

Remembering the Old Days of DXing
by Gene Martin

It was sometime in the middle 1930s when the first radio stations began transmitting with vertical radiators dispensing with flattop antennas which had been universally used since the days of Marconi. By 1940 vertical radiators were in use worldwide.

From the viewpoint of broadcasters, the flattop antenna, usually composed of at least four parallel wires strung between two vertical towers or masts, had many drawbacks. As radio engineers of the 1930s explained it to me, the flattop antenna usually produced strange coverage areas, often contributed to severe fading problems at night rather close to the transmitter. At the same time, the flattop antenna often delivered a fine signal at night at points far away from the station.

Good coverage of distant areas at the expense of poor coverage nearby was something that no station really wanted. Instead, they wanted a solid, steady signal at night in the area where they had to make their living through selling commercials. This was the great virtue of the vertical radiator; it tended to produce circular coverage patterns, throwing an equal amount of "soup" in every direction, filling in nearby regions that were formerly afflicted by fading at night.

Today's DXers can have no real appreciation of how severe fading problems used to be. The 50-thousand watt WOAI of 1931 and 1932 was afflicted by fading at night all the way from Austin, Texas, northward to the area of the Kansas-Oklahoma border. Yet it managed to deliver a steady, stentorian signal into places like Denver, Des Moines, and Atlanta. And it often had no trouble reaching New Zealand shepherders with their four-valve radios.

General Electric engineers at Schenectady, studying the behavior of WGY's five kilowatt signal about 1936, found that it was better at night about 600 miles distant than it was at 300 miles. It tended to fade at 300 miles while it was strong and steady at 600 miles.

As a DXer in Dallas, 1926-1932, I often noted the rate of fading from some unknown station and would make a loose estimate whether it was near or far. I often would tell myself, "It's fading so badly, it must be only 150-200 miles away...."

The frequency, whether high or low, also entered into the equation. The fading problem at points near the station was much worse in the higher frequencies, 1200 to 1500, than in lower frequencies, say from 800 on down.

By 1931, KFJF, Oklahoma City, ancestor of today's KOMA, had become a five-thousand watt at 1480, but it was an entirely unlistenable station in Dallas, 200 miles away. I can't be certain about it, but I remember its rate of fading was at least 15-20 times a minute. One second, it was like a local and two seconds later, the signal would have dropped below the noise level.

Nowadays, vertical radiators have mostly eliminated fading problems of this intensity, but at the same time, the fabulous skywave signals of the old flattop antennas have vanished too. Reception is greatly improved within 300 miles of a 50-kilowatt, but at 3,000 miles and more, it seems to me a lot has been lost.

I do not know when the first vertical radiator was installed by a U.S. station, I merely know that in 1932, there were none but by 1940, they were becoming common.

WLW became a 50-kilowatt station in 1928, a 500 kilowatt station in 1934. The half-million watt took the air with a vertical radiator whereas the 50-kilowatt WLW had utilized a flat-top. The present vertical radiator used by WLW at Mason, Ohio, is the same one installed in 1934 for the big RCA transmitter and it must have been one of the first verticals in the country.

I have a piece of WLW promotion entitled "WLW at 25", published in 1947 on the occasion of the station's first quarter-century. It was March 2, 1922, when the WLW call was first heard on the air, a 50-watt station. I was working in the WLW news department in 1947 and remember the many special programs broadcast that week devoted to the 25th birthday. In fact, I helped arrange some of them for I was a member of the ten-person committee planning for the anniversary.

To zero-in on information of DX interest, this promotion pamphlet, when you unfold it, contains a huge night-time photo of the WLW vertical radiator. In that picture, the tower measures 18 inches tall. There is a lengthy account inside of WLW technical development in the first 25 years, and this puts the height of the vertical radiator at 831 feet. But in the cutlines under the photo of the tower the height is given as 708 feet. You can safely bet that the lower figure is the correct one inasmuch as 708 feet in metric measurements is 216 meters, which is very close to one-half of WLW's wave length, 428 meters. Thus the vertical radiator is a half-wave antenna designed for 700 khz.

In any event, the great DXing experienced in radio's early years, and remembered so well by Oldtimers like me, was surely partially the result of the universal use of flattop antennas by stations. Your 100 watt station a thousand miles away simply had a bigger voice than that it does today, because its antenna radiated a better skywave. These antennas probably had directional tendencies too, somewhat similar to what DXers find in extremely-long beverage antennas today.

In the years around 1930, 4QG, Brisbane (760, 3,000 watts) was widely heard in many portions of the U.S. My 1931 verification from 4QG shows a picture of an eight or nine storey building with a couple of antenna towers on top, each perhaps 100 feet high and I would guess 150 feet apart.

JOHK, Sendai (770, 10 kw) sent me a 1930 "verie" giving exact dimensions of their transmitting antenna, 60 meters high, 42 meters between towers. The JOHK weekday program schedule ran from 6 A.M. to 9:45 P.M. (JST) and it was substantially the same for all Japanese stations of that era. Several other Japanese stations sent along pictures of their antenna towers, and all of them, of course, were flattops.

I toured California in the summer of 1928 taking pictures of station antennas in both the Los Angeles and the San Francisco areas and all of them were flattops. It never occurred to the DXer of that era that any other kind of station antenna would ever come along.

My memories of DXing the broadcast band go back 51 years for it was in November, 1925, when I first turned the dial of a radio receiver. Yet I have not spent that many years at this strange pursuit, for my years of keen interest in the hobby were from 1925 to 1932, and from 1962 up to the present.

Between 1932 and 1962, there was never a time when I didn't have fair to pretty good radios in the house and the car, but it could not be said that I did any serious DXing over those 30 years.

It was on November 22, 1928, when JOAK, Tokyo, landed in my logbook--station number 417 heard from Dallas--an event which turned my DXing interest from that time on to reception of foreign stations. After you have logged Japan, what thrill was there to be found in hearing New Hampshire or British Columbia? For me, there was none and the intervening years haven't changed my feelings on that matter.

JOAK was a 10 kw station on 870 in 1928 and I had picked it up from 5:05 A.M. to 5:30 A.M. (GST)--1105-1130 GMT. My program notes on it read, "very clear, fair volume, program: soprano, piano, classical violin." My notes also disclose that it was November 30, before I heard the positive identification when the announcer was noted saying "JOAK, Tokyo." At that time, I assumed I was hearing the ID in English for I didn't know then that the letters of the alphabet are pronounced the same in Japanese and English. It was also on November 30, 1928, when JOFK, Hiroshima, (850-10 kw) became my second Japanese station.

By the spring of 1932, I had logged 11 Japanese stations, five in Australia, three in New Zealand, and cases of tentative reception included Manila and Harbin, Manchuria. One of the Japanese stations was JFAK, Taihoku, on the isle of Formosa, now known as Taiwan, and no longer Japanese.

I remember marvelous DXing mornings in Dallas when the Japanese were found lined up across the band on 870, 850, 830, 810, 790, 770, and 750, all carrying the same program. For the most part, the Japanese and Down Under stations did not coincide. If the morning provided Aussies and New Zealanders, the Japanese stations were usually missing. I have to say usually to indicate the general pattern but there came rare mornings as well, when both the Down Unders and the Japanese could be heard.

Another part of the pattern of DXing Trans-Pacific stations across a broadcast band that was virtually empty of domestic and Latin American stations was the limited time span when they could be heard at all. The Japanese and Aussies were rarely to be heard before 4 A.M. CST, or 1000 GMT, and by 6:00 A.M. CST, 1200 GMT, they were gone, faded out 60 to 90 minutes ahead of the fall and winter sunrise in Dallas. The approach of sunrise did not "enhance" reception of the Japanese or Down Under stations in any way. Instead, it began taking-out such signals even before the approach of dawn was showing itself in the Eastern sky. 4:00 A.M. in Dallas is 7:00 P.M. in Japan, 8:00 P.M. in Eastern Australia.

Returning to the DXing scene in Cleveland in 1962, I found it was an entirely new ball game. No longer was the dial clear of domestic stations after midnight. Instead, virtually every frequency was occupied night and day with domestics which seemed to feel it would place their licenses in jeopardy if they ever signed-off. And nearly all stations, except the Graveyarders, now broadcast with directional antennas which made it possible for the FCC to load regional frequencies with dozens of stations with a minimum of geographical separation.

Many of today's regional frequencies carry a station-load, quite similar in number to the crowded local frequencies of the early 1930s. Illinois is not a truly large state but five Illinois stations have been assigned to the regional frequency of 1440, quite amazing in the light of 1930 standards.

The general use of directional antennas also tends, in many cases, to make kilowatts almost meaningless. We have 50 kw stations which have trouble getting across the county line in this or that direction. And the 50 kw line-up on 1070 East of the Mississippi serves as a fine lesson as to the degrading of kilowatts in the present broadcast band.

The 1930 DXer took it for granted that he had some chance of hearing any 50 kw station on earth.

So, one of the first revelations which dawned upon me after 1962 was that stations congestion was so great that no longer could a DXer comprehend the true picture of what is possible in the broadcast band. I had been able to study it for years when it virtually empty of North American stations after midnight. There was no way I could not regret the departure of such conditions and the thought came to me that today's DXers might never be able to encounter that greatly educational and rewarding experience.

For example, I had learned from my early days in Texas that Japan, Australia, and New Zealand were not too difficult to hear when their frequencies were clear at night. But hearing anything from across the Atlantic was an extraordinary DXing accomplishment. A 75 kw station in Stuttgart, Germany, 833 khz, was the only Trans-Atlantic station I ever logged from Dallas. DXers all across the country in those early days found it easier to log Japan, Australia, and New Zealand than hear anything European. This was the case even for such places as New England and Quebec, and the great difficulty of logging Europe as compared to the ease of hearing Japan was a regular subject of comment and speculation in the pages of Radex from that period. (Radex was the DXer's Bible in those days, a small magazine published ten times per year in Cleveland, Ohio, and devoted to the general run of DXing topics.)

My experience in those days left me with the conviction that broadcast band signals from any far point to the West are somehow and some way equipped with a substantial advantage over signals from any far point to the East. It is my guess that this condition is worldwide and still exists. At Glenn Hauser's listening post in Thailand a few years ago, he heard a good many European stations, signals from the West, but never once was he able to hear any American station, which would have been a signal from the East.

Glenn could not even hear Hawaii from Thailand.

In December 1976, I found myself amazed at how easily North American stations are heard in London on the poorest equipment--Radio Shack's little TRF for \$30. Such stations as WINS, CFRB, WGY, WCAU, WNEW, WOR, were regulars in London on that tiny radio, and who knows what the HQ-180 would have brought in for me? So perhaps there is still some mysterious ingredient in propagation which favors signals from the West.

But for the American DXer of today, there will be no easy way to demonstrate this inherent superiority of radio signals from far-western points until some conditions arise which put our North American domestics off the air occasionally between midnight and 6:00 A.M., local time. Or, if the use of split-frequencies is generally adopted by Trans-Pacific stations, as in Europe now, I think you can rely on many of them being widely-heard across the U.S.

Issues of Radex, in the 1930-1932 era, contain many reports of Trans-Pacific signals heard in the Eastern U.S. Even inexperienced DXers were able to hear such places as New Zealand and Australia without realizing what they were hearing. For example, T. Colegrove of Frankfort, Michigan, wrote to Radex, (February 1932 issue) inquiring, "Does anyone know of a very small station in the U.S. on 720 kc? I heard him the morning of Dec. 30, between KMPC and CKMO so I am certain about his frequency, I think he is in Minnesota as I understood him to say he was playing a selection for someone in Minneapolis. At 5:12 A.M., he said, 'Goodnight everybody,' and signed off." The editor of Radex was not well enough informed himself, at that time, to advise Mr. Colegrove that his station was 2YA, Wellington, N.Z. The only U.S. station on 720 at that time was WGN, and the sign-off time in terms of EST, is a dead give-away for New Zealand. (Note the casual tone used by this Michigan DXer in mentioning CKMO, a 100 watt station in Vancouver on 730. Colegrove refers to it only by way of confirming the 720 frequency. Clearly, he was familiar with CKMO, and this speaks volumes about the kind of skywave radiated in those days. KMPC, Los Angeles, was 500 watts on 710.)

In Clermont, N.H., DXer Robert R. Rawstron, wrote a letter of inquiry to Radex which was published in the Mid-summer edition in 1931. He reported hearing a station on 760, 5:05 A.M. EST, on March 31. He wrote, "The signals were very faint and while the announcements were in perfect English, it was plain that the announcer was a foreigner, because of a certain peculiar enunciation." Rawstron gave the titles of two hymns sung by a mixed chorus, and went on, "Something was said about missionary work in the James or Jays Range. Can any reader identify?"

The identification reached Rawstron in the September 1931 issue of Radex which printed a letter from F.E. Holley of Chicago. Holley wrote, "In answer to Mr. Rawstron's request for someone to identify the station he heard on 760 kc., which mentioned missionary work in the James Range, I think the station he heard was 4QG, Brisbane. This station would be the most likely to come in at 5:00 A.M., and also the James Range is in Central Australia. I have heard this station coming in fairly well twice, and recently I received a letter of verification from them."

4QG was on 760 at that time, operated with 3,000 watts, and was one of the most-often heard Australians in the U.S.

G.W. Lowry, Jr., Everett, Washington, inquired in the January, 1932 issue, about the identity of an English-speaking station signing-off at 4:00 A.M., PST, on about 840 khz, and giving their local time as 10 P.M. But Lowry was too inexperienced to realize his station would have to be an Australian, and was surely 2BL in Sidney. (2BL was on 855 instead of 840, but on old TRF battery sets, such as Lowry's 5-tube Radiodyne, close frequency reading wasn't possible, especially in the middle of the night when the dial was empty of landmark regulars.)

Clyde W. Ham of Shelby, N.C., reported in the January, 1932 Radex, "The Japanese stations are coming in fine here. In the past ten days I have had three new ones, JOCK, JOFK, and JOBK. I have verifications from JOIK and JOGK already. Have also had 4QG, 2BL, and 3LO. I listened to 4QG for over thirty minutes." Albert Palmer of East Liverpool, Ohio, also in the January, 1932 issue reports, "I listened to two Australian stations without missing a morning from October 17, to October 26. On November 5, from 4:00 to 6:00 A.M., EST, I tuned in 2BL, 4QG, 3LO, 2FC, JOAK, JOHK, JOCK, and five West-coasters."

Joseph Leo Hueter, 1802 West Columbia Ave., Philadelphia, reported in January-32, he had verified 502 out of 610 stations heard. The Radex editor commented, "He has a long string of JOs, Anzacs, Hawaii, Alaska, Germany, Norway...." Ralph D. Ohlweiler, South Bridge, Mass., reported in the September, 1931 issue of Radex, "I have a log of 432 stations and have over 400 verified, a few of the best of them being, JOAK, JOIK, KGU, KGME, KGBU (Ketchikan, Alaska)..." (Elsewhere in these issues of Radex KGBU is condemned by one listener as a station that would verify any kind of report. So perhaps certain things haven't changed much in DXing over the years.) Listener Ohlweiler also reported his aerial was 300 feet long.

Also in the September-31 issue, Prof. D. Gadoury of Montreal, reported logging 309 stations with JOBK verified. The difficulty of hearing Europe was all the more puzzling inasmuch as many European stations broadcast at that time with considerably more power than the stations of Australia, New Zealand, and many of the Japanese.

Mac Plung, 1125 Coney Island Ave., Brooklyn, reported in the September, 1931 issue, that he had succeeded in logging stations across both of the seas. He listed them as 2LO (London), a station in Koenigsberg, Germany, JOHK, JOIK, 2YA, (all verified) and said his best catch was 3LO, Melbourne.

Edmund Walbrecht, Dover, N.J., reported in the mid-summer 1931 issue, he had just completed a most successful DX season featured by the receipt of nine verifications from stations over 10,000 miles distant. He wrote "verifications in this class are from 2BL, 2FC, 2GB, all of Sydney, Australia, 2YA, 1YA, and 3YA, all of New Zealand, and two of them being 500 watters; 3LO and 3AR, both of Melbourne, and 4QG, Brisbane." All of these, his report goes on, are 100% specific and genuine and open to any doubter's inspection. Walbrecht said most of the Aussies were received last October, which was by far the best month of the year for Trans-Pacific reception.

Walbrecht's report also said, "But still I have no Europeans or Japanese. I can't understand this as Australia is a good deal farther away and the stations are lower powered. Australian reception has been quite reliable this winter, and few weeks passed that I didn't hear 2BL."

Walbrecht said he heard KGME, (1320-250 watts), the morning of March 29, "so loud that it almost shook the windows." This New Jersey DXer of 1931 said he used a very long antenna, 325 feet, and 50 feet above ground on the average. His radio was a battery-powered Radiola No. 20. This was an RCA product of that day and I can recall nothing specific about this model.

In the same mid-summer issue of Radex, DXer I.H. Kattell, of Binghamton, NY, reported his best catch came on February 18, when at 4:00 A.M., he heard orchestra music coming through on 855 khz. The station proved to be the often-heard 2BL, Sydney. Kattell sent the station a list of selections he had heard, and received a verification on April 21.

In Madison, Wisconsin, DXer Paul L. King, 1523 Madison St., reported in the same mid-summer issue, that he caught 2YA at 2:44 A.M. on April 19. He said it was his first trans-oceanic station. King said he listened to 2YA for 58 minutes, heard it quite clearly, and got plenty of material for a verification. The next morning, he continued, he listened to 2BL for 40 minutes, and after it faded out he caught JOCK, Kumamoto, Japan.

The same issue of Radex printed a letter from James E. Perry, Masonic Temple, Salisbury, MD, in which he said he had heard one Japanese station and one from New Zealand. Perry explained he had not been able to hear KGU because WFIW, Hopkinsville, KY, "never seems to sign off before I am ready to sign off."

I also remember the irritation I felt at that same time when WFIW began all night operation on 940 khz. The station no longer exists and the call letters have been moved to Illinois.

Those were the days when a 1,000 watt station becoming an all-nighter 700 miles away was taken as a calamitous development by DXers. How things have changed!

All things considered, the East Coast DXer of that day was quite close to Europe as compared to the great distances to Japan or Australia. He still is for the Atlantic is quite a narrow pond. The early sign-offs of European stations, by 5:00 to 6:00 P.M., or thereabouts in terms of EST may have entered into the matter. All night broadcasting was unknown throughout the world in those days although the U.S. may have had a half-dozen or so all-nighters by 1930. I can remember no more than three.

There were no more than 300 stations in Europe at that time, not counting Russia, and the stations of Britain, France, and Spain were located all over the band, many on split frequencies, just as they are today.

The famous 2LO of London was on 842 with 30 kilowatts and 840 was a Canadian frequency, Toronto with 500 watts--Red Deer, Alberta, with 1,000 watts. London signed off nightly at 6:30 P.M. EST. 5GB, Daventry, had 25 kw on 626. Barcelona had 10 kw at 1119, Spain's most powerful--BCB stations of France were conspicuously low powered although the French maintained a couple of 15 kilowatts in the long wave--in Switzerland, Sottens had 25 kw at 743--and Beromunster had 60 kw at 651. A 5 kw WSM was on 650. Hilversum in the Netherlands had 7 kw at 1004. European lists from that era all showed an LKO, Oslo on 608 and thereby hangs a tale provocative-enough to warrent re-telling as a means of ending this lengthy dissertation.

A well-known, highly respected DXer of that day was Don Townsend, 1421 Arch St., Berkeley, California. Townsend had 16 verifications from Australia, for example. In the October-1931 issue of Radex he reports receiving a letter from LKO. He quotes it as follows: "There never was a station LKO at Oslo operating on 608 kcs. In fact, there is not and never was any station in Oslo operating on the regular broadcast band. Our high powered Oslo station, LKO, using 75 kilowatts, operates on the low frequency of 280 kilocycles and hence cannot be received in America. We are sure there must be some mistake.... Our relay station at Trondheim, on whose program you have reported, operates on 608 kilocycles with only 13.5 kilowatts, so your reception is remarkable indeed considering the vast stretch of land between the Statue of Liberty and the Golden Gate."

The date and time of Townsend's Trondheim reception is missing from this account, but he added they had sent a very nice verification. And he urged all DXers who were getting Norway at 608 to send their report to Trondheim instead of Oslo!

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