unintelligible on 50 mc signals, and nearly always on 144 mc. While voice communication may sometimes be possible using s.s.b., experience has shown that keyed c.w. is the most effective way to communicate under these conditions

While auroras may occur at any time of the year, they take place most frequently

during the fall and spring months, usually peaking during March and September. A secondary peak takes place during the winter months, with the fewest number occurring during the summer.



Fig. 3—A brilliant aurora of the type associated with ionization intense enough to reflect 50 and 144 mc signals between 300 and 1300 miles.

Geographically, the more northerly the latitude, the greater the number of v.h.f. auroral openings. In the U.S., the northern tier states are favored with fairly good openings between 50 and 75 days a year. In the central states openings may occur between 10 and 35 days a year, while considerably fewer occur in the southern tier states.

While auroral displays can be seen visibly only during the hours of darkness, their radio affects are felt during the daylight hours as well. Most v.h.f. openings begin during the late afternoon and early evening hours, lasting from several minutes to several hours. During prolonged ionospheric storms, auroral openings may occur and re-occur several times throughout a day, for several days in a row. Communication by means of auroral reflection can take place over distances between approximately a few hundred to a thousand miles, with some approaching the geometrical maximum of 1300 miles.

Since auroras occur in northern areas, north is the optimum antenna bearing to establish communications by this propagation mode. Once communication is established, antennas should be rotated slowly to maximize signal reflection or scatter from the auroral ionized regions.

Since most auroras are produced by solar flares, they occur most frequently two or three years after a peak in solar activity has been reached, when flares are most numerous, and they taper off gradually thereafter, occurring infrequently during periods of minimum solar activity. With the peak of the present sunspot cycle occurring a year ago, a maximum number of v.h.f. auroral openings are expected during the next year or two.

Since v.h.f. auroral openings often coincide with ionospheric storminess, the best times to check for these openings are during periods when the ionosphere is predicted or expected to be disturbed. Warnings of v.h.f. openings may be had by carefully monitoring reception on the h.f. bands. When an ionospheric storm is noted, usually by erratic or flutter fading on signals, or a lack of

signals, auroral openings may be possible on the 50 and 144 mc bands.

Meteor Ionization

Meteors, or shooting-stars as they are often called, are particles of mineral and metallic matter which are continually entering the earth's atmosphere from outer space. It has been computed that hundreds of millions of meteors, most of them microscopic in size, enter the earth's atmosphere every 24 hours. This figure increases many fold during certain times of the year, when meteor showers occur.

As large meteors enter the earth's atmosphere at velocities of up to 50 miles per second, the intense heat generated by friction with the upper air causes them to leave an ionized trail behind as they burn some 30 to 100 miles above the earth. This ionization is often intense enough to reflect or scatter v.h.f. signals over distances of several hundred miles. Signals reflected by meteor ionization can be identified by the very short, sudden bursts in signal strength that take place when the ionized trail passes through the path of the signal. The signal increase, on the order of 20 to 40 decibels, is sharp and sudden, lasting for a few seconds then gradually decreasing. A burst may last from a few seconds to a half minute or so before fading into the background signal or noise level. A Doppler shift may also often be noticed on signals reflected from meteor trails. This is caused by the rapid motion of the reflecting point. In some cases the shift can amount to as much as 2 kc and last for several seconds.

Meteor reflected signal bursts are of little communication value unless they occur frequently enough, or are of sufficient duration to permit the transmission of some information. A 50 mc signal may appear as a few readable words, while on 144 mc the burst is usually shorter, often being nothing more than a ping. At this rate, even during major meteor showers, it requires a great deal of time and patience to transmit information between two stations. For this reason, high keying speeds are preferable to voice transmissions, although the exchange of voice information may at times be possible on 50 mc, especially when using voice-controlled s.s.b.

During a typical 24-hour period between 300 and 500 meteor reflected bursts lasting five seconds or longer can be counted on 50 mc. Approximately 25% of these will last from between 10 and 30 seconds, and occasionally one may last considerably longer. A great number of bursts will be heard on 28 mc and the lower frequency bands and considerably fewer on 144 mc and higher frequencies.

Shower Name	Date of Peak Intensity	Shower Duration of Meters (Days)	Number per Hour
Quadrants	January 3	1	35-40
Lyrids	April 21	2	12-15
Eta Aquarids	May 5	9	12-20
Delta Aquarids	July 29	10	20-30
Perseids	August 12	5	50
Orionids	October 21	4	20-25
Taurids	November 5 & 12	20	12-15
Leonids	November 17	4	20-25
Geminids	December 13	5	40-50
Ursids*	December 22	2	15

*Peaks during the early afternoon hours, all others peak during the hours of darkness.

Fig. 4—List of major meteor showers. The dates given are approximate, and the intensity of various showers may vary from year-to-year. About 20 other showers of less intensity also occur during the year; 7 between January and June, 13 between July and December.

While meteors may occur at any time, most of them enter the earth's atmosphere between midnight and dawn, peaking between 5 and 7 A.M., local time. Since ionized meteor trails occur at an average height of 60 miles, the optimum communication range is approximately 800 miles, with maximum range about 1300 miles. Seasonally, considerably more meteors occur during June and July than at any other time, with a minimum number occurring during January and February.

From time-to-time, on a regular basis, the earth moves through areas in space in which there are very large swarms of meteors. During such periods, called meteor showers, meteors enter the earth's atmosphere with more than average frequency. During many showers meteors will appear at the rate of one to two each minute and during certain very large showers, many thousand may be observed during a single night. The possibility for 50 and 144 mc communication by means of ionized meteor trails increases considerably during meteor showers.

Figure 4 lists the major showers, the dates they occur and the average number of meteors that will probably enter the earth's atmosphere each hour during these periods. While meteor burst communication can be quite difficult, requiring a great deal of time and patience to move a small amount of information, it does provide a means for intermittent ionospheric communication on the v.h.f. bands over distances of between approximately 800 and 1300 miles.

Trans-Equatorial Scatter

Strong 50 mc band openings can occur, particularly during periods of moderate and high solar activity, over long north-south paths spanning the magnetic equator at times when the expected maximum usable frequency is considerably lower for the paths involved. These are called trans-equatorial or TE openings.

TE propagation was first observed by radio amateurs during the intense solar

period of 1947. They also have pioneered into this propagation mode during subsequent periods of moderate and high solar activity.

In the western hemisphere the magnetic equator lies approximately 20 degrees south of the geographical equator and roughly follows an arc extending from Lima, Peru to Recife, Brazil and passing through La Paz, Bolivia. The optimum distances for TE openings range between 1500 to 2500 miles above and below the magnetic equator. Typical TE paths of high reliability are Puerto Rico to Argentina, Japan to Australasia, Southern Europe to Zambia, etc.

TE propagation is believed to be due to a highly ionized bell-shaped distortion known to exist in the ionosphere over the magnetic equator. Radio signals entering this area at a favorable angle are reflected considerable distances between the sides of the bulge in much the same manner that a ball rebounds off the sides of a billiard table. This may result in a long single hop opening, without intermediate ground reflection, of up to 5000 miles.

TE openings occur most often during periods of moderate and high solar activity, and hardly at all during the remainder of the cycle. Although they may occur during any season, TE openings peak during the spring and fall months. TE is a nighttime propagation phenomenon, with most openings occurring between 8 and 11 P.M., local time at the path mid-point.

Signals must cross the magnetic equator in a north-south direction, or TE openings will not take place. A right angle crossing is optimum, but TE contacts have been reported between stations as much as 20 degrees off from a right angle crossing.

The TE maximum usable frequency is approximately 1.5 times greater than the daylight m.u.f. observed on the same path. Thus 50 mc TE openings may be expected during the evening hours when an m.u.f. of 34 mc is observed during the daytime. TE openings may often occur on 50 mc when propagation is not possible on lower frequency bands on the same path, at the same time.

In the western hemisphere 50 mc TE openings occur almost every night during the spring and fall months over an area extending from Mexico City in the north to southern Chile and Argentina in the south. Within this area there is little variation in signals from night-to-night and reliability is high. Less frequent openings extend into the southern and central areas of the United States, with openings falling off rapidly at greater distances to the north.

Serious flutter fading is often noted on shorter path TE openings, but voice readability is seldom seriously impaired on longer path openings.

The 144 mc band is too high in frequency for TE propagation.

Ionospheric Scatter

When a frequency is at or below the muf, ionospheric propagation takes place by reflection from the ionized layers existing in the earth's atmosphere. Signals strike the ionosphere obliquely and are normally reflected in a forward direction. When the signal is above the muf, it will penetrate the ionosphere, with a very small amount of energy scattered back towards the earth in more or less random directions. The mechanism involved in ionospheric scattering is not yet fully understood, but it is believed to be due to roughness in the ionosphere and may involve the earth's magnetic field in a magnetic equator. In northern and temperate regions ionospheric scattering increases considerably with increases in magnetic activity and during ionospheric storms. While 50 mc scatter openings can occur at any time, they seem to peak during the evening hours of the spring and fall months, during periods of high and moderate solar activity.

To communicate by means of forward scattered signals, it is usual for both stations to direct their antennas at each other along the great circle path. To communicate by means of back scattered signals it is often best to orient both antennas at the apparent point of scatter, which may be considerably off the great circle path. This point can best be determined by slowly rotating until signal strength is maximized.

Signals scattered in a forward direction from the D and E layers may permit 50 mc

complex manner. Scattering may take place from any of the ionospheric layers.

Until the post-war introduction of super sensitive receivers, advances in modulation techniques and in antenna design, scattered signals were of little communication value. With high gain antennas, high transmitter power and a good receiver, scatter openings are often observed on 50 mc, when this frequency is considered above the regular muf. Because only a very small part of a signal's energy is returned to earth by scatter, such signals are extremely weak and fluttery and marginal communications is possible at best.

Scattering appears to occur most often from ionospheric regions in the vicinity of the

openings over distances between approximately 600 and 1200 miles, while openings over considerably greater distances may be possible with signals scattered by the F layers. Backscattered signals may often permit 50 mc ionospheric communication between stations separated by relatively small distances.

The various modes of v.h.f. ionospheric propagation and their signal characteristics are summarized in Fig. 5. While normally propagation may be due to a single particular mode, there are times when a combination of several modes may be involved and taking place at the same time. All-in-all, ionospheric propagation takes place often enough in the 50 and 144 mc amateur bands to add an extra dimension of interest in operating in these bands.

Propagation Mode	V.h.f. Bands Prop. Possible	Latitude Zone Peak	Time of Day Peak	Seasonal Peak	Optimum Sunspot Period	Communication Distance-Miles	Band Opening Period	Signal Characteristics
Regular F-layer reflection	50 mc	Temperate	Daytime	winter	High	E-W paths 1800-3600 N-S paths 1800-6000	Several minutes to an hour or more	Exceptionally strong
	50 mc	Low, Equatorial	Afternoon to late evening	spring & fall	High	E-W paths 1800-3600 N-S paths 1800-6000	Several minutes to an hour or more	Exceptionally strong
Sporadic-E	50 & 144 mc	High, Polar	Night	spring & fall	High & Moderate	300-1300	Several minutes to an hour or more	Weak to strong with some flutter fading
	50 & 144 mc	Temperate	Before noon & early evening	late spring & summer	All	800-2400 on 50 mc 1100-1300 on 144 mc	Several minutes to an hour or more	Exceptionally strong
	50 & 144 mc	Equatorial	All day	All seasons	All	800-2400 on 50 mc 1100-1300 on 144 mc	Several hours to a complete day	Strong with flutter fading
Auroral Ionization	50 & 144 mc	High & Temperate	Late afternoon & early evening	spring & fall	High & Moderate	300-1300 miles	Several minutes to an hour or more	Weak to moderately strong, with strong flutter fading. Voice badly distorted, c.w. recommended
Meteor Ionization	50 & 144 mc	All	Night & early morning	June & July & during specific shower periods	All	800-1300	Several seconds to a half minute or so per burst	Strong bursts High speed c.w. recommended
Trans-Equatorial	50 mc	Low & Temperate	Evening through midnight	Spring & Fall	High & Moderate	2400-5400	From one to several hours	Weak to moderately strong, with some flutter fading at times
Ionospheric Scatter	50 mc	Low & High	Evening through midnight	Spring & Fall	High & Moderate	600-2400	A few minutes to several hours	Weak, fluttery signals



It's the 2nd 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, WTFDA'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. This year Puerto Rico and Virgin Islands are included for southeast coast Dxers. Power levels are indicated. And the list is limited to stations with 300 watts or more. (Anything 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.

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. The "at" symbol (@) next to call letters indicates the station currently is an analog signal and the listed technical parameters are for their digital assignment. 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

WHDF	Florence, AL	21kw	DA - S	
KHIZ-LD	Los Angeles, CA	3kw	DA - W	SILENT
KFTY-LD	Middletown, CA	3kw		
KQRO-LD	Morgan Hill, CA	3kw	DA - N	
K02QP	Planada, CA	550w	DA - N	
K51LK	Redding, CA	3kw	DA - S	CP ONLY (9/24/21)
KREX	Grand Junction, CO	800w		
KBRO-LD	Lyons, CO	3kw	DA - E	NEXTGEN
WDPN	Wilmington, DE	34kw		
WUVM-LP	Atlanta, GA	3kw	DA - S	
WLMO-LD	Fort Wayne, IN	3kw		
WLBZ	Bangor, ME	3kw		
KNOP	North Platte, NE	16kw		
KHSV	Las Vegas, NV	27.7kw		*wants rf 21
WKOB	New York, NY	300w		will move to ch13
W02CY	New York, NY	500w	DA - NE	CP
WWBP-LP	Freedom, PA	3kw		CP ONLY
W02CT	Arecibo, PR	300w	DA - N	SILENT
W02CU	Mayaguez, PR	3kw	DA - NE/SE	SILENT
W02CS	Ponce, PR	2.9kw	DA - SW	SILENT
WSBE	Providence, RI	10kw		
WGGS	Greenville, SC	33kw		
KHME	Rapid City, SD	18.2kw		
KSFW	Dallas, TX	3kw		SILENT
KLNK-LD	Groveton, TX	3kw	DA - S	
WVIR	Charlottesville, VA	10kw		
WYCX-CD	Manchester, VT	1.6kw	DA - NE	CP 3kw DA - W
CKSA	Lloydminster, AB	8.1kw		
CKPR	Thunder Bay, ON	1.2kw		

Channel 3

WDVZ-CD	Greensboro, AL	3kw	DA - NE	
K03FB	Snowflake, AZ	300w	DA - NW	
KIEM	Eureka, CA	12.5kw	DA - N/S	
KSGA-LD	Los Angeles, CA	700w	DA - SE	CP ONLY
KCSO-LD	Sacramento, CA	5kw	DA - E	STA
KURK-LD	San Francisco, CA	2.5kw	DA - ESE	
K12PO	Temecula, CA	3kw	DA - S	STA
K39EY	Cortez, CO	500w	DA - W	CP ONLY (11/07/21)
K03IY	Denver, CO	3kw		
WSBS	Key West, FL	1kw	DA - E	
W03BU	Miami, FL	3kw	DA - E	CP ONLY (7/13/21)
W03BV	Orlando, FL	3kw		CP ONLY
WTHC-LD	Atlanta, GA	3kw		
WUVI-LD	Chicago, IL	3kw		CP ONLY
WHNE-LD	Detroit, MI	3kw	DA - NW/NE/SW	
KYUS	Miles City, MT	1kw		
WJLP	Middletown, NJ	26.5kw		STA
KCNL	Reno, NV	3kw	DA - S	
WGGN	Sandusky, OH	10kw		
WRZH-LD	Red Lion, PA	3kw		May be SILENT
WZNA-LD	Guaynabo, PR	2.7kw	DA - N	

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Channel 3

KDLO	Florence, SD	14.4kw	
WWWB-LD	Clarkrange, TN	3kw	SILENT
KLAO-LD	Corpus Christi, TX	3kw	CP - SILENT
KODF-LD	Dallas, TX	2.5kw	
KZHO-LD	Houston, TX	3kw	CP (9/07/21)
WBRA	Roanoke, VA	9.8kw	22kw STA
CHAU-1	Ste-Marg.-Marie, QC	1.6kw	DA - W

Channel 4

WNHT-LD	Alabaster, AL	3kw	DA - SE	
K04RA	Clarksville, AR	300w		CP - 3kw (6/01/21)
K04QP	Casas Adobes, AZ	1.7kw		
K04SB	Bakersfield, CA	700w	DA - W	
KAKZ-LD	Cathedral City, CA	3kw	DA - SE	May be SILENT
K04QR	Esparto, CA	300w	DA - W	
KWHY	Los Angeles, CA	35kw	DA - SE	
KQSL-LD	San Rafael, CA	3kw	DA - E	CP: non-DA
KBIS-LD	Turlock, CA	1kw	DA - NW/SE	
K04RY	Colorado Springs, CO	500w		SILENT
KHDE-LD	Denver, CO	2.4kw		CP ONLY (8/15/21)
WMDF-LD	Miami, FL	3kw		SILENT
WTSP-drt	St. Petersburg, FL	300w	DA - NE/W	
	(Located at Hernando, FL)			
WNGH	Chatsworth, GA	11.2kw		
K04RX	Preston, ID	1kw		CP ONLY (7/24/21)
WOCK-CD	Chicago, IL	300w		CP 3kw DA
WHBF	Rock Island, IL	33.7kw		
K04SA	Alexandria, LA	3kw	DA - NE/SW	CP ONLY (8/20/21)
WHDT-LD	Boston, MA	3kw		CP ONLY (9/18/21)
WGCI-LD	Skowhegan, ME	300w		
WAUG-LD	Raleigh, NC	3kw		CP ONLY (9/05/21)
W04DQ	Wilmington, NC	3kw		CP ONLY
KSNB	Superior, NE	23.5kw		*wants rf 24
WACP	Atlantic City, NJ	34kw		
WPXO	East Orange, NJ	300w	DA - E	
KRMF-LD	Reno, NV	3kw	DA - S	
WTLW	Lima, OH	10kw		
K04OS	Reedsport, OR	300w	DA - S	
WQED	Pittsburgh, PA	10kw		
WVDO-LD	Carolina, PR	1kw	STA DA - W	CP 3kw (7/12/21)
W24EI	Naranjito, PR	1kw	STA DA - W	CP 3kw (7/24/21)
KWDA-LD	Dallas, TX	3kw		CP ONLY (11/08/21)
KAHO-LD	Woodville, TX	3kw		SILENT
CITL	Lloydminster, AB	9.1kw		
CIMT-1	Edmundston, NB	2.2kw	DA - NW/SE	
CHFD	Thunder Bay, ON	1.2kw		
CFTF-4	Forestville, QC	1.9kw	DA - SW/NE	
CHAU-7	Riviere-au-Renard, QC	990w	DA - SE	

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Channel 5

KQRY-LD	Fort Smith, AR	3kw		
KRCB	Cotati, CA	18.6kw	DA - E	
KVHF-LD	Fresno, CA	1.6kw	DA - S	
KVCR	San Bernadino, CA	25.8kw		
KRDH-LD	Cripple Creek, CO	1.5kw	DA - N	
WMDE	Dover, DE	10kw		
WRUF-LD	Gainesville, FL	300w		
W05DH	Jupiter, FL	3kw	DA - N/S	
WDGT-LD	Miami, FL	3kw	DA - S	CP ONLY (6/20/21)
WDTO-LD	Orlando, FL	3kw		1.2kw DA - W STA
W05CO@	Sarasota, FL	3kw	DA - W	CP (7/13/21)
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		
KXGN	Glendive, MT	1kw		
KNHL	Hastings, NE	45kw		
WXNJ-LD	West Orange, NJ	570w	DA - E	Likely SILENT
WNYB	Jamestown, NY	4kw		
WNYX	New York, NY	300w	DA - E	Likely SILENT
WRGB-drt	Schenectady, NY	3kw	DA - S	
	(Located at Pittsfield, MA)			
WIVN-LD	Newcomerstown, OH	3kw	DA - W	CP ONLY (7/20/21)
WLWD-LD	Springfield, OH	3kw		CP ONLY (8/16/21)
WLMB	Toledo, OH	10kw	DA - E	*wants rf 35
KAMK-LD	Eugene, OR	500w	DA - NE	
KOBI	Medford, OR	6.3kw		
W05DA	Fajardo, PR	300w		//WORA
W05CY	Mayaguez, PR	3kw	DA - W	//WORA
W05DB	Ponce, PR	300w		//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		*wants rf 8
KXDA-LD	Garland, TX	3kw	DA - NE	
K05MN	Logan, UT	750w	DA - S	SILENT
WCYB	Bristol, VA	29.9kw		*wants rf 35
WFIG-LD	Charlotte Amalie, VI	2.8kw	DA - N	//WSVI
W05AW	Christiansted, VI	300w	DA - SW/SE	
WIWN	Fond du Lac, WI	9kw	DA - W	STA 34kw
WDTV	Weston, WV	10kw		*wants rf 33
CHAU	Carleton, QC	9.8kw	DA - S	

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Channel 6

WVUA	Tuscaloosa, AL	26kw	
KWFT-LD	Fort Smith AR	3kw	
K06AE	Prescott, AZ	500w	DA - SW
KNXT-LP	Bakersfield, CA	3kw	DA - W CP (7/13/21)
KZNO-LP@	Big Bear Lake, CA	3kw	DA - S CP (7/13/21)
KFMY-LD	Petaluma, CA	2kw	DA - N CP
KPRE-LD@	San Diego, CA	650w	CP (7/13/21)
KBKF-LP	San Jose, CA	2kw	DA - N NEXTGEN
KMCF-LD	Visalia, CA	3kw	DA - W CP ONLY(8/23/21)
KXDP-LP@	Denver, CO	3kw	DA - E CP (7/13/21)
WFIB-LD	Key West, FL	3kw	DA - E
WEYS-LP@	Miami, FL	3kw	DA - N/S CP (7/13/21)
WATV-LD	Orlando, FL	3kw	
WTBS-LD	Atlanta, GA	3kw	DA - SW CP (7/13/21)
WABW	Pelham, GA	10.5kw	
WCES	Wrens, GA	7.9kw	
KTVJ-LD@	Boise, ID	3kw	DA - SW CP (7/13/21)
WRME-LP@	Chicago, IL	3kw	DA - W CP (7/13/21)
KBSD	Ensign, KS	31kw	
WDHC-LD	Lebanon, KY	600w	DA - NE/SW
WLLB-LD	Portland, ME	2kw	CP ONLY
KTVM	Butte, MT	19.2kw	*wants rf 20
KWNB	Hayes Center, NE	11.9kw	CP - 45kw
K06PG	Laughlin, NV	300w	DA - SE
WNYZ-LP@	New York, NY	3kw	DA - N/SE CP (7/13/21)
WRGB	Schenectady, NY	30.2kw	STA *wants rf 35
WOUC	Cambridge, OH	7.1kw	DA N-W-S
KPWC-LD	Tillamook, OR	3kw	CP ONLY (9/05/21)
WKBS	Altoona, PA	3.1kw	
WPVI	Philadelphia, PA	56kw	STA
WWXY-LD	San Juan, PR	2kw	STA DA - NE CP DA - East (7/12/21)
KIPS-LD	Beaumont, TX	500w	
KCVH-LD	Houston, TX	3kw	CP ONLY
KFLZ-LP@	San Antonio, TX	3kw	DA - S CP (7/13/21)
KJDN-LD	Logan, UT	3kw	DA - S CP ONLY (8/17/21)
WMTO-LD@	Norfolk, VA	3kw	CP (7/13/21)
KYMU-LD	Seattle, WA	3kw	DA - E

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TV News – May 2021

Douglas E. Smith
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<i>Location</i>	<i>RF Ch</i>	<i>Callsign</i>	<i>Notes</i>
Alabama			
Cusseta	29	WQMK-LD	Moved from 18, 15kw/80m, 32-44-40/85-17-32.
Phenix City	6	W06BH	License canceled Apr. 13 th .
Alaska			
Anchorage	28	KTVA	OFF Sept. 3rd, station sold & lost programming source.
Seward	7	K07PG	Granted conversion to digital, 100 watts/-440m.
Sitka	7	KTNL-TV	OFF Oct. 31st, station sold & lost programming source.
Arizona			
Flagstaff	30	K30DT	Requests power increase to 1.73kw/626m; granted.
Gila River Indian Co.	29	K29KO	License canceled Apr. 28 th .
Phoenix	32	KEJR-LD	Power increased to 15kw/463m.
Yuma	35	KESE-LD	Converted to digital, 8kw/78m.
Arkansas			
Clarksville	4	K04RA	Expires June 1 st .
Hope	50	KTSS-LP	Expires June 1 st .
Little Rock	36	KKAP	Request to increase power to 1000kw/394m dismissed. ERP exceeds maximum for tower height. (should be limited to about 900kw for this HAAT)
Little Rock	43	KTWN-LD	Expires June 1 st .
Nashville	23	KJEP-LP	Expires June 1 st .
Paragould	24	K24NY	Requests power reduction to 4kw/17m, 36-10-11/90-48-43; granted.
Paragould	35	K35LN	Requests power increase to 7.5kw/131m, 35-57-14/90-41-41, but withdrawn.
Baja California			
Ensenada	24	XHCTEN-	Permit granted for new station, 20kw/22m, 31-52-43/116-38-04.
California			
Bakersfield	6	KNXT-LP	Requests conversion to digital from analog ch. 38, 3kw/332m. Granted.
Cherry Valley	8	KILA-LD	Returned to the air Apr. 16 th .
Daggett	15	K15BZ	Requests conversion to digital. Withdrawn; will resubmit specifying a different channel.
Eureka	31	KEUV-LD	Converted to digital, 15kw/470m.
Eureka	33	KEMY-LD	Converted to digital, 4kw/470m.
Fortuna	20	K20CN	Granted conversion to digital, 4kw/626m.
Lakeport	15	K15FJ	OFF Apr. 2 nd pending replacement of failing amplifier. Granted power to 700 watts/3m, 39-02-35/122-46-01.
Los Angeles	2	KHIZ-LD	Returned to the air Mar. 29 th when antenna issues were resolved.
Monterey	7	KOTR-LD	Requests STA 150w/687m, 36-32-13/121-37-37; to operate at reduced power at authorized new site pending construction of full-power facility.
Monterey	14	K14TG	From K05NA, 10 watts/154m; granted.

Location	RF Ch	Callsign	Notes
Monterey	23	KMUV-LD	Moved from 21, 15kw/705m.
Oroville	31	K31ND	Moved from K42HL, 680 watts/470m.
Paradise	30	KCVU	Moved from 17, 500kw/431m.
Redding	25	KRHT-LD	Moved from 41.
Redding	26	KGEC-LD	Returned to the air Jan. 15 th .
Ridgecrest	26	KZGN-LD	Moved from 42, 100 watts/-71m, 35-37-25/117-40-21.
Santa Ana	33	KTBN-TV	Operating at reduced power of 490kw since Mar. 21st pending repairs.
Santa Rosa	25	KDAS-LP	Requests digital conversion from analog ch. 48, 3kw/278m, 38-30-32/122-39-48. Granted.
Victorville	27	K27AE	Converted to digital.
Victorville	31	K31AD	Converted to digital.
Yreka	23	K23PQ	From K13LO, 500 watts/757m, 41-44-54/122-42-06; granted.
Colorado			
Cortez	31	K31CT	Requests conversion to digital, 1.5kw/175m, 37-21-01/108-00-00.
Hotchkiss	13	K13ML	Requests conversion to digital, 268 watts/102m, 38-42-41/107-36-23. Granted.
Vallecito	8	K08ET	Requests power increase to 1.75kw/169m, 37-15-46/107-54-00; granted.
Connecticut			
Hartford	31	WRDM-CD	See sharing host WVIT New Britain.
New Britain	31	WVIT	New aux on the air, 125kw/401m.
New Haven	21	WTXX-LD	Requests STA to share temporarily on the WEDW transmitter.
Florida			
Fort Myers	22	WGCU	Application for new aux, 125kw/153m; granted & on the air.
Green acres (sic)	48	STA-760456	Application for new station, 400 watts/15m, 26-58-24/80-15-00 dismissed. Proposed to broadcast Sunday church services to the Haitian-American community. It didn't specify <i>which</i> church would be broadcast. (coordinates are in a swamp, no existing building)
Jacksonville	11	WJKF-CD	Requests power increase to 3kw/231m, 30-16-36/81-33-57. Amended to 239m & granted.
Key West	19	WEYW-LP	Requests power reduction to 857 watts/36m, 24-34-21/81-44-24. Granted.
Key West	21	W21EK	Requests power increase to 15kw/181m, 24-40-37/81-30-38; granted.
Key West	22	W22FI	Requests power increase to 15kw/181m, 24-40-37/81-30-38; granted.
Key West	31	WTVK-LP	Requests power increase to 838 watts/36m, 24-34-21/81-44-24. Granted.
Miami	5	WDGT-LD	From 9, 3kw/225m, 25-58-16/80-12-31; granted.
Miami	20	WFUN-LD	See sharing host WLMF-LD.
Miami	20	WLMF-LD	From 51, 15kw/54m, 25-53-30/80-22-19.
Orlando	5	WDTO-LD	Moved from 28, 3kw/173m. Requests STA for 1.2kw; to operate temporarily at reduced power pending replacement of transmission line. Granted.
St. Petersburg	19	WTOG	Requests power increase to 650kw/454m, 27-50-52/82-15-49; granted.
Tallahassee	15	W15EQ	From W23EF, 15kw/258m, 30-34-28/84-12-09; granted.
Tampa	13	WEDQ	See sharing host WEDU.
Tampa	13	WEDU	Requests STA 21.6kw/339m; to operate at reduced power to a temporary lower antenna to accommodate antenna work for

Location	RF Ch	Callsign	Notes
			co-located WTOG-TV. Granted. Granted permission to keep this STA facility as a permanent auxiliary; aux on the air. Requests permission to increase main transmitter power to 38kw/471m; granted.
Georgia			
Atlanta	6	WTBS-LD	Requests height reduction to 147m, 33-44-41/84-21-36. Granted.
Atlanta	21	WPBA	Power increased to 105kw/265m.
Baxley	15	WPHJ-LD	Requests power increase to 15kw/420m, 32-03-15/81-21-00. Granted.
Columbus	25	W25EG	License canceled Apr. 13 th .
Tifton	20	W20CY	License canceled Apr. 13 th .
Tifton	30	W30DW	License canceled Apr. 13 th .
Guerrero			
Acapulco	14	XHIE-	From 48, 44.39kw/338m, 16-52-27/99-50-59; granted.
Hidalgo			
Pachuca	8	XHPEAH-	Permit granted for new station, 5kw/-10m, 20-06-24/98-44-15.
Idaho			
Boise	51	KEVA-LD	Calls changed from KCBB-LP.
Payette	17	K17ED	Returned to the air Apr. 19 th .
Pocatello	19	K19KY	From K40MS, 250w/280m, 42-52-26/112-30-49; granted. Permit to go to ch. 14 canceled Mar. 24 th . (going to 19 instead)
Twin Falls	34	KXTF	Power increased to 230kw/162m.
Illinois			
Moline	23	WQPT-TV	Power increased to 664kw/328m.
Rockford	11	WYCH-LD	From 47, 3kw/48m; granted.
Indiana			
Fort Wayne	23	WCUH-LD	Moved from 16, 5kw/109m, 41-05-57/85-08-42.
Fort Wayne	24	WPTA	Granted power increase to 592kw/229m.
Indianapolis	24	WUDZ-LD	Returned to the air Mar. 11 th .
Marion	28	WIWU-CD	Returned to the air Apr. 9 th .
Wolcott	9	KPDS-LD	Silent STA request withdrawn, station returned to the air Mar. 1 st ; to full power Mar. 29 th .
Kansas			
Manhattan	28	K03II	From 3, 15kw/104m, 39-15-36/96-04-53; site is near Topeka.
Topeka	17	KAJF-LD	Returned to the air by Mar. 29 th .
Topeka	28	KCMN-LD	Returned to the air by Mar. 29 th .
Topeka	35	KQML-LD	Returned to the air by Mar. 29 th .
Wichita	27	KFVT-LD	STA withdrawn. Unnecessary; returned to full power Mar. 24 th after transmitter repairs.
Kentucky			
Lebanon	6	WDHC-LD	Requests power increase to 1kw/25m, 36-36-42/86-34-50. Site is in Tennessee, at the WQKR-1270 AM site northwest of Portland and adjacent to I-65. Amended to 1.3kw/20m & slight change in site. WQKR has multiple towers & the LPTV probably switched to a different one. Granted & moved.

Location	RF Ch	Callsign	Notes
			Calls changed from W06AY.
			Requests power reduction to 600 watts/??, 36-22-26/86-59-21. My calculations show an HAAT of -25m, but I think the coordinates are slightly in error. There's a cellular tower about 300m to the north which would be above average terrain. Granted.
Louisville	15	WDYL-LD	From 28, 15kw/207m; later amended to 10.21kw. Granted.
Paducah	9	WQWQ-LP	License canceled Apr. 8 th .
Paducah	18	WQWQ-LD	Permit granted for Digital Companion Channel, 3.7kw/52m. Not sure it can really be a "Companion Channel" if its analog companion has been deleted (grin).

Louisiana

Alexandria	2	K02QB	Expires June 1 st .
Alexandria	25	K25PZ	From K33MP, 15kw/439m, 31-02-16/92-29-45; granted.
Hammond	23	WSTY-LP	Expires June 1 st .
Lake Charles	22	K22GT	Expires June 1 st .

Manitoba

Thompson	9	CKYT-TV	Licence surrendered Apr. 27 th . Would have cost \$25,000 to repair & \$100,000 to convert to digital. Digital conversion is not required in smaller Canadian cities.
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Maryland

Havre de Grace	24	WWDD-LD	Granted STA to operate authorized post-repack facility at reduced power of 5kw. (vs. authorized 6.5kw)
Hunt Valley	24	STA-760246	Permit granted for temporary station, 900 watts, 39-28-37/76-39-13. Site is Sinclair Broadcast Group HQ. Station to be used to test ATSC 3.0 reception on mobile devices.
Salisbury	19	WRUE-LD	Requests power increase to 15kw/126m, 38-06-47/75-39-15; granted.
Salisbury	34	WSJZ-LD	Requests power increase to 15kw/149m, 38-45-51/75-17-38.

Massachusetts

Boston	36	WCEA-LD	Granted STA 10kw/235m; to use old ch. 45 antenna temporarily at reduced power.
Boston	45	WCEA-LD	OFF Apr. 6 th pending repack reimbursement to complete move to ch. 36.

Springfield 13 WGBY-TV Requests power increase to 63kw/303m.

Michigan

Cadillac	23	W23EB	Operating at unspecified reduced power since Mar. 28 th due to failed transistors.
Charles	28	W28EJ	Requests power increase to 15kw/186m, 46-03-36/84-05-57.
Charles	30	W30DQ	Requests power increase to 15kw/142m, 46-03-36/84-05-57.
Detroit	22	WDWO-CD	Requests STA 1kw/240m; transmitter unable to make full power.
Elmhurst	27	W27DQ	Requests power to 15kw/261m, 45-30-05/85-01-49.
Elmhurst	31	W31FA	From W38FO, 15kw/251m, 45-30-05/85-01-49; granted.
Grand Rapids	7	WOOD-TV	ATSC 1.0 host for WOLP/WXSP My 15.1
Grand Rapids	15	WXSP-CD	ATSC 3.0 host for WOOD-TV, WWMT, and WXMI.
Grand Rapids	32	WXMI	ATSC 1.0 host for WOLP/WXSP Cozi TV 15.2
Grand Rapids	35	WOLP-CD	ATSC 3.0 host for WOOD-TV, WWMT, and WXMI.
Houghton Lake	15	W15DF	Requests power to 15kw/222m, 44-08-12/85-20-33; granted.
Houghton Lake	19	W19EZ	From W38EZ, 15kw/232m, 44-08-12/85-20-33; granted.
Kalamazoo	8	WWMT	ATSC 1.0 host for WOLP/WXSP Court TV Mystery 15.3
Kalamazoo	18	WUHO-LP	Requests digital conversion from analog ch. 36, 500 watts/31m,

Location	RF Ch	Callsign	Notes
			42-18-52/85-36-54; granted.
Lansing	28	WSYM-TV	Requests power increase to 642kw/305m.
Marquette	7	W07DB	License canceled Mar. 27 th .
Pinconning	22	WKNX-LP	Requests conversion to digital, 300 watts/7m, 43-38-23/83-55-17; granted.
Traverse City	16	W16DN	Requests power to 15kw/136m, 44-45-37/85-40-58; granted
Traverse City	18	WPBN-DRT	New to the air, 15kw/221m, 44-46-36/85-41-02.
Traverse City	22	WPBN-DRT	Moved from 50 (Haretta)
Traverse City	27	W27DU	Requests power to 15kw/148m, 44-45-37/85-40-58; granted.
Vanderbilt	20	W20DT	Requests power to 15kw/263m, 45-10-12/84-45-04.
Vanderbilt	22	W22EL	Requests power to 15kw/276m, 45-10-12/84-45-04.
Minnesota			
Bemidji	28	K28DD	Requests conversion to digital, 15kw/147m; granted.
La Crescent	23	KQEG-CD	Requests STA 2.25kw/231m.
Minneapolis	19	KKTW-LD	Granted power increase to 9.4kw/105m.
Park Rapids	32	K32FY	Requests conversion to digital, 15kw/205m; granted.
St. Cloud	14	WCMN-LP	From 13, 15kw/95m, 45-32-35/94-15-42; granted.
Wadena	17	K17FE	Requests conversion to digital, 15kw/142m; granted.
Mississippi			
Jackson	6	WJMF-LP	Requests 3kw/97m at this site; granted & moved.
Laurel	18	W18EL	Requests power increase to 15kw/128m, 31-27-13/89-17-05; granted.
Natchez	30	W30CC	Expires June 1 st .
Missouri			
Cape Girardeau	28	WSIU-DRT	Granted power reduction to 2kw; power reduced.
Columbia	27	KOMU-TV	Granted reassignment from ch. 8, 1000kw/266m, 38-53-21/92-15-43.
Jefferson City	29	KRCG	Granted reassignment from ch. 12, 1000kw/308m, 38-41-30/92-05-45.
Joplin	29	KJLN-LD	Requests power reduction to 1.5kw/24m, 37-04-33/94-38-25.; granted & reduced. City from Independence, Kans. Requests power increase to 15kw/71m, 37-04-38/94-30-17; granted.
Kansas City	29	KMBC-TV	Operating at reduced power of approximately 273kw since April 6th due to transmission line issues.
St. Louis	26	KPLR-TV	Requests power increase to 1000kw/315m, 38-32-07/90-22-23; granted.
St. Louis	31	KDNL-TV	Returned to full power Apr. 8th.
Springfield	25	KFKY-LD	OFF Apr. 1 st pending transmitter repairs; returned to the air Apr. 16 th .
Montana			
Billings	20	K20HB	Requests conversion to digital, 15kw/115m; granted.
Boulder	36	K36CX	Granted power increase to 239 watts/-2m, 46-15-34/112-09-11.
Nebraska			
Lincoln	8	KLKN	Power increased to 53kw/435m.
Omaha	27	KOHA-LD	Requests STA 4kw/44m, 41-12-36/96-05-18; to operate at this site pending modification of construction permit.
Nevada			
Elko	29	K29JM	License canceled Apr. 12 th .

Location	RF Ch	Callsign	Notes
Elko	31	K31LB	License canceled Apr. 12 th .
Fallon	25	K25PQ	From K511A; granted & moved.
Henderson	9	KVVU-TV	Power increased to 120kw/383m.
Las Vegas	12	KVGA-LD	Requests power to 3kw/315m, 36-00-34/115-00-23; granted.
Reno	2	K02QW	Requests power reduction to 5 watts/-111m, 39-37-24/119-54-39. Granted.
Ryndon	2	K02KS	License canceled Apr. 12 th .
Ryndon	5	K05LP	License canceled Apr. 12 th .
Starr Valley	4	K04JR	License canceled Apr. 12 th .
Sun Valley	16	KEVO-LD	From 40, 50 watts/-111m, 39-37-24/119-54-38; bumped from displacement ch. 19 by K19MK. Amended to 100 watts/-110m & granted.
Sun Valley	40	KEVO-LD	OFF Apr. 6 th . Reason unknown, as COVID restrictions prevented engineers from leaving California to investigate.

New Hampshire

Manchester	7	W07DR	License canceled Apr. 21 st .
Manchester	9	WMUR-TV	Power increased to 7.35kw/312m.
Westmoreland	6	W44DU	From 44, 425 watts/195m, 43-02-00/72-22-02; granted.
Westmoreland	27	W20EB	From 20, 1kw/197m, 43-02-00/72-22-02.
Westmoreland	28	W28FA	From W38FV, 900 watts/197m, 43-02-00/72-22-02; granted.

New Jersey

Camden	23	WNJS	Application for new aux, 281kw/224m; granted & on the air.
Morristown	17	WNMF-LD	Returned to the air Apr. 29 th under STA.
Trenton	23	WNJT	See sharing host WNJS Camden.

New Mexico

Carlsbad	49	K49ES	License canceled Apr. 8 th .
Farmington	21	K21MV	From K46KV, 50 watts/78m; granted.
Farmington	32	K32JT	Requests power reduction to 50 watts/78m; granted.
Fort Sumner	34	K34GU	License canceled Mar. 28 th .
Fruitland	17	K17LP	Requests power reduction to 50 watts/78m; granted.
Santa Fe	25	KQDF-LD	Requests STA 1.31kw/1255m; STA to operate at reduced power from Apr. 2 nd due to HVAC failure. Granted.
Tucumcari	32	K32FE	License canceled Apr. 15 th .

New York

Binghamton	6	WXXW-LP	Requests conversion to digital, 16 watts/-94m.
Glens Falls	28	WNYT-DRT	Granted STA for this channel, ex-ch. 45. Has regular permit for ch. 28 but doesn't yet have permanent antenna.
New York	2	W41DO	Moved from 41, 300 watts/261m, 40-45-08/73-58-02; sharing on WKOB-LD.
New York	13	W41DO	See sharing host WKOB-LD.
New York	13	WKOB-LD	From 2, 3kw/415m, 40-42-47/74-00-47.
New York	24	WNYE-TV	Power increased to 180kw/310m.
New York	28	W28ES	Granted waiver of the off-over-a-year rule. Bumped by WEPT-CD Newburgh; has permit to move to ch. 2, but cannot do so until WKOB-LD moves from 2 to 13.
New York	31	WHTV-LD	Requests power increase to 15kw/275m, 40-45-08/73-58-02; CL from Port Jervis. (Trump World Tower)
Syracuse	17	WSYR-TV	Granted power increase to 285kw/402m.
Utica	11	WPNY-LP	Requests power increase to 160 watts/182m, 43-08-41/75-10-32; granted.

Location	RF Ch	Callsign	Notes
North Carolina			
Bryson City	5	W05AR	OFF Apr. 14 th , cannot receive primary WYFF on ch. 30 due to new signal on ch. 31. See Murphy.
Canton	27	WUNW	Granted six-site Distributed Transmission System. Site #1, Clyde: 115kw/505m, 35-34-07/82-54-26 Site #2, Brevard: 900w/429m, 35-10-36/82-40-54 Site #4, Bakersville: 940w/321m, 36-02-00/82-12-09 Site #5, Sapphire: 880w/570m, 35-07-57/82-59-01 Site #6, Bryson City: 940w/280m, 35-24-47/83-30-02 Site #7, Cullowhee: 940w/-146m, 35-18-12/83-10-40 Requests for sites #3 & #8 were withdrawn.
Charlotte	4	STA	Live Sports Radio requests STA, 30 watts/21m, 35-06-59/80-50-33 at Quail Hollow Golf Club, May 3 rd through the 9 th . Granted.
Cherokee	10	W10AL	OFF Apr. 14 th , cannot receive primary WYFF on ch. 30 due to new signal on ch. 31. See Murphy.
Ela	3	W03AK	OFF Apr. 14 th , cannot receive primary WYFF on ch. 30 due to new signal on ch. 31. See Murphy.
Franklin	19	W19DB	Power increased to 5.5kw/698m.
Franklin	31	W31DH	Power increased to 10kw/693m.
Greenville	25	WUNK	Requests conversion to ATSC 3.0. To simulcast in ATSC 1.0 on co-owned WUNM-TV Jacksonville.
Jacksonville	28	WUNM-TV	ATSC 1.0 host for co-owned WUNK.
Kinston	26	WTMH-LD	From 21, 2.5kw/14m, 35-17-17/77-47-30; granted.
Murphy	31	W31AN	Power increased to 11.5kw/117m, 35-05-05/84-00-58. This is probably the ch. 31 signal that's forced WYFF translators off the air.
Raleigh	34	WACN-LP	Requests conversion to digital, 1kw/16m, 35-58-40/78-48-57; granted.
Sylva	4	W04DW	OFF Apr. 14 th , cannot receive primary WYFF on ch. 30 due to new signal on ch. 31. See Murphy.
Winston-Salem	15	WHWD-LD	Power increased to 15kw/96m, 36-05-25/80-15-05.
North Dakota			
Fargo	35	KFGX-LD	Calls changed from K35KD.
Fargo	36	KVLY-TV	Granted power increase to 720kw/594m.
Ohio			
Columbus	8	WGCT-CD	Requests STA 410 watts/80m; to operate at reduced power pending repair or replacement of failed transmitter. Granted.
Mansfield	20	WOHZ-CD	Granted power reduction to 4kw/30m, 40-47-01/82-08-10 & reduced.
Toledo	6	WDMY-LP	From W38DH, 1.5kw/148m, 41-44-41/84-01-06; amendment from 1.8kw.
Toledo	13	WTVG	Power increased to 20.1kw/307m.
Oklahoma			
Lawton	31	K31MK	Requests power increase to 15kw/144m, 34-35-35/98-19-06; granted.
Oklahoma City	34	KWRW-LD	Requests power reduction to 1.5kw/57m, 35-11-47/97-16-56; city from Ardmore. Granted & reduced. Requests power increase to 15kw/197m, 35-33-37/97-29-08; granted.
Tulsa	34	KMYT-TV	Requests STA 875kw/381m, 35-58-08/95-36-56; to reactivate repack interim facility (at the KTUL-TV site) pending transmitter repairs at main site. Granted.

Location	RF Ch	Callsign	Notes
Oregon			
Halfway	10	K10NF	OFF Mar. 15 th , transmitter malfunction; returned to the air Apr. 1 st .
Paisley	9	K09VC	OFF Apr. 14 th , reason unknown. Unable to reach site due to weather.
Paisley	28	K28LO	OFF Apr. 14 th . Relays K09VC, which is off for unknown reason.
Prospect	7	K07GI	Converted to digital, 10 watts/388m, 42-43-41/122-36-32.
Salem	22	KPXG-TV	Requests STA 800kw/466m; to operate at reduced power on KGW's auxiliary antenna while KGW swaps out its main antenna to move from ch. 8 to ch. 26. Granted.
Pennsylvania			
Boyetown	27	WFMZ-DRT	Power reduced to 10kw/89m.
DuBois	16	W16EJ	From W28EO, 1kw/51m, 41-28-55/78-41-10; granted. Requests power to 350 watts/204m, 41-03-52/78-34-11. Amended to specify 500 watts. Granted.
DuBois	17	W17DU	Requests power reduction to 350 watts/204m, 41-03-52/78-34-11. Amended to specify 500 watts. Granted.
DuBois	19	W19EI	Requests power to 1kw/51m, 41-28-55/78-41-10; granted. Requests power to 350 watts/204m, 41-03-52/78-34-11. Amended to specify 500 watts. Granted & changed.
DuBois	22	W22FJ	Requests power increase to 1kw/285m, 40-43-54/78-19-32. From W21DO, 1kw/51m, 41-28-55/78-41-10; granted. Requests power to 350 watts/204m, 41-03-52/78-34-11. Amended to specify 500 watts. Granted & moved.
Harrisburg	34	W34FL	Requests power reduction to 300 watts/225m, 40-07-20/77-04-12; granted & reduced; city from State College. Requests power increase to 15kw/184m, 39-54-18/76-34-57; granted & increased. (WGCB-TV facility, Red Lion)
Philadelphia	33	WZPA-LD	Returned to the air Nov. 11 th when antenna issues were resolved.
Pittsburgh	27	WTAE-TV	Granted power increase to 1000kw/269m.
State College	26	W26EQ	From W42DG, 15kw/299m, 40-43-00/77-53-34; granted.
State College	34	W34FL	Requests power reduction to 1kw/326m, 40-45-08/77-45-16; granted & reduced. Requests power increase to 1kw/385m, 40-28-40/77-23-07; granted & increased. Requests power reduction to 300 watts/213m, 40-18-56/76-57-08; granted. Requests power increase to 300 watts/225m, 40-07-20/77-04-12; granted. (Dillsburg) See Harrisburg.
Wilkes-Barre	11	NEW	Application for new station, 7kw/50cm, 39-57-46/75-13-30 dismissed. (Renaissance Media Productions) Site appears to be a rowhouse on Wilton St. in Philadelphia.
Puerto Rico			
Aquadilla (sic)	14	WSJP-LD	Moved from 18, 450 watts/35m.
Ceiba	32	WSJU-LP	Requests digital conversion from analog ch. 42, 3kw/906m; granted.
Cidra	16	W16EG	Requests power increase to 15kw/748m, 18-09-07/66-33-13.
Vieques	33	W33ED	From W34DY, 3kw/906m, 18-16-43/65-40-12; granted. (same site as WSJU-LP Ceiba) (site is NOT on Vieques Island – it's near Ceiba.)
South Carolina			
Beaufort	32	WJWJ-TV	Application for new aux, 99.8kw/136m; granted.

Location	RF Ch	Callsign	Notes
Conway	28	WHMC	Application for new aux, 178kw/141m; granted.
Johns Island	3	STA-761199	Application for temporary station, 5 watts/20m, 32-36-49/80-01-06; Live Sports Radio, from Kiawah Island Golf Course, May 15 th -24 th . Granted.
Johns Island	5	STA-761200	Application for temporary station, 5 watts/20m, 32-36-49/80-01-06; Live Sports Radio, from Kiawah Island Golf Course, May 15 th -24 th . Granted.
Murrells Inlet	8	WGSC-CD	Requests STA 800 watts/80m, 33-33-52/79-03-07; interim reduced-power facility at alternate site due to storm damage & loss of lease. Granted.
Murrells Inlet	8	WGSJ-CD	See sharing host WGSC-CD.
Sumter	29	WRJA-TV	Application for new aux, 85.6kw/104m; granted.
South Dakota			
<i>Rapid City</i>	27	<i>KWBH-LP</i>	<i>OFF Mar. 22nd, antenna issues.</i>
Tennessee			
<i>Alexandria</i>	6	<i>WRTN-LP</i>	<i>License canceled Apr. 28th. Digital WRTN-LD remains valid.</i>
Chattanooga	35	WTCI	Moved from 29, 200kw/353m.
<i>Knoxville</i>	32	<i>WEEE-LP</i>	<i>License canceled Mar. 31st.</i>
Nashville	14	WIIW-LD	Requests conversion to digital, 15kw/247m, 36-16-05/86-47-45. Request to convert on ch. 29 withdrawn, too much interference from WNAB on ch. 30. Conversion granted on ch. 14.
Nashville	24	WNPX-LP	Requests conversion to digital from analog ch. 20, 15kw/188m (Richland Tower, Whites Creek) Granted.
Nashville	26	WNTU-LP	Requests conversion to digital, 15kw/315m, 36-16-05/86-47-45 (same Richland Tower as WNPX-LP) Granted.
Pleasant View, Portland	6	WDHC-LD	See Lebanon, Kentucky.
<i>Sevierville</i>	22	<i>WJZC-LP</i>	<i>License canceled Apr. 30th.</i>
Texas			
Abilene	26	KTES-LD	Returned to the air Apr. 8 th on this channel, ex-ch. 40. 15kw/317m, 32-24-48/100-06-26.
<i>Amarillo</i>	18	<i>K18HL</i>	<i>Returned to the air Apr. 26th.</i>
Brownsville	27	KNWS-LD	Granted STA 4.65kw/92m, 26-09-02/97-30-59; pending repair of amplifier modules.
Corpus Christi	26	KRIS-TV	Granted reassignment from ch. 13, 1000kw/295m, 27-45-33/97-36-27.
Dallas	28	KLEG-CD	Requests power increase to 15kw/263m; granted.
<i>Midland</i>	34	<i>K34HH</i>	<i>Returned to the air Apr. 26th.</i>
Odessa	30	KWWT	Granted power increase to 500kw/204m, 31-51-51/102-34-43.
Odessa	34	K34MX	Requests power to 15kw/251m, 32-05-11/102-17-12.
San Antonio	25	K25OB	OFF Dec. 24 th , 2020 pending transmission line repairs.
Sherman	28	K28QF	Granted STA for this channel, ex-K31LQ; to operate at unspecified reduced power on the ch. 31 antenna pending completion of the authorized ch. 28 facility.
Tyler	31	K31PR	Requests power to 15kw/244m, 32-32-24/95-13-12; granted.
Virginia			
Bristol	35	WCYB-TV	Proposes move from ch. 5, 1000kw/755m; amendment from ch. 30.

<i>Location</i>	<i>RF Ch</i>	<i>Callsign</i>	<i>Notes</i>
Grundy	14	WLFG	Returned DTS Site #1 to full power Apr. 20 th .
Washington			
Bellingham	19	KBCB	Granted power increase to 208kw/757m.
Centralia	15	KCKA	Granted power increase to 353kw/347m.
Maltby	35	KOOK-LD	Moved from K45NA, 15kw/201m, 47-37-59/122-21-24; calls from K35PB.
Pullman	24	KQUP	Power increase & site change request withdrawn. Proposed new site (KREM-2 tower near Spokane) wouldn't put an adequate signal across Pullman.
Seattle	32	KRUM-LD	Moved from 24, 15kw/151m, 47-37-54/122-21-03.
West Virginia			
Huntington	9	WVPB-TV	Moved from 34, 30kw/375m.
Huntington	21	WHWV-LD	Requests power reduction to 2kw/66m, 38-42-18/82-12-13; granted & reduced. Calls changed from W21EG. Requests power increase to 15kw/129m, 38-25-10/82-24-05; granted.
Keyser	41	W41DK	OFF Apr. 6 th . Transmitter destroyed in attempt to retune to ch. 16. (station has CP to move to ch. 16, becoming W16DT)
Wisconsin			
Eagle River	28	WYOW	Granted power increase to 80kw/163m.
Eau Claire	14	W14ER	Requests power reduction to 500 watts/7m, 44-48-00/91-27-57; granted. (WEAU-13 studios)
Eau Claire	33	W33DH	Requests power increase to 15kw/123m, 44-48-00/91-27-57; granted. (WEAU-13 studios)
Elk Mound	18	WBOO-LP	From 45, 15kw/106m, 44-48-00/91-27-57; granted. (WEAU-13 studios, Eau Claire)
Waukesha	23	WTAS-LP	Requests conversion to digital from analog ch. 47, 15kw/194m. Granted.
Wausau	31	W31EV	Requests power to 15kw/383m, 44-55-14/89-41-29. (Rib Mountain, where WSAW-7, WAOW-9, and WHRM-20 are) Granted.
Wyoming			
Big Piney	24	K24DA	Requests conversion to digital; granted.
Mountain View	16	K16NU	Permit granted for new station, 300 watts/283m, 41-06-19/110-12-39; Digital Companion Channel for K11DN.
Pinedale	16	K16CS	Requests conversion to digital; granted.

As always, Mexican info is courtesy of Raymie Humbert, thanks!

POWER LIMITS:

For analog full-power TV, power limits were relatively simple. As long as the antenna wasn't "too high", low-band VHF stations (channels 2-6) were limited to 100kw effective radiated power. (ERP) High-band VHF (7-13) had a 316kw limit; UHF was limited to 5000kw.

As you're probably aware, power is not the only thing that limits the coverage of a TV signal. Higher antennas also make for better signals. (*too high* antennas make for more interference!) In most of the country, an analog station's antenna was limited to 600 meters (2,000') above average terrain. In "Zone I", the limit for VHF stations was 300 meters. To oversimplify a bit, Zone I is anything northeast of the junction of the Mississippi and Ohio Rivers. The limit for UHF stations was 600 meters regardless of zone.

The situation for digital stations is more complicated.

An analog UHF station could legally use up to 5000kw at 600m. That would allow for an interference-protected coverage radius of 107km. (about 65 miles) But a station wasn't *required* to use that much power. For example, WMTV-15's final analog facility was licensed for 1050kw at 354m. That delivered a service radius of 74km.

(why use less than the maximum? Generating high powers at UHF was *expensive*. The tubes were expensive, the antenna was expensive, the feedline was expensive. Transmitters were not particularly efficient, so more power was required from the electric company – again, expensive. The transmitter sites were chosen to be as close to the population as possible. In WMTV's case, much of the population that would have been reached by a power of more than 1050kw would have been in places like Jefferson, Fond du Lac, and Winnebago Counties – which were served by affiliates of the same network in Green Bay, Milwaukee, and Rockford. It wasn't worth spending the extra money.)

The FCC would protect a station on the assumption it was running the maximum, even if it wasn't. The Commission's point was to ensure a station could upgrade in the future without an interlocking mess of bizarre directional patterns. They'd seen what happened with AM radio.

When digital TV was rolled out, the Commission faced some challenges. They intended to reassign some spectrum, removing it from television and allocating it to mobile devices. Some of this spectrum could be freed by providing smaller "guard bands" between channels. Analog UHF stations in the same city had to be at least six channels apart – 15, 21, 27. This was to protect the rudimentary UHF receivers possible in 1952. By the 1990s, receivers had improved dramatically and only one channel's worth of guard space was required – 15, 17, 19. If the transmitters were co-located, no guard space at all was needed.

But in the crowded areas of the Northeast, this wasn't enough. The Commission chose to stop protecting the areas that would be served by a maximum-permitted-power facility and protect only the area served by the facility the station was actually using. There's a 33km-wide "donut" around the WMTV tower, where a hypothetical 5000kw/600m signal would have provided service but the actual 1050kw/354m signal didn't. In digital, another station would be allowed to encroach on this 33km donut.

This also potentially limited WMTV's options for future upgrades. If, say, WGN-TV had been allowed to enter the "donut", a future WMTV upgrade would also "enter the donut" and potentially interfere with WGN. The maximum power permitted for an existing station was no longer the same for all stations in a given band & zone. It was now determined by the station's power/antenna height at the end of analog.

It got more complex(grin). Analog stations were assigned digital facilities that would replicate their analog coverage, but they weren't required to build the digital facility to replicate. They could choose to build a smaller digital facility. After the initial digital facilities were deployed, we saw the other side of the coin – stations were allowed to "maximize", to increase power as much as possible without interfering with anything else. For example, if WGN-TV chose not to encroach on WMTV's 33km "donut", WMTV could later choose to "maximize", expanding their digital signal into the donut.

The Commission considered the possibility entirely new stations – with no analog predecessor – would be created. Somewhat strangely, the power limits for these new stations appear in the middle of the Table of Allocations. The difference between Zone I and Zones II/III for digital TV is not maximum antenna height, but maximum power.

Maximum permissible facilities:

	Zone I
Low-VHF analog	100kw/300m
Low-VHF digital	10kw/305m

	Zone I
High-VHF analog	316kw/300m
High-VHF digital	30kw/305m
UHF analog	5000kw/600m
UHF digital	1000kw/365m

In all cases, higher antennas are permissible with an appropriate reduction in power.

A number of VHF stations have obtained permission to operate at powers greater than specified in this table. For example, WPVI-6 Philadelphia should be limited to 10kw/305m but has received permission to operate at 56kw/332m. Schenectady's WRGB, on the same channel, has permission to operate at 60kw/392m. (although WRGB also seeks permission to move to channel 35)

LPTV: WHAT WON'T BE LEFT:

In late April, the FCC released a list of low-power TV licenses at risk of expiration. The eight stations listed were required to file renewal applications by February 1st, but failed to do so. Their licenses are scheduled to expire on June 1st. The stations, in Arkansas; Louisiana; and Mississippi, are listed above.

THE MAILBOX CONTINUES FROM PAGE 3

(SC) scored a new country with Channel 4 in Managua, Nicaragua (La Mejor Television)! Not a bad way to start the season, Fred! Andrew and Bill also had DTV 2 from SD and NE respectively.

There was more TV Es April 20 and 21, and skip reached FM for Robert Ross (ON) April 26 with 88.9 KWAA Mart TX.

The Lyrids meteor shower of April 21-23 also produced decent meteor scatter, and Josh Moore (AR) scored tropo deep into Texas on April 26-27 with catches including 104.1 KBFM Edinburg (779 miles) and 99.5 KKPS Brownsville (779 miles).

Indeed, 2021 seems to be off to a good start. But the real proof lies ahead. Want to know what's going on in real time and, better yet, report from your listening post? Register for the new WTFDA logger at <https://wlogger-ncdmm.ondigitalocean.app>

Hey, anyone remember the old two-ring telephone e-skip alert system a few of us had back in the day? My how times change!

Until next month, Saul
saul@wtfda.org



FM NEWS - May 2021

Editor: Bill Hale fmnews@wtfda.org
Visit db.wtfda.org to stay up-to-date on the latest
FM programming changes



AL Decatur 94.7 W234DN
Classic Hits: '94.7 WIEZ' // WIEZ-1490



AL Demopolis 106.5 WZNJ-FM
Urban Adult Contemporary [WXAL-1400]

AB Javier 89.9 CFWE-FM-?
New station is on the air with Aboriginal/
Country: 'Alberta's Best Country' // CFWE-
FM-4 89.9

AB Red Deer 88.7 CFWE-FM-8
New station is on the air with Aboriginal/
Country: 'Alberta's Best Country' // CFWE-
FM-4 89.9

AB Rocky Mountain House 89.9 CFWE-FM-?
New station is on the air with Aboriginal/
Country: 'Alberta's Best Country' // CFWE-
FM-4 89.9

AB Siksika 104.7 CFX-FM
Deleted from ISEDC database

AB Strathmore 104.5 CKMR-FM
Call change from CKOV-FM

AZ Bullhead City 89.9 KLKI-FM
Contemporary Christian: 'K-Love'; call
change from KLKI

AZ Bullhead City 91.9 KVIR-FM
Religious Teaching: 'CSN International'

AZ Catalina 89.7 KAZK
Spanish Religious: 'Radio Nueva Vida'

AZ Catalina Foothills 101.1 KXKR
Is Silent while on a CP relocating from
Sierra Vista on 101.7

AZ Cordes Lakes 101.1 KZCE
Classic Hip Hop: '101.1 The
Bounce'



AZ Dolan Springs 89.9 KLKI-FM
Call change from KVIR

AZ Green Valley 97.1 KMIY-FM

Call change from KYWD

AZ Huachuca City 101.7 KXKR
Is Silent

AZ Show Low 98.5 KRFM-FM
Hot AC: 'The Storm'

AZ Sierra Vista 96.9 K245DF
Is Silent, as is // KXKR 101.1

AZ Tucson 92.9 KHUD-FM
Call change from KMIY

AZ Window Rock 97.7 K249EM
License cancelled and calls deleted
4/19/2021 per licensee's request

AR Fayetteville 96.7 KXRD-FM
Country: 'Red Dirt 96.7'

AR Mena 93.1 KAWX-LP
Religious Teaching: 'MKAWX 93.1 and
94.9'

AR Pine Bluff 92.7 K224FN
R&B Oldies: 'The Cat' // KCAT-1340

BC Harrison Hot Springs 88.9 VF2594
Deleted from ISEDC database

BC Kelowna 103.9 CKOV-FM
New station is on the air with AC/Classic
Hits: 'The Lake'; call change from CKOO-
FM; replaces the old CKOO-FM which went
silent in March 2020 due to financial issues

BC Terrace 103.1 CJFW-FM
Country: 'BC North's Pure Country'
[includes their 8 translators, 2 VF's and
CJDC-1-FM 92.7 fed by CJDC-890]



CA Bakersfield 101.5 KGFM
Variety Hits: '101.5 Big-FM'



- CA Big Bear City 88.7 K249EM
License cancelled and calls deleted
4/19/2021 per licensee's request
- CA Big Bear Lake 105.9 KWBB-LP
License cancelled and calls deleted
4/19/2021 per licensee's request
- CA Coachella 103.5 KPST-FM
Spanish CHR: 'Fuego
103.5'



- CA Columbia 98.9 KCVR-FM
Spanish Contemporary Christian: 'Fuego
98.9'
- CA Colusa 103.1 KKCY-FM
Country: 'Country 103.1'
- CA Los Angeles 97.1 KNOU
CHR: '97.1 Now. LA's
Party Station'; call
change from KAMP



- CA Los Angeles 103.5 KOST-FM
Adult Contemporary: 'KOST 103.5'
- CA Marysville 95.1 KRGX-FM
Regional Mexican: 'Estrella 95.1'
- CA Pebble Beach 91.9 KSPB
Variety: 'Radio.Active.Sound.'



- CA San Diego 88.3 KSDS-FM
Jazz: 'Jazz 88.3'
- CA San Francisco 95.7 KGMZ-FM
Sports: '95.7 FM The Game' [no longer //
KGMZ-1550]
- CA San Francisco 105.3 KITS
Rock: 'New Alt 105'
[Includes KITS-FM1
Walnut Creek, KITS-
FM2 Pleasanton and
KITS-FM4 Antioch]



- CA Stanford 90.1 KZSU-FM
News/Talk/Classical: 'Your Public Radio
Station'

- CO Colorado Springs 83.9 KCMJ-LP
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application
- CO Colorado Springs 94.3 KILO
Rock: '94.3 KILO'
- CO Durango 96.1 KMZG-LP
License cancelled; calls deleted 4/2/2021
for failure to file a renewal application.
- CO Glenwood Springs 102.3 K272AI
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application.
- CO Lake City 106.3 K292AK
License cancelled and calls deleted for
failure to file a renewal application
- CO Pueblo West 103.9 KRXP
Rock: 'RXP@103.9'



- CO Red Feather Lakes 88.7 KMKZ-LP
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application
- CO Rifle 95.1 K236BA
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application

-
- FL Deltona 98.1 WNUE-FM
Contemporary Christian: 'The Joy FM'



- FL Fernandina Beach 105.3 WYKB
Country: 'Jax Country'
- FL Fruit Grove 94.1 WSOS-FM
Country: 'Jacksonville's REAL Country'



- FL Jacksonville 98.5 WRPE-LP
Is Silent
- FL Key West 93.7 WKEY-FM
Returns to the air with Dance: 'NRG 93.7'

FL Panama City 89.1 WFSW-FM
News/Talk: 'WFSU Public Media'

FL Summerland Key 102.5 WPIK
Talk: 'Keys Talk 96.9 - 102.5' ['96.9' refers to WKEZ-FM]

FL Tallahassee 88.9 WFSU-FM
News/Talk: 'WFSU Public Media'

FL Tallahassee 91.5 WFSQ-FM
Classical: 'WFSU Public Media'

FL Tavernier 96.9 WKEZ-FM
Talk: 'Keys Talk 96.9 - 102.5' ['102.5' refers to WPIK]

FL Valparaiso 103.1 WZLB
Talk: 'Florida Man Radio'

GA Albany 104.5 WKAK
Country: 'Georgia 104.5'



GA Conyers 94.1 W256DJ
Ethnic (Vietnamese): 'VSAM 1040' // WPBS-1040

GA Marietta 106.3 W292EV
News/Talk: 'XTRA 106.3 FM' and 1230 AM // WFOM-1230



GA Norwood 91.5 WJGS-FM
Talk: 'Joy Christian Radio'

GA Thomasville 90.7 WFSL-FM
Classical: 'WFSU Public Media'

HI Honolulu 100.3 KCCN-FM
Hawaiian: 'FM-100 The Legend'



HI Honolulu 105.1 KINE-FM
Hawaiian: 'Hawaiian 105'

IL Canton 107.9 WCDD-FM
Contemporary Christian: 'Air1'

IL Champaign 99.7 W259BG
Soft AC: 'EZ 99.7' // WIXY 100.3 HD3



IL Chicago 95.1 W236CF
Spanish Hits: 'Latino Mix' // WOJO 105.1 HD2

IL Decatur 95.1 WDZQ-FM
Country: '95Q
Decatur's Country Home'



IL Decatur 103.3 W277DB
News/Talk: 'WSOY 1340 AM - 103.3 FM' // WSOY-1340

IL Effingham 95.7 WCRC-FM
Country: 'All American Country'



IL Normal 100.7 WWHX
Rhythmic CHR: 'Hot 100.7'

IL Round Lake Heights 98.3 WRLR-LP
Variety

IL Springfield 92.3 W222CG
Sports: 'SportsRadio 92.3 FM - 1450 AM' // WFMB-1450

IL Springfield 104.5 WFMB-FM
Country



IN Greensburg 89.1 WAUZ
Southern Gospel: 'Your Gospel Station'

IN Huntingburg 100.9 WBDC-FM
Country: '101 Country WBDC'

IN Elkhart 101.9 W270DK
Adult Standards: 'The Hart 1340 AM -101.9 FM' // WTRC-1340

IA New Sharon 99.9 KCWN
Contemporary Christian: 'Where Hope Shines'



IA Sibley 104.3 KZTP-FM
Contemporary Christian: 'The Bridge'

KY Frankfort 93.5 W228CL
Hot AC: 'Pop Radio 93.5' // WKYW-1490



KY Louisville 106.5 WFMP-LP
Variety: 'Forward Radio'

KY Mundfordville 102.3 WBVA-FM
Country: 'The Beaver 96.7': call change
from WCLU ['96.7' refers to WBVR-FM
Auburn]

KY Paducah 93.3 WKYQ-FM
Country: '93.3 WKYQ'

LA Monroe 88.7 KBMQ-FM
Contemporary Christion: '88.7 The Cross'

ME Bangor 97.1 WBFB-FM
Country: '97.1 The Bear'

ME Bar Harbor 99.1 WBFE-FM
Country: '97.1 The Bear'

ME Lewiston 107.5 WFNK
Classic Hits: '107.5 Frank FM'



ME Rockland 103.3 WMCM-FM
Country: '97.1 The Bear'

ME Thomaston 106.9 WBQX
Classic Hits: '106.9 Frank FM'

MD Baltimore 106.5 WWMX-FM
Hot AC: 'Mix 106.5'

MD Ocean City 90.7 WSDL
Jazz: 'Delmarva Public Media'

MD Princess Anne 91.3 WESM
Jazz: 'Delmarva Public Media'

MD Salisbury 89.5 WSCL
Classical: 'Delmarva Public Media'



MA Truro 102.3 WGTX-FM
Variety Hits: 'X 102.3 The
Dunes'



MI Battle Creek 95.3 WBCK
Talk/Sports: 'Battle Creek's News Talk'



MI Big Rapids 103.9 WBZX-FM
Classic Hits: 'B 103.9 - 80's And More'

MI Flint 95.1 WFBE
Country: 'B95'



MI Muskegon 106.9 WOOD-FM
News/Talk: 'NewsRadio 1300 and 106.9'
['1300' refers to WOOD Grand Rapids]

MI Walker 100.5 WTRV-FM
Soft AC: '100.5 The River'

MN Aitken 103.1 K276GQ
Classic Country: 'The Gobbler' // KKIN-AM
930



MN Aitken 94.3 KKIN-FM
Classic Country: 'Classic Country 94.3'

MN Baxter 96.3 W242DB
Talk: 'WWWI 1270 AM - 96.3 FM' //
WWWI-1270

MN Brainerd 107.5 KLIZ-FM
Classic Rock: 'The PoweLoon 107.5'

MN Fosston 99.7 K259CW
Talk: 'KKCQ 1480 AM - 99.7 FM' // KKCQ-
1480

MN International Falls 95.3 K237EX
Oldies: 'Oldies 1230
AM - 95.3 FM' //
KGHS-1230



MN Pillager 95.9 WWWI-FM
Country: 'Cash 95.9'

MN St. Paul 97.9 KQEP-LP
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application

MN Walker 101.9 KQKK
Adult Contemporary: 'KQ 102'

MS Columbus AFB 105.3 WACR-FM
Urban Adult Contemporary: 'Southern Soul
& Today's R&B'



MS Como 103.5 WRBO-FM
R&B Oldies: '103.5 WRBO'

MO Cabool 98.1 KOZX-FM
Hot AC: 'K-Hits'

MO East Prairie 105.3 KYMO-FM
Classic Hits: 'Classic KYMO'

MO Lutesville 104.1 KCGK-FM
Call change from KMHM-FM

MO Mountain Grove 92.5 KELE-FM
Country: 'Power Country'

MO Sarcoxie 89.5 KCKJ-FM
Contemporary Christian: 'The Wind'

MO Sikeston 97.1 K246DB
Country: 'Shotgun Radio 97.1' // KYMO-1080



MO Sparta 96.5 KSPW-FM
Rhythmic CHR: 'Power 96.5'

MO Springfield 94.7 KTTS-FM
Country: 'Country 94.7'

MO Springfield 88.3 KWND
Contemporary Christian: 'The Wind'



MO Springfield 89.1 KWFC
Contemporary Christian

MT Bozeman 104.1 K281CX
Is Silent as // KYWL-1490 moves to 1480
kHz at new tower site

MT Helena 100.7 KRUL-LP
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application.

MT Plains 104.5 KWHP-LP
License cancelled and call deleted
4/2/2021 for failure to file a renewal
application

MT Poplar 96.9 KPLR-LP
License cancelled and calls deleted
4/2/2021 for failure to file a renewal
application

NV Carson City 106.5 K293CA
Classic Rock: 'The Hog' // KBZZ-1270
[includes K223AL Reno, K241AK Reno,
K245DC Carson City & KOLC 97.3 HD2]



NV Fallon 101.3 KRNG
Hot AC: 'Biggest Little Radio' [includes
KRNG-FM1 Reno]

NV Fallon 102.5 KNVR-FM
Talk: 'Nevada Talk Network'

NV Moapa Valley 92.7 KRRN
Rhythmic CHR: 'Fuego' [includes KRRN-
FM2 Las Vegas]

NV Spring Creek 99.7 KDHE-LP
License cancelled; calls deleted

NH Bow 91.5 WCNH-FM
Classical: 'Classical New Hampshire'



NH Concord 90.5 WSPS-FM
Returns to the air with Classical: 'Classical
New Hampshire'

NH Concord 100.9 W270DS and

NH Concord 103.9 W280EC
News/Talk: 'WKXL 103.9 FM - 1450 AM' //
WKXL-1450

NJ Millville 104.1 W281CM
Spanish CHR:
'Maxima' // WBEN-FM
95.7 HD3



NM Las Vegas 92.7 KBQL-FM
Classic Country: 'The Bull'
 NM Las Vegas 96.7 KMDZ-FM
Classic Hits: 'Mix 96'
 NM Las Vegas 107.1 KMDS-FM
Oldies: 'Groovin Oldies'
 NM Silver City 93.7 K229DS and
Silver City 94.3 K243BH
Oldies: 'Oldies 950' // KNFT-950



NY Cazenovia 88.9 WITC-FM
Is Silent
 NY Hyde Park 97.7 WCZX
Country: 'The Wolf' [// WZAD 97.3 &
WDBY/WDBY-FM1 105.5]



NY Little Valley 105.9 WGWE-FM
Is Silent
 NY Mount Kisco 88.9 WWES-FM
Returns to the air with News/Talk:
'Northeast Public Radio' // WAMC-FM 90.3
 NY Patterson 105.5 WDBY
Country: 'The Wolf' [Includes WDBY-FM1
Brookfield, CT and is // WZAD 97.3 &
WCZX 97.7]
 NY Rome 103.3 W277DR
Talk: 'WKAL 1450 AM - 103.3 FM' // WKAL-
1450
 NY Saranac Lake 93.5 WPLA-FM
Variety Hits: '93.5 Lake George Radio'
 NY Wurtsboro 97.3 WZAD
Country: 'The Wolf' [// WCZX 97.7 & WDBY
105.5]

NC Greensboro 104.9 W285GA
Classic Hits: 'The Big 980' // WCOG-1320;
'980' refers to WTOB-980; their translator is
W244EM 96.7
 NC St. Pauls 107.7 WUKS
Rhythm & Blues: '107.7
Jamz'



NC Swan Quarter 88.5 WHYC-FM
Is Silent
 NC Winston-Salem 96.7 W244EM
Classic Hits: 'The Big 980' // WTOB-980



ND Langdon 95.7 KLME-FM
Call change from KNDK
 ND Rugby 95.3 KKWZ-FM
Adult Contemporary

OH Johnstown 103.1 WVKO-FM
Spanish CHR: 'La Mega 103.1'



OH Toledo 100.7 W264AK
Sports: 'The Ticket' // WQQO 105.5 HD2
 OK Caney 90.1 KWEZ-FM
License cancelled; calls deleted 3/26/2021
 OK Sand Springs 102.3 KRMG-FM
News/Talk: News 104.5 [// KRMG -740]

ON Kitchener-Bradford 89.1 CBLA-FM2
City-of-license change from Paris
 ON Kitchener-Bradford 89.9 CJBC-FM2
City-of-license change from Paris
 ON Kitchener-Bradford 90.7 CBL-FM2
City-of-license change from Paris
 ON London 92.7 CJBX-FM
Country: 'London's Pure Country 93'

OR Bend 105.7 KQAK-FM
Classic Hits
 OR Hillsboro 99.1 K256DG
Is silent as is // KUIK-1360
 OR Monmouth 95.1 KSND
Regional Mexican: 'La Gran D 95.1'
 OR Portland 104.5 K283BL
Spanish CHR: 'Urbana 104.5' // KOOR-
1010
 OR Prineville 96.9 K245BC
Country: 'KRCO 690 AM - 96.9 FM' //
KRCO-690
 OR Welches 90.3 KNOF
Spanish Religious: 'Radio Nueva Vida'; call
change from KNOF

PA Erie 96.3 W242CU
Sports: 'CBS Sports Radio 96.3 FM - 1260 AM' // WRIE-1260

PA Tidioute 88.7 WCGT-FM
Frequency change from 89.1

PR Bayamon 93.1 W226CS
(Spanish) Talk: 'WPAB 550 Ponce' // WPAB-550

QC Donnacona 100.9 CHXX-FM
CHR: 'Vibe 100.9' [includes CHXX-FM-1 Ste-Croix-De-Lotbini 105.5]

QC Petit Saguenay 101.3 CBJ-FM-5
New station is on the air with French News/
Talk: 'Ici Radio Canada Premiere' // CBJ-FM 93.7

QC St-Raymond-de-Portneuf 88.7 CHOC-FM
French Adult Contemporary/Classic Hits

SC Lake City 100.1 WWFN-FM
Country: 'Classic Country 101'

SD Redfield 99.9 K260DG
Variety: 'KQ 1380' // KQKD-1380

SD Sioux Falls 104.3 KSTJ-LP
License cancelled and calls deleted 4/2/2021 for failure to file a renewal application.

TN Cowan 94.5 W233BN **and**

TN Cowan 95.3 W237DT
Adult Hits: 'Eagle Radio 1440 AM - 94.5 FM - 95.3 FM' // WZYX-1440

TN Harriman 92.7 WIJV
Contemporary Christian: 'Victory 92.7 - 94.7'

TN Harrogate 94.5 W233CU
Adult Contemporary: '91.3 The Gap' // WCXZ-740

TN Jackson 101.5 WNWS-FM
Talk/Sports: 'News Talk 101.5'

TN Karns 93.1 WNOX
Classic Hits: 'Awesome 93.1'



TN Madisonville 104.4 WGSM-LP
Contemporary Christian

TN Memphis 105.5 W288BJ
Contemporary Christian: 'Buenas Nuevas Radio' // WUMY-830

TN Seymour 96.3 WJBZ-FM
Southern Gospel: 'Praise 96.3'

TX Amarillo 98.7 KPRF-FM
Classic Hits: '98.7 The Bomb'



TX Austin 103.5 KBPA-FM
City-of-License change from San Marcos

TX Big Spring 95.7 KBST-FM
Country: 'K-Best Country 95.7'

TX Big Spring 103.9 K280GW
Talk: 'The Mighty 1490 & FM 103.9' // KBST-1490

TX Bonham 95.7 K239CG
Classic Country: "KFYN 1420 AM & 95.7 FM" // KFYN-1420

TX Cisco 105.9 KCER-LP
License cancelled; calls deleted 4/27/2021

TX Conroe 106.1 KZCC-LP
Variety: 'Lone Star Community Radio'

TX Crystal City 94.3 KHER-FM
Tejano: 'Mega 94.3'

TX Fort Worth 97.5 KFTW-LP
License cancelled; calls deleted 4/7/2021

TX Harlingen 88.9 KJJF-FM
Spanish Religious: 'Relevant Radio en Espanol'

TX Killeen 104.5 KHSP-LP
License cancelled; calls deleted 4/21/2021

TX Mount Pleasant 94.1 KGUT-LP
License cancelled and calls deleted 3/31/2021 at licensee's request

TX New Waverly 91.1 KNLY-FM
Spanish Hits: '91.1 FM The Boss'

TX Purley 97.3 KTSQ-LP
License cancelled; calls deleted 4/15/2021

TX Ranger 98.5 KWBY-FM
Country: 'KWBY 98.5'



TX Rio Grande City 95.1 KRGX-FM
Is Silent

TX Roma 96.5 K243BO
Spanish Religion: 'Radio Aleluya' // KVJY-840

TX San Angelo 100.1 KCLL-FM
Classic Hits: 'Cool FM 100.1'

TX San Antonio 93.7 K229DN
Sports: 'Ticket 760' // KTKR-760

TX San Antonio 96.9 KPPC-LP
Oldies

TX Sealy 90.7 KQLC-FM
Religious Teaching: 'Christian Country Radio'

TX Stratford 91.5 KUHC-FM
(Spanish) Religious Teaching: 'Kingdom Keys Radio'

TX West Lake Hills 95.1 K236AY
Is Silent, as is // KZNX-1530

UT Moab 97.1 KCYN-FM
Country: 'Canyon Country 97.1 FM - 105.5 FM'

UT Moab 105.9 K290CS
Talk: 'Canyon Crossing 1490' // KCPX-1490

VT Brandon 101.5 WEXP
Adult Alternative

VA Clarksville 98.3 WLUS-FM
Country: 'US 98.3'

VA Lynchburg 93.7 WKHF
Hot AC: 'KHF 93.7'

VA Lynchburg 97.9 WZZU
Classic Rock: 'The Rock Channel' [// W247AD Roanoke/W253BT Madison Heights/WXLK-HD2 Roanoke/WVBE-HD2 Lynchburg]



VA Mount Jackson 96.9 WSIG-FM
Country

VA Mount Jackson 97.9 W250CR
Americana: 'WAMM Country 97.9 FM and 790 AM' // WAMM-790



VA Petersburg 102.7 W274BX
Classic Hip-Hop: '99.5 and 102.7 The Box' // WXGI-950 ['102.7' refers to W274BX Petersburg // WTPS-1240]

VA Richmond 99.5 W258DC
Classic Hip-Hop: '99.5 and 102.7 The Box' // WTPS-1240

VA Richmond 106.1 W291CL
Sports/Talk: 'Sports 106.1' // WURV 103.7 HD2

VA Ruckersville 96.5 WKMZ-LP
License cancelled; calls deleted 4/15/2021

WA Seattle 99.9 KISW
Rock: 'The Rock of Seattle'



WA Walla Walla 95.7 KKSR
Contemporary Christian: '95.7 The Bridge'

WA White Salmon 104.5 KXXP
Spanish Rhythmic: 'Urbana 104.5' [// KOOR-1010 and translator K260DK 99.9]

WA Yakima 97.9 KYYR-LP
Religious Teaching: 'The Bridge'



WV Keyser 102.9 WKYW-LP
Variety

WI Brookfield 106.9 WRXS
Oldies: 'Pure Oldies 106-9' [+ call change from WNRG-FM]

[Thanks to **Tim Noonan** for this item!]



WI Burlington 89.1 WBSD-FM
Adult Alternative

WI Lake Geneva 96.1 WLKG-FM
Hot AC: 'Lake 96.1'

WI Madison 92.7 W224EG
News/Talk: '92.7 Devil Radio' // WTTN-1580

WI Omro 99.5 WPKR-FM
Country: '99.5 PKR'

FM News Continues on page 37

APRIL E-SKIP REPORT

Times in UTC. Logs Taken from the WTFDA Logger at logger.wtfda.org

April 26, 2021, 8:22 p.m. Es KNOP 2/2 North Platte, NE 994 miles de Andrew K8EL (Akron, Ohio - EN91eb)

April 26, 2021, 7:28 p.m. Es 88.9 KWAA Mart, TX AIR ONE with RDS and Christian Music de Rob-va3sw (London Ontario - EN92jw)

April 26, 2021, 7:22 p.m. Es 90.1 KZLW Gretna, NE brief fade up - RDS PI 3DF9 - 'KRKR' de Fred N - KJ4BUG (Moncks Corner SC - FM03af)

April 26, 2021, 7:19 p.m. Es 5/None -, - Fighting w/semi-local de WRH (Grimsby, ON - FN03fe)

April 26, 2021, 6:43 p.m. Es 3/42 WTHD-LD Atlanta, GA Via autologger @ 2:29 p.m. EDT; 580 miles de indyseven (Payson, IL - EM49jt)

April 26, 2021, 6:34 p.m. Es 3/None unknown, unknown Es starting up over East coast, strong signal at times DTV 3 pilot de Jim T (Springfield MO - EM37hg)\

April 21, 2021, 3:58 p.m. Es 2/None Unknown, Unknown 2z - South - Popping in/out with movie and hard to see logo UL de Fred N - KJ4BUG (Moncks Corner SC - FM03af)

April 20, 2021, 6:08 p.m. Es CMEC 3/None Santa Clara, CUB - SS - tentative de WRH (Grimsby, ON - FN03fe)

April 20, 2021, 5:46 p.m. Es CMHA 4/None Camaguey, Cuba de Andrew K8EL (Akron, Ohio - EN91eb)

April 20, 2021, 5:08 p.m. Es CMEC 3/None Santa Clara, Cuba 1300 miles de Andrew K8EL (Akron, Ohio - EN91eb)

April 20, 2021, 4:35 p.m. Es 2/16 WGGG Greenville, SC 632 miles. Popped up on the HDHR when I wasn't looking! 1st Es log this year. de Jim T (Springfield MO - EM37hg)

April 20, 2021, 2:23 p.m. Es HIJB 2/None Santo Domingo, DR t/a logo - 1143 mi - in briefly de Fred N - KJ4BUG (Moncks Corner SC - FM03af)

April 19, 2021, 11:41 p.m. Es 2/23 KOTA Rapid City, SD 1119 miles "ME TV" de Andrew K8EL (Akron, Ohio - EN91eb)

April 19, 2021, 11:36 p.m. Es 2/KNOP None North Platte, NE - 1089 miles. de WRH (Grimsby, ON - FN03fe)

April 19, 2021, 10:33 p.m. Es YNFA304 4/None Managua, Nicaragua La Mejor Television - also logo UR -New country! In color. de Fred N - KJ4BUG (Moncks Corner SC - FM03af)

April 19, 2021, 9:10 p.m. Es 2/2 N/A, N/A Es Analog TV-2 & 4 antenna pointed south de amfmdtvdtvbrla (Baton Rouge LA - EM40)

April 19, 2021, 5:01 p.m. Es CMBR 4/None Havana, CUB - test pattern de WRH (Grimsby, ON - FN03fe)

April 19, 2021, 4:45 p.m. Es CMBA 2/None Havana, CUB - 1401 miles - SS, tennis de WRH (Grimsby, ON - FN03fe)

April 19, 2021, 4:45 p.m. Es CMEC 3/None Santa Clara, Cuba 1300 miles de Andrew K8EL (Akron, Ohio - EN91eb)

April 19, 2021, 3:46 p.m. Es 92.3 WWKA Orlando, FL local ads de Mike B. (Enfield CT - FN31rx)

April 19, 2021, 3:39 p.m. Es 102.3 WMBX Jensen Beach, FL RDS de Nick W2NJL (Tabernacle NJ - FM29qu)

April 19, 2021, 3:35 p.m. Es 88.1 WAYF West Palm Beach, FL Possibly the one.. just a "WAY-FM" liner & ChristianContemp de dtvdxer (Poughkeepsie, NY - FN31bs)

April 19, 2021, 3:32 p.m. Es 104.3 WSFS-FM Miramar, FL RDS de Nick W2NJL (Tabernacle NJ - FM29qu)

April 19, 2021, 3:30 p.m. Es 92.7 WAVW Stuart, FL country and RDS de Mike B. (Enfield CT - FN31rx)

April 19, 2021, 3:30 p.m. Es 107.5 WAMR-FM Miami, FL RDS de Nick W2NJL (Tabernacle NJ - FM29qu)

April 19, 2021, 3:24 p.m. Es 104.7 WRBQ-FM Tampa, FL (1161 mi, 99 kW) HD decode over local WOCN de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:22 p.m. Es 94.1 WLLD Lakeland, FL Over local WHJY de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:20 p.m. Es 99.5 WQYK-FM St. Petersburg, FL (1161 mi, 99 kW) RDS, HD ident, country de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:19 p.m. Es 104.3 WKZM Sarasota, FL (1202 mi, 6 kW) religious prog, RDS de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:18 p.m. Es 105.9 WOCL Deland, FL (1068 mi, 96 kW) Sunny FM, HD ident de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:16 p.m. Es 106.9 WSRQ-FM Zolfo Springs, FL (1175 mi, 5 kW) RDS 85FA de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:13 p.m. Es 107.9 WSRZ-FM Coral Cove, FL Es top of band to Florida de Bryce Foster (Mashpee, MA - FN41sp)

April 19, 2021, 3:03 p.m. Es 2/None -, - SS south de WRH (Grimsby, ON - FN03fe)

April 11, 2021, 5:25 p.m. Es 2/None Unknown, unk ATV 2z Video carrier fading in/out all alone - likely Dom Rep de Fred N - KJ4BUG (Moncks Corner SC - FM03af)



SIGN UP & Renewal Form

YEARLY DUES \$10.00 USD for Monthly VUD E-ZINE

Print this form and send it with your dues.

Name _____

Address _____ Apt # _____

City _____ State/Prov _____ Zip _____

Country _____ Interests: TV () FM () 30-50 () Weather ()

E-Mail Address _____

Sign me up/renew me for: 1 year () 2 years () More () _____

Mail your yearly dues to: WTFDA, P.O. Box 501, Somersville, CT USA 06072
Make your checks/money orders payable to: WTFDA
And *thanks* for your support of the WTFDA!

FM NEWS CONTINUES FROM PAGE 34



WY Laramie 98.7 KRQU-FM
Rock: 'Vintage Vinyl 98.7'
WY North Rock Springs 101.9 KLWR-FM
Contemporary Christian: 'K-Love'



WY Centennial
CHR: 'i Mix 104.5'

104.5 KIMX-FM