MAY 1941:COMMERCIAL FM BROADCASTING BEGINS IN MICHIGAN ON W45D AND W49D

On May 7, 1941, a telegram arrived at the *Detroit News* addressed to W.J Scripps which was quoted in the newspaper on the front page. It read:

"Commission granted you authority operate high frequency (FM) Station W45D commercially on 44,500 kc. Using 3 kilowatts power for period not to exceed 60 days pending completion under B2-PH-21 as modified without prejudice to the determination of the issues in the hearing on Order No. 79 also directed that construction permit be issued as granted subject to same condition. (Signed) T.J. Stowe, Secretary, FCC, Washington, DC."

A similar telegram was received at the office of John Lord Booth, who had acquired Detroit AM station WJLB (originally called WMBC) in 1939, authorizing him to begin broadcasting a new FM station at 1kw at 44.9MHZ over his new station, W49D, (full power would be 10kw). Both stations began testing almost immediately and W45D commenced regular programming on a definite daily schedule (initially noon-8:00PM) on Tuesday, May 10, 1941 as Michigan's very first FM station and America's seventh. On May 19, 1941, based on accounts in the *Detroit News*, W45D and WWJ co-hosted (and simulcasted portions of) a party that included Michigan Governor Van Wagoner, members of the Xavier Cugat Orchestra, the Ink Spots, and several other locally and nationally known entertainers and celebrities. They gathered in a new specially built FM studio occupying the entire forty-fifth floor (a smaller upper floor) of Detroit's Penobscot Building (the transmitter was installed in a portion of the cupola on the forty-sixth floor) to be part of the celebration of the completion of the first week of "static-less" radio broadcasting in Michigan. This was radio that was not only virtually static-free, but that also produced a dynamic sound range that was far better than AM or the 78-RPM records of the time, up to 15,000 cycles. In fact, on May 19, 1941, the *Detroit News* published a tribute to MAJ Edwin Armstrong on page 28. While it must have been challenging to impart the meaning of FM to newspaper readers back then, the author of that piece certainly had a flair for hyperbole. He wrote:

"…the FM signal (like a base runner in a hotly contested baseball game) slips by and over and under the interfering static."

Within days, on May 24, 1941, W49D began its regular schedule (temporarily at 1kw). A two-page ad placed by RCA in *FM and Television* Magazine in August, 1945, showed pictures of W49D's (by then called WLOU) entire facility including the transmitter, antenna, and studio and gave the station's technical information which included an all RCA studio featuring RCA 77-B and 88-A high fidelity microphones, an RCA 70-B console, an RCA FM-10-B 10,000 watt transmitter and an RCA MI-7823-A antenna mounted atop the Eaton Tower--aka the David Broderick Tower—on Witherall just off Harmonie Park in Detroit.

Even as the pall of War descended over the country, it was clear that FM was destined to become a winner. *Broadcasting* Magazine on November 10, 1941 reported that when W45D and W49D received their construction permits, applications were in the queue for three additional FM stations in Detroit (WJR, WXYZ and WJBK), while the *Detroit News* also cited applications in Lansing, Battle Creek, and Grand Rapids. Construction of these stations would not occur until after the war and when they finally signed on it was

with the new post-war call signs and in the new 100 MHz band. One important note about the pre-war authorizations: They were by square miles of coverage area and not by power, something that confused advertisers who were accustomed to buying time based on population and station type, such as 50,000 watt clear channel stations, for example. An article on page 38 of *Broadcasting* dated January 1, 1941 informed advertisers that power and frequency meant little on FM and broadcasters should look at coverage area when considering placing ads. Indeed, W45D's and W49D's licenses actually authorize a coverage area of 6,820 Square Miles and do not stipulate a power output. As manufactures were forced to curtail civilian radio production, many of them, most notably Zenith who held the Armstrong patents, sought to keep interest in FM alive with colorful magazine ads featuring famous entertainers that reminded everyone that once there was Victory, they would soon be back in business manufacturing "velvet-sounding" FM radios. They were also quick to point out that those radios would be even better than before thanks to experience gained by building narrow band FM communications sets for the military. These ads also reminded consumers that while there were FM converters available that plugged into phonograph jacks on standard radios, the new AM-FM radios contained better amplifiers and speakers that produced the full dynamic range of FM.

Meanwhile, broadcasters did their part. They constructed new, specially designed studios custom made for FM with high fidelity microphones and other features as well as high quality STLs. As I will discuss later, they surveyed listeners to gauge what current programming should be and to plan for the post-war future. Studio equipment manufacturers tweaked boards and other items to make them ready for the improved fidelity. The Gates Model 30 console, the Western Electric 23C and others were all now proclaimed "FM ready". These new FM stations sought to take maximum advantage of the sound quality in their programming too. Since 78-RPM records of the day did not begin to showcase FM's sound, they originated mainly live programs (in addition there were Musicians' Union issues we will discuss later that drove live programming versus network or records). Based on the program guide in the *Detroit News* and ads for the stations, a listener with an FM radio arriving home on January 16, 1942, could unwind with "Wayne University Drama" at 3:15 pm on W49D and end the day with John Hammond at the keyboard of the Hammond Organ at 9:00 pm on W45D's "Solos at Nine". Newspaper ads for "Solos at Nine" stated "to hear the Hammond Organ and the Novachord offerings…over your FM radio is to marvel at the tone realism and noise-free reception of Frequency Modulation." And, of course, when the sole alternatives were AM radio and 78-RPM records, someone hearing these live FM broadcasts for the first time must have been absolutely overwhelmed by the sound quality which would have been a quantum leap over anything they had heard before.

In fact, a New York-based research company called Maxon, Inc. launched a survey of FM set owners in four cities including Detroit in September, 1943. Of the 229 listeners surveyed in Detroit, 16.1% called lack of static "most vital" in their present FM reception while 40.9% called high quality sound reproduction most vital. These numbers correlated with the results found in other cities such as New York, and with other factors considered by this survey, such as why owners bought their FM sets in the first place (5.1% for static suppression, 40.2% for tonal quality). That's why it is not surprising that during the war years, both W45D and W49D, as Michigan's sole FM stations, operated almost entirely independently of their AM companions, WWJ and WJLB, producing live high fidelity broadcasts.

FM stations nationally were charging between $50.00-$100.00 per hour of prime-time program sponsorship (Source, *Radio Daily* January 10, 1941) and with more national companies such as the Bulova Watch Company and General Mills buying time on FM, independent programming was generally viable during FM's first decade. Interestingly, while the FCC only mandated 2 hours per day of unique, high fidelity (i.e. non-simulcast) programs on FM in 1941 (stipulating 1 hour during the day and 1 hour at night), an article in the *Radio Daily* dated July 9, 1941, titled "See Majority of FM Operators Using Non-Duplicating Shows" stated that there was little simulcasting. Nationally the average station produced from 60-100% unique high fidelity (or "full fidelity" as the 1940s FM broadcasters used to call them) programs and, based on *Detroit News* program logs, in Detroit that was near 100%.

After the war, FM came back with a bang as the pent up applications for licenses were processed. The January 20, 1947, coverage of a National Association of Broadcasters (NAB) convention in *Broadcasting* Magazine exuded unfettered optimism about FM's future. Walter J. Damm, the Vice President and General Manager of Radio at the *Milwaukee Journal* (W55M/WTMJ-FM) talked about the benefits of FM and predicted that the shift in frequencies to the higher 100MHz band (see below), while worrisome to broadcasters, would ultimately benefit FM because of better sound, reception, and propagation. The April, 1948, *Consumer Reports* Magazine, which rated several FM table radios (many of which by then tuned both the pre-and post-war bands) started with a section boldly titled "FM gets better as AM gets worse" that discussed the over-crowding of the AM band as the number of stations soared from 900 in 1945 to nearly 2000. This optimism can also be seen in the license applications pending right after the war. *Broadcasting* Magazine on September 17, 1945, listed the following pending applications in Michigan:

Ann Arbor	Washtenaw Broadcasting
Battle Creek	Federated Publications
Bay City	Bay Broadcasting
Benton Harbor	Palladium Publishing
Detroit	UAW-CIO
	James F. Hopkins
	King-Trendle
	Goodwill/WJR
Grand Rapids	John Fetzer
	Grand Rapids Broadcasting
	King-Trendle
	Midwest FM Network
	Leonard A. Verslus
Dearborn	Herman-Radner
Escanaba	John P. Norton
Flint	UAW-CIO
Jackson	WIBM Radio
Lansing	WJIM Radio
Muskegon	Ashbacker Broadcasting
Pontiac	Pontiac Broadcasting
Port Huron	Times-Herald Company
Saginaw	Saginaw Broadcasting
Wyandotte	Wyandotte News

In addition, the number of FM radios in the Detroit area climbed steadily until the war years ended production. As of November, 1941 (as reported in *Radio Daily*) there were 120,000 FM radios in use nationally and 6,000 in Detroit. Within a few months the Detroit number was 9,000. By 1947, there were nearly 25,000 FM sets in Detroit, unfortunately most now obsolete because of the shift in frequencies (see below). The UAW also weighed in to promote FM's future by building WDET in Detroit in 1949 as well as other stations. Norman Matthews, the Chairman, Radio Stations Committee, Executive Board, UAW-CIO, wrote about the UAW's ambitious plans in *FM Business* , February, 1947. Plans were for both commercial and non-commercial programming that would include "educational, religious and controversial issues… voice for labor, air-time for management, and no racial discrimination…". In addition, the UAW planned to partner with manufacturers to build very low cost FM table radios that would be available at or below cost to members. Their intent, as explained by Matthews, was "to fight along with other FMers for better radio service to the public and to compete with the other broadcast operations in building fairer and more democratic radio."

The best gauge of the feelings of broadcasters as they embraced FM after the War is the text of this ad, placed by WWJ-FM in *FM Business*, September, 1947, just after its switch to the high band:

"During the 7 years of its existence, WWJ-FM, Michigan's first FM station, has made a deep and lasting impression on the listening habits of Detroiters. So conscious are they of WWJ-FM's leadership, that the thousands of FM sets in the Detroit area are almost automatically tuned to WWJ-FM regularly. This impression value will produce gratifying results for WWJ-FM advertisers during the golden FM era ahead, in the prosperous Detroit market, where steady employment of more than a million workers is virtually assured for years to come, supplying America's most in-demand product… *shiny new cars*!"

Throughout Michigan and the nation, broadcasters were betting on this "golden FM era". However, for many the next decade would spell ruin as the 1950s produced not a golden era but a train wreck of epic proportions.