Shuler and Joseph Doron and the Doron Brothers Electrical Co.

(with a separate section about Harry Fahrlander and "The Radio Company")

Early wireless radio history in Hamilton, Ohio

-April 30, 2008-

(Updated November 16, 2011)

Introduction

Shuler Doron and his bother Joseph were pioneers in early amateur radio and formed the Doron Brothers Electrical Company around 1910. However, Shuler was experimenting with electrical and wireless transmitting devices in prior years as early as 1903 when he was a teenager.

The following pages about the Doron's early wireless radio history is divided into two parts:

Part 1: The Doron's "regular amateur", "special amateur", and "broadcast radio" stations and,

Part 2: The Doron's wireless equipment and radio manufacturing business.

The history story was assembled from information found on the internet, local newspaper articles and library files, old radio magazines, government *Radio Service Bulletins*, and old documents found in the loft of the transmitting and equipment building in the backyard of the property at North C Street where their early amateur wireless stations and then later their broadcast radio station was located.

An additional section about Harry Fahrlander, who was another radio pioneer in the City of Hamilton, is included in this radio history story. The Harry Fahrlander section starts on page 27.

Summary of station CALLSIGNS discussed in the history story:	
-Shuler Doron's regular amateur stations:	"D5" (? to 1911) and "8AJT" (1912-1915)
-Doron Bros. Electric Co. special amateur stations:	"8ZU" (1915-1919) and "8XAG" (1922-1925)
-Doron Bros. Electric Co. broadcast radio station:	"WRK" (1922 to 1926)
-Shuler Doron's and John Slade's broadcast radio station:	"WRK" (1927 to 1930)
-Harry Fahrlander/The Radio Co. broadcast radio stations:	"WEBO" (1924), "WSRO" (1925-1929)

Credits

The history story was researched, compiled, and written by Bob Anello, current owner of the Doron home. The following persons provided input and additional information:

- Charles ("Chuck") Stinger (W8GFA), early radio historian. Hamilton, Ohio
- Frank Fahrlander (N7FF) and brother Hank Fahrlander (W5PXB) former Hamiltonians who contributed some information and photos for the Harry Fahrlander section of this history story.

Special thanks and acknowledgement to the following persons:

- Kevin and Mindi Jones whose interest in the Doron's radio history and house compelled me to finish this story that I started writing in 2006. Kevin (W8KJ) and Mindi (KC8CKW) organized a May 3-11, 2008 ham radio "special event" with operators transmitting from the Doron's 1915 transmitter building and 1922 antenna tower. This commemorative event was a tribute to the early radio history of the Dorons and the City of Hamilton.

THE HAMILTON TELEGRAPH THURSDAY, SEPTEMBE R 16, 1915.

DORON BROTHERS MANUFACTURE APPARATUS FOR THE WIRELESS

—Photo by Webb.

JOS. DORON JR.

SHULER DORON.

With the recent increasing bus-

The Very Early Beginning - 1903

The earliest local newspaper article about the Doron brothers that we found was in the September 16, 1915 *Hamilton Telegraph.* (Photos from the article are shown above) According to the article, Shuler Doron started experimenting with wireless apparatus when he was 13 years old and he "developed a powerful wireless station" for his own use and made the apparatus in the cellar at his home.

When Shuler Doron was experimenting with wireless apparatus at 13 years old, the year was **1903** in the very early days of the Guglielmo Marconi and Lee DeForest period of wireless radio! Hence, Shuler was one of the very early pioneers in wireless radio, and so the story begins!

– PART ONE –

DORON BROTHERS RADIO STATIONS

It is generally accepted that the start of amateur wireless radio was 1908. It is difficult to know exactly how many amateur stations were on the air during the unregulated years 1908-1911. Estimates put the number of "major" stations (capable of communicating over 10 miles) at 600, while "minor" stations with a one or two mile range might have possibly numbered 3,000 or more.

Shuler Doron's Amateur Radio Stations

1908-1911

Amateur wireless radio stations were not regulated until 1912 and during the unregulated years amateurs assigned their own callsigns. In May 1909 the first callsign book of amateur wireless radio stations called "The Wireless Blue Book" was published by the Wireless Association of America. In June 1910 and June 1911 new annual editions were printed.

Less than 100 amateur stations were listed in the 1909 edition but as more amateurs submitted their callsigns the 1910 edition listed approximately 550 stations. No stations from Cincinnati or Hamilton appeared in the 1909 and 1910 editions. There was a fee of 25-cents to be listed in the 1911 edition.

The 1911 Blue Book lists Shuler Doron's station "D5" (self-assigned) with a 500-watt transmitter. (In 1911 Shuler was 21 years old). It is important to note that many stations were operating before being listed in the Blue Book and based upon information we have Shuler's first station was pre-1908.

The 1911 Blue Book listed four amateur radio stations in Cincinnati and four others in the City of Hamilton including Shuler's station. Street addresses were not shown in the Blue Book lists.

The four stations in Cincinnati were:

Callsign	Owner	Approximate Wavelength	Spark
BCA	Clarence A. Bailey	not indicated	not indicated
DT	J. Deters (receiving station only)	not indicated	not indicated
IKE	J. H. Stewart	175 meters	10 inches
JPH	John P. Hobart Jr.	60 meters	1 inch

The four stations in the City of Hamilton were:

Callsign	Owner	Approximate Wavelength	Spark
D5	**S.W. Doron**	**380 meters**	**500 watts**
HFJ	Francis Huser Jr.	125 meters	1 inch
KN	Herbert N. Swain	225 meters	½ inch
Q	Ernest J. Heiser*	225	4 inches

*A photograph of Ernest Heiser's "Q" wireless station apparatus is shown in the photographs section

It is important to note that at this time in history wireless radio transmissions were in telegraphic code and voice transmissions did not begin to evolve until around 1920.

1911-1912 clubs and associations

Circa 1911-1912 Shuler and Joseph organized the Radio Club of Hamilton. A 1912 photograph of Shuler and Joseph with several young men standing on the front steps of the Doron house at 329 North C Street is shown in the photographs section.

Shuler was also an officer of the Hamilton Radio Association as the secretary and chief operator along with Arthur Letherby (vice-president), Hughes Beeler (president), and Cecil Hopkins (treasurer). A 1912 photograph of the four men is shown in the photographs section.

Shuler built a long wave radio receiving setup for the Cincinnati Amateur Radio Club. A photograph of the circa 1912 apparatus with operators is shown in the photographs section.

1912 - the twin antenna towers

Two wood towers were erected by the Dorons for a long antenna… a "south tower" in the backyard of the Doron house and a "north tower" approximately 400 feet away. Based upon photographs we have, the towers were at least 80-feet tall.

In 1912 Shuler and Joseph's father still owned several lots on North C and D Streets northward from their house to a house at 385 North C St. (built 1906) and a house at 404 North D Street (built 1912). Photographs indicate that the north tower was built near the rear of 404 North D Street.

The dipole-type antenna that was suspended between the towers ran exactly north-south and the most powerful signal radiated predominantly eastward and westward across the country. (As we shall see later in this story, the Doron's more sophisticated 1920's transmitters and antenna on a different tower transmitted broadcasts that were received at distances greater than 2,500 nautical miles!)

After 90 years, the wood antenna towers are no longer standing. The wood tower that was located in the Doron house backyard was replaced with an iron tower around 1920. (Photos of the north tower are shown in the photographs section)

The "Radio Act of 1912"

On August 13, 1912 the "Act to Regulate Radio Communication" was passed by Congress and by December 13, 1912 radio stations were generally required to have government-issued licenses to operate. At that time in history the Radio Service of the Bureau of Navigation of the Department of Commerce controlled, regulated, and administered radio communication in the United States.

There were seven amateur station license categories or "classes" of licenses. Two of the seven classes, the "General Amateur" (class 5) and the "Restricted Amateur" (class 7) were for personal stations operated by amateurs and hobbyists, and were limited to operating on 200 meters (1500 kilohertz). (The other classes are discussed later on page 5)

The "General Amateur" and the "Restricted Amateur" station licenses were issued by regional radio inspectors and information about these two classes of "regular" amateur stations was reported once a year in June or July in the annual radio station lists issued by the Department of Commerce.

By June 30, 1913 there were 1,224 licensed "General" and "Restricted" amateur stations in the U.S. and by June 30, 1914 the number more than doubled to 2,796 stations[1].

The 1912 act divided the country into "districts" and the government assigned callsigns that started with the number of the district followed by letters. Ohio was in the eighth district which included West Virginia, the lower peninsula of Michigan, most of New York State, and most of Pennsylvania.

By June 30, 1914 there were approximately 1,350 "General" and "Restricted" amateur stations in the eighth district and sixty of them were in the general Cincinnati-Hamilton area.

Of the sixty amateur stations in the Cincinnati-Hamilton area the breakdown of locations in specific cities, locales, or townships was:

Cincinnati	36 stations
Norwood	7 stations
Hamilton	5 stations
Wyoming	4 stations
Middletown	2 stations
Oxford	2 stations
Lockland	1 station
Harrison	1 station
St. Bernard	1 station
Lebanon	1 station

A list of these sixty amateur stations in the Cincinnati-Hamilton area in 1914 with their callsigns, owner(s) names, addresses, and transmitter power are shown on the following two pages.

The list was compiled from a very old Bureau of Navigation list of "Amateur Radio Stations of The United States" booklet we found in the loft of the transmitter house. Although the booklet's cover was missing we were still able to date it because Shuler's station address was listed as 329 "Terrace Avenue". Since "Terrace Avenue" was renamed "C Street" in 1915, the booklet is either the July 1, 1913 or the July 1, 1914 annual list of amateur radio stations in the U.S..

[1] Source: Chart in the April 30, 1928 *Radio Service Bulletin*

1914 "General Amateur" and "Restricted Amateur" stations in the Cincinnati-Hamilton area

8AAD	Jos. C. Arns	801 Wyoming Ave.	Lockland, Oh	50 watts
8AEE	John A. Marien and Harold H. Layritz	2269 Harper St.	Norwood, Oh	570 watts
8AFS	Don Baker	3205 Gilbert St.	Cincinnati, Oh	20 watts
8AHX	Clarence L. Wright	1946 Hopkins Ave.	Norwood, OH	188 watts
8AHY	Arthur R. Harvey	511 Yankee Rd.	Middletown, Oh	250 watts
8AJD	Frank E. Holcomb	30 Burns St.	Wyoming, Oh	100 watts
8AJT	**Shuler W. Doron**	**329 Terrace Ave.**	**Hamilton, Oh**	**480 watts**
8AKV	R. Milton Rurrell	506 Broadway St.	Harrison, Oh	1000 watts
8ALN	George S. Hussey	127 East 3rd St.	Cincinnati, Oh	30 watts
8AMA	Palmer H. Craig	3397 Glenmore Ave.	Cincinnati, Oh	1000 watts
8AMI	Robert B Kyle	2890 Ziegle Ave.	Cincinnati, Oh	13 watts
8ANB	Carl P. Goetz	1128 Atwood Ave.	Cincinnati, Oh	1000 watts
8AOC	Frank Schaefer	1716 Vine St.	Cincinnati, Oh	500 watts
8AOL	Ralph Folzenlogen	1714 Queen City Ave.	Cincinnati, Oh	250 watts
8APV	Frank Dieringer	441 McMicken Ave	Cincinnati, Oh	30 watts
8AQT	Peter J. Poland	347 West McMillan St.	Cincinnati, Oh	220 watts
8ARH	Samuel R. McCinney	3461 McFarlan Rd.	Cincinnati, Oh (Westwood)	550 watts
8ARP	George J. Gray	3860 Wayside Ave.	Cincinnati, Oh	500 watts
8ARS	Union Central Life Insurance Co.	425 Union Central Bld	Cincinnati, Oh	1000 watts
8ATJ	William A. Merkel	211 Greendale Ave.	Cincinnati, Oh (Clifton)	980 watts
8ATM	Edwin L. Price	32 Hereford St.	Cincinnati, Oh	200 watts
8ATR	George Schmidtz	166 Progress Ave.	Hamilton, Oh	550 watts
8AXA	William L. Reece	2311 Ravine St.	Cincinnati, Oh	500 watts
8AXB	Austin Hybner	1842 Westwood Ave.	Cincinnati, Oh	50 watts
8AXK	Frank Walker	1626 Potter Place	Cincinnati, Oh	1000 watts
8AXL	Floyd C. Beelman	Ottervein Home	Lebanon, Oh	48 watts
8AYU	Homer G. Gano	3300 Elland Ave.	Cincinnati, Oh	110 watts
8AZN	Melvin L. Miller	16 West Walnut St.	Oxford, Oh	122 watts
8BAR	Cuthbert W. Duff	1760 Williams Ave.	Norwood, Oh	1000 watts
8BCZ	George F. Hall	5135 Main Ave.	Norwood, Oh	6 watts
8BDG	Frank Schweitzer	5116 Ludlow Ave.	St. Bernard, Oh	200 watts
8BES	Charles E. Underwood Jr.	538 Howell Ave.	Cincinnati, Oh	1000 watts
8BFB	Robert Wettengel	8443 Curzon Ave.	Cincinnati, Oh	12 watts
8BGU	Ferdinand L. Westeimer	3708 Washington Ave.	Cincinnati, Oh	250 watts
8BMB	Frank M. Sarver	2842 Stanton Ave.	Cincinnati, Oh	4 watts
8CR	Crosley Mfg. Co.	5723 Davey Ave.	Cincinnati, Oh	43 watts
8CY	Frederick C. Marx	541 Evanswood Place	Cincinnati, Oh (Clifton)	660 watts
8DK	Michael M. Weisensee	2624 Dennis St.	Cincinnati, Oh	660 watts
8DL	Norden Wm. Daubensis	2638 Dennis St.	Cincinnati, Oh	24 watts
8EB	Russel M. Blair	3930 Ivanhoe Ave.	Norwood, Oh	1000 watts

1914 "General Amateur" and "Restricted Amateur" stations in the Cincinnati-Hamilton area (continued)

8FS	Richard J. Ver Kamp	2815 Melrose Ave	Cincinnati, Oh	990 watts
8GU	Edw. A. Sweeney	1836 Wayland Ave.	Norwood, Oh	60 watts
8GV	Austin N. Edwards	540 South Main St.	Middletown, Oh	440 watts
8IA	George A. Steinkamp	1931 Clarion Ave.	Cincinnati, Oh	660 watts
8IE	H.N. Konrad	750 Ross Ave.	Hamilton, Oh	990 watts
8IT	Harold E. Stout	514 Vine St.	Wyoming, Oh	550 watts
8JI	Walter C. White	1802 Josephine St.	Cincinnati, Oh	250 watts
8LO	Alfred R. Hill	1846 Auburn Ave.	Cincinnati, Oh	550 watts
8MA	Miami University	Oxford, Oh	Oxford, Oh	700 watts
8NS	Elmer Hess	4129 Carter Aver.	Norwood, Oh	550 watts
8NW	John F. Eckel	900 Bank St.	Cincinnati, Oh	1000 watts
8PH	Alfred G. Hoffman	3423 Dury Ave.	Cincinnati, Oh	500 watts
8QA	Herbert L. Lape	129 Springfield Ave.	Wyoming, Oh	500 watts
8QK	Donald E. Schellenbach	204 Elm St.	Wyoming, Oh	850 watts
8RJ	Nelson G. Lewis	2921 Urwiller Ave.	Cincinnati, Oh	250 watts
8SE	Boy Scouts		Hamilton, Oh	not listed
8SJ	Myles F. Bruning	2842 Mt. Pleasant Ave.	Hamilton, Oh	300 watts
8TW	Gilbert Brockman	522 Riddle Rd.	Cincinnati, Oh	250 watts
8UC	Paul Graeter	967 McMillan St.	Cincinnati, Oh	1000 watts
8VT	William A. Sayrs	239 Helen St.	Cincinnati, Oh (Mt Auburn)	50 watts

1913-1914 Shuler Doron's Amateur Station "8AJT"

As indicated on the list, Shuler's station call letters were "8AJT" and he had a 480-watt transmitter. There were only four other amateur stations in the city of Hamilton at that time:

8ATR George Schmidtz (166 Progress Ave),
8IE H.N. Konrad (750 Ross Ave.),
8SE Boy Scouts (no address shown),
8SJ Myles F. Bruning (2842 Mt. Pleasant Ave)

The transmitter house in the backyard of the property had electricity and a gas heater when it was built so it is likely that Shuler operated his station from the same building. The building was also used in later years for the Doron's Special Land Station and their commercial broadcast radio station.

Special Land Stations - Introduction

In addition to the two regular classes of amateur licenses (the "general" amateur and the "restricted" amateur) mentioned on page 4 there were three other classes of licenses that were grouped together as "Special Land Stations" and were considered to be more important and of a higher status.

Unlike the "regular amateur" station licenses that were issued by regional radio inspectors and reported once a year in annual station lists, the Special Land Station licenses were issued by the Department of Commerce and station information was reported in monthly *Radio Service Bulletins*.

Special Land Stations - continued

The 1912 licensing system used the term Special Land Station as a collective term for three separate license categories: “Experimental” station (class 3), “Technical and Training School” station (class 4), and “Special Amateur” station (class 6).

Special Land Stations were sometimes called the "XYZ" stations because “Experimental” stations received callsigns with an "X" as the first letter after the district number, “Technical and Training School” stations received "Y" callsigns, and “Special Amateur” stations received "Z" callsigns.

Special Land Stations were generally assigned to operate on uncluttered wavelengths between 600 and 200 meters (500 to 1500 kilohertz) and these stations were responsible for some of the most important and innovative early radio developments, including the beginnings of broadcasting services.

One important innovation developed by some of these stations was the broadcasting of news and entertainment to the general public (at this time there were no regulations specific to broadcasting activities). While the earliest efforts used telegraphic code, experimentation expanded with the development of audio transmissions as soon as vacuum tube transmitters were perfected.

On the first list of Special Land Stations on July 1, 1913, there were only 22 Special Land Stations across the country consisting of 12 Experimental stations (X), 7 Technical and Training stations (Y), and 3 Special Amateur stations (Z). There were no Special Land Stations in Ohio on the initial list.

Each month more Special Land Stations appeared on monthly supplements as “additions” to the list while some stations were removed as “deletions”.

It wasn’t until the March 1915 *Radio Service Bulletin* that Special Land Stations in Ohio began to appear and one of the first four of these special stations in Ohio was assigned to the Dorons.

Doron Brothers Electrical Co. Special Land Station 8ZU

1914

Shuler and Joseph Jr. were obviously pioneers in early wireless radio but they did not immediately apply for a Special Land Station license during 1913-1914.

Since Shuler already had a licensed regular amateur station (8AJT) perhaps like many other regular amateurs he didn’t feel compelled to immediately apply for Special Land Station status. Equipment requirements, new station license applications, and new “operator licenses” were required for these stations and the operators needed to be more proficient in telegraphic code than regular amateurs.

During 1914 and 1915 it seems very few regular amateur stations applied for Special Land Station licenses. In fact by June 30, 1914 less than 2% of the 2,850 amateur stations were Special Land Stations and by June 30, 1915 only 3% of the 3,923 amateur stations were Special Land Stations[2].

Strangely enough, the Dorons apparently received a Special Land Station license as a result of the 1915 Ohio Valley flood without actually applying for the special status!

[2] Source: Chart in the April 1928 *Radio Service Bulletin*

1915 Ohio Valley Flood

During the 1915 flood in the Ohio Valley the Secretary of Commerce sent radio inspector J.F. Dillon to visit stations in the flood district to make arrangements with owners of powerful stations to ensure communication would be maintained via a chain of stations to transmit messages related to life and property if needed. As a result of the inspector's visits to stations including the Doron's station, he issued four Special Land Station licenses in Ohio and one in West Virginia[3]. The five stations were:

8ZX in Dover[4], OH (on the Ohio Erie Canal) licensed to Harry S. Weber
8ZM in Springfield[5], OH licensed to Ross McGregor
8ZU in Hamilton[6], OH licensed to Doron Bros. Electrical Co.
8ZF in Cincinnati, OH licensed to Henry M. Rubel Jr.
8ZW in Wheeling[7], WV licensed to John C. Stroebel, Jr.

(A year later in 1916 the Doron's 8ZU and John Stroebel's 8ZW in Wheeling, WV participated in a historic cross-county radio message relay which is discussed on page 12)

During his trip inspector Dillon visited Shuler's station 8AJT on January 7, 1915[8]. Fortunately the 1915 flood was not as devastating as the 1913 flood. Since there were five other regular amateur stations in the City of Hamilton besides Shuler's 8AJT we can only speculate why inspector Dillon selected the Doron's station for a special amateur license. Perhaps the reasons were:

1) 8IE (990-watt transmitter) licensed to H.N. Konrad at 750 Ross Ave. in the Rossville section of Hamilton one block from Main St.; if still operating in March 1915; might have been judged to be vulnerable to flooding because areas of Rossville and Main St. were flooded during the 1913 flood,

2) 8SJ (300-watt transmitter) licensed to Myles F. Bruning at 2342 Pleasant Ave. in Hamilton's Lindenwald section one block from River Road which was near the Great Miami River; if still operating in March 1915; might also have been judged to be vulnerable to flooding although areas in Hamilton's Lindenwald section were reportedly not affected by the 1913 flood,

3) 8ATR (550-watt transmitter) licensed to George Schmidtz at 166 Progress Ave. which was at the south end of Progress Ave. fairly close to Main Street. Although the location was not as high as the north end of Progress Ave. it probably was safe from flooding but perhaps inspector Dillon saw more advantages with the Doron's location and equipment.

4) 8SE was licensed to the "Boy Scouts" but there was no address or power information listed on the Department of Commerce Radio Service Bulletin. We can only speculate that perhaps this station was just a hobby/training station and not considered for special status by Inspector Dillon.

[3] Source: *Radio Service Bulletin* March 1915 pages 3 and 7

[4] Dover, Ohio was on the Ohio Erie Canal. The canal connected the Ohio River at Portsmouth and Lake Erie at Cleveland. From 1862 to 1913 the canal was used a water source to industries and towns. Sections of the canal were destroyed in the 1913 flood.

[5] The Mad River and Buck Creek join in Springfield, Oh before flowing into the Great Miami River a few miles away in Dayton where 14 square miles of the city was flooded during the 1913 flood and 123 people died.

[6] In Hamilton during the 1913 flood 106 people died, more than 500 homes were destroyed and 10,000 people were homeless.

[7] Main Street in Wheeling, WV was 4-feet underwater during the 1913 Ohio River Flood.

[8] Source: Doron Bros. 8ZU radio station license found in loft of the transmitter house.

5) In comparison to the four other amateur stations in the City of Hamilton, the Doron's station:

- was located high on what was originally known as Prospect Hill[9] and therefore was safe from flooding. In addition, the property had a direct view of the Great Miami River and across the river a view of the downtown areas of Hamilton that were flooded during the 1913 flood,

  (A picture of the Doron house located on the hill is shown on the next page)

- had an upgraded 2,500 watt transmitter with a range of at least 250 miles which was the most powerful transmitter in Hamilton and more powerful than any of the sixty regular amateur stations in the area that were on the government's 1914 regular amateur station list,

- a small notebook we found in the loft of the transmitter house had notations by Shuler for "diesel fuel" and therefore there is the possibility that the Dorons may have had back-up diesel engine power to power the station in the event of loss of electric service in the City of Hamilton.

- had Shuler's prior amateur radio experience dating back to at least 1908 and therefore he would have been more than sufficiently prolific and skilled in telegraphic code transmission. In 1915 none of the other stations or owners in Hamilton had a history of experience like Shuler Doron.

It seemed odd that none of the amateur stations in Dayton received Special Land Station licenses from inspector Dillon but I when checked station addresses in a *Radio Service Bulletin* the reason seemed apparent… almost all the Dayton stations were located in the 14-square mile area that was flooded during the 1913 flood and therefore he may have decided they were vulnerable to flooding.

In March 1915 when the Doron Brothers Electrical Co. received a Special Land Station license there were only 63 Special Land Stations across the U.S..

Most of the Special Land Stations licenses were issued for the experimental "X" stations commonly for business firms and private individuals, and for the technical and training "Y" stations commonly issued to colleges, universities and other schools for training radio technicians and operators.

There were very few "Z" stations denoting a "special amateur" Special Land Station license. In fact when the Dorons received their special amateur Special Land Station status there were only 14 "Z" stations in the U.S. prior to March 1915. The "Z" stations were commonly used for "relay" work across the U.S. and to provide links to other amateur stations.

By June 30, 1915 the number of "X", "Y" and "Z" Special Land Stations doubled to 130 stations of which 40 were special amateur "Z" stations[10].

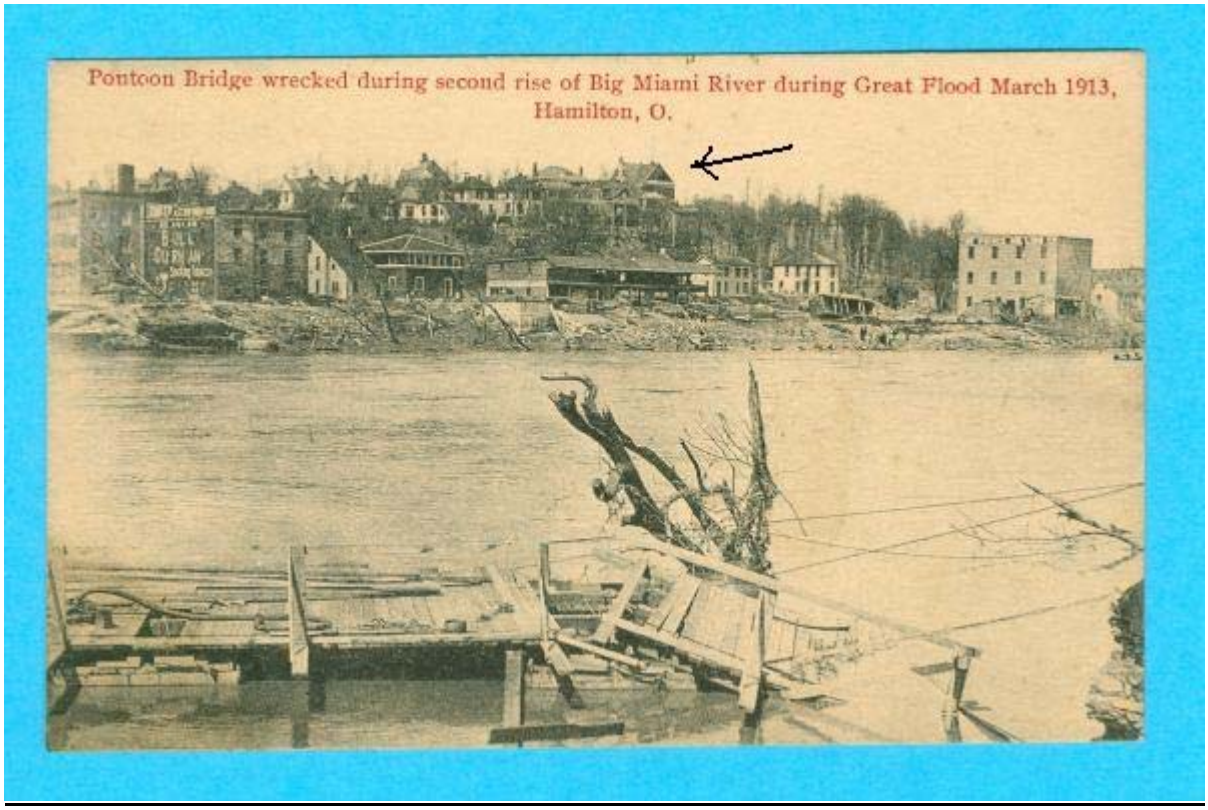
The Doron's callsign "8ZU" from 1915 is embedded in tile in a concrete step (picture next page) of the transmitter house in the backyard at 329 N C Street. The original wooden antenna tower no longer stands as it was replaced with an iron tower for their broadcast radio station which is discussed on page 17. (pictures of the wooden tower are shown in the photographs section)

Other than many small parts we found in the loft of the transmitter building, no transmitting equipment is on the property but we are still looking around to acquire remnants of their historic equipment. We know that some equipment previously donated to museums was discarded and is gone forever while other equipment is likely in the possession of private collectors.

[9] When Shuler and Joseph's father purchased the land on the original "Prospect Hill" in 1887 from Asa Shuler and divided it into lots the area was named "Doron's Addition" in the city plat book. The Doron house was the second house built on "Prospect Hill".

[10] Source: Chart in the April 1928 *Radio Service Bulletin*

Picture of the Doron's special land station callsign embedded in the step to the transmitter house.



1913 photo of the location of the Doron house with its view of the river.
(The Doron's special amateur station 8ZU was located in the backyard of the house)

1915 fire at station

A replacement license for 8ZU dated February 15, 1916 that we found in the station house stated that the original license was "damaged by fire". The replacement license had the following information:

License Type: Class 5 Special Amateur (Inland)	
Transformer input power:	2½ KW (2,500 watts)[11]
Normal day range:	250 nautical miles[12]
Radiotelegraphic system used:	"DeForest and others"
Transmitter type used:	Rotary spark gap transmitter
Transmitter frequency:	680 per second
Wavelength of receiving system:	200-13,000 meters
Antenna:	Two masts, inverted L type with eight #12 copper wires. 108' max. above ground level. A 100' long vertical part, a 130' long horizontal part, 230' total length from the transmitter.
Normal sending wavelength:	425 meter

Additional Special Land Stations in Ohio

After the Doron's 8ZU was listed in the March 1915 *Radio Service Bulletin* additional Special Land Stations in Ohio began to be licensed. The sequence of Special Land Stations in Ohio that were licensed up until the start of World War I is shown on the list below.

Bulletin Date	Call Sign	Location	Name of Licensee	deletion date
May 1915	8XW	Warren, OH	Goodyear Tire & Rubber Co.	Sep 1916
Aug 1915	8YP	Athens, OH	Ohio University	
Sep 1915	8ZH 8YL	Cincinnati, OH Lima, OH	Clayton M. Howe (Hughes High School) J. E. Collins (Board of Education)	
Oct 1915	8ZT	Tiffin, OH	John J. Grossman	Nov 1916
Dec 1915	8ZD	Marion, OH	Keith Henney	
Jan 1916	8ZG 8ZI 8ZO	Ironton, OH Norwalk, OH Oberlin, OH	Henry W. Campbell Roy C. Burr Ross Gunn	 May 1916 May 1916
May 1916	8YR	Oxford, OH	Miami University	
Nov 1, 1916	8ZL	Toledo, OH	Willis K. Wing (Scott High School)	
Mar 1, 1917	8ZQ	Springfield, OH	Charles K. Brain	

(Of the sixty regular amateur station licensees in the Cincinnati-Hamilton area shown on pages 4 and 5 only two licensees became Special Land Stations… the Doron Brothers and Miami University.)

One of the new special licensees in Ohio shown on the list above, 8YL in Lima participated with the Doron's 8ZU in a historic radio relay across the U.S. in 1916 which is discussed on the next page.

[11] an internet source indicated 8ZU actually had a powerful 5,000-watt spark transmitter that the Dorons built themselves. This information obviously conflicts with their license.

[12] Approximately 288 land miles.

1916 ARRL / RLA Washington's birthday amateur radio relay message[13]

In April 1914 amateur radio buffs formed the American Radio Relay League (ARRL) and by August 1914 it had more than 200 relay stations. In 1915 the Doron's 8ZU became an ARRL relay station.

Although limited to the 200-meter band, these regular amateurs, many of who were using primitive and low-cost homemade equipment, were often out-performing government and business stations on long distance transmission and reception. The ARRL persuaded the Department of Commerce to allow special operations on 425 meters (706 kHz) for amateur relay work in remote areas.

In October 1915 the Radio League of America (RLA) was formed and both organizations began to jointly cooperate. To show how effective, fast, and useful amateur stations could be in relaying messages nationwide, a RLA-initiated February 22, 1916 Washington's birthday radio message relay across the United States was conducted. The Doron's station 8ZU was one of twenty-seven pre-selected primary receiving and sending stations that participated in the joint cooperation relay.

To avoid daytime interference the relay was conducted at night. A written message from Colonel Nicholson of the U.S. Army's Rock Island Arsenal was hand delivered to special amateur station 9XE in Davenport, Iowa one-half mile away. Oddly the army arsenal did not have a wireless station!

From 9XE in Davenport, Iowa the message was relayed east, west, north, and south, and was delivered to the Atlantic coast in 60 minutes, the Pacific coast in 55 minutes, and the Canadian and Mexican borders in 20 minutes.

The twenty-seven primary stations that were used for the "long jumps" in distance plus eleven additional pre-selected "checking stations" were predominantly Special Land Stations. The "checking stations" received and sent the message after the primary stations had finished their transmissions.

Many other stations participated as receiving stations only, and they were responsible to deliver the message to local city and state governments. As the message was received by the various amateur stations it was delivered to 37 Governors, 137 heads of cities (Mayors, Town Commissioners, etc.) and the President of the United States. The 1916 message that was transmitted in the relay stated:

> *"Q.S.T. Amateur Relay. A democracy requires that a people who govern and educate themselves should be so armed and disciplined that they can protect themselves.*
> *(Signed) Colonel Nicholson, U.S.A."*

When the locations of the primary relay stations that were known to have participated in the relay are plotted on a map, the Doron's station 8ZU was about midpoint in the southeast transmission route.

1) 8YL in Lima, OH most likely received the transmission from 9PC in Fort Wayne, IN, or 9YE in Chicago, or 9ZS in Springfield, IL and relayed it south to the Doron's station 8ZU.

2) The Doron's 8ZU in Hamilton; after receiving the message from either 8YL in Lima or 9ZS in Springfield, IL; most likely relayed the message east to John Stroebel's 8ZW in Wheeling, WV.

3) Station 3DS in Washington, DC licensed to W.A. Parks received the message directly from John Stroebel's 8ZW in Wheeling, WV and at 2:00 AM Mr. Parks mounted his motorcycle and hand delivered the message to President Woodrow Wilson's bodyguard at the White House.

Hence, it would be reasonable to conclude that the Doron's Special Land Station 8ZU played a part in getting a very historic early wireless radio relay message to the President of the United States.

[13] Sources: www.earlyradiohistory.us, ARRL website, *The Electrical Experimenter* May 1916, *QST* April 1917

The ARRL / RLA 1916-1917

The nationwide publicity of the 1916 relay resulted in a surge in the number of license registrations for amateur stations and an increase in the number of member relay stations of the ARRL which was larger than the RLA. By the end of 1916 there were 6,000 licensed amateur stations, of which 1,000 were ARRL member relay stations compared to the 200 ARRL relay stations in August 1914.

The ARRL had six main trunk lines set up… three north/south lines and three east/west lines and its stations served more than 150 cities. The Doron's 8ZU continued to be one of the ARRL's relay stations. As a reminder, wireless transmissions were still in telegraphic code at this time in history.

The significance of the RLA / ARRL 1916 Washington's birthday relay message prompted a plan to conduct another relay to transmit a coded message to Army forts and Navy yards using a different code readable only by Army and Navy officials but it seems this proposed relay was not approved.

Starting in May 1916 the RLA and ARRL became rivals due to a magazine advertising disagreement and later that year the organizations began to plan their own separate cross-country relays for 1917.

On February 6, 1917 the ARRL conducted its own successful trans-continental relay from New York to Los Angeles in one hour and twenty minutes for the message and reply.

On February 24, 1917 the RLA conducted its own successful Washington Birthday trans-continental relay from the mayor of New York City to the mayors of Los Angeles and Seattle in 45 minutes for the message and reply. Unlike the joint 1916 relay, the RLA's 1917 relay was a daytime relay and only a few relay stations were used for "long jumps" in distance.

(Currently we have not found documentation that the Doron's station 8ZU and John Stroebel's 8ZW in Wheeling, WV; both of which participated in the 1916 relay; participated in the 1917 relays.)

It is important to note that although there were 6,000 licensed amateur stations during this time period, it is estimated that there were 150,000 receivers in households that just listened in on transmissions. However, in April 1917 the airways went silent as the United States entered World War I and it is estimated that 4,000 amateur station operators were in uniform shortly thereafter.

(After the war the RLA and ARRL reconciled with each other and conducted a second joint Washington Birthday relay in 1921 after which the RLA began to quietly disappear from existence.)

World War I years 1917-1919

At the start of World War I Ohio had only 9 "actively listed" special amateur Special Land Stations with the Doron's station 8ZU being one the active stations. Effective April 7, 1917; as the United States entered the war; all transmitters were closed down or taken over by the government. A small number of stations continued to be operated under government control and call signs.

Joseph and Shuler both served in the U.S. Army during World War I.

Joseph enlisted on September 19, 1917 at 22 years old and served seven months in the 308th Engineers Battalion after which he was discharged on April 18, 1918 to accept a commission as a 2nd Lieutenant in the Signal Corps and he was honorably discharged a year later on April 14, 1919.

Shuler enlisted on April 2, 1918 approximately six months after his brother and he served seven months in service companies of the Signal Corps after which he was discharged October 1, 1918 to also accept a commission as a 2nd Lieutenant in the Signal Corps. He was honorably discharged fourteen months later on December 3, 1919.

Post World War I years 1919-1921

Effective October 1, 1919 the wartime restrictions ended on amateur stations but they needed to re-register licenses in order to return to the air. Usually they were assigned the same pre-war callsigns. Radio Service Bulletins resumed August 1, 1919 but no special amateur stations in Ohio appeared until the February 2, 1920 bulletin. The sequence of Ohio licensing is shown on the chart below.

Bulletin Date	Call Letters	Ohio Location	Name of Licensee	deletion date
Feb 2, 1920	8ZV	Canton	Henry L. Ley	
	8XB	Cincinnati	Precision Equipment Co.[14]	3/1924
	8XF	Cleveland	Emil J. Simon	4/1920
	8ZY	Defiance	K. A. Duerk	
Apr 1, 1920	8XI	Columbus	Ohio State University	11/1921
	8ZI	Toledo	Adelbert Jacob Gogel	11/1921
May 1, 1920	8ZX	Dover	Harry S. Weber[15] (a pre WW1 re-register)	
Jul 1, 1920	8ZJ	Cincinnati	Hughes High School	11/1921
Sep 1, 1920	8XC	Cleveland	Glenn L. Martin Co.	4/1921
Oct 1, 1920	8ZH	Cincinnati	East High School	11/1921
	8ZE	Marietta	Norman A. Thomas and Edward Manley	11/1921
	8ZT	Marietta	George M. Withington, Jr.	
	8ZA	New Philadelphia	Charles J. Murray	
	8ZG	Salem	A. J. Manning	6/1924
	8ZB	Toledo	Earl S. Ensign & Willlam P. Van Behren	
Nov 1, 1920	8ZP	Cleveland	Edward I. Deighan	5/1924
Dec 1, 1920	8YR	Oxford	Miami University[16] (a pre WW1 re-register)	
	8ZL	Saint Marys	Charles Candler	
Jan 3, 1921	8YK	Delaware	Ohio Wesleyan University	12/1923
Apr 1, 1921	8ZN	Ashland	J. W. Kauffman	4/1924
	8XY	Cincinnati	Cino Radio Mfg. Co.	11/1921
	8YS	Cincinnati	University of Cincinnati	5/1924
	8YM	Granville	Richard H. Howe	1/1925
May 2, 1921	8YT	Alliance	Mount Union College	8/1923
	8YX	Cincinnati	University of Cincinnati	12/1924
	8XV	Cleveland	Frederick S. McCullough	
	8YU	Dayton	Young Men's Christian Association	7/1924
	8ZAA	Springfield	J. Warren Wright	
Aug 1, 1921	8XAA	Cincinnati	Crosley Manufacturing Co.[17]	5/1922
Nov 1, 1921	8YO	Columbus	Ohio State University	1/1923
Dec 1, 1921	8ZAC	Barnesville	Clifford H. Galloway	
	8YAA	Marietta	Marietta College	8/1923
	8XAC	Toledo	William B. Duck Co.	

NOTE: I ended the list as of Dec. 1, 1921 because starting in 1922 a change in law allowed "broadcast radio stations" to be licensed and the Dorons obtained a license in 1922 for their broadcast station WRK (page 17)

[14] Precision Equipment Co. was a radio manufacturer bought out Crosley Manufacturing Co. in 1922

[15] Harry Weber's 8ZX was one of the four special land station licenses issued during the 1915 flood. Obviously after the war he chose to re-register his station.

[16] Miami University's 8YR was one of the pre-WW1 stations that chose to re-register after the end of the war.

[17] Radio giant Crosley manufactured radios and operated WLW in 1922.

The puzzling gap of Doron station inactivity from December 1919 to January 1922

The Doron's pre-war Special Land Station 8ZU does not appear on any list of re-registered stations after the end of World War I although they were still in business and manufacturing radios and equipment and had a broadcast radio station in early 1922 which is discussed later on page 18.

For approximately a two-year period from December 1919 to January 1922 there is no record of any radio station activity or registration by the Dorons. This is obviously puzzling. However, the enigma seems to start with the World War I immediate shutdown of radio stations.

By order of the Chief Radio Inspector all transmitting and receiving stations were ordered to be closed down and disassembled, and all antennas taken down. However, the Executive Order that was issued actually closed all stations *not needed by the U.S. Government*. Therefore, it seems that some stations were actually used by or run by the government for wartime internal communication.

Although Joseph enlisted within six months after the shut down, Shuler did not enlist until April 2, 1918 … 1 year after the shutdown! What was Shuler doing during the first year of the war?

> One of the last dated "official" documents we found in the loft of the transmitter building was a February 8, 1917 letter from radio inspector J.F. Dillon (Chicago Radio Service, Department of Commerce) to Shuler. Inspector Dillon enclosed a license but his last paragraph stated *"I note what you say about "Red" Oliver being at your station, and naturally expect him to wander up this way at the opening of navigation"*.
>
> So, who was "Red" Oliver and what did radio inspector Dillon mean *"at the opening of navigation"* when in fact all amateur stations were going to be shut down in sixty days?

Since Shuler did not enlist until April 2, 1918 was he operating, or assisting in the operation of, one of the very few privately owned stations taken over by government at the start of World War I?

As previously stated, the wartime restrictions on amateur stations was lifted effective October 1, 1919 by executive order and amateur stations began being listed shortly thereafter. However, according to the March 1, 1920 *Radio Service Bulletin* the stations that were taken over by the government during the war were not returned to owners until February 29, 1920 by a separate executive order.

We have not found any hard evidence that the Doron's 8ZU was actually used by the government immediate before, during, or immediately after World War I. However, there is another interesting rumor that needs to be mentioned and perhaps might be answered some day in the future with some backyard digging at the property at 329 North C Street.

Two local residents think something related to the Doron's old amateur radio station is buried in the rear of the property. Based upon rumors many decades ago, another resident thinks there is a possibility that the government was working with Shuler in a secret project that involved underground radio transmission and reception with no visible aerial antenna!

Such underground antennas were indeed experimented with and developed for use. For example, a June 1924 *Radio News* magazine article describes an underground transmission antenna and credits Dr. J. Harris Rogers of Hyattsville, Maryland as the originator of the system. A June 1926 *Radio News* article also describes a working experiment of a 5-foot long 7/8-inch diameter copper rod with twenty-five 10-inch copper discs attached with a 1-inch space between them that was submerged in a hole and filled with water as an underground antenna for reception.

However, the first experiments with underground antenna systems was actually during 1917-1918. The March 1919 and June 1919 *Electrical Experimenter* magazines discuss the Rogers underground antenna system and its selection for use by the U.S. Navy during World War I. The article quoted a December 27, 1918 letter from Admiral Griffin, USN chief of the Bureau of Steam Engineering to Clarence Owens, director general of the Southern Commercial Congress as follows:

> *"In reply to your question regarding the originator of the underground radio system, you are advised that Mr. J. H. Rogers of Hyattsville, MD, was the originator of this system. There have been other claimants to methods of underground radio signaling, but none were useful, within the Navy Department's knowledge to the extent of being a valuable asset to the general scheme of radio communications. The introduction of Mr. Rogers' receiving system marked the beginning of the use of underground aerials for receiving, to great advantage over raised aerials, and has been valuable to the Navy during the war".*

(The Rogers underground antenna systems and variations were patented by Mr. Rogers on March 20, 1917, May 13, 1919, September 9, 1919, November 25, 1919, and August 10, 1920.)

If the Dorons experimented with an underground antenna on their property at 329 C Street it could not have been like the Rogers system. The Rogers system of wires radiated like spokes of a wheel that were 200-1000 feet long. By 1917 homes were already built on adjacent lots south and west of the Doron property and there would have been insufficient property length for trenching the wires.

If the Dorons experimented with an underground antenna system it most likely would have been a system that used much shorter lengths of wire or a different design. Actually, such systems were experimented with according to a prologue to a December 1919 *Radio Amateur News* article stating:

> *This article is without doubt the most important one that has appeared in print for some years, as far as amateurs are concerned. When the Rogers Underground Aerial was first announced, many amateurs, particularly those living in cities were bitterly disappointed for the reason that they could not make use of this form of aerial due to the fact that long earth trenches were necessary. Now comes along Mr. Jones with his new invention, showing us how to use a concentrated underground aerial that all of us can use in every city without any trouble whatsoever. The article is epoch-making and should be read by every radio enthusiast worth his name.*
> – Editor [Hugo Gernsbach]

The article described a coiled antenna system that used 200-feet of coiled wire 4-feet in diameter and two such coils were separated 30-50 feet apart and buried in moist ground.

Did the Dorons experiment with or help develop such a system with the U.S. Army in secret during 1917-18 or after the war in 1920-21? Until we find some evidence the rumor remains gossip and the inactivity of the Doron's radio stations from December 1919 to January 1922 remains unexplained.

However, I re-examined old blueprints I found in the transmitter house that I set aside months ago thinking they were Doron blueprints for radio parts and discovered they were actually Army Signal Corp. Laboratory blueprints dated 7-26-18, 11-8-19, and 2-12-20…. and this adds to the puzzle!

I don't know when or if the Army blueprints were sent to the Dorons, or brought back soon after the war, or obtained much later after the war. With the government ban on amateur radio from April 1917 until October 1920 I think it is highly unlikely that Army Signal Corps blueprints would be sent to anyone at that time unless the government was working with the person(s).

(Two blueprints were marked "Radio Laboratories, Camp Alfred Vail New Jersey". Since Shuler was stationed at Camp Alfred Vail for a period of time during the war it is possible he brought the blueprints back with him.)

Mystery partially solved!

As mentioned earlier, there seemed to be two periods of Doron inactivity… one just before World War I at the start of the government shutdown of radio stations and another one after the war ended.

An answer to part of the mystery about the Doron's activity shortly before and during our country's entry into World War I was recently found in Joseph's lengthy obituary[18] in a paragraph that said:

> *"Prior to his enlistment, he and his brother had developed the installation of light air to ground fire control transmitters for the Signal Corps aircraft, and were one of the few firms in the country to participate in these installations."*

This obviously provides confirmation from at least one source that the Doron's were indeed working with the U.S. Army shortly before and during our country's entry into World War I!

It also supports the probability that the Doron's special land station 8ZU was operating at that time as one of the very few amateur stations used by, or run by, the government solely or jointly with the Dorons during the war. And, it also provides some support to the speculation that the second gap of inactivity after the war might have been due to a continuation of the military work with the Dorons.

Doron Brothers Electrical Co. Special Land Station "8XAG" - 1922

The February 1, 1922 *Radio Service Bulletin* shows Special Land Station "8XAG" was a new station licensed to the Doron Brothers Electric Co.. Unlike their previous special land station (8ZU) their new station was an "X" station denoting "experimental".

Oddly, the address in the service bulletin was 329 "Terrace Ave." instead of 329 "North C St." although Terrace was renamed North C St. many years earlier. We think Shuler did this intentionally because he registered the broadcast station "WRK" (next page) for 329 North C Street and perhaps he did not want to create confusion or questions about having two stations at the same address.

The purpose of registering amateur station 8XAG when at the same time they were registering their broadcast station was most likely related to their radio equipment manufacturing business (part 2 of this history story) and they probably wanted a separate experimental station for their radio manufacturing business.

The Dorons were building a facility at 325-329 North B Street to move their manufacturing business to from a building further south on B Street. Subsequently, the August 1, 1922 *Radio Service Bulletin* shows the address change of their experimental station 8XAG to the 325 North B Street address which indicates 8XAG was indeed probably associated with the radio manufacturing business while their broadcast station would operate from 329 North C Street.

8XAG was used from February 1922 into September 1925 when, according to the October 1, 1925 *Radio Service Bulletin*, it was deleted from the listings of special amateur stations.

[18] May 8, 1967 *Hamilton Journal – Daily News*

Doron Brothers broadcast radio station WRK in Hamilton

1921

Immediately after World War I ended there was an increase in broadcasting experimentation and development mostly led by the Special Land Stations. Although the Commerce Department had no formal regulations designating what was a broadcasting station, a few stations previously operating under Limited Commercial licenses began setting up broadcasting activities around November 1920.

Eventually regulations formally establishing a broadcast service were set up as part of the Limited Commercial license classification. Effective December 1, 1921, all the Special Amateur and General Amateur licensed stations which had been making broadcasts to the public had to obtain a Limited Commercial license if they wanted to continue public broadcasting.

Some stations ended their broadcasting activities while others made the changes to qualify for the broadcasting authorization. In many cases this just required a station to get a second license for its transmitter and use one callsign and wavelength when operating under its experimental amateur license and then switch to the callsign and wavelength specified by the Limited Commercial license.

1922

When Congress authorized the use of airways for commercial broadcast under the new regulations, Shuler and Joseph immediately registered a broadcast radio station…"WRK". WRK was licensed on February 24, 1922 to the Doron Bros. Electrical Co. and appeared in the March 1, 1922 *Radio Service Bulletin* on a list of only 67 stations in the U.S. that were broadcasting to the public.

WRK transmitted on 360 meters (833 kHz) which was the only wavelength allowed for "entertainment" broadcasting in early 1922. (In late September 1922 a second entertainment wavelength of 400 meters (750 kHz) was allowed.)

The Doron's WRK was the first broadcast radio station in the City of Hamilton and the second broadcast radio station in Southwestern Ohio at that time[19]. It was the fifty-seventh radio station to be licensed in the U.S.. In fact, the Doron's WRK was licensed before Crosley's WLW in Cincinnati was licensed. (WLW was licensed in March 1922 as the sixty-fifth station licensed in the U.S.)

Of the first one-hundred broadcast stations registered in the U.S., Ohio had eight stations. The eight Ohio broadcasting stations in Ohio in sequence of licensing dates were as follows:

WMH	Cincinnati	Precision Equipment Co.	licensed 12/30/21	
WDZ	Toledo	Marshall-Gerken Co.	licensed 1/26/22	deleted 1/2/23
WHK	Cleveland	Warren R. Cox	licensed 2/21/22	
WFO	Dayton	Rike-Kumler Co.	licensed 2/24/22	deleted 11/28/22
WRK	**Hamilton**	**Doron Bros. Electric Co.**	**licensed 2/24/22**	deleted 9/29/30
WHU	Toledo	William B. Duck Co.	licensed 2/28/22	deleted 10/27/22
WJK	Toledo	Service Radio Equip. Co.	licensed 2/28/22	deleted 2/1/23
WLW	Cincinnati	Crosley Manufacturing Co.	licensed 3/2/22	

Two of these stations (WFO and WHU) were off the air before the end of 1922 and three more (WMH, WDZ, and WJK) went off the air during 1923. Only three of the original eight Ohio stations in the first one-hundred U.S. broadcast stations were still broadcasting by 1925: the Doron's WRK in Hamilton, Crosley's WLW in Cincinnati, and Warren E Cox's WHK in Cleveland.

[19] The Precision Equipment Co. (a radio manufacturer) of Cincinnati registered station WMH on December 30, 1921 as the 29th station in the U.S. but it was deleted (off the air) by December 11, 1923.

During 1922 more broadcast stations in Ohio were licensed and the June 30, 1922 *Radio Service Bulletin* list showed Ohio now had 26 broadcast stations in addition to the Doron's WRK.

It is interesting to see how many and how quickly broadcast stations in the U.S. went on the air during the first few months of license registering in 1922.

On March 10, 1922 there were 67 stations
On April 1, 1922 there were 137 stations
On May 31, 1922 there were 312 stations
On June 30, 1922 there were 378 stations

In the September 1922 issue of *Science and Invention* magazine an article on page 474 about the Doron's WRK stated:

a) The Doron's spark transmitter was a Navy-type transmitter rated at 2,500 watts,

b) The radio telephone transmitter was a Doron Bros. proprietary new type rated at 1,000 watts,

c) The 125-ft high antenna was a "cage type" with six 100-ft wires and with leads taken from the ends and from the center making the system "multiple-tuned". A "counterpoise" 90-feet long and 18-feet above the ground was also used.

d) Signals from the Doron's station were heard in every state in the U.S. plus Alaska, Mexico, Panama, and South America.

The magazine article stated the great range of the radio station was attributed not only to the outstanding design of the transmitting equipment and antenna but also due to the fact that an ancient ocean bed and the ancient gulf stream crossed at this particular point and there were rich mineral veins at a depth of 3,200 feet forming an "X" which lies under the entire station.

The 1922 *Science and Invention* magazine picture of the inside of the WRK station house located in the NW corner of the property at 329 North C Street is shown in the photograph section pages.

According to the May 1922 *Consolidated Radio Call Book* the Doron's WRK general schedule was:

Daily 8.30 to 10:30 P.M: music
Mondays at 10.30: health lecture.
Wednesdays at 8.30: music, lectures and vaudeville.
Saturdays at 8.30: music, health and radio lectures.
Alternate Sundays: church services.

An obituary for Joseph stated that a WRK broadcast from the Trinity Episcopal Church in Hamilton was one of the first broadcasted church services in history. WRK also broadcasted news and special events from remote locations and was used to broadcast school classes to rural areas. The "WRK Radio Church" broadcasted church services. (see pictures in the photograph section pages).

On April 29, 1922 another broadcast station in Hamilton was licensed…"WBAU". WBAU was licensed to the Republican Publishing Company (Third & Market St.). The May 1, 1922 *Radio Service Bulletin* listed WBAU as broadcasting to the public on the same 360 meter wavelength as the Doron's 2,500-watt WRK. Although WBAU changed to 1160 kHz in June 1923 it was off the air before the end of 1923 (officially deleted September 17, 1923) and is not mentioned further in this history story.

1923

By June 30, 1923 Ohio had 38 broadcast stations… an increase from 26 stations the previous June.

In 1923 the government advised it was going to restrict the use of spark transmission starting in 1924 and prohibit spark by 1926. According to the July 1, 1923 *Radio Service Bulletin* WRK decreased its power to 200-watts which implies the Dorons most likely replaced their 2,500-watt spark transmitter.

During 1923 WRK was transmitting on the 360 meter (833 kHz) wavelength.

1924

By June 30, 1924 broadcast stations in Ohio declined to 32 stations from 38 the previous June.

As of June 30, 1924 at least nine Ohio stations were more powerful than WRK. In Cincinnati WLW and WSAI were 500-watt stations and WMH was a 750-watt station, and several Columbus and Cleveland stations were 500-watt and 1000-watt stations. WRK was #10 in power ranking in Ohio.

In October 1924 Hamilton had a new broadcast station…"WEBO"… licensed to Harry W. Fahrlander at 240 North Front Street as a 5-watt station on the 250 meter (1,200 kHz) wavelength. Back then low power stations were called "flea power" stations. WEBO was Harry Fahrlander's initial entry into broadcasting. (This history story has a separate section about Harry Fahrlander on page 27)

In December 1924 WRK changed to the 270 meter (1,110 kHz) wavelength but still at 200-watts.

1925

In January 1925 Harry Fahrlander's WEBO changed to the 252 meter (1,190 kHz) wavelength and in February 1925 its callsign was changed to WSRO licensed to "The Radio Co. (Harry W. Fahrlander)". In April 1925 WSRO's power was increased to 100-watts.

By June 30, 1925 there were 36 broadcast stations in Ohio with the Doron's WRK ranking #13 in transmitter power still at 200 watts and still transmitting on the 270 meter (1,110 kHz) wavelength.

According to the September 1, 1925 *Radio Service Bulletin* WRK decreased its power to 100-watts. Hence, near the end of 1925 the City of Hamilton had two equally powerful broadcast stations transmitting on different wavelengths…… the Doron's WRK and Harry Fahrlander's WSRO.

1926

As competition in broadcast radio heated up there was a decline in the number of stations as the more profitable, more powerful, and more popular stations took over the airways with 1,000 watt and higher transmitters and by January 30, 1926 there was a decline to 24 broadcast stations in Ohio.

By January 30, 1926 the Doron's WRK was tied for transmitter power ranking #11 in Ohio with Harry Fahrlander's WSRO and facing its second year of local competition in Hamilton from 100-watt WSRO that was broadcasting on the 252 meter (1190 kHz) wavelength.

The April 30, 1926 *Radio Service Bulletin* shows that Harry Fahrlander's WSRO moved to 421 High Street in Hamilton.

On December 31, 1926 the Doron Bros. Electric Co. WRK was still at 329 N C Street on 270 meters (1110 kHz) and Harry Fahrlander's WSRO was still at 421 High Street on 252 meters (1190 kHz).

1927 – a year of major changes

The January 31, 1927 *Radio Service Bulletin* listed a new broadcast station in Hamilton... "WMBK". WMBK was a 10-watt station licensed to John C. Slade with the address "The Green Lantern". The Green Lantern was a tavern but, according to an early radio historian in Hamilton, the station may have been operated from a small shack behind the Green Lantern.

On February 23, 1927 the newly passed Radio Act of 1927 was signed into law creating the Federal Radio Commission (FRC). The FRC's immediate responsibility was to authorize additional wavelengths for use, to unclutter the airways by reassigning stations to different wavelengths in non-interfering dial positions in areas, and to limit the number of stations in newly created "zones".

In this process, existing licenses were technically cancelled and stations needed to reapply to obtain temporary permits until their wavelengths were assigned by the FRC and new licenses were issued.

The April 30, 1927 *Radio Service Bulletin* shows Harry Fahrlander's WSRO was issued a temporary permit to continue operating on the 252 meter (1190 kHz) wavelength but the bulletin did not list the Doron's WRK or John Slade's WMBK and this obviously indicates they did not reapply for licenses!.

(The May 31, 1927 *Radio Service Bulletin* shows Harry Fahrlander's new license for WSRO was approved and WSRO was assigned to operate on the 780 kHz wavelength at 100-watts.)

The reason why the Dorons and John Slade did not file for re-licensing was because they were involved in ownership and partnership changes and this became apparent in June 1927 (below).

As a result of the ownership changes, the June 30, 1927 *Radio Service Bulletin* shows WRK as a "new" station no longer registered to the Doron Bros. Electric Co. because Shuler Doron had a new partner..… John Slade! WRK was now licensed to "S.W. Doron and John Slade" with an address of "3 Railroad Street" still operating at 100 watts but now on the 1460 kHz wavelength.

Note: We could not find a "Railroad Street" in the City of Hamilton on any of the very detailed street maps of that time. The Butler County Recorder's Office also was unable to find Railroad Street in Hamilton for us either. A 1927 Sanborn Fire Insurance map still showed WRK located at 329 North C Street but a picture in the photograph section shows WRK in a building that was not at the 329 North C Street property and may indeed be the Railroad Street site. We are currently investigating the possibility that Railroad Street was a very short street located just outside the Hamilton city limits inside St. Clair Township somewhere north along North B Street.

On June 30, 1927 there were 32 broadcast stations in Ohio listed and approximately half of the stations were more powerful than WRK which was now tied for #15 in transmitter power ranking with Harry Fahrlander's WSRO.

At this point in time it seems perhaps WRK is relegated to being a local radio station rather than a wide area station. It cannot compete with the 1,000 watt and higher general area stations WLW (Harrison) and WSAI (Mason). In fact, some college stations were more powerful than WRK.

According to the November 30, 1927 *Radio Service Bulletin* Harry Fahrlander's WSRO moved to Middletown, Ohio and changed to the 1270 kHz wavelength. As a result, the City of Hamilton was again back to having only one broadcast station….. WRK….. its original first broadcast radio station.

1928

0n January 31, 1928 Ohio had 29 broadcast stations. WRK was transmitting on the 1460 kHz wavelength and Harry Fahrlander's WSRO (now in Middletown) on the 1270 kHz wavelength. Both were still 100-watt stations and more than half of the stations in Ohio were more powerful.

In November 1928 the Doron's WRK changed to the 1310 kHz wavelength.

1929

The February 28, 1929 *Radio Service Bulletin* listing of stations shows Ohio had a decrease to 27 broadcast stations and WRK was still operating at 100-watts on 1310 kHz. As other stations in Ohio increased their power WRK fell to power ranking #19.

During 1929 Harry Fahrlander's WSRO in Middletown, Ohio went off the air permanently and in the June 29, 1929 *Radio Service Bulletin* WSRO was stricken from the list of broadcast stations

1930 – The start of the "Golden Age" of broadcast radio

The period from 1930 to 1940 was considered the "golden age of broadcast radio". In the June 30, 1930 *Radio Service Bulletin* listing only 23 broadcast stations in Ohio entered the golden age of broadcast radio. (By 1931 the number of broadcast stations in Ohio decreased to 21 stations)

In the June 30, 1930 radio station listing WRK was listed as "Hamilton Radio Service (S.W. Doron and John C. Slade)" and still transmitting on 1310 KHz.

However, although WRK entered the start of the golden age of broadcast radio it went off the air before the end of 1930 and in the October 31, 1930 *Radio Service Bulletin* it was deleted from the list of broadcast radio stations.

After WRK went off the air during 1930, the City of Hamilton did not have another broadcast radio station until August 1944 when WMOH went on the air. (Shuler's former partner John C. Slade was vice president and general manager of WMOH.)

The WRK antenna tower; the top of which looks like a ship's mast; is still standing in the backyard and can be seen when crossing the High Street – Main Street bridge as well as from other locations in the City of Hamilton. (tower picture at right)

A brick and stucco building (now a garage) next to the tower might have occasionally been used as a WRK "studio". A microphone jack on an outer wall of the Doron's dining room indicates that perhaps some broadcasts were also made from the house itself.

The smaller stucco WRK transmitter building; originally used for the special amateur station 8ZU; sits opposite the larger building.

WRK tower 329 N C St.

In addition to WRK not surviving into the golden age of radio, the Doron's radio manufacturing business (see part two on next page) also did not survive into the 1930's.

– PART TWO –
RADIO MANUFACTURING BUSINESS

Doron Brothers Electrical Company Pre-World War I Years

1910-1917

The Doron Brothers Electrical Co. made marble-based spark keys (wireless telegraph) with heavy levers and also made tuners, wireless telegraph and telephone equipment. They also experimented with a first-generation Poulsen type arc transmitter, a picture of which is in the photographs section.

During 1915 they made 100 wireless outfits for a large Chicago firm[20] and were licensed in 1916 by the Marconi Wireless Telephone Company to build and sell equipment under Marconi patents.

> We have been looking for one of their marble-based spark keys but none have come up for auction. One of their rare spark keys is owned by radio historian Charles Stinger in Hamilton.

We found a very early 85-page Doron Brothers Electrical Company equipment catalog circa 1910-1912 in exceptionally good condition in the loft of the transmitter house. The catalog listed very early wireless radio equipment that they manufactured themselves that included:

- Crystal detectors in several styles including a large selection of minerals such as galena, silicon, iron pyrites, stibnite, zincite, etc.. In fact, they also had their own mineral-crystal called "radioite" stating it was 2½ times more sensitive as galena and *"For a mineral detector it is far in advance of any other mineral on the market. We guarantee each piece to be better than ANY other mineral."* [21]

- Several styles of wireless keys.

- Several styles of horizontal and vertical spark gaps.

- Condensers, tuning coils, receiving transformers, spark coils.

- Radio assembly parts such as knobs, screws, nuts, washers, binding posts, panels, wire, etc.

- A "Type C 1000" receiving outfit with mahogany cabinet and bakelite panel for $50 with a DeForest spherical Audion detector bulb or $40 without the Audion bulb.

  (Lee DeForest was a pioneer in early wireless radio and inventor of the "Audion" bulb which was used as a "detector" and "amplifier". Initially, Audion bulbs were available only with DeForest detector outfits and could only be "exchanged" by returning an old bulb. However, the Doron catalog clearly shows that DeForest Audion bulbs were allowed to be used in Doron equipment and were "not sold or licensed to be used with other apparatus than in the catalog and renewal bulbs are supplied only on return of the wing and grid system of our burned-out bulbs". This indicates that Dorons had a license to use and sell DeForest Audion bulbs. The Audion bulbs sold for $3.50 to $7.50 per bulb depending upon grade and filament used. A DeForest Spherical single-wing Audion sold on eBay in January 2008 for $1,425!.

- A commercial receiving set "Type D" in a mahogany cabinet for $95 with a Ferron detector or $90 without the Ferron detector.

- A portable receiving outfit with a fiber case (imitation leather) and Formica panel. The catalog stated *"We believe that we are the first concern to place a real efficient Portable Receiving Set on the market at a price that is within reach of all experimenters."*

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[20] Source: September 16, 1915 article in *The Hamilton Telegraph* news about the Doron Bros. Electrical Co.

[21] According to the 1915 *The Hamilton Telegraph* article, the Doron's "radioite" was imported from "Symaria". ("Symaria" was one of the biblical lands like Judea and Galilee and is the current "West Bank" area.)

The Doron Brothers Electrical Company was also a distributor of equipment made by other early wireless manufacturers. Such equipment in the catalog included:

- DeForest Audion Detectors Type "RJ4", "RJ5", "P.N"., and "PJ1".
  (RJ4s originally sold for $18. A RJ4 with a double wing Audion bulb sold for $2,280 on eBay in Jan 2008)
  (RJ5s originally sold for $25. A RJ5 with a Type D Audion bulb sold for $7,800 on eBay in Nov 2007)

- Blitzen receiving sets and individual parts such as a receiving tuner, variable condenser, transformers, wave meter. (The Blitzen line was made by the Clapp-Eastham Co.)

- Headphones made by Brandes, Holzer-Cabot, and Stromberg-Carlson.

- White Cross brand spark gap motors.

The Dorons marketed their early wireless equipment and parts to experimenters, educational institutes, and other manufacturers. The catalog stated *"Our specialty is equipment for schools and colleges"* and also indicated that they made custom-built apparatus…. *"We build many different types of apparatus for different conditions which may be encountered in the different localities"*.

Manufacturing locations pre-World War I years

Based upon the many small parts we found in the loft of the transmitter house transmitter house it is probable that some of the very early wireless equipment was made at the 329 North C Street property perhaps at least through 1914. In fact, an obituary for Joseph stated that he and Shuler started building Doron Bros. Electrical Co. wireless sets in the basement of the house in 1910.

In 1915 the Doron's manufacturing shop moved to a building at "Wayne and B Streets" where they employed six men[22]. A September 16, 1915 article in *The Hamilton Telegraph* about the Dorons stated *"With the recent increasing business a shop was opened in the Blum building on B Street"*.

The B Street building that is referred to above was 204 North B St., formerly the "Sortman & Blum Mill" (c1885) and then "Blum & Co. Furniture Factory" (c1889). It is still standing. A new section was added c1927 and is now 204-208 N C St.. A photo of the original building is shown in the photographs section)

World War I years

Since Shuler and Joseph both served in the Army and radio transmission and receiving was banned during the war it is unlikely there was any manufacturing of commercial radios by their company during the war and most likely the only activity was manufacturing equipment for the U.S. Army.

In 1918 the company moved to a different building on B St. north of the first building at Wayne St.[23]

Manufacturing locations post-World War I years

During 1922 the Doron Bros. Electrical Co. moved from their second North B Street site into a building they built at 325-329 North B St. which years later became the Champion Coated Paper Company activities building[24]. The move was intended to provide more space to manufacture radios. The business remained at 325-329 North B St. until 1935 when the company suspended operations.

The 325-329 North B Street building is no longer standing and apparently was demolished by the Champion Paper Company for expansion of its factory southward on North B Street. (a photo of the 325-329 North B Street building is shown in the photographs section)

[22] Source: page 176 *Memoirs of the Miami Valley* volume 3 1919
[23] Source: Joseph's obituary of May 8, 1967 in the *Hamilton Journal – Daily News*
[24] Source: Lane Public library files and Joseph's obituary of May 8, 1967 in the *Hamilton Journal – Daily News*

Doron Brothers Electrical Company
Post-World War I Years

The 1920's early years of radio

1920-1929 was the first decade of the emergence of voice transmission on radio and there were many companies that were formed to go into the radio manufacturing business during that period.

Unlike their early wireless equipment (crystal detectors, spark keys, etc.) manufactured primarily for technical, experimental, and education installations, the Dorons began manufacturing tube radios in the 1920's for the general market.

Unfortunately it seems Shuler and Joseph perhaps were not very good salesmen or as business-oriented as many of their competitors and subsequently their tube-radio manufacturing business did not seem to reach the proportions of other manufacturers.

For example, practically each week on eBay there are 1920's radios from Atwater Kent, Crosley, and many other manufacturers but during four years of waiting for a Doron Bros. radio only one came up for auction on eBay. Also, during three years of attending auctions in Southwestern Ohio including auctions in the city of Hamilton we have not seen a Doron Bros. radio at any local auction.

A few *Radio News* magazines we have from 1924-26 have advertisements from most manufacturers but no Doron Bros. radios. The 1991 *Collector's Guide to Antique Radios* by Marty and Sue Bunis lists 5,000 radios from more than 250 manufacturers but Doron Bros. is not listed.

A more recent 2005 *Collector's Guide to Antique Radios* by John Slusser with 10,000 radios listed has a Doron Bros. radio model listed…. a 5-tube 3-dial "R-5 Super-Equidyne" which we know was one of their later models that sold for $125 in 1925. However, other models that we know were manufactured by the Doron Bros. were not listed in the book. For example:

> A "Type L V 2" model using a tubular Audion detector bulb (extra cost $5.50) in a mahogany cabinet with a black Formica panel for $90 circa 19??[25].
>
> A "Type R.D.2-A" circa 1920 wooden table model, 3-tube battery radio. We have one these models but it is missing one or two components. (We know of two others in the local area; a complete unit and an incomplete unit both owned by early radio historian Charles Stinger of Hamilton.)

Since the Dorons were in business for at least ten years after World War I ended, it is probable that they manufactured several more models of tube radios than the three models indicated above.

[25] Source: an old advertisement we found in the loft if the transmitter house.

The 1930's "golden age of radio"

The 1930's; the second decade of voice radio; was considered the "golden age of broadcasting". This second decade of radio ushered in the acceptance of the radio into millions of homes.

Unfortunately like many other radio manufacturers who started during broadcast radio's first decade (1920's) the Doron's radio manufacturing business did not survive into the 1930's and instead became a victim of either the depression or lack of competitive business skills or both.

In addition to the Doron's company there were at least eighteen other radio manufacturers during the 1920's in the Ohio-Indiana area (listed below) most of which also did not survive into the 1930's:

A-C Dayton Co.	Dayton, OH	out of business by 1930
ACE (Precision Equipment Co.)	Cincinnati, OH	bought by Crosley Radio Corp. in 1922
Air-Way Electrical	Toledo, OH	out of business by 1926
American Radio Corp.	Cleveland, OH	out of business by 1926
Bosworth Mfg. Co.	Cincinnati, OH	out of business by 1927
Cleartone Radio Co.	Cincinnati, OH	out of business by 1927
Cleveland Products Co.	Cleveland, OH	out of business by 1927
Concert Radiophone Co.	Cleveland, OH	out of business by 1926
Crosley Radio Corp.	Cincinnati, OH	survived into the 1940's and beyond
Day-Fan (Dayton Fan & Motor Co)	Dayton, OH	bought by General Motors in 1929
Harmony Mfg. Co.	Cincinnati, OH	out of business by 1926
Indiana Mfg. & Elec. Co. CASE	Marion, In	out of business by 1935
Kodel Mfg. Co.	Cincinnati, Oh	out of business by 1930
Mazda Radio Mfg. Co	Cleveland	out of business by 1927
Midwest Radio Co. (Miraco)	Cincinnati	survived into the 1940's
Precel Radio Mfg. Co.	Toledo, OH	out of business by 1926
Simplex Radio Co.	Sandusky, OH	out of business by 1937
Workrite Mfg. Co	Cleveland, OH	out of business by 1929

Only the Crosley Radio Corp. and Midwest Radio Co. survived through the 1930's into the 1940's.

Although millions of radios were in homes during the 1930's golden age of radio the availability of early 1920's radios from the above manufacturers is limited. With the exception of Crosley radios, the radios from many of the companies on the list are rare and command high prices from collectors.

The Depression years 1929 – 1939

After the October 1929 stock market crash the Great Depression lasted ten years until 1939-1940.

Although I am still researching records it is possible the depression contributed to the demise of the Doron Brothers Electrical Company because after 1930 the company does not show up in the City of Hamilton business listings. Joseph's obituary stated the company suspended operations in 1935 but Shuler's obituary stated the business lasted until 1930. The Hamilton business listings also list Joseph and Shuler in different occupations after 1930.

(In 1939 Joseph was listed as a "draftsman" for the AM Rolling Mills Company. From 1939 to 1943 Shuler was an "engineer", "radios", "electrical engineer" and in 1944 a "tester at General Machine Corp.")

Thus, this story about the Doron brothers history from the very early days of amateur wireless radio through the beginning of the golden age of broadcast radio ends in 1930.

Harry Fahrlander
WSRO Hamilton and WSRO Middletown
and the "Radio Company" radio store

While compiling the Doron's history in broadcast radio I included some data about other broadcast stations in the City of Hamilton that I found. However, some additional historic information about Harry Fahrlander's WSRO is obviously noteworthy of being included in its own separate section.

Some of the information in this Harry Fahrlander section was provided with input during 2008 from Harry Fahrlander's sons Frank and Henry both of whom are licensed amateur radio operators (Frank is N7FF living in Hot Springs Village, AR and Henry ("Hank") is W5PXB living in Richardson, TX)

As previously mentioned, the City of Hamilton had a second broadcast radio station during the 1920's … WSRO… which was Harry Fahrlander's broadcast radio station.

The predecessor of WSRO was a 5-watt station WEBO (October 1924)[26] which was Harry Fahrlander's first broadcast radio station. WEBO became WSRO in February 1925[27] and in April 1925 WSRO's power increased to 100-watts.[28]

Initially WEBO and WSRO were listed with the address "240 North Front Street" which was a private dwelling. However, during 1926 there was an address change to "421 High Street"[29].

The 421 High Street address was the High Street Livery building where WSRO's antenna and station was located. It was next door to Harry's retail and wholesale radio store named "The Radio Company" located at 409 High Street in one of the Schlosser & Company Malt House buildings.

Since Harry sold radios (including Doron Bros. radios), it made perfect sense to have a radio station and a radio store close together. In fact, many of the early stations across the country were operated in stores where radio receivers were sold. What better way to demonstrate radios for sale than by doing an actual broadcast for potential customers!

WSRO also broadcasted events from Jeff's Garden which was a popular ballroom and event hall in Hamilton. According to Harry's son Hank, Harry met Guy Lombardo there during the band's early days when it was based in Chicago and regularly played in Cleveland and other cities in Ohio.

In May 1927 WSRO was operating on the 780 kHz wavelength at 100-watts[30]. The store and station were still in Hamilton at that time but both moved to Middletown, Ohio later that year and Harry Fahrlander's WSRO became first broadcast radio station in Middletown, Ohio.

During 1929 WSRO went off the air permanently and in the June 29, 1929 *Radio Service Bulletin* it was stricken from the list of broadcast radio stations. Just like the Doron's WRK that went off the air before the end of 1930, Harry's WSRO also did not survive into the "golden age of broadcast radio".

[26] 5-watt station on the 250 meter (1,200 kHz) wavelength changed to 252 meter (1,190 kHz) in February 1925
[27] February 2, 1925 *Radio Service Bulletin* page 7 callsign change from WEBO to WSRO
[28] April 1, 1925 *Radio Service Bulletin* page 11
[29] April 30, 1926 *Radio Service Bulletin* page 7
[30] May 31, 1927*Radio Service Bulletin* page 8

Inside Harry Fahrlander's radio store "The Radio Company" at 409 High Street (photograph courtesy of Harry Fahrlander's son Frank)

Harry Fahrlander is seated on the extreme right and his wife is seated at the center-right. Mrs. Fahrlander conducted a regular cooking program on WSRO for the Hamilton-based Estate Stove Company using her radio name "Miss Thrift".

(The Radio Company store and radio station WSRO moved to Middletown, Ohio during 1927)

(Additional photos of Harry's radio store are on the next page)


RADIO
IS NOT
A SIDE LINE
WITH US.
RADIO CO.
WHOLESALE & RETAIL
HIGH St. HAMILTON O.
MAGNAVOX Radio
D-12
De Forest
$150.00
complete.
$165.00
complete.


Guest's Parlor
at
"WSCO" Studios

As previously mentioned, Harry Fahrlander's WSRO frequently broadcasted from Jeff's Garden which was a popular ballroom and event hall in Hamilton, Ohio.

Photo below is famous radio personality Harry M. Snodgrass, who was a piano player called the "King of the Ivories", and his band at Jeff's Garden. (WSRO microphone and sign on the right)

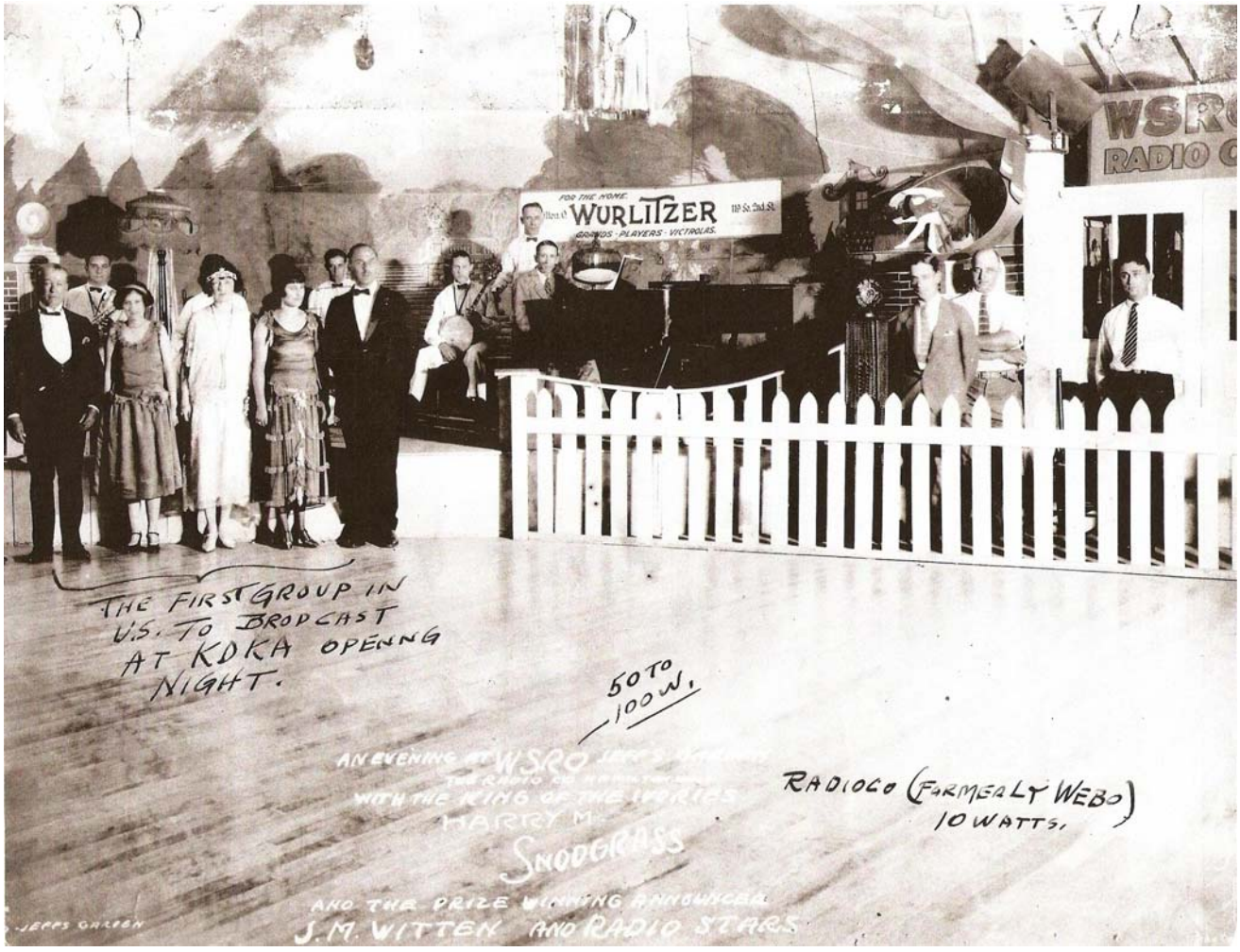

Photo below: At Jeff's Garden in Hamilton, Ohio the legendary Coon-Sanders NightHawks band of the Roaring Twenties considered by many radio historians to be the band that made radio famous. (WSRO microphone is seen a the extreme right.)

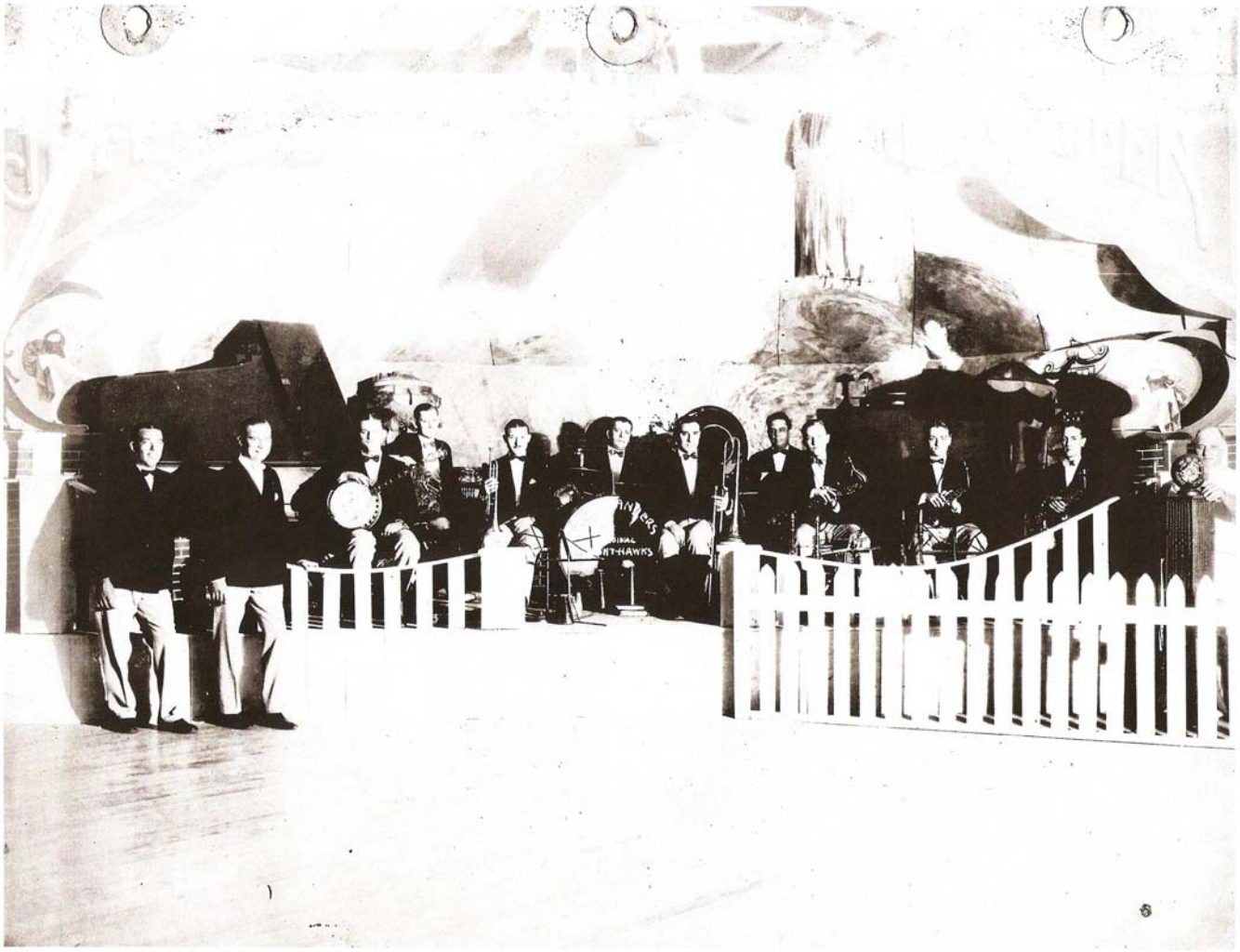

Photo below: Radio entertainment personalities “The Ray-o-Vac Twins” with “Uncle Harry”

Unlike the Dorons who built their own transmitters from scratch Harry acquired his transmitters in novel ways and his first transmitter for WEBO (the forerunner of WSRO) was a W.E. Cutlaus transmitter from a World War I sub chaser!

Harry also took a somewhat different approach to selling radios than the Dorons. While the Dorons made and sold many parts and wireless devices to colleges and universities, experimenters, and other manufacturers in addition to selling their radios, Harry only sold radios and radio accessories (batteries, speakers, etc.) to the general public. In fact, WSRO's letters meant We Sell Radios Only!

Today, many of us cannot comprehend how significant broadcast radio was as an entertainment and news media in the 1920's and although millions of radios were sold they were fairly expensive. Harry understood this and he often sold radios to families who could just barely afford them by accepting small payments per week or per month on a payment plan. Ultimately, during the hard economic times of the late 1920's he never received full payment for many of the radios he sold.

Some of the earliest radios that Harry Fahrlander sold were De Forest radios and he actually received some of them personally from Lee De Forest while Harry was traveling in Hoboken, NJ.

Harry's interest in flying also prompted him to conduct some interesting exploits. For example, one of the De Forest radios he sold was delivered to a customer by him in a World War I OX5 airplane which was known then as the "Flying Coffin"!

He also experimented with broadcasting while flying and he conducted a two-way broadcast from a plane he was in flying around Wright Field in Hamilton to his WEBO station on the ground! Photos (courtesy of Hank Fahrlander) of Harry with a radio and airplane are shown on the next two pages.

Like the Dorons Harry Fahrlander was also experimenting in wireless radio as early as 1907-1908[31]. Currently we have not been able to determine what Harry's amateur radio call sign was during those years or subsequent years.

(During the unregulated years of amateur radio up to 1912, operators assigned their own call sign and there were no lists until May 1909 when the first book of amateur wireless stations called "The Wireless Blue Book" was published by the Wireless Association of America. A listing in the Blue Book required payment of a small fee. It is possible Harry had a call sign in those early years but it was not listed in the Blue Book like hundreds of other call signs that were not listed.)

As previously mentioned, Harry's WSRO also did not survive into the "golden age of broadcast radio" just like the Doron's WRK that went off the air before the end of 1930.

Just like the Dorons, Harry Fahrlander took his knowledge and experience into a new career and he became Director of Standards of the General Machinery Corporation of Hamilton, Ohio where Shuler Doron also worked a few years later.

While Harry was Director of Standards of the General Machinery Corporation, he also served as the Chairman of the National Machine Tool Builders Association Engineering Committee on Standardization of Engine and Tool Room Lathes.

One of the last addresses in Hamilton, Ohio where Harry and his family lived was on Ridgelawn Avenue only three blocks away from the Doron's house on North C Street! Harry Fahrlander passed away in May 1973 in St. Petersburg, Florida.

[31] Source of information on this page for transmitter information, contact with Lee De Forest, airplane and flying information, etc. was a January 21, 1950 letter written to the Radio Pioneers.