

1581: Vincenzo Galilei's (Galileo's father's) book establishes principles of acoustics & opera



1619: After reading Galilei, Johannes Kepler publishes 3rd law of orbital motion, used by modern satellites



1637: 1st opera ticket sold in Venice; opera houses begin to use acoustic ducts



1673: Athanasius Kircher proposes ducting music outside the opera house



By 1726: Thomas Lediard uses moving-image projection at Hamburg opera



1823: Voigtländer sells binocular opera glasses



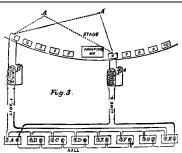
1849: Antonio Meucci begins electonic sound-transmission experiments at Havana's Gran Teatro Tacón opera house



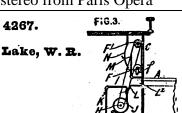
1849: Jules Duboscq projects an electric-light sunrise effect at Paris Opéra



By 1880: Edward P. Fry listens to opera at home via telephone line



1881: Clément Ader sends stereo from Paris Opéra



1881: British patent for gasjet-illuminated libretto display in opera house



1885: opera pay-cable service opens in Lisbon



1885: Discs become the first mass medium for music



1888: Edison's motion-picture patent caveat says it is for opera



1893: To increase utilization of opera-by-phone lines, Tivadar Puskás creates the electronic newscast



c. 1894: opera music in the first sync-sound movie



1895: Electrophone offers opera via headphones (used in Lisbon at least since 1888)



1900: Horace Short broadcast of opera recordings via compressedair amplifier from the top of the Eiffel Tower



1900: Lionel Mapleson makes first non-interfering location recordings at the Met



1906: The Telharmonium, a 200-ton synthesizer, sends opera music to restaurants



1934: Sarah Fischer stars in TV *Carmen* on BBC



1952: *Carmen* transmitted live to cinemas in 27 cities



1953: *Carmen* is first TV show in compatible-color seen at home



1976: 1st commercial digital audio recording is opera



2007: International, digital, high-definition, satellite, multi-language-subtitled, surround-sound, live cinema