

- 1598 - Libretto called oldest in existence (for *Dafne*) published in Florence; one is available for inspection at New York Public Library of the Performing Arts at Lincoln Center
- 1747 - Puppet-based *Punch's OPERA, Bateman, or the Unhappy Marriage* performed at a waterfront pub
- 1750 - Operas with visible human singers performed at Nassau Street Theatre; from an ad for in *The New-York Gazette, revived in the weekly post-boy*: "The House being new floor'd, is made warm and comfortable; besides which, Gentlemen and Ladies may cause their Stoves to be brought;" possibly first play bills.
- 1767 - *The Disappointment*, earliest complete libretto of an American opera known to have been published
- 1794 - First American opera with libretto by a woman, *Tammany, or the Indian Chief*, performed
- 1825 - First Italian opera performed in Italian in U.S., *Il barbiere di Siviglia* at Park Theatre (in English in 1819)
- 1833 - Lorenzo Da Ponte's Italian Opera House is (briefly) first U.S. theatre dedicated only to opera
- 1845 - *Temple of the Muses* opera house, 2000-seat showboat, plies Manhattan & Brooklyn (earlier opera barge)
- 1849 - Opera technical director Antonio Meucci begins work on telephone in Cuba, moves to Staten Island following year (where his house now Garibaldi-Meucci museum), and submits patent caveat in 1871
- 1876 - *The New York Times* publishes first prediction of home media eating into opera-house attendance
- 1877 - *The Sun* publishes plan for opera (picture & sound) transmitted live to theaters worldwide
- 1878 - Marie Rôze records on Edison's tin-foil phonograph first opera aria (from *Faust*) intended for playback
- 1880 - Edward Fry invents electronic home entertainment (and, probably, first headphone) for opera
- 1882 - Casino Theatre opens with opera, said (by some) to be first in New York lit entirely with electricity
- 1893 - Central Opera House opens; now Fox Television Center, last pre-20th-century NYC opera house standing
- 1895 - Frank Chapman patents & uses robotics for viewing remote baseball games live at opera houses
- 1897 - *Scientific American* cover story: "Behind the Scenes at the Grand Opera" about the Met
- 1899 - *Martha* film projected at Eden Musée with singers behind screen lip-synching to the images
- 1901 - At Metropolitan Opera House, Lionel Mapleson makes first non-interfering location recordings
- 1903 - At Metropolitan Opera House, Miller Reese Hutchison demos first portable electronic hearing aid
- 1904 - *Scientific American* cover story on the Metropolitan Opera stage equipment for Parsifal
- 1906 - At Telharmonic Hall, first synthesizer plays opera music, sends first piped-in restaurant music (opera)
- 1907 - First synthesized opera music at an opera house (Casino Theatre), first live opera music radio broadcast and first opera-singer radio broadcast (De Forest); Caruso records earliest million-seller
- 1908 - First in-house distribution of sound from the stage at the Metropolitan Opera House
- 1910 - First live complete opera broadcast on radio, from Metropolitan Opera House
- 1919 - NYC publisher Hugo Gernsback proposes opera movies synchronized to live radio sound
- 1920 - First lighting grid used in Barrymore's *Dr. Jekyll and Mr. Hyde*, shot at Amsterdam Opera House
- 1923 - *Aida* at the Polo Grounds starts a trend of opera at ball parks in the U.S. and Canada
- 1925 - WEAf establishes first radio opera company, later taken over by NBC; first network opera broadcast
- 1926 - Vitaphone (sound movies) moves to Manhattan Opera House, now home to Manhattan Center Studios
- 1927 - First CBS broadcast includes Deems Taylor's opera *The King's Henchmen*
- 1928 - Trimmed version of African-American composer Harry Freeman's opera *Voodoo* is broadcast before its stage premiere; in 1929 all of Cesare Soderò's *Ombre Russe* is broadcast before its stage premiere
- 1931 - Saturday-afternoon series of Metropolitan Opera radio broadcasts begins; continues today
- 1932 - NBC commissions first opera for radio, Charles Cadman's *The Willow Tree*
- 1937 - CBS commissions first "non-visual" opera (w/sound effects), Louis Gruenberg's *Green Mansions*
- 1938 - WQXR broadcasts first U.S. edited broadcast, *Carmen*, recorded on Millerfilm; Met live radio broadcast of *The Barber of Seville* staged by marionettes for children at St. Vincent's Hospital
- 1939 - First scheduled FM broadcast includes opera *Francesca da Rimini*; *Carmen* is 1st opera on U.S. TV
- 1948 - ABC televises *Otello* from the stage of the Met using "invisible" added lighting for its cameras
- 1949 - NBC Opera Theatre begins; by its close in 1964, it will have commissioned 13 new operas for television (and inspired CBS to commission another 14, ABC three, and public television [later] five)
- 1951 - NBC commissions first opera for TV: Gian Carlo Menotti's *Amahl and the Night Visitors*
- 1952 - Metropolitan Opera's *Carmen* sent live to 31 cinemas in 27 cities; 1st Cinerama movie includes *Aida*
- 1953 - First compatible-color TV program transmission seen at home is *Carmen* from Colonial Theater (NBC)
- 1954 - DuMont Television moves to Central Opera House, now Fox Television Center

- 1958 - Douglas Moore's opera *Gallantry* spoofs television soap opera, complete with commercials
- 1960 - Metropolitan Opera gets its own radio network
- 1963 - Menotti's *Labyrinth* on NBC uses visual effects so is called first "unstageable" opera
- 1964 - New York State Theater is first opera house pre-wired for conductor video monitors; Nam June Paik's *Robot Opera* premieres at Judson Memorial Church
- 1966 - New Metropolitan Opera House is pre-wired for television production
- 1971 - *Le coq d'or* is first opera shot under performance conditions and first televised only on cable TV
- 1973 - Metropolitan Opera Radio Network becomes world's first with live stereo sound
- 1976 - *Live from Lincoln Center* operas have 1st live TV subtitles and 1st nationwide live TV w/stereo sound
- 1980 - First transatlantic live television transmission of full opera, from the Metropolitan Opera to Europe
- 1983 - New York City Opera offers first U.S. projected-text titles
- 1991 - New York City Opera's *Madama Butterfly* uses first HD image magnification in the house
- 1995 - Met Titles offered as an option on each seat back, with optical filtering to prevent adjacent viewing
- 2006 - Metropolitan Opera first 24-hour satellite opera channel, live HD cinema & plaza transmissions
- 2007 - *The Metropolitan Opera: Live in HD* first live multi-language subtitles transmitted
- 2008 - Real-time, interactive computer graphics projected on Met stage for *La damnation de Faust*
- 2009 - Engineering Emmy Award for the technology used in *The Metropolitan Opera: Live in HD*
- 2010 - Sound sensing and image warping added to real-time computer graphics for projection on 24 rotating planks of 45-ton "machine" for *Das Rheingold* at the Met; depth planes added for 3D effect in 2011 *Siegfried*
- 2014 - On Site Opera production of Rameau's *Pygmalion* has first WiFi titles seen on Google Glass

The Miracles on 39th Street

It began in 1882 with the opening of the Casino Theatre on the southeast corner of Broadway and 39th Street with Johann Strauss II's *The Queen's Lace Handkerchief* (the theater closed in 1930 with *Faust*). It was briefly New York's northernmost theater until, the following year, the first Metropolitan Opera House was built diagonally opposite, on the northwest corner. They were joined in 1906 on the northeast corner by Telharmonic Hall.

Some say the Casino was the first New York theater lit entirely with electricity. Telharmonic Hall housed a 200-ton music synthesizer, which fed opera music to restaurants by wire beginning in 1906. The powerful signals caused interference to telephone calls, so radio pioneer Lee De Forest began transmitting its opera music wirelessly in 1907, the same year Telharmonic music was fed across the street to the lobby of the Casino.

De Forest broadcast the first complete operas from the roof of the Met in 1910. The microphones had originally been installed there for an in-house sound-distribution system in 1908 and were based on hearing aids first tested at the Met in 1903 (25 seats there were eventually wired for assisted listening).

Using an Edison cylinder phonograph, Met librarian Lionel Mapelson began making recordings from the stage in 1901. The Victor Talking Machine Company, an Edison competitor, tied its fortunes to opera, erecting what was, at the time, the world's largest illuminated sign, on Broadway just below 39th Street. It showed a Victor disc-based gramophone with the words "The Opera at Home." It could be seen both by opera goers and by shoppers at nearby department stores. Their strategy worked, and eventually even Edison had to switch to discs.

To show how good his discs were, Edison arranged "tone tests," including one in Carnegie Hall in 1920 in which opera singer Anna Case and a phonograph were onstage. Case began singing, the lights went out, the singing continued, and, when the lights came back on, only the phonograph was seen.

Carnegie Hall opened in 1891 with opera-composer Pyotr Ilyich Tchaikovsky conducting. Tchaikovsky stayed at the Hotel Normandie, one block south of the Casino Theatre. In 1910, atop that hotel, the Rice Electric Display Company erected "Leaders of the World," an illuminated sign comprising 20,000 light bulbs, 95 miles of wiring, and a 600-horsepower motor to present a full-color, 30-second-long, 42-frames-per-second, animated, Ben Hur-type chariot race, so popular that a special police unit was assigned to control the crowds watching it. So, there was more to do in the area than just attend opera.