

WORLD WIDE BROADCASTING SYSTEM, INC.

STATION WRUL
RADIO BOSTON

1 East 57th Street, New York 22, U. S. A.

FREQUENCIES:

15:200 mc (19 meters)
17.750 mc (16 meters)

PROGRAM SCHEDULE

OCTOBER - NOVEMBER 1956

EUROPEAN TRANSMISSION - 1:59 P.M. EST* (1859 GMT**) SIGN-ON						
PM	Monday	Tuesday	Wednesday	Thursday	Friday	PM
2:00 EST 1900 GMT	Jack Terry M U S I C I N T H E N I G H T					2:00 EST 1900 GMT
2:30 EST 1930 GMT	HAWAII CALLS	ON STAGE AMERICA	BILLY GRAHAM Hour of Decision	TELEPHONE HOUR Music from Carnegie Hall	TOP TUNES of the Week	2:30 EST 1930 GMT
3:00 EST 2000 GMT	SWEDISH DX'ER PROGRAM	NEW YORK Calling NORWAY	NEW YORK Calling SWEDEN	NEW YORK Calling NORWAY	SWEDISH LUTHERAN PROGRAM	3:00 EST 2000 GMT
3:15 EST 2015 GMT	WORLD NEWS					3:15 EST 2015 GMT
3:20 EST 2020 GMT	AMERICAN BUSINESS BULLETINS (Financial News & Stock Market Quotations)					3:20 EST 2020 GMT
3:35 EST 2035 GMT	SIGN-OFF					3:35 EST 2035 GMT

* Eastern Standard Time
** Greenwich Mean Time

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1 East 57th Street, New York 22, U. S. A.

FREQUENCIES

15.390 mc (19 meters)
15.230 mc (19 meters)
17.710 mc (16 meters)

PROGRAM SCHEDULE

OCTOBER - NOVEMBER 1956

LATIN AMERICAN TRANSMISSION (ENGLISH)

PM	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	PM
6:00 EST 2300 GMT	ALLEN JACKSON (Newscast)					World News	Columbia Church of the Air	6:00 EST 2300 GMT
6:15 EST 2315 GMT	AMERICAN BUSINESS BULLETINS (Financial News & Stock Market Quotations)					THE GREATEST STORY EVER TOLD	How Christian Science Heals	6:15 EST 2315 GMT
6:30 EST 2330 GMT	ERWIN D. CANHAM (Newscast)	ON STAGE	HAWAII CALLS	TELEPHONE HOUR Music from Carnegie Hall	Top Tunes of the Week			6:30 EST 2330 GMT
6:45 EST 2345 GMT	U. N. on the Record	AMERICA				The Voice of Firestone	The Salt Lake City TABERNACLE CHOIR	6:45 EST 2345 GMT
7:00 EST 2400 GMT	LOWELL THOMAS (Newscast)							7:00 EST 2400 GMT

7:15 EST SPANISH LANGUAGE PROGRAMS

News, Popular Music, Sports and Features

Monday - Sunday

7:15 p.m. EST - 8:45 p.m. EST

5:30 PORTUGUESE LANGUAGE PROGRAMS

Monday - Wednesday - Friday

5:30 p.m. EST - 6:00 p.m. EST

Brief WRUL/WYFR History

Compiled by Jim Cumbie

The station that was to become WYFR originated in Boston as **W1XAL**, an experimental shortwave station licensed to radio pioneer Walter S. Lemon. When W1XAL began in 1927, its programming was mostly educational with a sprinkling of music and entertainment. With some financial support from charitable organizations, it proved to be quite successful. In 1936 the station outgrew its transmitter facility in Boston and moved about 20 miles south to the site of a former W.W.I. era military powerhouse and station in Scituate, Massachusetts. Lemon established the Worldwide Broadcasting Foundation, and, to promote understanding between countries, the World Radio University. In 1939 the station call letters changed to WRUL (**W**orld **R**adio **U**niversity for the **L**istener.) The station also used call signs **WRUA**, **WRUS**, **WURW** and **WRUX** for various frequencies and/or transmitters.

During World War II, WRUL broadcast the Voice of America. In the years after the war, the station's studios were moved to New York, it became commercially supported and began a limited broadcast schedule. WRUL called itself "Radio Boston" and "The Voice of Freedom."

In the 1950s, the Armed Forces Radio and Television Service used some of WRUL's frequencies to broadcast its programming. In addition, WRUL received a citation from President John F. Kennedy "for service with special merit," for Spanish broadcasts during the Cuban missile crisis.

The station changed ownership several times: it was sold to Metromedia (1960), became the first international affiliate of the American Broadcasting Company (ABC) (1962), was an affiliate of the Columbia Broadcasting System (CBS), and then was sold to Bonneville International. Program time was increased, and the call letters were again changed, this time to **WNYW** for "**W**orld **R**adio **N**ew **Y**ork." The format included education, entertainment, news, and music.

On January 22, 1972, Family Radio entered the scene with the purchase of three hours of air time to broadcast Christian programs overseas. Family Radio was able to purchase the shortwave facility in October 20, 1973. The call letters were changed to **WYFR** for "**Y**our **F**amily **R**adio" and transitioned to an all Christian format. The original broadcasts were in English and Spanish.

At that time, two 100kW transmitters, two 50kW transmitters and nine rhombic antennas were in use. The site occupied some 40 odd acres. Over the years, residential growth expanded up to all the boundaries of the property. The antennas experienced excessive cross coupling because of their proximity to each other and were too small for adequate gain. One antenna hung directly over the transmitter building. The Scituate site was too small, there was no room for expansion and the lease was almost up.

With FCC approval in 1976, the shortwave broadcasting facilities were moved to a location about 20 miles North of Lake Okeechobee, Florida. The new site in Florida offered 664 acres of flat and grassy land to accommodate additional antennas. This made an excellent place to erect the numerous large antennas envisioned for a rebuilt, improved WYFR. The relocation would also provide financial savings in operating costs. Newer and more efficient equipment was obtained to replace the old

equipment in Scituate. A single story building with 11,000 square feet of much-needed space was specifically designed and constructed in the center of the land for transmitters, the control room, repair shop, and technical offices. Coincidentally, both sites took their names from American Indian words having reference to water; Okeechobee meaning "big water" and Scituate derived from the Indian expression for "cold brook".

On November 23, 1977 the first broadcasts from the new facility beamed to Europe and South America from a single 100kW transmitter and two double-rhomboid antennas. Now WYFR found itself in the unusual position of operating from two sites separated by over a thousand miles. Each time a transmitter went on line in Okeechobee, a transmitter would be taken off the line in Scituate and shipped down to Okeechobee for installation. The last transmitter in Scituate went off the air on November 16, 1979. The construction that began in 1976 continues to the present day.

In 1977, WYFR received 13,000 letters in one year from Latin America alone. The owners knew at that point, that their ministry was expanding. Cuba was then added to the listening range; and by 1978, Family Radio was the strongest signal heard in that Communist country.

In 1984 WYFR utilized five 100kW and two 50 kW transmitters. Ten double-rhomboid and six log periodic antennas broadcasted to target areas in many directions.

WYFR - Okeechobee Transmitting Facility - 1984

LOCATION: Rural, in Okeechobee County, Florida, United States of America, about 20 miles North of Lake Okeechobee.
North Latitude 27 degrees, 27 minutes, 30 seconds,
West Longitude 80 degrees, 56 minutes, 00 seconds.

CLIMATE: Semitropical with very high incidence of thunder storms during Summer months.

TERRAIN: Relatively flat pastureland, swampy in places.

MAINS POWER: 60Hz, 22,800 volts stepped down to 480 volts; 1500kVA.

TRANSMITTERS: Five 100,000 watt and two 50,000 watt; all are high-level plate modulated; some are entirely air cooled; some also use water cooling and vapor-phase cooling.

ANTENNAS: Double-Rhomboids on azimuths of 43.5 degrees, 87 degrees, 142 degrees and 160 degrees.
Log-Periodics on azimuths of 222 degrees, 285 degrees, 315 degrees and 355 degrees.
Gain of the Double-Rhomboids (two sizes) varies from 20 to 30 dbi according to frequency of operation.
Gain of the Log-Periodic is 14.5 dbi.
Take-off angle for the Log-Periodic antennas varies from 12 to 16 degrees according to frequency of operation.
Takeoff angle for the Double-Rhomboids varies from 4 to 18 degrees depending on frequency of operation and size of the antenna (two sizes).
Half-voltage azimuthal beamwidth of the Log-Periodics is 90

degrees.

Half-voltage azimuthal beamwidth of the Double-Rhomboids varies from 11 degrees to 16 degrees depending on the size of the antenna.

FEEDLINES: Constructed of four wires side-connected to form a two-conductor line with characteristic impedance of 300 ohms.

REEL-To-REEL TAPE MACHINES: Ampex decks with electronics constructed by Family Stations, Inc. Technical Department.

CARTRIDGE MACHINES: International Tapetronics Corporation single-cartridge units and SonoMag Corporation 24-cartridge carousels.

Sources: A WYFR fact sheet received with a QSL in 1984, *Family Radio News*: Oct, Nov, Dec 2006, *Radio News*: Feb. and March 1948, *World Radio Handbook*: 1954 - 1960, and personal observations.

Update: May 1984

In July, 1983 WYFR significantly improved the quality of its English language United Press International news service by converting from telephone line to satellite feed. Satellite feed gives wider audio bandwidth, improved signal-to-noise ratio, and better reliability than the telephone line service.

During the next few months, WYFR will convert from reel-to-reel tape machines to cassette machines for most of our programs. Nakamichi LX-3 machines will be used in conjunction with rack mounting and electrical interfacing developed by Family Stations' engineers. Benefits will be reduced cost of production and shipping, and less space occupied in audio racks and tape storage areas.

During 1984 the station expected to put three more 100 kW transmitters on the air. This would bring the total number of transmitters up to ten (eight 100 kW; two 50 kW). These new transmitters, in conjunction with additional antennas, would improve WYFR's capability of broadcasting in a number of different languages simultaneously to our many target areas.

From time to time you may notice drop-outs in the signal you are receiving from WYFR. Most of these brief outages occur during the Northern Hemisphere Summer and Fall months. During that time period, the majority of the Florida lightning storms occur. The storms usually hit during Florida afternoon and early evening hours (1700 to 2200 UTC). This area of Florida experiences the greatest number of thunderstorms each year of any place in the continental United States. On an average, there are at least 90 to 100 days in a year with thunderstorms here. On any one of those days a number of different thunderstorms may affect the WYFR transmitting site. The lightning-caused surges on the main power lines make overload protection devices function, and momentarily (or sometimes for a more extended time) cut the flow of electric power. When this happens, all our equipment goes dead for as long as the power interruption lasts. Many days these power dropouts and other lightning-caused problems keep the WYFR staff going at top speed just to try to stay on the air. The power requirement at WYFR is so high that it would be prohibitively expensive to install standby generators of sufficient capacity

to run the station during periods when lightning or high winds cause problems with the main supply. So please stay tuned if we drop out unexpectedly. Chances are we'll be back on the air in a minute or so.

Edited from article "From the Station Manager", by Dan Elyea, *Family Radio News*, May 1984.