



# MAILBOX

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Deadline: 5th

### New Members:

Sol Kuperman	1075 Bollinger Canyon Road	Moraga, CA 94556
Ernie Wesolowski	1416 Pasadena Ave.	Omaha, NE 681071100
Randy Wickham	Lot 24, Colonial Park	Cameron, MO 64429

### Renewals:

James Brown, Jr., Paul Buehler, Bill Draeb, William Hepburn, Daryl Herzog, Carlton Howington, James J. Wallace, Kent Macklin, Greg Monti, Guy Ogden, Les Price, John Ridge, Joseph Smith, Jr., John Zeis.

### Rejoins:

Greg Kelley-211 St. Clair Ave. SW-New Philadelphia, OH 44663  
John Ramsey-22 Waterside Lane-W. Hartford, CT 06107  
Lexington Smith-55 East End Ave., Apt. 4G-New York, NY 10028

### Address Changes:

Joe Markewicz-201 795 Fairview St.-Victoria, BC V9A 5V2

### Renewals Due in May:

Murray Bernstein, Artie Bigley, Bill Coleman, Armand DiFilippo, Steve Elisberg, Jim Gill, Patrick Golembiewski, Robert Goodman, Joe Gragg, John Griffiths, Phillip Hanger, John Hart, Jim Jennings, Paul Kalisz, Neil Kazaross, James Kingsbury, K. MacGregor, Doug McAbee, Lowell McCown, Tim McVey, Randy Miltier, Charles Mylod, Dr. Michael Rosen, Daniel Sampson, Ken Sarkozy, Peter Skinner, Edwin Tharp, Adrian Thomas, Gerry Thomas, Roger Winsor, Jeff Wolf, Robert Zent.

The only new member intro this month is for an old friend of mine, ERNIE WESOLOWSKI. Ernie is a long-time ECB DXer, and helped Roger Winsor get into the NRC many years ago. He's planning to be in OKC for the convention this summer - are you?

### Tidbits.....

I just returned from Kansas City, where the team I do play by play for on KJIL, Bethany Nazarene College, won the NAIA national basketball championship. I spent some time with ECB DXer Skip Dabelstein, whom many of you folks know.

Back with us after a ten year lapse is John Ramsey. He writes, "Neil Dickerson of MD convinced me to re-join. I've been FM DXing for about 12 years, off and on. Am presently using a Kenwood KT-8300 tuner with a 10 element yagi about 30 feet up. I've logged about 35 states and a total of about 275 stations. Tropo and similar weak signal modes are not too successful here due to the multitude of powerful signals nearby and band saturation. Es seems to provide the stronger signals necessary to cut through the crowded band. In addition to FM DXing, I also DX the LW, ECB, and SW bands. I am also an active amateur (N1AKB) and spend most of my time on the 50, 144, 220 and 432 MHz amateur bands. I've had two-way contacts with 39 states on 50 MHz and 12 states on 144 MHz. Most of my ham work involves observing the different VHF/UHF propagation modes. I am a broadcast engineer by trade, and employed by 2 AM and 1 FM stations (WWUH, W. Hartford, CT 91.3, 1,000w). Sure would like to get some DX reports from your members for WWUH." You better believe you'll hear from me if I hear WWUH, John!

Next up, we have some words from Phil Sullivan (935 Main St., Acton, MA 01720): "Some remarks in the February VUD have prompted me to comment regarding local STV operations. WSMW-27 has been noted with good, clear audio on the barker channel. Part of the reason may be the fact that the program audio is up at about 40 kHz, leaving their new program full BW on the barker channel. The barker channel carrier and licenses for and PSAs. Incidentally, the program audio is FMed on a 4<sup>th</sup> and can be received with a PLL type SCA adaptor (e.g. continued on page 27) 7

WTFDA Mailbox

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(Sullivan, cont.) connected to the TV discriminator. Some retuning of the adaptor might be necessary for best results. The inverted video modulation (positive, rather than the normal negative) that Richard Turcsany reported on WSMW was apparently used only during the first few weeks of STV operation. The video modulation was switchable (on a field-to-field basis) between normal and inverted senses; however, the inverted was used most of the time during those first few weeks. Since then it has not been observed at all. In both modes the scrambling resulted from the suppression of most of the horizontal sync pulses. However, during inverted video many TV sets could almost lock on so non-subscribers would see a recognizable picture, albeit a color negative. It had been noted that the inverted mode was used for G and PG scenes and the normal mode (with much poorer locking) was used for the R ones. The other local STV is WQTV-68, whose barker channel has subscription and sked info plus a rebroadcast of the NOAA WX radio (KHB35/KEC73). Their barker is of reduced BW to avoid the pilot subcarrier at 15.734 kHz. The program audio is on a suppressed carrier at 31.468 kHz (ala L-R of FM stereo) - details in January and February 1981 Radio-Electronics. I have started compiling a list of the STV stations in operation and would appreciate data from other members on any in their area or ones they are familiar with. Primarily, I'd like info on barker channel programming, hours of STV operation, name of the subscription service, any info on the method of scrambling (both audio and video). Hopefully, this will result in a fairly complete list that can then be published in the VUD to aid IDing DX STV stations."

Good to have Greg Kelly back in the club! Greg was editor of the FM QSL column back in the early 70's when he lived in Virginia. He now operates a business called Kelly's Electronic Service, specializing in Blonder-Tongue preamps. He's got some great deals you might like to check out. His portfolio includes the CMA-Ub-300, which he's selling for \$195, and the CMA-Ub-75, which goes for \$175. If you'd like a complete price list, send a SASE to Greg at 211 St. Clair Ave. SW, New Philadelphia, OH 44663. He'll test out all preamps before sending them out. It's good to get your gear from someone else in the hobby!

Time now for more sports info from Saul Chernos (79 Ridge Drive, Toronto, ON M4T 1B6): "More sports lists for the NHL: TV-Boston: WSBK 38 and possible affiliates (60 games); Buffalo: WGR 2 (30 games); Calgary: CFAC 2 weeknights (26 games), CBRT and some CBC Saturdays (8 games); Chicago: None (!); Colorado: KWGN 2 (10 games); Detroit: WKBD 50 (25), WXON 20 (Pay TV) (20); Edmonton: CITV 13 weeknights (27); Hartford: WVTI 30 (21); Los Angeles: KHJ 9 (15), KBSC 52 possibly some games; Minnesota: KMSP 9 (25); Montreal: CBFT 2 (French), CBMT 6 (English), and networks (CBC Saturdays); New York Islanders: WOR 9; New York Rangers: WOR 9 also (29); Philadelphia: WTAF 29 (41); Pittsburgh: WPGH 52 (20); Quebec: No English, TVA network weeknights (24 games); St. Louis: KDNL 30 (18 games); Toronto: CBC (CBLT 5 locally) and varying CBC Net Saturdays, CHCH 11 weeknights, CBET 9 possible and maybe CITV 13, but not sure; Vancouver: CHAN 8 weeknights and Saturdays; Washington: WDCB 26 (15 games); Winnipeg: CKND 9 weeknights (16). FM: Boston: 92.5 WHAV MA, 92.7 WQDY ME, 98.3 WHAI MA, 98.3 WTVL ME, 99.1 WPLM MA, 100.1 WHOU ME, 100.1 WQVR MA, 101.3 WFAU ME, 101.7 WBRK MA, 106.1 WECM NH; Chicago: Already in VUD...still only WYEN 106.7 IL; Los Angeles: KQLH 95.1 CA; Minnesota: 95.9 KDHL MN, 105.5 WCFW WI, 101.1 KBHP MN; Montreal: possibly CKBY 105.3 ON for English. French still is CBC French ("Radio" and "Stereo"); New York Islanders: WALK 97.5 NY; Philadelphia: 97.3 WMVW NJ, 104.9 WRDR NJ; Toronto: already given; No FMs as of now, to my knowledge, for the rest. Special thanks to Tim Cronin for this info. Also, to my economics/history teacher Miss Cassels, who mentioned in class that WSBK 38 had Boston Bruins hockey a few years ago. She said something like this, "...I believe I saw the Bruins live on a trip down there, just before channel 38, uh, I believe that's WSBK, began to carry them." She doesn't even live there and she knows! And she wasn't giving the info to me...she was discussing the Bruins with someone else in the class. I couldn't believe it. I should get her to do this column! Will have more for baseball when it comes out. I have form letters all ready to mail. I didn't mail for hockey/basketball, as I planned to start with baseball season. Just goes to show you what great support can do. If everyone can support their locals carry, we'll have a great thing going. I consider having a sports log for AM, FM, TV printed up. We'll see. Maybe, also, an FM version of IRCA Almanac, with program

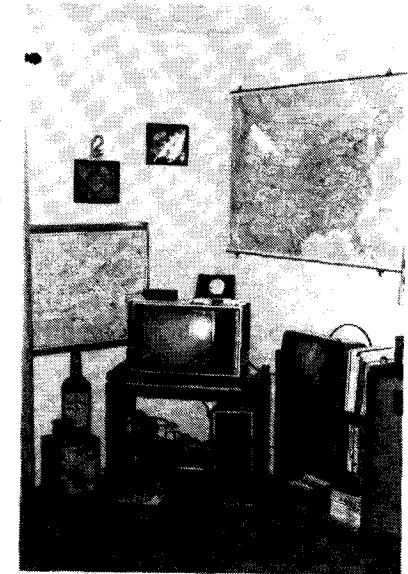
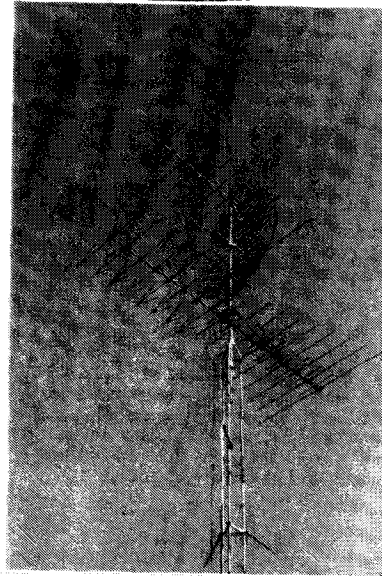
(continued on page 34)

# PHOTO-NEWS

Jim Alexander  
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Parsippany, NJ 07054

March, 1981

Feature: A visit to Enterprise, AL



This month, PHOTO-NEWS travels to Enterprise, AL for a look at DXer Mike Hollis' set-up. On the left is Mike's antenna system, mounted atop a 40' tower. From the top down are a 10-element FM antenna, a Finco 7' dish with Blonder-Tongue Galaxy preamp, and a Channel Master 3617 VHF yagi with B-T Skyliner II preamp. The antennas are turned by an Alliance U-100 rotor. At the right is a shot of Mike's "DX den." Shown are on the left a Zenith 17" color TV and U-100 rotor control, and to the right, a Panasonic 12" B+W TV.

My thanks to Mike Hollis for this month's feature. As always, your editor hopes that more photos of members and their DX equipment will be sent in soon...

73 and good DX, Jim



W64AD-64 Boca Raton, FL (WCIX- 6 xltr,  
164 mile tropo 100 watts)  
John Combs, Orlando FL

WTVG- 9 Chatt.  
525 mile tropo  
Paul Gaines, continued on page 27

# LPTV:

## SPECIAL REPORT

### WILL IT FILL THE TV BANDS WITH CO-CHANNEL INTERFERENCE?

The biggest news in television broadcasting circles these days is a proposal by the U.S. Federal Communications Commission which would create what's being called "the first new broadcast service in the U.S. in twenty years." For TV DXers, it could also create a monumental headache. Last September, the FCC proposed (in EC Docket 78-253) to create the Low Power Television Broadcast Service, which would eventually authorize thousands of new low-power VHF and UHF TV outlets.

The advocates of this newly-proposed form of TV broadcasting argue that there is just not enough over-the-air television service available to the general public in the U.S. They seek to greatly diversify television, by use of low-cost mini-TV stations, very "local" in coverage and programming. Such stations could be designed to serve only one part of a large urban area--an ethnic neighborhood, for example. They also point out that some rural areas have population densities so low that cable TV may not be economically feasible, and yet high enough that a need exists for a local TV service.

To meet these needs, the FCC is proposing to "drop in" low-power TV stations all over the country, on a secondary basis, on any TV channel from 2 through 69. This would mean an easing of current technical standards regarding co-channel interference. Major (i.e., full power) TV stations would continue to receive first priority, so any interference to a full service (high power) TV station from a low-power outlet would mean that it would be up to the low-power station licensee to solve the problem. In any area where a LPTV applicant could not find a suitable "open" TV channel for operation, the applicant could undertake an engineering study to find the channel with the "least objectionable" interference possibility. This would apply mainly to UHF, where the current FCC rules covering mutual interference between full-power UHF stations would also apply to LPTV outlets.

The LPTV concept has come about as part of the FCC's movement to "de-regulate" broadcasting of all types, and relates closely to the loosening of TV translator regulations during the past ten years. The FCC considers translators to be mini-stations that simultaneously re-broadcast the signal of a full power, full service TV station. In the U.S., TV translators have been allowed to run up to 100 watts of transmitter input power on VHF, and up to 1000 watts on UHF. The actual effective radiated power (ERP) of such relays can be much higher, especially on UHF. Using high-gain directional transmitting antennas, a 1000 watt UHF translator can have an ERP in the 50 to 60 kw range these days--and when located at a good site with a high tower, such a relay station can have the type of coverage that a regular full service UHF station with ten times the ERP at a lower antenna height produces. As many DXers in the Midwestern U.S. have noticed, some of the newer 1000 watt UHF translators are putting the older full service UHFs to shame in tropo openings. One 1000 watt UHF translator in western New York on ch 46 has been frequently logged on tropo in northern Wisconsin and Illinois, often with signals on a par with the high power UHFs in the same area.

The FCC requires translators to identify themselves, but not necessarily through audible tones, using Morse code, two times per hour. The newer UHF translators key their video with pulses, which are difficult to recognize with snow on the signal. Contrary to what many may think, translators have their own individual call signs. Unfortunately, they can't use them over the video, or show ID slides or cards.

Translators are limited to 30 seconds of locally-originated programming per hour. However, there are exceptions to this. The FCC now allows many non-commercial educational TV translator systems to run a few hours of their own programming each day. Several such systems are now in operation in the Appalachian Mountain regions of the U.S., and the local origination capability allows them to act as low-power local TV outlets for rural areas of the country. These stations are the forerunners of the proposed LPTV operations, with one difference--the LPTVs, if approved, would be commercial and religious operations.

A few years ago, the FCC began to allow translators to relay microwaved TV signals, as well as conventional VHF and UHF TV stations. This has led to a new kind of translator--the "satellator." These translators are simply satellite-fed TV translators. The first of these stations was given the experimental call sign KA2XEG, and started operation on ch 31 in Denver from a mountaintop site. Soon afterwards, KA2XEH, ch 56, started operation in Washington, DC. Both these translators relay the satellite signal of the Spanish International Network, and provide Spanish language TV service to these urban areas. SIN is planning more of these stations to cover other areas of the U.S. with concentrations of Spanish-speaking viewers.

### LPTV 'GRADE B' COVERAGES

	Transmitter Power (watts)	Station Antenna Gain	E.R.P. in watts	Antenna Height A.A.T.	Approximate Coverage (miles)
VHF	1	5	5	100'	3.5
	1	5	5	500'	3.0
	1	5	5	1000'	11.0
	10	5	50	100'	6.2
	10	5	50	500'	14.0
	10	5	50	1000'	19.5
UHF	10	10	100	100'	2.9
	10	10	100	500'	6.5
	10	10	100	1000'	9.0
	100	15	1500	100'	6.5
	100	15	1500	500'	12.5
	100	15	1500	1000'	18.0
	1000	15	15000	100'	10.0
	1000	15	15000	500'	21.0
	1000	15	15000	1000'	26.5

Unlike translators, LPTVs would be allowed to originate an unlimited amount of "local" programming--but like satellators, they could receive all of their programming from a satellite. They would be allowed to scramble their signals, to provide STV (subscription TV or pay-TV) service.

Because they would be allowed to carry satellite-relayed signals, LPTVs would be very easily used to create a national "network" of stations for any group interested. To date, there have been a few thousand applications for LPTV licenses, which are suddenly very attractive to commercial and religious broadcasters. For as little as \$25,000, a small LPTV could be set up in a large city. Combined with a satellite receive system, the LPTV could become a small "network affiliate" of a broadcaster in any part of the U.S. Thus, STV companies see the potential of having pay TV service on the air in major cities; religious broadcasters see the potential of a network of mini-stations; trade unions, such as the United Auto Workers, see a way to reach their members, and so forth. Possibilities for LPTV networks seem endless, and although not everyone is certain where all their new programming will come from, the number of groups seeking approval and licenses for LPTV operation is growing every day.

# METEOR SCATTER

## PART ONE: WHEN TO LOOK FOR IT

By Bill Fahber  
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Meteor scatter: one of the modes least often used in TV and FM DX'ing. How much of the blame can be put on its scarcity? And how much is due to the scarcity of information available on the subject of meteors? Most astronomy books don't need to go much farther than listing a dozen meteor showers with their dates and intensities. But for the DX enthusiast looking for distant radio and television signals to be reflected off the ionized trail of a meteor, much more information is needed. It is my hope that this article will provide techniques for predicting when the best opportunities to observe meteor scatter will occur.

### PREDICTING METEOR SCATTER CONDITIONS

The key factor is to estimate the number of meteors you could expect to observe at any given time. While this may not necessarily match the number of meteor scatterbursts you may see at the same time, it will provide you with a reliable scale to compare. (In my own experience, if there are about ten stations broadcasting on channel 2 within a range of 500 to 1000 miles, meteor scatter rates could exceed what I would expect to observe if I were looking for meteors.)

Let's begin by dividing meteors into two groups. The first group are called Sporadic meteors; the second group are meteor streams. It's been known for a long time that meteors were more frequent on certain dates of the year, but on November, 1833, when a very strong meteor shower occurred, observers were forced to notice that every meteor was moving in a direction away from the head of the constellation LEO! since then every meteor shower has been connected with a fixed point, called a radiant, from which they seem to radiate. We have since learned that showers are caused by the earth passing through an elliptical stream of meteors orbiting the sun. Some of these streams are so wide and scarce as to be detectable only by computers analyzing large numbers of time lapse photographs, while others are extremely narrow and dense. There are over 1,000 streams on record. Some no longer exist (or at least no longer cross the earth's orbit because of gravitational pull from Jupiter or Saturn); some never really existed, but resulted from observing sporadic meteors which seemed to have a radiant; then there are showers which occurred only on a few occasions and may never reappear. But there are also a few showers which are regular and very strong. These, and the sporadic meteors are our main concern.

Sporadic meteors have no known radiant and are not part of any known meteor stream. It has been conjectured that every sporadic meteor may be from streams so diffuse as to be beyond detection. An observer will see an average of 6 or 7 per hour. Because of the earth's motion around the sun, the part of the earth on the forward side (dawn) is bombarded about 4½ times as heavily as the rear (dusk). Encyclopedia Americana has a paragraph under "meteors" explaining how this figure was calculated and confirmed by a number of observers. Chart #1 will give you an idea of how many visual meteors could be expected at different hours of the day.

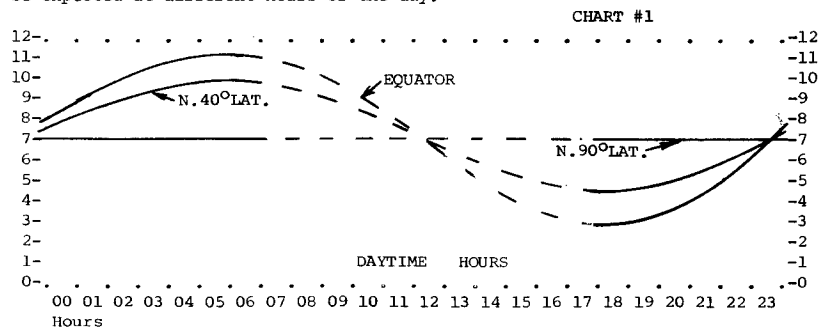


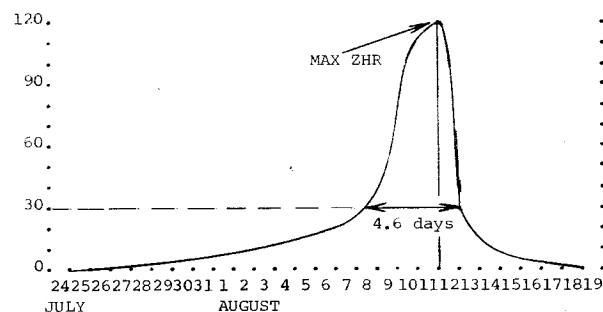
CHART #1: APPROXIMATE HOURLY VISUAL RATES OF SPORADIC METEORS

Although sporadic meteors outnumber shower meteors by about 4 to 1, shower meteors have the advantage of occurring on only a few certain nights of the year in quantities far exceeding sporadic meteors. It is on these nights that meteor scatter DX'ing really becomes exciting. While a basic list of major showers will give the best nights for meteor scatter observation, you still have no way of knowing what hours are the best. And in cases like the Draconid shower in 1978, the shower may peak and be entirely gone before sunset. The list of meteor showers at the end of this article contains information on each shower to help estimate the number of meteors you would expect to see at a given time. Again, as a reminder, this may not be the same as the amount of meteor scatter you can expect, but it will provide a scale for comparison.

First under each shower is the DURATION. An average shower may last only a few days or weeks. The Taurids last several months. The duration gives you the dates on which you can first expect to see the shower, until the shower is last seen. But a shower is far below peak strength during most of that duration. The PEAK tells us when the shower is strongest. For some showers the peak may last several days. Going back to the very narrow Draconids, within about an hour of the peak, the shower is nearly gone. For this reason additional notes had to be given on some showers at the end of the list.

The next figure, DAYS ABOVE QUARTER STRENGTH, tells during what length of time the shower is greater than ¼ of its peak strength. Note this figure for the Draconids. The fourth figure, MAX ZHR, is maximum zenith hourly rate. That is, how many meteors should an experienced observer expect to see during the peak on a clear, moonless night if the radiant were directly overhead. (We will see later how the location of the radiant affects hourly observed rates.) This figure has small variations from year to year, and for some showers an occasional major variation. An extreme example is the Leonid shower. This stream is produced by the comet Tempel-Tuttle, which reached perihelion in 1966. ZHR is normally 5 to 20 meteors per hour. In 1966 the heaviest shower in recorded history occurred with ZHR reaching 150,000. Some estimates were at 140 per second! (Was anybody DX'ing that night?)

CHART #2: THE 1980 PERSEID METEOR SHOWER



Taking the statistics we've discussed so far, note the graph to the left representing the 1980 Perseid meteor shower. Several astronomy clubs all agreed that the shower was stronger that year than average. Some estimates of ZHR were as high as 175. This graph shows the shower beginning around July 25, building up to its peak on the night of August 11-12, then swiftly declining. Placing the MAX ZHR about 120, you can see ZHR above 30 for about 4.6 days.

While the information discussed so far will help evaluate meteor activity on a daily basis, we still have an hourly factor to contend with. For this we go back to the radiant. If the radiant is below the horizon, no shower meteors will be observed, even at MAX ZHR. But when the radiant is above the horizon, the SINE of the angular height of the radiant will show you what percent of the ZHR you can expect. For example, if the radiant is 20° above the horizon, meteor scatter frequency will be only 34% of what you would see with the radiant at zenith (directly overhead).

To locate the radiant, plot the coordinates (from the list of showers provided) on a star map, look for the radiant, then estimate its height above the horizon. NOTE: Instead of latitude and longitude, astronomers use declination and right ascension. For declination, + is north of the equator and - is south. Right ascension is given in 24 hours of 60 minutes each since this is more practical to the astronomer.

In the event that actual observation of the radiant is not possible, the table contains approximate times for rising, maximum height, and setting of the radiant. Notice that a few showers are up 24 hours. I also included a few daytime-only showers, which have been detected by radar. The astronomy books rarely mention daytime showers, but a few daytime showers around late spring can match some of the best evening showers for intensity.

One project which I'm working on, and would like to recommend, is comparing the observed hourly rates (OHR) to meteor scatter rates on various television channels. Don't be surprised to find "MSR" sometimes greater than OHR. Firstly, there are more meteors obscured near the horizon (and these are the ones causing the scatter which you receive) than there are overhead. Also, there are a large number of "telescopic meteors," too faint to see, but still just as capable of creating ionized trails.

CHART #3: OHR (OBSERVED HOURLY RATES)

ANGLE	PERCENT
0°	1%
10°	17%
20°	34%
30°	50%
45°	71%
60°	87%
90°	100%

RELATIONSHIP BETWEEN METEOR VELOCITY AND SCATTER DISTANCE

The faster a meteor falls, the higher the altitude at which it first begins to burn. A slow meteor (about 15 miles per second) will begin to burn at an altitude of 60 miles, and swiftly falling meteors (about 45 miles per second) will begin to burn at 70 miles. While these elevations are above the E layer of the ionosphere, meteor scatter usually is shorter than E-skip. Normally, meteor scatter is less than 900 miles. But the Perseid and Leonid showers, which are both very swift, seem to frequently bring in stations from over 1200 miles, while at the same time still reflecting signals from 500 to 900 miles distant. A second project I hope to do more work on is to compare meteor shower velocities with the range of distances over which signals are reflected.

Included in the list of meteor showers are the various velocities, which will enable you to make the same comparison. Are you also receiving longer distance MS during the more rapid showers? I've noticed this to be the case in my own loggings as well as some of the reports in the VUD.

ADDITIONAL NOTES ON THE TABLE OF METEOR SHOWERS

**QUADRANTIDS:** Radiant grazes the horizon at 8:36 pm local time for persons at 40°N. latitude. The radiant will be below the horizon for latitudes to the south. Peaks are as follows: 1/3/82 at 4 pm EST; 1/3/83 at 10 pm EST; 1/4/84 at 4 am EST; 1/3/85 at 10 am EST. Repeat this pattern every four years. Shower should be good in 1985 with the peak only 1 1/2 hours before culmination.

**APRIL FIREBALLS:** (Not on the list) April 15-30. Astronomical Calendar estimates the radiant to be between the ecliptic and the equator at 20 to 24h R.A. Look for a few intense bursts any time of the day except in the evening.

**ETA AQUARIDS:** Conflicts over exact peaks. Either during the following times or consistently 16 hours later: 5/3/81 at 5 am EST; 5/3/82 at 11 am EST; 5/3/83 at 5 pm EST; 5/2/84 at 11 pm EST. Repeat this pattern every four years.

**ARIETIDS and ZETA PERSEIDS:** both simultaneous, peak on the same date, and their radiants are very high in late morning. The combination of these two should produce good results. These are both daytime-only showers.

**JUNE LYRIDS:** Conflict over exact time of peak; either during the following times or consistently 13 hours later: 6/15/81 at 11 am EDT; 6/15/82 at 5 pm EDT; 6/15/83 at 11 pm EDT; 6/15/84 at 5 am EDT. Repeat this pattern every four years.

**PERSEIDS:** Conflicts over exact peak; either during the following times or consistently 8 hours later: 8/12/81 at 1 am EDT; 8/12/82 at 7 am EDT; 8/12/83 at 1 pm EDT; 8/11/84 at 7 pm EDT. Repeat pattern every four years.

**DRACONIDS:** Peak 10/10/81 at 11 pm EDT; 10/11/82 at 5 am EDT; 10/11/83 at 11 am EDT; 10/10/84 at 5 pm EDT. Repeat pattern every four years. 1984 peak most closely fits culmination at 4:12 pm EDT for the east coast. 1982 will be very poor, with the radiant near the horizon during the peak.

**ORIONIDS:** Peak on 10/20/81 at 6 pm EDT; 10/20-21/82 at midnight; 10/21/83 at 6 am EDT; 10/20/84 at noon. Repeat pattern every four years.

**LEONIDS:** Conflicts over exact peak. Either during the following times or consistently 5 hours later: 11/17/81 at 3 am EST; 11/17/82 at 9 am EST; 11/17/83 at 3 pm EST; 11/16/84 at 9 pm EST. Repeat pattern every four years. Derived from comet Tempel-Tuttle, whose perihelion in 1965 was responsible for the spectacular shower in 1966. This comet is expected to return early in 1999, so look for another strong shower in 1998 or 1999.

**GEMINIDS:** conflicts over exact peak. Either during the following times or consistently 5 hours later: 12/13-14/81 at midnight EST; 12/14/82 at 6 am EST; 12/14/83 at 12 noon, EST; 12/13/84 at 6 pm EST. Repeat four year pattern.

OBSERVATIONS OF METEOR SCATTER

The following is a list of characteristics of meteor scatter based on my own observations, and some suggestions to explain those observations.

- About half to 3/4 of meteor scatter can be best described as instantaneous "bursts" lasting no more than 1/2 second, while very few seem to last more than a minute.
- Of those that last more than a few seconds, the signal strength usually fades in and out at irregular rates. I suspect that several points of reflection along the ionized trail could be causing irregular interference patterns, much like an airplane would cause over a tropo signal.
- A further indication of multiple reflection points was evident when one strong MS burst reflected a test pattern with one strong ghost image to the right, and a few fainter ghost images. This image also fluctuated irregularly.
- Several stations on the same frequency can be received by one MS burst. On television this can be seen as a burst of heavy interference over a previously dead channel. On FM radio, two or more stations can be heard simultaneously.
- In addition to simultaneous-station-MS, I suspect the possibility of sequence-station-MS. During the Ursid shower (the radiant being to the north), two unidentified stations, broadcasting test patterns and tones all night, frequently appeared one immediately before the other. I suspect the first one to be farther north.

NAME	DURATION	PEAK	DAY ABOVE 1/2 STRENGTH	ZENITH HOURLY RATE	RIGHT ASCENSION	DECLINATION	RISERS	SETS	CULMINATION (TIME)	CULMINATION (ANGLE)	VELOCITY (mile/sec.)
NORTH DELTA	AQUARIDS	July 15-Aug. 29	July 23-Aug. 12	10-35	22h 30m	0°	9:02 pm	9:02 am	3:02 am	50°	26
SOUTH DELTA	AQUARIDS	Nov. 14-20	Nov. 17	22h 40m	-16°	10:00 pm	8:24 am	3:12 am	34°	26	
CAPRICORNIDS	July 16-Aug. 29	July 25-Aug. 5	6-9 (5-30)	20h 20m	-10°	7:18 pm	6:18 am	12:44 am	40°	14-17	
PERSEIDS	July 25-Aug. 12	Aug. 12	4-6 days	3h 4m	+58°	(24 hours)	(24 hours)	(24 hours)	6:40 am	72°	37
DRACONIDS	Oct. 7-10	Oct. 9-10	0.05 day	var.	+54°	(24 hours)	(24 hours)	(24 hours)	4:12 pm	76°	13
ORIONIDS	Oct. 2-Nov. 7	Oct. 21	2 days	35 (10-70)	+15°	10:03 pm EDT	12:37 pm EDT	5:20 am EDT	12:40 am EST	65°	42
SOUTH TAURIDS	Sept. 15-Dec. 15	Nov. 3-5	10	3h 32m	+14°	6:20 pm IST	6:59 am IST	12:40 am IST	64°	19	
NORTH TAURIDS	Sept. 10-Dec. 1	Nov. 10-13	30 (radiar)	5h 16m	+22°	5:36 pm	8:15 am	12:56 am	72°	20	
QUADRANTIDS	1/1-6	4/18-25	0.6 day	11h	+50°	(24 hours)	(24 hours)	(24 hours)	8:36 am	80°	26
APRIL LYRIDS	4/18-25	4/21 - 5/12	2-3 days	12h 28m	+40°	7:50 pm IST	2:36 pm IST	4:08 am IST	84°	29	
ETA AQUARIDS	4/21 - 5/12	5/3	5 days	22h 30m	-2°	3:48 am EDT	2:36 pm EDT	8:42 am EDT	48°	42	
OMICRON CETIDS	5/13-23	5/18	15 (radiar)	2h 17m	-3°	7:22 am	7:02 pm	1:12 pm	47°		
ARIETIDS	5/29 - 6/19	6/7	60 (radiar)	2h 55m	+23°	2:28 am	5:16 pm	9:52 am	73°	23	
ZETA PERSEIDS	6/1-17	6/7	40 (radiar)	4h 8m	+23°	4:40 am	7:28 pm	12:04 pm	73°	17	
JUNE LYRIDS	6/10-21	6/15	8-10	1h 32m	+30°	5:34 pm	10:20 am	1:56 am	85°	19	
BETA TAURIDS	6/24 - 7/6	6/29-30	30 (radiar)	5h 44m	+19°	5:05 am	7:19 pm	12:12 pm	69°	19	

Note: Since 2000 A.D. will not be a leap year, the peaks of these showers will be a day later after February, 2000. Take this into account when figuring peak times for those showers whose peaks can be determined to the hour. (They are given under the heading, "Additional notes...")

THE FUTURE OF METEOR SCATTER STUDIES

Meteor scatter is in a neutral zone between two sciences: astronomy and radio-electronics. Until recent years very few crossed this neutral zone. Shortly after World War II, daytime-only meteor showers were discovered by radar, which has also been used to pinpoint their radiants. Astronomers can transmit radio signals, receive the reflected signal, the wavelength of which is altered by the doppler effect, combine the two signals to produce a whistling sound caused by the interference pattern, and calculate the meteor's velocity by the pitch of the sound.

The American Meteor Society is beginning a Radio Scatter program which will monitor 75 MHz aviation beacons, each of which has its own distinctive signal. (a 24 hour station ID!) Radio work has advanced to the state where it nearly equals visual work in accuracy. The gap between sunrise and sunset is gradually being filled. Radio studies are also unaffected by weather. (I imagine skip conditions must bother them, but I haven't heard any mention of it.)

The neutral zone is also open to the radio-electronics side. Amateur radio operators have been using it to communicate over long distances in the VHF band. The Radio Amateur's Handbook (published annually) mentions meteor scatter as giving temporary boosts in signal strength during two-way communications. For the serious DX'er meteor scatter also has more to offer.

To look for meteor scatter simply to catch an occasional ID or log a new station may be frustrating. I've stayed up all night during a heavy shower on several occasions and did not ID one station. Contrary to what I had expected, hardly any stations I've seen have station ID on their test patterns. ("Technical Topics" in the Feb., 1981 VHF-UHF Digest mentioned the fact that stations are going to electronically generated color bar patterns without superimposing their call letters.) Also, I've been caught daydreaming several times in the late hours as a 1/2 second burst brought in a test pattern with an ID. By the time I realized it, it was long gone. There is also a health factor: staying up several nights in a row lowered my resistance and I caught a bad virus. I wouldn't recommend this to students preparing for exams or for drivers planning a trip.

But there is still much to be learned about meteor scatter. How much effect does the velocity of a meteor have on the distance a station can be received? How would brightness affect the strength or duration of a meteor scatter burst? Is meteor scatter really weaker on higher channels? (I have a suspicion that they're just as strong, but fewer in number.) What could be learned by comparing a meteor scatter burst with observation of the meteor that caused it? How frequently will a particular station pop in by meteor scatter? I'm sure other questions could be brought up.

I would like to suggest a group project targeting a particular meteor shower. First, a "data pool" would need to be compiled, listing the "habits" of low-channel stations, such as what programs they broadcast during those nights from 1:00 am to 7:00 am, what hours they were off the air, what hours they were broadcasting test patterns and test tones, and descriptions of their patterns and tones. This information could be compiled and sent to those interested in participating. After the shower, statistics could be gathered and compared.

With enough cooperation, more identifications could be established, and more loggings can be recorded. After compiling a number of loggings we could establish maximum, minimum, and average distances of stations logged by meteor scatter. We could also take note of the rate at which certain stations on different channels will pop in during a meteor shower.

While this article is somewhat lengthy and mostly statistical, I hope to follow up with an article dealing more with observations and techniques at a later date, for which you can help. Please send me a list of whatever meteor scatter loggings you can, regardless of what year, and include the following: (1) call letters; (2) city; (3) distance from the station to your receiver; (4) channel; (5) date; and (6) your location at the time. Also, if you have made observations of more than one station ID with a single burst, that would also be worth mentioning. Also include any remarks you have about meteor scatter based on your observations. My address appears at the beginning of the article.



FCC-TV News

William J. Draeb  
Ellis St. R.R.#2  
Kewaunee, WI  
54216

Deadline: 5th

The following info is from the Oct. 13, 20, 27 and Feb. 2 issues of "Broadcasting" magazine.

TV Applications:

- AL Montgomery--ch. 45 703kw 518.25'  
(Christian Life Broadcasting.)
- CO Colorado Springs--ch. 21 1130kw  
2114'.
- CO Glenwood Springs--ch. 3 100kw  
(CO High Country TV) 1830'.
- " " " " " "
- (Western Slopes Commun.)1834'.
- DE Wilmington--ch. 61 2290kw 980'.
- FL Daytona Beach--ch. 26 (4 applicants)  
(Daytona Broadcasting Co.)  
2477kw 951'.  
(Daytona Beach Family TV)  
1569kw 319'.  
( " " TV Corp.)  
1820kw 1669'.  
(Lifestyle Broadcasting)  
5000kw 1983'.
- FL Key West--ch. 16 564.94kw 355'.
- FL New Smyrna Beach--ch. 26 5000kw 990'.
- KS Wichita--ch. 24 2944kw 1023'.
- MN St. Cloud--ch.41 3845kw 1522.1'.
- NC Fayetteville--ch.62 2547kw 704'.
- OH Akron--ch.55 1808kw 334'.  
(Ebony Blackstar Broadcasting)  
1038kw 957'.  
(Akron Telecasting)  
2298kw 528'.  
(Rhema Television)
- TX Richardson--ch.23 2600kw 674'.  
(Metroplex Television)  
776kw 305'.  
(Richardson Family TV)
- VA Norfolk--ch.49 2796kw 1005'.  
(Tidewater Community Broadcasting)  
2026kw 1002'.  
(Focus Broadcasting of Norfolk)
- WA Vancouver--ch.49 1000kw 1576.6'.
- WI Suring--ch.14 200kw 621.77'.  
(N.E. Wisconsin Christian TV)
- WY Cheyenne--ch.27 1170kw 760'.
- AZ Tucson--ch.18 3810kw 2012'.  
(Alden Communications)  
692kw 2001'.  
(National Group Telecommunications  
of Tucson)  
1196kw 3717'.  
(Diocese of Tucson)
- FL Hollywood--ch.69 2670kw 1016'.  
(Golden East Broadcasters)  
5000kw 978'.  
(Christian Media of Florida)
- IL Moline--ch.24 (educ.) 124kw 319'.  
(Black Hawk College)
- NV Reno--ch.27 95kw 2300'.
- NC Burlington--ch.16 4502kw 520'.
- OK Oklahoma City--ch.52 820kw 340'.

TV applications; continued---

- TX Victoria--ch.25 2140kw 1020'.
- WA Vancouver--ch.49 1000kw 1576'.

TV Grants; etc.:

- LA West Monroe--ch.39 16.6kw 500'.
- AL Mobile--ch.15 2570kw 1630'.
- FL Ft. Meyers--ch.30 (educ.) 631kw  
986.3'.
- FL Melbourne--ch.43 1780kw 1009'.
- IN Terre Haute--ch.26 (educ.) 1510kw  
475'.(Indiana State U.)
- LA Alexandria--ch.25 (educ.) 1070kw  
1360'.(Louisiana Educ. TV Auth.)
- NY Watertown--R.B.D. Productions  
denied request to put ch.50 on.
- OH Canton--ch.67 138kw 290'.
- TX Brownsville--ch.23 500kw 1470'.
- NC Jacksonville--ch.19 (educ.) 1393  
kw 982'.

Changes in existing stations:

- CA San Francisco--KEMO-TV granted  
cp to change to 1700kw at 1270'.
- FL W.Palm Beach--WFLX(TV) change to  
692kw 1500'.
- IL Chicago--WSNS-44 change to 1050kw  
and make antenna changes.
- MI Ann Arbor--WIHT-31 change to 1000  
kw at 1080' and change ant. &  
transmitter.
- MN Minneapolis--KTMA-TV change to  
74.1kw at 1190'.
- NE Omaha--KYNE-26 change to 398kw  
at 425' and change ant.
- ND Fargo--KFME-13 change to 245kw  
at 1130' and move xmtr to 1 mi.  
East of Amentia, ND.
- OK Oklahoma City--KFHC-TV change to  
1070kw at 1560' & change ant.
- RI Providence--WNET(TV)??(thought  
they were in NYC--wd) change to  
2140kw at 1020' change ant., lower  
ant. structure, change trans.
- SC Myrtle Beach--dismissed applica-  
tion by WGSE(TV) to decrease to  
64.6kw and 610' and to move xmtr.
- WI Milwaukee--WCGV-24 change aural  
erp to 500kw.
- WI Milwaukee--WITV-18 change to 1020  
kw ant. to 1010' and move xmtr to  
1/2 mile N. of E. Capitol Dr. on N.  
Humboldt Ave. Also change xmtr &  
antenna.

Call Letter News:

- CA Fresno KHMJ-24 is now KSEE.

Translator Applications:

MA Dennis--ch.67 100w 250'(WQTV)  
 " ch.58 " 230'(WSMW)  
 NY Southampton ch.23 100w 135'(WVIA)  
 Syracuse ch.14 100w 150'(WPTT)  
 Westbury et. al. ch.63 100w 60'(WVIA)  
 AL Mobile ch.69 100w 262'(WRBV)  
 AZ Phoenix ch.55 100w 361'(KSTS)  
 CA Santa Ana ch.62 100w 150'(WPTT)  
 Sacramento ch.61 100w 245'(WRBV)  
 FL Carol City ch. 64 100w 250'(WPTT)  
 Jacksonville ch.69 100w 315'(WRBV)  
 IL Chicago 62 1000w 140'(WRBV)  
 LA Shreveport ch.69 100w 284'(WRBV)  
 MN Minneapolis ch.57 100w 475.8'(WRBV)  
 MS Jackson ch.69 100w 146'(WRBV)  
 NV Las Vegas ch.69 100w 140'(KSTS)  
 Reno ch.55 100w 5495'(WRBV)  
 NY Buffalo ch.58 100w 594.8'(WRBV)  
 NC Charlotte ch.24 100w 289.8'(WRBV)  
 Durham ch.69 100w 100'(WRBV)  
 High Point ch.67 100w 241'(WRBV)  
 TN Nashville ch.69 100w 374'(WRBV)  
 TX Austin ch.68 100w 346'(KSTS)  
 Camp Verde ch.59 20w 180'(KSAT)  
 Houston ch.61 100w 288'(WPTT)  
 VA Norfolk ch.65 100w 271'(WRBV)  
 WA Tacoma ch.39 100w 255'(KSTS)  
 AR Little Rock ch.69 100w 395'(KSTS)  
 CA Fresno ch.69 100w 62'(KSTS)  
 Santa Maria ch.65 100w 20'(KTEN)  
 GA Atlanta ch.14 100w 210'(WRBV)  
 IA Des Moines ch.53 100w 279'(KSTS)  
 LA Baton Rouge ch.53 100w 279'(KSTS)  
 MO Poplar Bluff ch.15 100w 546'(WSIL)  
 NM Albuquerque ch.55 100w 311'(KSTS)  
 NC Wilmington ch.56 100w 140'(WRBV)  
 OH Columbus ch.56 100w 575'(WRBV)  
 Dayton ch.66 100w 1076'(WRBV)  
 PA Pittsburgh ch.63 100w 600'(WRBV)  
 SC Charleston ch.69 100w 983'(WRBV)  
 Columbia ch.63 100w 174'(WRBV)  
 TN Chattanooga ch.67 100w 320'(WRBV)  
 Knoxville ch.43 100w 274'(WRBV)  
 TX Camp Verde ch.55 20w 180'(KENS)  
 WI Madison ch.47 1000w 553'(WQRF)  
 CA Granada Hills ch.60 100w 30'(WPTT)  
 Thousand Oaks ch.66 100w 35'(WPTT)  
 FL Union Park ch.61 100w 160'(KTEN)  
 ME Fallmouth ch.57 100w 35'(WPTT)  
 VA Driver ch.68 100w 200'(KTEN)  
 TX Cedar Hills ch.55 100w 150'(WPTT)  
 Hamilton City ch.63 100w 200'(KTEN)  
 NM Dixon, Embudo, etc. ch.2 5w 20'(KGGM)  
 AL Montgomery ch.61 100w 30'(WRBV)  
 CA Fresno ch.63 100w 50'(KTEN)  
 Porterville ch.57 100w 40'(KTEN)  
 OR Portland ch.58 100w 331'(KSTS)  
 TX Austin ch.7 10w 85'(KBDI)  
 Dallas & San Antonio ch.2 10w 30'(KBDI)  
 Lubbock ch.2 10w 45'(KBDI)

Allocation Changes, etc.:

CA Arcata--Pentreed Ltd. requests  
 ammendment of TV table of assignments  
 to assign ch.23 to Arcata.  
 MT Joplin--KIVQ-2 wants ch.38 assigned to  
 14 Joplin.

Allocation Changes; continued---

FL Ft. Pierce--proposed assigning  
 ch.59 to that city.  
 KY Paintsville--proposed assigning  
 ch.69 to that city.  
 KY Madisonville, Owensboro, &  
 Princeton--proposed reassign-  
 ing ch.19 from Owensboro to  
 Madisonville, substituting ch.  
 48 for ch.19 at Owensboro and  
 assigning ch.54 to Princeton or  
 assigning ch.57 to Madisonville  
 , substituting ch.48 for ch.19  
 at Owensboro and reassigning  
 ch.19 to Princeton.  
 TX Rio Grande City--proposed ass-  
 igning ch.40 to that city.

More TV Applications:

OH Dayton ch.45 2500kw 1165'  
 (Sinder Broadcasting)  
 1505kw 1059'  
 (Freedom Broadcasting)  
 TX El Paso ch.26 2761kw 1527'  
 WV Charleston ch.23 5000kw 1722'

Call Letter News:

URC Management Services Corp.,  
 Seaford, DE wants WKME.  
 Channel 20 Inc. Houston wants KEON  
 Blue Ridge ETV Assoc., Marion, VA  
 wants WMSY.  
 SC Spartanburg--WRTS wants WRET.  
 CA San Francisco--KEMO wants KTZO.  
 RI Providence--WNET wants WSTG.  
 HI Honolulu--Mauna Kea Broadcast-  
 ing wants KSHO.  
 GA Broadcast Corp. of GA, Atlanta  
 wants WVEU.  
 LA Roger D. Pinton, W. Monroe wants  
 KNAN-TV.  
 TX Tierra Del Sol Broadcasting,  
 Brownsville wants KTDS.  
 WA Tacoma School District No. 10,  
 Centralia wants KCKA (educ.)  
 FL Wilshire Corp., Palm Beach  
 granted WFGC.  
 KS Board of Trustees, Garden City  
 Community College granted KSWK.  
 LA Cypress Communications Corp.  
 Alexandria granted KLAB-TV.  
 AZ Phoenix--KUSK now KNAZ  
 NC Charlotte--WRET now WPCQ  
 RI Providence--WNET now WSTG  
 IL Focus Broadcasting, Joliet  
 granted WBHA.  
 TX Channel 21 Inc., Ft. Worth  
 granted KTXA.  
 NY Syracuse--WONH now WFWY  
 OH Lima--American Christian Serv-  
 ices Television Inc. wants WTLW  
 CA San Jose--Ralph C. Wilson In-  
 dustries Inc. wants KICU.  
 AZ Wickenburg--Forward Telecasting  
 Inc. wants WSAW.

I just recieved another batch of "Broadcasting" magazines from the library.  
 They cover info back through last September.--wd

TV Applications:

OH Chillicothe--ch.53 63kw 328'.  
 TN Murfreesboro--ch.39 1762kw 808'.  
 (Ch.39 of Murfreesboro Inc.)  
 896kw 1286'.  
 (Family TV Inc.)  
 TX San Angelo--ch.6 100kw 1051'.  
 IN Anderson--ch.67 2312kw 1108'.  
 LA New Orleans--ch.38 5000kw 1018'.  
 (Cypress Broadcasting Limited  
 Partnership)  
 516kw 458'  
 (Comark TV Inc.)  
 1561kw 595'  
 (Delta Media Ltd.) (STV auth.)  
 2742kw 632'  
 (Nat'l Group Telecommunications  
 Inc.)  
 TX Denison--ch.20 5000kw 1088'.  
 FL Daytona Beach--ch.26 2674kw 1039'.  
 (Metrovision Inc.)  
 ME Portland--ch.51 3881kw 627'.  
 (Comark TV Inc.)  
 1279kw 1032'.  
 (Greater Portland Telecasting)  
 MS Hattiesburg--ch.22 672kw 802'.  
 NH Concord--ch.21 1845kw 1133'.  
 NY Albany-Schenectady--ch.45  
 5000kw 875'.  
 OR Salem--ch.22 1702kw 1187'.  
 TN Knoxville--ch.43 550kw 1563'.

TV Grants; etc.:

NJ Atlantic City--ch.53 1832kw 465'.  
 HI Honolulu--ch.30 284kw -74.5'.  
 MO St. Louis--ch.40(educ.)61.7kw 372'.  
 OH Cleveland--ch.19 application to  
 put station on, dismissed.  
 WA Centralia--ch.15(educ.)603kw 2130'.  
 Changes in existing stations:  
 KY Hazard--WKHA-35 granted cp to  
 change transmitter.  
 KY Pikeville--WKPI-22 same as above.  
 TX Amarillo--KFDA-10 change to 316kw  
 at 1530'.  
 TX Houston--KTRK-13 change to 316kw  
 horiz.&vert. polarization at 1930'.  
 MD Salisbury--WBDC-16 change to 457kw/  
 2000kw max. antenna to 980'.

Low-Power Television Applications:

All of the following have applied for  
 one kw, transmitter power output.  
 CO Denver--ch.69 90'.  
 FL St. Petersburg--ch.62 206'.  
 Tampa--ch.68 589'.  
 IN Indianapolis--ch.50 995'.  
 KY Louisville--ch.50 384'.  
 LA New Orleans--ch.63 596'.  
 MN Bemidji--ch.26 250'.

Low-Power TV applications; continued-

MO Kansas City--ch.32 507'.  
 St. Louis--ch.69 565'.  
 TN Memphis--ch.69 449'.  
 TX Dallas--ch.69 1559'.  
 Ft. Worth--ch.61 420'.  
 Houston--ch.69 770'.  
 San Antonio--ch.59 549'.  
 WA Seattle--ch.68 215'.

Translator Applications:

UT Orangeville--ch.57 100w 30'(KSTU)  
 CO Sterling--ch. 29 100w 433'(KRMA-6)  
 " ch. 27 " " (KBTW-9)  
 " ch. 25 " " (KOA-4)  
 " ch. 23 " " (KWGN-2)  
 FL Okeechobee ch. 61 100w 315'(WTOG)  
 ND Hazen ch. 11 1w 25'(KFME)

Translator Grants:

CO Akron--ch. 14 K14AE (KWGN-2)  
 " ch. 16 K16AC (KOA-4)  
 " ch. 18 K18AE (KBTW-9)  
 " ch. 20 K20AE (KRMA-6)  
 DE Neward & Brookside--ch.61 W61AN  
 (WGCB-49)  
 NV Las Vegas--ch.27 K27AF (KWEX-41)  
 Ryndon & Star Valley--ch.2 K2KS  
 (KOLO-8)  
 AK Ruby--ch.9 K9PK (KAKM, KIMO, KTVA,  
 KENI, KYUK, KUAC, KTOO.)  
 AZ Greasewood--ch.8 K8JT (KOE-4)  
 CA Trinity Center--ch.2 K2KH (KTLV)  
 CO Aguilar--ch.4 K4KB (KTSO-8)  
 Del Norte--ch.2 K2KJ (KTSO-8)  
 E. Elk Creek--ch. 10 K10LN (KWGN-2)  
 " ch. 8 K8JS (KWGN-2)  
 Grand Valley--ch. 11 K11PR (KWGN)  
 " ch. 13 K13QZ (KRMA)  
 La Veta--ch.3 K3FR (KTSO)  
 San Luis--ch.2 K2KI (KTSO)  
 Sutank--ch.4 K4KC (KWGN)  
 " ch.12 K12MH (KRMA)  
 FL Panama City--ch.22 K22AB (WFSU-11)  
 ID Dingle--ch.9 K9PJ (KUTV-2)  
 " ch.13 K134Y (KSL-5)  
 ME St. John Plantation--ch.11 K11P4  
 (WAGH)  
 MT Pipe Creek--ch.10 K10LL (KHX-6)  
 NC Bat Cave--ch.5 W5AU (WUNF-33)  
 OR Oregon Canyon--ch.11 K11PO (KIVI)  
 SD Mitchell--ch.7 K7QL (KSFY-13)  
 UT Garden City & Laketown } --ch. 12  
 ID Paris & Montpelier }  
 K12MI (KSL-5) --ch. 10  
 K10LM (KTVX-4) --ch. 8  
 K8JR (KUTV-2)  
 WY Casper--ch.6 K6KH (KRMA-6)  
 CA Arvin & Lamont--ch.65 K65CA (KTVN)  
 Susanville & Herlong--ch.65 K65CC  
 (KVI)  
 CO Alamosa; etc.--ch.55 K55CL (KTSO)  
 Hugo--ch.49 K49AK (KRMA-6)  
 Jackson Cty.--ch.69 K69CW (KRMA)

Translator Grants; cont.--

CO Salida; etc.--ch.53 K53AR(KTSC-8)  
 Trinidad; etc.--ch.69 K69CX( " )  
 Walden--ch.60 K60BM (KRMA-6)  
 DE Seaford--ch.64 W64AS(WHYU-12)  
 ID Preston--ch.30 K30AB(KSTU)  
 NM Carlsbad--ch.69 K69CV(KENW-3)  
 Forest; etc.--ch.65 K65CB( " )  
 Tucumcari--ch.63 K63BR( " )  
 MT Four Buttes--ch.60 K60BN(KKMD-11)  
 NV Hawthorne--ch.50 K50AI(KHEQ)  
 Mina; etc.--ch.67 K67CF( " )  
 NC Brevard--ch.59 W59AR(WUNF-33)  
 Bryson City--ch.67 W67AV(WUNE-17)  
 Hayesville--ch.62 W62BA( " )  
 Highlands--ch.62 W62BB( " )  
 OR Gold Beach--ch.55 K55CM(KOAP-10)  
 Heppner; etc.--ch.63 K63BS( " )  
 Port Orford--ch.61 K61BU( " )  
 SC Greenville--ch.66 W66AQ(WAIM-40)  
 WA Riverside--ch.57 K57BZ(KSPS-7)  
 WI Wash. Is.--ch.55 W55AO(WPNE-38)  
 River Falls--ch.55 W55AP(WHWC-28)  
 AK Talkeetna--ch.6 K66K(KIMO)  
 AZ Ganado--ch.5 K55GW(KNME-5)  
 CA Happy Camp; etc.--ch.9 K9PI(KIEM)  
 Monument Manor--ch.10 K10LK(KNBC)  
 CO Ouray--ch.11 K11PM(KJCT-8)  
 MT Rosebu; etc.--ch.7 K7QK(KTVQ-2)  
 NM Cliff & Gila--ch.2 K2KG(KRWG-22)  
 CO Cripple Creek; etc.--ch.55 K55CJ  
 (KOA-4)  
 " " " --ch.57 K57BY  
 (KMGH-7)  
 " " " --ch.59 K59BZ  
 (KETV-9)  
 Meeker--ch.64 K64AH(KRMA-6)  
 Ouray--ch.61 K61BR(KTSC-8)  
 S. Fork--ch.57 K57BW(KNME-5)  
 Walsenburg--ch.56 K56BL(KTSC-8)  
 Waunita; etc.--ch.58 K58BF( " )  
 KY Ingram--ch.63 W63AP(WKHA-35)  
 NV Inlay--ch.62 K62BI(KCRL-4)  
 NM Gallina; etc.--ch.61 K61BS(KOB-4)  
 " " --ch.67 K67CE(KGGM-13)  
 NY Herkimer--ch.59 W59AP(WUTR-20)  
 Ripley--ch.58 W58AN(WNED-17)  
 TX El Paso--ch.53 K53AQ(KNME-5)  
 SD Lake Andes--ch.57 K57BX(KBLO-11)  
 TX Wichita Falls--ch.24 K24AD(KEFA-13)  
 UT Logan--ch.53 K53AP(KSTU)

Call Letter News:

FL Wilshire Corp. of Palm Beach  
 wants WFGC.  
 KS Garden City Community College  
 wants KSWK (educ.).  
 LA Cypress Communications Corp. of  
 Alexandria wants K1AX.  
 TX KNOM-9 wants K1PX.  
 IL Focus Broadcasting of Joliet  
 wants WBHA.  
 NV Page Enterprises of Reno granted  
 KAME-TV  
 CA Palm Springs--KESQ-TV now KESQ.  
 MA Boston--WNAC-7 wants WNEV.  
 New Bedford--WTEV-6 granted WLNE.  
 OK Oklahoma City--KFHC-TV now KAUT.

Call Letter News; continued---

HI Sunset Communications Corp. of  
 Honolulu wants KHAI-TV.  
 MA 66 Corp. of Marlborough wants  
 WGRB-TV.  
 OH Christian Faith Broadcasting Inc.  
 of Sandusky wants WGGW-TV.  
 VA Neighborhood Communications Corp.  
 of Richmond wants WRHP-TV.  
 FL Public Broadcasting Foundation of  
 Palm Beach County Inc., W. Palm  
 Beach granted WPPF.  
 NM Galaxy S.W. Television of Albu-  
 ququerque granted KGSW.  
 OK Tulsa TV 41, Tulsa granted KGCT-TV  
 SC Carolina Christian Broadcasting  
 Inc., Columbia granted WCCT-TV.

Following is a list of stations(all  
 UHF) which were suppose to have come  
 on the air in 1980. The list was ob-  
 tained from an advertisement. Only  
 the call letters were given. I tried  
 to put them with their correct chann-  
 els from past info from the FCC col-  
 umn and other sources. I have my  
 doubts as to weather all of them are  
 actually on or mabey the channel num-  
 bers for some of them is incorrect.  
 Any corrections would be appreciated.

OH WBTI-64 Cincinnati  
 LA KADN-15 Lafayette  
 OH WSFJ-52 Newark  
 MD WMDT-47 Salisbury  
 SC WHMC-23 Conway  
 FL WXAO-47 Jacksonville  
 WV WLYJ-46 Clarksburg  
 WY KCWY-14 Casper  
 DC WHMM-32 Washington  
 NM KMXN-23 Albuquerque  
 WA KNDU-25 Yakima  
 IL WDDD-27 Marion  
 NY WFTI-54 Poughkeepsie  
 OK KTBO-14 Oklahoma City  
 OH WGGN-51 Sandusky  
 GA WVGA-44 Valdosta  
 SC WPDE-15 Florence  
 WI WLRE-26 Green Bay  
 And, this morning I noticed another  
 new one which was on. WCLQ-61 in  
 Cleveland, OH. They were at least as  
 strong as WUAB-43 if not more so.

Miscellaneous News:

The following news articles were for-  
 wardred to me by Bill Thompson but  
 they were from John Combs originally.

Before an Eyewitness Newsline WFTV-9  
 broadcasts a series of audio beeps  
 representing their call letters in  
 Morse Code.

WESH-2 is now on their 1740' tower.

I turned the tube on at 0445 this  
 morning and found WLRE-26 on with  
 religious programming. More later-wd

I just received some more "Broadcasting" magazines from the local library.

TV Applications:

AL Florence--ch.26 585kw 759'  
 CA Stockton--ch.58 5000kw 1800'  
 CT Hartford--ch.61+ 5000kw 1015'  
 (Hartford TV Inc.)  
 4046kw 722'  
 (Community TV of CT Inc.)  
 NY Syracuse--ch.62+ 2489kw 955'  
 AL Mobile--ch.21+ 2937kw 1638'  
 MS West Point--ch.27 2020kw 1680'  
 NC Kannapolis--ch.64- 1649kw 1200'  
 DC Washington--ch.14- 5000kw 539'  
 MO Springfield--ch.33 579kw 1634'  
 AZ Flagstaff--ch.13 316kw 1031'  
 FL Ocala--ch.51- 1117kw 945'

Changes in existing stations:

FL WHFT-TV change to 447kw/2400kw max  
 ant. to 1020'.  
 KY WKPC-15 change to 525kw/589kw max  
 ant. to 860'.  
 WY KCWY-14 change to 759kw/1380kw max  
 ant. to 1880'.  
 CA KCBA-TV change to 1070kw 2430'  
 CO Colorado Springs KRDO-13 change to  
 91.2kw/282kw max 2140'.  
 DC Washington WGSP-50 change to 1860kw  
 /2450kw max 570'.  
 FL Jacksonville WAWS-30 1260kw/2000kw  
 max 990'.  
 KY Louisville WHAS-11 change aural erp  
 to 13.3kw.  
 LA Lafayette KLFY-10 170kw/316kw max  
 1740'.  
 MN Austin KAVT-15 724kw/1230kw max  
 380'.  
 MT Hardin KOUS-4+ 91.2kw 1060'.  
 NY Rochester WXXI-21 91.2kw/1230kw max  
 500'.  
 PR Aguadilla WOLE-TV 316kw 1250'  
 SC Conway WIIB-23 851kw/1740kw max  
 820'.  
 Spartanburg WRTS-49 832kw/1740kw max  
 970'.  
 WI La Crosse WHLA-31 reduce aural erp  
 to 5.5kw.  
 Menomonee WHWC-28 reduce aural erp  
 to 5.5kw.  
 Park Falls WLEF-36 reduce aural erp  
 to 5.5kw.  
 Wausau WHRM-20 reduce aural erp to  
 5.5kw.  
 Green Bay WPNE-38 reduce aural erp  
 to 91.2kw.  
 Milwaukee WMVT-36 change to 1230kw/  
 2340max 930'.  
 TX San Angelo KCTV-8 change to 316kw  
 1450'.

TV Grants:

VA Richmond--ch.63 1660kw 681'  
 FL W.Palm Beach--ch.61 830kw 480'  
 KS Garden City--ch.9(educ.) 316kw  
 1270'.  
 LA Alexandria--ch.31+ 1000kw 1360'  
 NM Albuquerque--ch.14- 490kw/1410  
 kw max 4190'  
 VA Richmond--ch.35+ 2340kw/3090  
 max 740'.

Call Letter News:

FL Public Broadcasting Foundation  
 of Palm Beach Cty. Inc., West  
 Palm Beach wants WPPF(ch.42).  
 NM Galaxy SW TV, Albuquerque wants  
 KGSW(ch.14)  
 OK Tulsa TV 41, Tulsa wants KGCT.  
 NC Winston-Salem--WGNN is now WJTM.  
 LA Louisiana Educ. TV Auth. wants  
 KLTTL(ch.41)  
 AZ Prescott--KNAZ is now KUSK.  
 NC Charlotte--WRRT is now WPCG.  
 OK Oklahoma City--KFHC is now KAUT.  
 NC Fayetteville TV Inc., Fayetteville  
 NC granted WKFT(ch.62).  
 MT Helena--KTCM is now KTVG.  
 NV Reno--Page Enterprises wants KAME.

Miscellaneous News:

FCC authorized KAIT-8 Jonesboro, AR  
 to increase its power from 57.5kw to  
 316kw to move its xmtr to location  
 near Egypt School, Egypt, AR; 13mi.  
 W of center of Jonesboro and to in-  
 crease its ant. height from 420 to  
 1750'eat. In granting stations re-  
 quest FCC denied objection by UHF  
 station KPOB-15 Poplar Bluff, MO,  
 sattelite of WSIL-3 Harrisburg, IL.

Translator Grants:

CA Poway; etc.--ch.48 K48AL(KSCI)  
 NM Las Cruces; etc.--ch.57 K57BV  
 (KVIA-13)  
 AR Red Devil--ch.13 K13QW  
 CA Riverside--FCC assigned ch.62 to  
 Riverside for commercial use.

---SEND YOUR TV STATION NEWS TO YOUR NEW FCC TV EDITOR:

Bill Fahber - 336 Atlantic Street - Bridgeton, NJ 08302





# SOUTHERN FM DX

Danny Buntin  
1312 N. Skyline  
Stillwater, OK 74074  
DEADLINE: 10th

APRIL 1981

For FM DX reporters from: AL, AR, AZ, CA, CO, DE, FL, GA, KS, KY, LA, MD, MS, NC, NM, NV, OK, SC, TN, TX, UT, VA & WV.

## UNUSUAL FEBRUARY WARMTH BRINGS LITTLE TR

<u>Rick Samford, 404 S. McNeill, Burnet, TX 78611 - Feb. 6 to March 5 CST</u>	
2/21 tr	2/26 tr
0423 WTGI 103.3 LA Hammond, "TGI," k, heard later with Mutual nx	0853 KYTX 98.7 TX Amarill, ad, in/out with KNUS, later heard UPI World News
0453 WAIL 105.3 LA Slidell, ex-WXEL, still s (not k)	0859 KENW 89.5 NM Portales, local wx after NPR
0500 WSJC 107.5 MS Magee-Mendenhall, k	0902 KBIM 94.9 NM Roswell, nx
0536 KJAE 92.7 LA Leesville, "K-Jay" slogan heard during Joey Michaels show, k	0906 KTQM 99.9 NM Clovis, r, "All-Star Radio"
0608 WRPM 107.9 MS Poplarville, ad	0914 KKQQ 99.1 NM Clovis, wx, "Double Q"
0627 WCCA 94.1 MS McComb, ad	0926 KPER 95.7 NM Hobbs, k, ad, this one has evidently increased ant. height & power(100kw)
0630 WJFR 96.3 MS Jackson, g, ID, nx	1000 KSEL 93.7 TX Lubbock, r, "Rock-93" (just barely heard thru KLBj but first time in 21 months)
0640 WLIN 95.5 MS Jackson, m	
0707 WZZQ 102.9 MS Jackson, late legal ID	

Aside from one blast of Arctic air which dominated our weather around Feb. 10-12, this area has largely gone without any winter-like wx in 1981. Unfortunately, the heat waves have been few and far between, so still not any great tropo to go along with the mild winter. The few other openings noted provided me with only the usual fare from Louisiana and northern Mexico. 73s, Rick.

Danny Buntin, 1312 N. Skyline, Stillwater, OK 74074 - Feb. 11 to March 10 CST  
Equipment: Pioneer TX-9100 tuner, Antennacraft GFM-10 30 ft. high, rotor

11/25 gw	11/26 tr	
1950 KXLS 99.7 OK Alva, new to the air, light rock, fairly strong, "Class 100" (looks like another 24 hr. nuisance here)	1130 KPER 95.7 NM Hobbs	425
	1132 KGOY 104.7 TX Lamesa	
	1133 KLEA 101.7 NM Lovington	415
	1140 KYKK 94.1 NM Humble City	425
11/26 tr	1145 KQHM 91.1 TX Lubbock, just 340 watts (all 6 others in from Lubbock good)	325
1100 KWMJ 103.3 TX Midland, ID	2100 KXCV 90.5 MO Marysville	325
1104 KQCV 91.3 TX Odessa, ID, r	2112 KGVE 99.3 OK Grove, new to air, \$, k 135	
1130 KJAK 92.7 TX Slaton, g	2120 KZIC 89.9 AR Cave City, ID, new	305
1130 KBIM 94.9 NM Roswell	2200 KNGX 91.3 OK Claremore, nx, ID, 10wts	83

To some of the junior DXers, if you must DX on a portable and can't get regular

reception out to 100 miles or better, and no environmental factors are interfering, then why not junk it, and shop carefully for a model that does an accountable job of combining sensitivity, selectivity and overload rejection? My \$35 Sony often has little difficulty bringing in most of the B/C stations within the range of 100 to 150 miles after sunset(too often to be counted as DX);some stations are considerably less than 100 kw, and it's the middle of winter.

TV DXers.....On March 9th KTBO-14 of Oklahoma City inaugurated 24 hr. a day christion TV with lots of holy fanfare. Interference KTBO presented to a neighboring radio tower threatened to delay the first airing for months, but the station claims God stepped in with a miracle to prevent any more delay. KTBO's latest power is 700 kw,(later to go to 1000kw)and 1125 ft. Good luck this season with all the new Oklahoma TV. There's now six high power targets with one or two more preparing to go on before year's end, maybe.

####

# NORTHERN FM-DX

Ralph Strobel, editor  
2510 E. McGalliard Rd.  
Muncie, Indiana 47303  
(317) 288-5815  
Deadline: the 10th

APRIL 1981

For FM DXers in Canada, the Northwest-Central states of WA OR ID MT WY ND SD NE MN IA MO and states east of the Mississippi River and north of the Mason-Dixon Line.

## FM DX HIBERNATING IN COLD WINTER WEATHER

Ernest R. Cooper - National Radio Club - 5 Anthony Street - Provincetown, MA 02657

This is my first report to your enjoyable column. I have by no means the fabulous DX that my good friend Frank Merrill reported in the February VUD, but I did come across a minor trop opening on Sunday, Feb. 22nd. At 10 a.m., I heard CBH-FM 102.7, Halifax, which held about seven minutes, and then faded out. I tuned around and came across next, WWHB-107.1, Hampton Bays, L.I., NY at 10:11 a.m., fading out at 10:20, as WCCC-FM-106.9 Hartford, CT moved in. Reports went to all three. The receiver here is an STA-52, of Realistic, and the antenna is an omni-directional rooftop, about 50' above sea level here, some 250 feet or so from Provincetown Harbor, the world's second largest natural harbor, incidentally. I am Secretary to the Board of Directors for the new station here, WOMR-91.9 (Outer Most Radio), which hopefully will be on the air this summer. We hope to be able to verify for a lot of WTFDA members!

Yours in DX, Ernie

+++++

Dave Brumfield - 1505 Kimberly Lane - Muncie, IN 47304

Equipment: 2270 Marantz receiver w/Winegard antenna and rotor at 40 feet.

9/15 tr	11/20 tr	
0345 WKLC 105.1 WV St. Albans, o/WUBE	0100 WKYU 88.9 KY Bowling Green, s/off	250
9/22 tr	12/15 tr	
0108 WKEE 100.5 WV Huntington	0708 WRFT 91.5 IN Indianapolis, 10w	60
9/29 tr	2300 WNNS 98.7 IL Springfield	250
0855 WGVE 88.7 IN Gary	2/17 tr	
10/8 tr	2300 WDCB 90.9 IL Glen Ellyn	190
0205 WXFM 103.1 IL Highland Park-Deerfield	2/21 tr	
	2320 WDOH 107.1 OH Delphos	55
11/10 tr	2/27 tr	
0000 WTOO 98.3 OH Bellefontaine, s/off	0157 WHPO 100.9 IL Hoopston	140
	All new - Total 637 - Ed. Band 136	

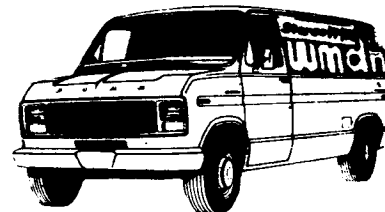
+++++

Ralph Strobel - 2510 E. McGalliard Rd. - Muncie, IN 47303

Equipment: Heath AJ-1510, Winegard antenna w/rotor at 60 ft.

2/18 tr	2/25 tr	
1657 WELI 88.5 IN Muncie	2/0800 CBBE 95.1 ON Chatham, tc mono	200
(pirate station - less than one watt)	"CBE Radio," Chatham nx, WPTH off	
WELI is a pirate station here in town. Next month, I hope to find time to comment on the activities of this illegal station. Perhaps there will be more reports next month.		

73 K4FH  
+++++



# EASTERN TV-DX

William J. Draeb  
Ellis St. R.R.#2  
Kewaunee, WI  
54216

Eastern TV-DX

April 1981

Eastern TV-DX

Deadline: 5th

Tropo activity improved beginning in the first part of February with the advent of warmer weather. Lets hope it continues. Here's this months reports.

Greg Kelley, 211 St. Clair Ave. SW, New Philadelphia, OH 44663 EST

Enclosed is my reception report for Eastern TV DX along with a couple of words. Thought perhaps I should tell about myself since I am a new member.

My name is Greg Kelley, and yes Bill, the same guy from Virginia that used to be FM QSL Editor. Nut I dare say "a lot of water has gone over the dam" since that time down home.

Now with marriage bringing me to Ohio, I have to start my log all over!

I just recently had a letter from DELHI of Canada saying they will sell the feed section for \$35 and will work on the 5' dish, increasing gain to 22 db. Have been thinking about that, or maybe later in the summer take a trip to Canada and bring back a 7' dish.

I hope to support the club and send in monthly reports if at all possible.

12-28 Tr 1100	WKMR-38 KY 200 mi.	1-21 Tr 1900	CKGN-29 ON 180
	<u>WPTY-24 TN</u> 600		CKCO-42 ON 180
	Memphis		<u>CICO-59 ON</u> 145
	WKHA-35 KY 250		Chatham
1-19 Tr 0800	WKAS-25 KY 160		<u>CFPL-10 ON</u> 175
	WSJV-28 IN 255		London
	WDHO-24 OH 150		<u>WIHT-31 MI</u> 175
0830	Detroit U's 170		Ann Arbor
0840	Toledo V's 150	2200	CBLFT-68 ON 180
0850	WJBK-2 MI 170		WJBK-2 MI 170
	Detroit		<u>WDIV-4 MI</u> 170
	<u>WNEM-5 MI</u> 170		Detroit
	Bay City		CICO-32 ON 160
	CBET-9 ON 160	1-22 Tr 0800	<u>WCPO-9 OH</u> 200
1-24 Tr 0900	<u>WKEF-22 OH</u> 150		Cincinnati
	Dayton		WOWK-13 WV 160
	<u>WPTD-16 OH</u> 150		<u>WSWP-9 WV</u> 190
	Dayton		Grand View
	WTJC-26 OH 130		<u>WVVA-6 WV</u> 225
	WIHT-31 MI 175		Bluefield
	CICO-32 ON 160		CICO-32 ON 160
	Detroit U's 170		<u>WDTN-2 OH</u> 150
2-15 Tr 1000	<u>WLYJ-46 WV</u> 115		Dayton
	Clarksburg	0845	WSAZ-3 WV 150
	(all WV stations		(WFOV-9 was off
	now logged)		the air)
		2-21 Tr 0900	<u>WCET-48 OH</u> 200
			Cincinnati
			<u>WETI-64 OH</u> 200
			Cincinnati
			WLKY-32 KY 270
			WTVU-36 KY 240
			WDRE-41 KY 270
			WKEF-22 OH 160

Since I am a new member to the club, perhaps an introduction of myself is in order. I'm 30, married less than 2 years. My wife Nancy, wants everybody to know that she helped to complete my loggings of WVA. I was lucky to find a woman that enjoys DXing!! My equipment here is a Magnavox 25" screen Computer Tune 330. Although this is touch-tune, it does have fine-tuning which comes in handy. I'd think the TV has a good tuner since I have been able to log ch. 78 out of Windsor, my highest channel ever. My antennas are mounted on the roof, at mabye 30'. For UHF I use a Finco 5' dish and mounted below is a Jerrold Zip-8 with a U-100 rotor. Presently using 300 ohm foam lead in and thinking about going all cable. I use a BT 5024 for VHF/UHF preamp. While it has a single output, it does accept separate antenna, although I use it mainly for UHF,

Greg Kelley; continued---

The preamp runs 15 db gain for VHF and 20 db gain for UHF and noise level runs 3.5 db. I understand its a fairly new model.

For GW conditions I receive all TV stations from Cleveland at 90 mi., with the new WCLQ-61 being snow-free. Columbus at roughly the same distance is rough and takes Tr to make it watchable. WBOY-12 Clarksburg is usually there, along with KDKA-2 Pittsburgh. Stations like Youngstown, Akron, Zanesville, Alliance, Wheeling are always there. My log totals are up to 134 since summer and looking forward to a lot of Es with the addition of the Jerrold ZIP-8. I'd be interested in seeing other members in Ohio send in reception reports.(me too--wd).

Steve Sprachman, 3939 Eve Drive, Seaford, NY 11783

I wish you great luck with the Eastern TV-DX column. I'll try to contribute when anything interesting happens here.

DX-wise, nothing interesting has been happening here. There have been a couple of days of tropo, but nothing worth while to speak of. Even the weather of the past two weeks, 50 degrees + in the daytime, has not produced any tropo.

TV station news: WSNL-67 Smithtown, now rebroadcasts most of WWHT-68 Newark's programs. The differences are news, public affairs and Saturday afternoon wrestling. WSNL-67 was off the air for two weeks in the beginning of February due to a fire. They have just returned to the air.

Has anyone seen WFTI-54 Poughkeepsie, NY? About a month and a half ago, the TV Guide had a 700 Club ad with this station listed. I haven't seen any activity on ch. 54, much less received the station. I'm wondering if they are on the air yet.(They're suppose to be--wd). That's about all for now. I hope every one has a great DX season in 1981. (Thanks for the "TV Log" you sent along; hope to be hearing from you again soon.--wd).

Robert Kramer, 4639 N. Albany, Chicago, IL 60625 CST

12-28 Tr 1413	WGTE-30 OH 220	1-21 Tr 1755	WKBD-50 MI 240
1-18 Tr 2340	WLKY-32 KY 277		WQLN-54 PA 398
1-19 Tr 0026	WKEF-22 OH 237	"The Es on 1/20 was a com-	WTVS-56 MI 240
1-20 Es 2252	CJBRT-3 P T	plete surprise. I was	WGPR-62 MI 240
	2308 CFCM-4 P T	watching local ch.2	<u>WSKG-46 NY</u> 608
1-21 Tr 1755	CICA-19 ON 440	when all of a sudden there	Binghamton
	WXON-20 MI 240	was CCI on them. Mov-	<u>WIHT-31 MI</u> 205
	CKGN-22 ON 452	ing up to 3&4, I got French	Ann Arbor
	(Uxbridge)	language programming. The	CBLFT3-48 ON 287
	WDHO-24 OH 220	ch.4 was in quite well.	CICO-59 ON 287
	CKGN-29 ON 260	The tropo on 1/21 pro-	CICO-18 ON 340
	WGTE-30 OH 220	duced my longest tropo	1847 CBLFT1-76 390
	CKCO3-42 ON 260	from Chicago ever,	1934 CBLFT2-40 340
	WUAB-43 OH 293	WSKG-46 at 608 mi.	2002 WTVG-13 OH 220
	CFMT-47 ON 440	WSKG is also my furthest from Carbondale, IL	

at 775mi. WSKG beats my old Chicago distance record of WTBS-17 Atlanta & WANX-46 Atlanta both 598 miles, seen last July. No VHF tropo seen due to a broken lead in the VHF antenna. Will be repaired soon. The WTVG-13 logging was made with the U-100. All Es was seen on with the monopole. For those of you that want to make use of my photo lab service ( and use 110, 620, 127 or 126 cameras), now is the time to send in your test rolls. For you 126 users, if you can find Tri-X film, use it. I can process your film in normal, rather than extra contrast, developer by increasing the recommended development time for the film. Frank Merrill uses Tri-X and his stuff comes out great."

Bill Fahber; 336 Atlantic St., Bridgetown, NJ 08302 EST Jan. 3-21

3 Ms 0310	WBAY-2 WI 760	8 Es 0001	KMDX-4 MO T	20 Es 2313	KXJB-4 ND 1230
	Green Bay		0030	KJRB-2 OK 1139	Valley City
			(was KTEW)		
7 Ms 0242	KTVI-2 MO 814	20 Es 0200	Unided-2	2340	KDLO-3 SD 1202
	Es 2357				Watertown

Bill Fahber; continued--- 21 Es 0015 KFYR-5 ND T 21 0054 KJRH-2 OK  
 20 Es 2341 KXON-5 SD T 0024 KPLO-6 SD 1291 1139 mi.  
 21 Es 0007 KXGN-5 MT T 0028 KBME-3 ND 1376  
 Bismarck

Believe it or not, this is my January and February report. Things were absolutely dead in February. I'm not expecting much improvement for March. One thing that puzzled me during last summer's E-skip loggings was that KTEW/KJRH (Tulsa, OK) usually appeared during fadeouts, even when the skip was in another direction. (It was this frequent logging which made me realize the persistent 6 1/2 cci pulses). This past winter season I logged three skip openings which I suspect (by NBC network programming, local material, and the same cci) reflected KJRH during fadeouts. The skip on January 20-21, for example, was limited to the Dakotas, but during fadeout an NBC station with the same 6 1/2 hz pulse came in (no cci lines). While there are NBC-ch.2 stations in Kansas and Nebraska, they would cause cci lines with WMAR in Baltimore. P.S.--On your translator on the Door Peninsula: call letters have not yet been assigned, but will operate on ch. 55, re-broadcasting WPNE-38 (Green Bay). ERP=100 watts. I don't think they have been granted a license yet. (WPNE-38's xlator on ch.55 in Door County is on now. They have been for about a month. Their call is W55AO and I assume are running a 100 watts. They are in here every day with a watchable picture.--wd. For more info see the FCC-TV Column this month.)

Patrick Durkin Jr.; 8829 W. Orchard St., West Allis, WI 53214 CST

1-20 Es 2200 WLEB-2 ME 945 Bangor	2-21 Tr 1305 WGTU-29 MI 165
2210 CBFT-2 PA 720	1315 WTHR-13 IN 245
2230 CKCW-2 NE 1125 Boncton (ATV Net.)	1500 WISH-8 IN 245
2345 KTWO-2 WI 895 Casper	2-26 Tr 2315 KWVL-7 IA 215
2-18 Tr 1900 WXON-20 MI 255	2330 KCRG-9 IA 195
1910 WKBD-50 MI 255	2-27 Tr 0000 KTTC-10 MN 225 Rochester
2-21 Tr 1200 WKAR-23 MI 180	0030 WTHI-10 IN 245
1255 WFYI-20 IN 245	0125 WISH-8 IN 245
1300 WHMB-40 IN 245	0130 WTHR-13 IN 245

Log totals: 58 VHF, 71 UHF  
 Total=129

Equipment: Tuner section of RCA Selectavision VDT-501 VCR, with Panasonic CT-93P (19" color TV). Winegard CT-1001 VHF-UHF-FM antenna with rotor at 35'.

This is my first report to the Eastern TV-DX column. A little bit about myself;--I'm 23, and I'll be graduating with a B.S. in Electrical Engineering from Marquette University in May. Besides TV, I also DX the broadcast and FM bands.

This winter has been unusually good for DX in comparison with past winters. The end of January and all of February has been mild, producing many good tropo openings. I was very surprised by the Es of January 20th, since they were late in the evening. KTWO-2 was so strong that I was picking it up with the antenna facing east, pointed at the other channel 2 stations. I was also surprised by the tropo opening of 2-26-27, since we had a rainstorm at the time, and it was cold.

The reason I use the tuner section of a VCR is because I found that its tuner is more sensitive than the TV I have it attached to. (Thanks for the report Patrick;--hope to hear from you again soon--wd).

Harry Hayes; 9 Henry St., Wilkes-Barre, PA 18702 EST

2-22 Tr 1800 WLEB-12 Orono, ME 435 mi. 2-22 Tr 1800 WCBB-10 Augusta, ME T I was on the phone to Glenn Jacobs during this opening. Glenn is 10 miles NE of me and on the other side of some bad hills NE of here. I had only sound and severe 10 khz offset on ch. 12 while Glenn had a picture. I.D. was "Maine Public Broadcasting", no call letters used. I had CBS on 13 which was probably Albany and not Portland. Glenn reports hearing ads for Bangor on ch. 7 and received the I.D. for ch. 10. Opening lasted for only a half hour or so. Equipment: CM log at 20' w/CM amp. in Thornhurst, PA.

Ken Simon; 516 Sixth Ave. South, Lake Worth, FL 33460 EDT-EST

June 17 Tr 1438 WJWJ-16 SC	Aug. 1 Es 2025 MUF to 90 Mhz
1810 WJCL-22 GA	21 Tr 1549 WJCL-22 GA
1929 WJKS-17 FL (over WLRN)	Sept. 7 Tr 0630 WJXT-4 FL
WOKL-35 FL	Es 1745 WDTN-2 OH
18 Es 1040 MUF to 107+	1800 WKZO-3 MI
19 Es 1530 MUF to 93	2129 KARD-3 KS
22 Es 2058 Unided-2 NBC ad for Fayetteville Cinema.	2157 MUF to 91 Mhz
July 5 Tr 1815 WJXT-4 FL T	20 Tr 0730 WOLF-35 FL (rare w/WTVX-34 on)
8 Tr 0405 WISF-10 FL	23 Tr 2100 WJWJ-16 SC WRJA-27 SC
10 Es 1435 MUF to 92	Heavy cci on W33AA.
2000 MUF to 104+	2154 WBEA-14 SC
11 Tr 0200 WISF-10 FL	26 Tr 0608 WTLV-12 FL
12 Tr 0700 WJKS-17 FL	WJCL-22 GA
0815 WCJB-20 FL	27 Tr 0633 WXAQ-47 FL Jacksonville
0825 FM from Tallahassee	WJCL-22 GA
13 Tr 0627 WJXT-4 FL	WJXT-4 FL
WISF-10 FL	WTLV-12 FL
0635 WTVT-13 FL (unusual to see when local WPEC-12 is on)	WJKS-17 FL
WJKS-17 FL	Oct. 12 Tr 0655 WJCL-22 GA WECA-27 FL WOLF-35 FL
0700 WJCL-22 GA	Nov. 1 Tr 0600 WJCL-22 GA
16 Es 1725 KTVO-3 MO	13 F2 0805 TF-1(41.25)
1745 KTVI-2 MO	14 F2 0753 TF-1(41.25)
24 Tr 1430 WOLF-35 FL (WTVX-34 off)	17 F2 0800 TF-1(41.25)
26 Es 0300 WBBM-2 IL	1311 BBC-1(41.50)
0730 CKCO-1 ON	19 F2 0900 TF-1(41.25)
0800 WKZO-3 MI	20 F2 0900 TF-1(41.25)
0830-1200 MUF to 103	22 Tr 0640 WJCL-22 GA
0830 WDTN-2 OH	24 F2 1030 TF-1(41.25)
27 Es 0148 KARD-3 KS	25 F2 0830 TF-1(41.25)
0215 KYTV-3 MO	26 F2 1315 BBC-1(41.50)
0230 KTVI-2 MO	27 F2 0815 TF-1(41.25)
Tr 0620 WTLV-12 FL	30 F2 1110 TF-1(41.23) (Bastia, Corsica)
WJKS-17 FL	Dec. 1 F2 1222 TF-1(41.25)
Es 0900 WCIA-3 IL	2 F2 0823 TF-1(41.25)
0928 KYTV-3 MO	3 F2 0816 TF-1(41.25)
1000 WPSX-3 PA	14 Tr 0625 WJKS-17 FL WCJB-20 FL WXAQ-47 FL
1100 WSIL-3 IL	F2 0953 TF-1(41.25)
1200 WAVE-3 KY	25 Tr 0811 Ch.13; Cuban Palm Tree TP.
28 Es 1823 KOET-3 OK	Jan. 4 Tr 0555 WECA-27 FL WJCL-22 GA
1830 KTVO-3 MO	0638 WCJB-20 FL WBBH-20 FL WJKS-17 FL
KFDX-3 TX	F2 0845 Spanish on ch. B-1. TF-1(41.23)
1900 WREG-3 TN	(Bastia, Corsica)
KETS-2 AR	0856 TF-1(41.25)
1918 KTVI-2 MO	0935 BBC-1(41.50)
2000 WEAR-3 FL Tent. (logo looked like it)	0859 TF-1(41.23) (Bastia, Corsica)

Richard Turcsany; 7 Cayer Circle, Shelton, CT 06484 EST-LDT

10-13 F2 begins, usual BBC-1/TF-1 audio/video.	Feb. 15 F2 0859 TF-1(41.23) (Bastia, Corsica)
10-19 45mhz BBC in strong at 1430.	21 Tr 0610 WJKS-17 FL WXAQ-47 FL
10-20 1415 Made I.F. connection to set (but no preamp for 45mhz), 405 line frame bars and blurred pix seen. 1430 20khz cci seen on B-1 from Redruth.	0726 WCJB-20 FL
	0800 WAWA-30 FL Jacksonville
10-21 1330-1400 B-1--Crystal Palace, Redruth, Llarddona cci seen on U.S. TV. 1340 Crystal Palace seen with	22 Tr 0625 WJKS-17 FL WJCL-22 GA
	0942 WAWA-30 FL

Rich Turcsany; continued---

- 10-21 unrecognizable man due to ghosting and modulation.
- 10-22 1330-1400 B-1 cci---5 stations in.
- 11-1 0850 Noted weak video buzz on E-2(48.25mhz), likely Spain. 0900 E-2 buzz in better with Portugal(48.24mhz), and West Germans (48.245/.255/.265) in. 0930 TVE-E-2 Madrid, Spain(48.25) seen on European TV with cci and severe ghosting. Could have been Zimbabwe but that path would have had to be open earlier.
- 11-2 0945 E-2 audios in(first time this season), as well as European E-2 carriers. 1000 10khz cci seen on E-2, but weak.
- 11-8 0900 B-2 audio. 0915 weak E-2 video.
- 11-9 0930 B-2 audios.
- 11-11 0930 B-1 extremely strong to view on European TV, but only cci and moving frame bars visible.
- 11-15 B-1 video in weak.

Unfortunately, the F<sup>2</sup> levels for E-2 and R-1 reception were not the same as last year, permitting only two weaks of E-2 reception, and not a trace of R-1. However, thanks to a Unisonic multi-standard TV I received last year, I was able to watch E-2 reception for the very first time(even though only ghosting and cci were seen). Next year, I plan to assemble a 45mhz reception system for B-1 reception, which will probably be the only trans-atlantic video to be seen.

Local TV news: A cp has been granted for ch.43 in Bridgeport to a group that will become the first group of women to own a TV station in the U.S. The transmitter will be located here in Shelton, and the station will operate as an independent with possible STV.

WFTI-54 Poughkeepsie, NY will come on the air soon as New York's first Christian TV station.

Two more may soon come on the air if ch.55 Riverhead and WNYC-31 are given the go-ahead to become Christian.

WWSG-57 in Philly will soon have ON-TV STV service, the same service that WNJU-47 was to have had, but ch.57 is still testing all day long.

And finally, another new station, WREB-65 Vineland, NJ will be on soon with local programming and with STV service for South Jersey and Philly.

William J. Draeb; Ellis St. R.R.#2, Kewaunee, WI 54216 CST

- |              |                  |         |              |         |      |                |
|--------------|------------------|---------|--------------|---------|------|----------------|
| 1-23 Tr 2056 | WJLN-54 405      | 2-15 Tr | WPTT-22 480  | 2-21 Tr | 0730 | WBTI-64 OH 400 |
|              | WSEE-35 "        |         | WLEX-16 "    |         |      | WKYT-27 KY 473 |
| 1-25 Tr 0609 | KDNL-30 432      |         | Youngstown   |         |      | WTVQ-36 KY "   |
|              | 1140 W49AA 325   |         | U's 420      |         |      | WDRB-41 KY 437 |
|              | 1200 WUSI-16 402 |         | WNEO-45 406  |         |      | WKIX-19 OH 400 |
| 1-26 Tr 1923 | KDNL-30 432      |         | WSEE-35 405  | 1420    |      | WKSO-29 KY 538 |
| 1-28 Tr 1835 | WJLN-54 " 405    |         | WJLN-54 "    |         |      | WLKY-32 KY 437 |
|              | WJLN-54 " 1824   |         | WUTV-29 445  |         |      | WKMJ-68 KY "   |
|              | WUTV-29 445      |         | CELFT-25 410 | 1825    |      | WKLE-46 KY 473 |
| 1-30 Tr 1922 | KDNL-36 457      |         | CICA-19 "    |         |      | WCVI-54 KY 407 |
|              | 2130 WMUL-33 498 |         | CHMT-47 "    |         |      | WKON-52 KY 437 |
| 2-1 Es 1240  | WJXT-4 1039      |         | WCKI-21 "    | 2100    |      | WPBO-42 OH 461 |
|              | WESH-2 1130      |         | WUHF-31 T    |         |      | WAFF-48 AL T   |
|              | WSAV-3 933       | 2-16 Tr |              | 2-24 Tr | 2045 | KDNL-30 MO 432 |
| 1300         | WCTV-6 T         | 2040    | WPTT-22 480  | 2-26 Tr | 0635 | WEHT-25 IN 420 |
|              | WCIV-4 T         | 2-17 Tr |              |         |      | KDNL-30 MO 432 |
| 1302         | WGBD-2 916       | 1828    | KDNL-30 432  | 0645    |      | WFIE-14 IN 420 |
|              | WFBC-4 725       |         | WTVQ-36 473  | 0700    |      | WKSO-29 KY 538 |
|              | WJFB-6 823       | 1905    | KOZK-21 589  |         |      | WLKY-32 KY 437 |
| 2-4 Tr 2124  | WTVQ-36 473      |         | KHFC-27 "    | 0714    |      | WDRB-41 KY "   |
| 2-6 Tr 0827  | KDNL-30 432      |         | KEMA-41 525  |         |      | WKYT-27 KY 473 |
| 2-14 Tr 2048 | KDNL-30 "        |         | KYFC-50 "    |         |      | WTVQ-36 KY "   |
| 2-15 Tr 1742 | WPGH-53 480      | 2-21 Tr |              | 0716    |      | WCET-48 OH 400 |
|              | WPCB-40 "        | 0730    | WCET-48 400  |         |      | WKGB-53 KY 553 |
|              |                  |         |              |         |      | WKOH-31 KY 467 |

Draeb; continued---

- |            |             |             |             |             |             |             |                |               |                             |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|---------------|-----------------------------|
| 26 Tr 0725 | WKMA-35 499 | 0645        | WKYH-57 551 | 0803        | WKLE-46 473 | 3-1 Tr 1129 | KCBJ-17 450 MD | 1200          | WHSN-21 671 NC              |
|            | K38AB 329   |             | 0811        | WUSI-16 402 |             |             | Asheville      |               |                             |
|            | 0829        | KHIN-36 457 |             | 0811        | WSVN-47 587 |             | WKPT-19 612 TN |               |                             |
|            | 2014        | WKGB-53 553 |             | 0829        | WBTI-64 400 |             | WCET-48 400 OH |               |                             |
|            |             | KDNL-30 432 |             | 2014        | WCET-48 "   |             | WKIX-19 "      |               |                             |
|            |             | WDRB-41 437 |             |             | WKON-52 437 | 1221        | WTVQ-36 "      |               |                             |
|            |             | WLKY-32 "   |             |             | WPBO-42 461 |             | WKON-52 437 "  |               |                             |
|            |             | WKLE-46 473 |             |             | 0811        | WCVN-54 407 | 1228           | WKYT-27 473 " |                             |
|            |             | WKZT-23 "   |             |             | 0830        | WKAS-25 486 | 1300           | WKOH-29 538 " |                             |
|            |             | WEHT-25 420 |             |             |             | WKPT-19 612 |                | WLKY-32 437 " |                             |
|            |             | 0200        | WCET-48 400 |             |             | 0844        | WCLQ-61 355    |               |                             |
|            |             |             | WKIX-19 "   |             |             |             | Cleveland      | 1313          | WKHA-35 551 "               |
|            |             |             | Youngstown  |             |             |             | U's 420        | 1319          | WCPH-55 T                   |
|            |             |             | U's 420     |             |             |             | W47AB 358      |               | WKYH-57 551 "               |
|            |             |             | W47AB 358   |             |             |             | Mansfield      |               | WLEX-18 473 "               |
|            |             |             | 2049        | WKMA-35 499 |             |             | 0807           | 1338          | WJLN-54 405 PA              |
|            |             |             | 2059        | WKON-52 437 | 3-1 Tr      | 0815        | WUTV-29 445    | 1412          | WSVN-47 587 VA              |
|            |             |             |             | WKOH-31 467 |             |             | 0815           | 1445          | WMUL-33 498 WV              |
|            |             |             |             | 2127        | WZTV-17 T   |             | 0825           | 1919          | WKOH-31 467 KY              |
|            |             |             |             | 2228        | WFIE-14 420 |             | 0825           |               | WUSI-16 402 IL              |
|            |             |             |             | 27 Tr 0450  | WLEX-18 473 |             | 0832           |               | WKMA-35 499 KY              |
|            |             |             |             |             | WKYT-27 "   |             | 1101           | 1941          | WCET-22 589 TN              |
|            |             |             |             |             | WTVQ-36 "   |             |                | 3 Tr          | 1803                        |
|            |             |             |             |             | 0505        | WKIX-19 400 |                | 8 Tr          | 0808                        |
|            |             |             |             |             |             | WJET-24 405 |                |               | WPTT-22 480 PA              |
|            |             |             |             |             |             |             |                |               | More reports next month-wd. |

SPECIAL REPORT

(continued from page 7)

Would approval of LPTV spell the end of TV DXing in the U.S.? Perhaps not, but if LPTV takes shape in its proposed form, things promise to be a real mess by the late 1980's in the larger urban areas. Cities like Detroit, Chicago, New York, and so forth, could have, in addition to full-power UHF stations, several LPTV signals dotting the UHF band--creating a mass of co-channel interference on the few "open" channels left. Some channels, such as 59, would be so popular for LPTV operation that they may well become the TV DXing equivalent of the AM BCB "graveyard" channels.

To make things worse, LPTV applicants are seeking VHF channels in some major cities--channel 13 in Chicago, for instance. Most LPTV operation will initially be on UHF in the larger areas though, simply due to the fact that the VHF TV allocations are filled in most large cities.

Coping with all the CCI produced by many LPTV stations on one channel during a good tropo DX opening could become a new challenge for TV DXers--but one that comes unwelcomed. Just ten years ago, it was rare to actually see co-channel interference on UHF TV--the band was that clear. Now, in the area of multi-megawatt monster UHF transmitters, and crowding on some of the lower channels (chs 18, 22, 27, for instance), CCI is commonplace on UHF. Five years from now, things could be very rough on UHF during a good tropo session in Midwestern regions.

Do we really need all these new stations? Many people, and not just TV DXers, would say no. However, the U.S. Justice Department's anti-trust division is encouraging the FCC to go ahead with the LPTV concept, claiming that it could help ease the "big three" U.S. networks' grip on viewers by encouraging a diversity of new programming and new networks available over the air to all viewers, not just cable TV subscribers. So, it would seem the wheels have been set in motion for LPTV, so to speak. In the meantime, the first LPTV networks probably won't be operational until late 1983, pending earliest approval. The VHF-UHF DIGEST will keep you informed on the evolving LPTV situation in months to come.

Many thanks to Larry Vogt, N4VA, of Beltsville, MD for FCC data, and to Greg Monti, Silver Spring, MD for additional material in the preparation of this report.

# IN SEARCH OF PSB

Donald L. Blevins  
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Baltimore, MD 21221  
phone 301-574-2714

In Search of PSB.....This feature will try to shed light on the services that are more or less standard throughout the United States. These services are taxi, automobile emergency, and special emergency. One thing must be kept in mind, however; for instance, a taxi may be on a non-taxi frequency, but a taxi frequency is seldom licensed to anything but a taxi. With the same bank of frequencies in your scanner, you can be sure to enter any metropolitan area and receive some activity from these frequencies.

## TAXI RADIO SERVICE

Base	Mobile	Base	Mobile
152.27	157.53	452.05	457.05
152.285	157.545	452.10	457.10
152.30	157.56	452.15	457.15
152.315	157.575	452.20	457.20
152.33	157.59	452.225	457.225
152.345	157.605	452.25	457.25
152.36	157.62	452.275	457.275
152.375	157.635	452.30	457.30
152.39	157.65	452.35	457.35
152.405	157.665	452.40	457.40
152.42	157.68	452.45	457.45
152.435	157.695	452.50	457.50
152.45	157.71		

## AUTO EMERGENCY SERVICE

150.815	150.92	157.485
150.83	150.935	157.50
150.845	150.95	157.515
150.86	150.965	452.525
150.875	150.98	452.55
150.89	150.995	452.575
150.905	157.47	452.600

## POWER - WATER - ELECTRICAL FREQUENCIES

37.44	47.72	48.20	153.485
37.46	47.74	48.22	153.50
37.48	47.76	48.24	153.515
37.50	47.78	48.26	153.53
37.52	47.80	48.28	153.545
37.54	47.82	48.30	153.56
37.56	47.84	48.32	153.575
37.58	47.86	48.34	153.59
37.60	47.88	48.36	153.605
37.62	47.90	48.38	153.62
37.64	47.92	48.40	153.635
37.66	47.94	48.42	153.65
37.68	47.96	48.44	153.665
37.70	47.98	48.46	153.68
37.72	48.00	48.48	153.71
37.74	48.02	48.50	153.725
37.76	48.06	48.52	153.74
37.78	48.08	48.54	153.755
37.80	48.10	153.41	153.77
37.82	48.12	153.425	158.13
37.84	48.14	153.44	158.145
37.86	48.16	153.445	158.16
47.70	48.18	153.47	158.175

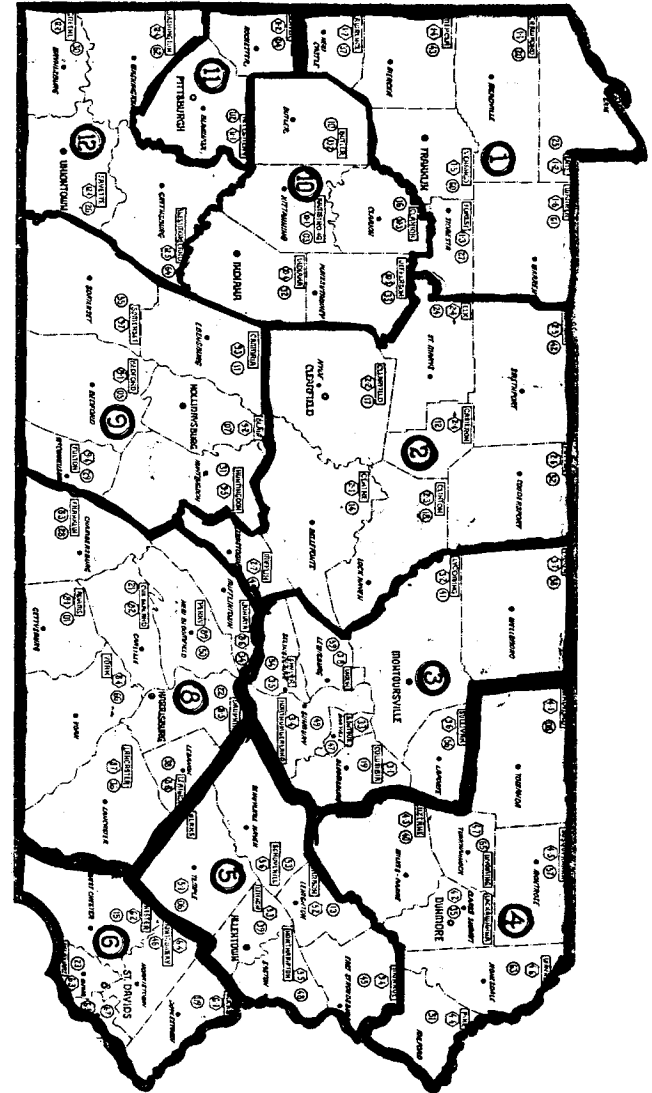
## IN SEARCH OF PSB

April 1981

## POWER - WATER - ELECTRICAL (continued)

158.19	158.265	451.125
158.205	451.025	451.15
158.22	451.05	451.20
158.235	451.075	451.25
158.25	451.10	

Pennsylvania Department of Transportation  
Statewide 47.30 Bases 47.38 mobiles  
West (Districts 1-2-9-10-11-12) 47.14  
East (Districts 3-4-5-6-7 & 8) 47.28



# CHOOSING A PREAMP FOR UHF TV DX

As any veteran TV DXer can tell you, you need a mast mounted UHF preamplifier to have above average UHF TV DX results. Next to the antenna, such a device is the most important part of a UHF TV DX system. The UHF tuner noise figure (N.F.) on a typical U.S. TV set is very poor by DXing standards. Even on sets with the newer detent-type tuners, tuner N.F.'s average in the 13 to 15 dB range on the UHF TV channels.

Some of the latest sets on the market do have what can be called "improved" tuners, and DXers are starting to test out some units that are rumored to be significantly better than those of recent years. One such tuner is the RCA MUV001 UHF TV tuner, which may be found incorporated into some of their top-of-the-line color sets, and perhaps videocassette recorders as well. However, a basic fact of life for TV DXers remains: the tuners in most, if not all, consumer TVs and VCRs are not fully adequate by themselves for weak-signal TV DXing.

In other words: the UHF tuner on your TV DX receiver--no matter how "hot" you think it may be--needs help. It means that the antenna input terminals for UHF on the back of your set need a lot more UHF signal to produce a snowfree signal, for instance, than the VHF signal level needed at the VHF terminals for the same kind of picture.

As if the inadequacies of UHF TV tuners weren't already enough to deal with by themselves, there is the added problem of lead-in loss. The transmission line running from your UHF DX antenna to the tuner, no matter how good, prevents much of the signal present at the antenna's terminals from ever getting to your set. High line losses are a fact of life at UHF frequencies. A 100-foot run of coaxial cable that would hardly seem to have any effect on a VHF signal at channel 2 can have a devastating effect at channel 68. After the run from antenna-to-tuner through such transmission line, the channel 2 signal would be only around  $\frac{1}{2}$  dB weaker than what it was at the antenna; in other words, about 90% of the signal strength would remain. But at channel 68, the same run of line would have as much as 8 dB of loss--a mere 15% of what it started out with at the antenna!

Taking UHF tuner shortcomings into consideration together with the high inherent transmission line losses of UHF, the conclusion is obvious. You've got to have something right up at the antenna terminals to boost the UHF signal before it starts its run through the high-loss transmission line down to your less-than-ideal UHF TV tuner. So, for best DX results, you need what antenna installers call a "booster"--a mast mounted signal preamplifier.

However, you've got to be careful about the preamp you select. Low- and medium-priced preamps can be found in many electronics chain stores and catalogs--but only a few models are really of any use for TV DXing purposes. Many of them are practically useless for DXing, either due to poor design, inadequate noise and gain specs, or a tendency to overload too easily. With so many models on the market, you need to be aware of the complete specs--don't go by any advertising claims--to select the preamp that will work best for you.

The first thing to keep in mind is that if you want to get the best results, you'll have to select a UHF-only unit. Many "all channel" preamps work adequately on VHF, but are quite poor on UHF. This is one reason to stay away from them, no matter how economical the price may be. Use of a UHF-only preamp in a strong local VHF and FM signal area is a good idea, as cross-modulation effects from these signals can cause problems. Most UHF-only preamps will pass (but not amplify) VHF signals. It may be necessary to use an FM band trap ahead of the UHF preamp in some strong FM signal locations--they have been noted to cause problems in even the best units.

## CHOOSING A PREAMP FOR UHF TV DX

The most important specification to check before you consider buying a preamp for DXing is the unit's noise figure. No matter how good any such device looks on paper, no matter how much signal gain the manufacturer says it has, the real "proof of the pudding" is in the noise figure. It's as simple as this: the lower that noise figure is, the better the weak signal DX results will be. It's the noise figure of a preamp that usually makes up for the poor noise figure of your tuner. For best DX results, you need a preamp that averages 4 dB or less across the ch 14 to 69 range. Anything below 4 dB N.F. is outstanding, and much closer to state-of-the-art than most commercially available preamps. This is the point where you can see dramatic improvements in picture quality.

In addition to a very low noise figure, a preamp with moderately high gain is needed for UHF DXing. Units with gain figures approaching 30 dB in the ch 14 to 69 range would be desirable, but not easy to design for such a large chunk of spectrum. The best of what's commercially available can give you a maximum of 20-25 dB gain on the UHF channels, and when you find that much gain in a low-noise unit you have a good DX-quality preamp. Beware of units with 15 dB gain or less on UHF--they'll tend to be inadequate, as you need a lot of gain to overcome both your lead-in loss and tuner mixer loss to get the full benefits of the lower noise figure of the preamp.

The broadband nature of a UHF preamp makes it particularly vulnerable to the effects of cross-modulation, an overload condition. If you live in an area with one or more strong local UHF signals, even the best preamp can be easily overloaded. When this happens, much or all of the UHF band is useless for DXing as long as the local signals remain on the air. You get all kinds of signal mixing and by-products, and the result on the TV screen is very frustrating--the video from the local UHFs mixing with and covering weak semilocals and DX signals.

Even though all preamps can be overloaded, some are more resistant to this problem than others. In general, DXers have found that such overloading takes place in the output stage of the preamp. Some three-stage preamps suffer from the problem in areas where two-stage preamps work very well. The best way to keep the overloading from causing cross-mod problems is to get rid of much of the local signal, using traps, before it gets into the amplifier. Failing this, you can settle for a preamp that is more suited to areas with many UHF locals. This may mean you'll have to settle for a unit with less gain than you'd like, but remember, it's low noise figure--not just gain--that improves your DX results.

Reputable preamp manufacturers can provide you with information to give you an idea of how much local signal their units can take before they go into cross-modulation. Check for "maximum input level" specs--the higher they are, the more local signal they can live with. A preamp that could take 25,000 microvolts of local UHF signal will overload much more often, and with many more adverse effects, than one that will take up to 125,000 microvolts. In this era of high-power UHF transmitters located almost next door to many DXers, what's needed is a preamp that will be able to take up to 500,000 microvolts (that's half a volt of RF energy) of local UHF signal inundating the DX site. Unfortunately, that's probably too much to ever expect.

There are several very hot UHF preamps on the market these days, but we really can't recommend any one of them for every DXer. You have to decide what you want from a preamp. The best units these days are made by Winegard and Blonder-Tongue. Winegard's AC-4990, and Blonder Tongue's latest versions of the famous CMA-Ub units are the most popular among the WTRFA membership. Each unit has its own attractions and drawbacks. For instance, the CMA-Ub-75 (model 1264) is the only unit that covers the old translator channels (ch 70 to 83), many of which are still on the air. The CMA-Ub-300, in its latest production run, is said to be extremely hot above ch 50. The Winegard AC-4990 is a super performer on the lowest UHF channels, and takes strong local UHF signals very well, with little-to-no cross-modulation problems in areas where DXers have previously been unable to use a preamp.

The choice is up to you. Future VUDs will review specific preamps in depth, to point out the best and worse features of each unit.

# FEEDBACK

## GLENN HAUSER: ON THE POSITIVE SIDE OF E-SKIP

Recently, DXpert Glenn Hauser sent copies of the following letter to the WED, and to the renowned engineering publication, IEEE Spectrum:

Dr. Ernest K. Smith  
Earth Satellite Communications Group  
JPL - Caltech  
Pasadena CA 91100

Dear Dr. Smith:

I enjoyed reading your article with Edwin W. Davis, "Mind-induced ions thwart TV reception" in the February 1981 IEEE Spectrum (pp. 52-55). I even understand to some extent the need in this particular article for the article "Sporadic-E-as-nuisance", but I must take issue with your (pl.) assertion in the box on page 54 that

"Amateur radio operators are the only ones who welcome sporadic E, since it helps them increase their range."

You appear to be unaware that there are several hundred enthusiastic TV-DXers, who are not (necessarily) amateurs, and who delight in seeing how many TV stations they can pick up from how far away, and sporadic E is, of course, one of the main mechanisms for this.

Some twenty years ago you were kind enough to send me a copy of your book "Worldwide Occurrence of Sporadic E" (NBS circular 582) which I have just extracted from my bookshelves. May I refresh your memory? Among those providing data for your analysis were the TV-DXers reporting to the (then) column in Radio-Electronics.

If you think that this hobby has died out, I suggest you become acquainted with the WED-DMR Digest, published monthly by the Worldwide TV-FM DX Association, P.O. Box 97, Calumet City, IL 60409.

Aside from this there are other positive uses for sporadic-E; for instance, I point out in an upcoming DX-Listening column in Popular Electronics that viewers along the Gulf coast have a good chance of seeing television from El Salvador (as I did frequently during three years in San Antonio, Texas) in addition to being able to monitor medium- and shortwave broadcasts from there in order to keep up with the revolutionary situation.

Furthermore, there are still isolated areas on this globe where people may rely on sporadic-E for their only TV reception in the absence of the wherewithal to install a private satellite dish.

I hope that in future articles you will again recognize the positive aspects to sporadic E, which has obviously been a phenomenon of continuing interest to you throughout your life.

Sincerely,

Glenn Hauser

I think that you've raised some pertinent points Glenn. Thanks for writing them with us.

# QSL CORNER

TV-QSL

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

## WATU-TV \* Channel 26 \* NBC for Greater Augusta

Dear Mr. Hanley:

This is to confirm your reception of WATU-TV, channel 26, on 22 July, from 6:20-7:10 a.m. We hope you'll have the opportunity to view our station again in the near future.

Yours,

*A. M. van Dintem C. E.*

GA, WATU 26 Augusta, %  
Box 6847, North Augusta,  
SC 29841. Received my own  
prepared USPS postcard in  
approx. 13 weeks, signed  
by A. M. Van Dintem, CE.  
Hanley

- DC WETA 26 Washington, P.O. Box 2626, 20013. Sent package (postage due) with letter from Hester Campbell, Operations & Engineering, booklet "How to receive WETA-26 "indoor antennas" & "outside antenna systems", & transmitter facts, coverage-map in 2 weeks. Schweitzer
- IL WBRM 2 Chicago, 630 N. McClurg Ct, 60611. Card signed by E. Chas. Lipton, jr received in 3 weeks. Ross
- MA WOTV 68 Boston, 390 Commonwealth Ave, 02215. Letter signed by Dexter B. Merry, CE, & also send copy of station license, sase used, reply in 8 days. Wolf
- MI WZZM 13 Grand Rapids, Box Z, 49501. Send unsigned card in 7 days. Durkin
- WZCZ 3 Kalamazoo, 590 W. Maple St, 49008. Card from Roseanne Martlock, Eng.dept with reply in 6 days. Durkin
- WPBN 7 Traverse City, Paul Bunyan Bldg. 49684. Leon M. Bush, CE, made photocopy of my reception report, wrote "Confirmed" on it, signed & date it, with the reply back in 7 days. Durkin
- WVTV 9 Cadillac, Box 627, 49601. Letter from Lowell Shore, CE in 7 days. Durkin
- WVCV 35 Grand Rapids, 301 Manitou Hall, Grand Valley State Colleges, Allendale, MI 49401. Send my prepared card & letter from, signed by David (???-unable to read last name), CE. Eddie
- ND WDAY 6 Fargo, 301 S. 8th St, 58102. Letter from Lance Lee, CE. New Address-take note! Send contour map of WDAY & satellite WDAZ, Devils Lake-Grand Forks. Reply in 2 1/2 months, attributes to new studios move & vacations. Austin
- OH WCLO 61 Cleveland, 6000 W. Creek Rd, 44131. Letter in 2 weeks from Pat Brady, GM. Send program schedule, says I'm the first one to report reception! Kelley
- PA WDAU 22 Scranton, 1000 Wyoming Ave., 185509. Brief letter from Carl Reiner, CE & wishing me a "Bumper DX season" Schweitzer
- VA WWTB 12 Richmond, P. O. Box 12, 23201. Typed letter by David G. Frasier, Technical Operations Manager, verifying date, time & giving some technical data, reply in less 2 weeks. Fabber

Reporters this time are: Christopher Hanley of Winston-Salem, NC who send in this month QSL copy to be printed. The other reporters are: Greg Kelley of New Philadelphia, OH; Bill Fabber of Bridgeton, NJ; Jeff Wolf of Silver Spring, MD; Robert E. Schweitzer of East Brunswick, NJ; Richard T. Eddie of St. Louis, MO; David Austin of Ashland, KY; Patrick Durkin, Jr. of West Allis, WI. Names of new reporters are underlined & I thank you very much. If you want your QSL to be printed, just send in a good copy of it or just send the card, I will copy it & mail it back to you, and you will be the QSL Copy of the Month. Or if you just want to report, copy the way I type each item above by state, call sign, ch. City, and your comments about your QSL. So 73's for this month, *Tom Yingling, good dx to all.*



April 1981

(Chernob, cont.) network lists, etc., included. If I see proof that you guys will help (contribute) to it, well, I'll see what happens, where I go to college, etc. This is not a guarantee, just food for thought." Here's some other sports info, Saul, on a minor league and college level- Tulsa Oilers (Central Hockey League) KMYO 92.1 OK; Bethany Nazarene College KJIL 104.9 OK; Southeastern Oklahoma State University KSEO 107.1 OK; Oklahoma Christian College KOCC 88.5; Southwestern Oklahoma State University KWEY 97.3 OK; Cameron University KLAU 101.5 OK. For you BCB fans, the Oklahoma City 89ers of the American Association will be on KOCY 1340 OKC this summer.

We've also received a further intro from a recent new member, George Rogers: "I am 26 years old and my hobbies when I'm not DXing are taping sports events on radio and TV using a cassette tape recorder. I especially like to tape wrestling matches. I also like to collect logos of the various TV and FM stations in the country. If you wish to contact me, my phone number is (404) 375-3525. Remember, we're gonna have DX fun in 1981!"

Next up is William Hepburn, a recent renewal: "Since this is my last year in school, I may have a change of address in September. Hopefully (if all things turn out), to the Transport Canada Training Centre in Cornwall, ON, for weather technician training. 1980 was a fair DX year for me as time during the summer was cut short due to a summer job, etc. TV log total has now slowly increased to 187 with FM at 115. I expect to reach at least 200 by September in both areas. This winter, I've really become involved with longwave DX, with my beacon totals rising from 150 to 335 since last September! Countries such as Jan Mayen, Greenland, Guyana, Bermuda, etc., have been logged. I guess I can honestly call myself an all-wave DXer now, although I seem to concentrate on the upper and lower extremities of the radio spectrum. WTFDA and LWCA are still the only two clubs I belong to. My interest in AM and shortwave has fallen considerably. Anyway, hope two solid weeks of 890 MHz ES this June come along and boost my log to 1,001, hi! 73s and good DX!"

Finally, we have this request from Mike Hardester: "I have received a letter from a radio listener (DXer?) in South Africa who would like to trade occasional copies of Billboard Magazine for copies of a South African publication entitled "Sounds" (is this the SABC publication?). Also, he is interested in trading cassette recordings of off-air music/IDs from stations in the USA in regards to Top 40, oldies and country-western music, both from AM and FM stations. If anyone can help, his name is Ronnie Swerling, 608 Senator Park, Keerom Street, Cape Town, Republic of South Africa." If you can help out, please do.....

Well, that about does it from here. See y'all next month.....

.....73..... jz



**NEXT MONTH  
in the V.U.D.**

U.S. DXERS WATCH VIDEO SIGNALS  
FROM NEW ZEALAND IN MARCH--  
THE LAST GREAT F2 DX FROM  
SUNSPOT CYCLE 21?

SPRING IS HERE (AT LAST)--  
IT'S TIME FOR THE E-SKIP  
SEASON. ARE YOU READY FOR IT?

RON SCHATZ PRESENTS HIS  
MEXICAN TV LIST

MARK LEWIS REVIEWS  
TOYOTA'S HOT NEW CAR FM  
RECEIVER

CONVENTION TIME IS APPROACHING.  
INFO ON REGISTRATION FOR THE  
1981 WTFDA CONVENTION IN  
OKLAHOMA CITY. IT'S GOING TO  
BE ONE OF THE BEST EVER. WILL  
WE SEE YOU THERE?