

## Timeline of Communication History

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- Ancient and Early Eras: 3500BC-1099 AD
- Early and Middle Ages: 1100-1399
- Late Middle Ages: 1400-1599
- Enlightenment & Renaissance: 1600-1799
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### 3500 -- 59 B.C.

- 3500: In Sumer. pictographs of accounts written on clay tablets.
- 2600: Scribes employed in Egypt.
- 2400: In India, engraved seals identify the writer.
- 2200: Date of oldest existing document written on papyrus.
- 1500: Phoenician alphabet.
- 1400: Oldest record of writing in China, on bones.
- 1270: Syrian scholar compiles an encyclopedia.
- 900: China has an organized postal service for government use.
- 775: Greeks develop a phonetic alphabet, written from left to right.
- 530: In Greece, a library.
- 500: Greek telegraph: trumpets, drums, shouting, beacon fires, smoke signals, mirrors.
- 500: Persia has a form of pony express.
- 500: Chinese scholars write on bamboo with reeds dipped in pigment.
- 400: Chinese write on silk as well as wood, bamboo.
- 200: Books written on parchment and vellum.
- 200: Tipao gazettes are circulated to Chinese officials.
- 59: Julius Caesar orders postings of Acta Diurna.

### 100 - 999 A.D.

- 100: Roman couriers carry government mail across the empire.
- 105: T'sai Lun invents paper.
- 175: Chinese classics are carved in stone which will later be used for rubbings.
- 180: In China, an elementary zoetrope.
- 250: Paper use spreads to central Asia.
- 350: In Egypt, parchment book of Psalms bound in wood covers.
- 450: Ink on seals is stamped on paper in China. This is true printing.
- 600: Books printed in China.
- 700: Sizing agents are used to improve paper quality.
- 751: Paper manufactured outside of China, in Samarkand by Chinese captured in war.
- 765: Picture books printed in Japan.
- 868: The Diamond Sutra, a block-printed book in China.
- 875: Amazed travelers to China see toilet paper.
- 950: Paper use spreads west to Spain.
- 950: Folded books appear in China in place of rolls.
- 950: Bored women in a Chinese harem invent playing cards.

### 1000-1099

- 1000: Mayas in Yucatan, Mexico, make writing paper from tree bark.
- 1035: Japanese use waste paper to make new paper.
- 1049: Pi Sheng fabricates movable type, using clay.

### 1100-1199

- 1116: Chinese sew pages to make stitched books.
- 1140: In Egypt, cloth is stripped from mummies to make paper.
- 1147: Crusader taken prisoner returns with papermaking art, according to a legend.

### 1200-1299

- 1200: European monasteries communicate by letter system.
- 1200: University of Paris starts messenger service.
- 1241: In Korea, metal type.
- 1282: In Italy, watermarks are added to paper.
- 1298: Marco Polo describes use of paper money in China.

### 1300-1399

- 1300: Wooden type found in central Asia.
- 1305: Taxis family begins private postal service in Europe.
- 1309: Paper is used in England.
- 1392: Koreans have a type foundry to produce bronze characters.

#### 1400-1499

- 1423: Europeans begin Chinese method of block printing.
- 1450: A few newsletters begin circulating in Europe.
- 1451: Johannes Gutenberg uses a press to print an old German poem.
- 1452: Metal plates are used in printing.
- 1453: Gutenberg prints the 42-line Bible.
- 1464: King of France establishes postal system.
- 1490: Printing of books on paper becomes more common in Europe.
- 1495: A paper mill is established in England.

#### 1500-1599

- 1500: Arithmetic + and - symbols are used in Europe.
- 1500: By now approximately 35,000 books have been printed, some 10 million copies.
- 1520: Spectacles balance on the noses of Europe's educated.
- 1533: A postmaster in England.
- 1545: Garamond designs his typeface.
- 1550: Wallpaper brought to Europe from China by traders.
- 1560: In Italy, the portable camera obscura allows precise tracing of an image.
- 1560: Legalized, regulated private postal systems grow in Europe.
- 1565: The pencil.

#### 1600-1649

- 1609: First regularly published newspaper appears in Germany.
- 1627: France introduces registered mail.
- 1631: A French newspaper carries classified ads.
- 1639: In Boston, someone is appointed to deal with foreign mail.
- 1639: First printing press in the American colonies.
- 1640: Kirchner, a German Jesuit, builds a magic lantern.

#### 1650-1699

- 1650: Leipzig has a daily newspaper.
- 1653: Parisians can put their postage-paid letters in mail boxes.
- 1659: Londoners get the penny post.
- 1661: Postal service within the colony of Virginia.
- 1673: Mail is delivered on a route between New York and Boston.
- 1689: Newspapers are printed, at first as unfolded "broadsides."
- 1696: By now England has 100 paper mills.
- 1698: Public library opens in Charleston, S.C.

#### 1700-1749

- 1704: A newspaper in Boston prints advertising.
- 1710: German engraver Le Blon develops three-color printing.
- 1714: Henry Mill receives patent in England for a typewriter.
- 1719: Reaumur proposes using wood to make paper.
- 1725: Scottish printer develops stereotyping system.
- 1727: Schulze begins science of photochemistry.
- 1732: In Philadelphia, Ben Franklin starts a circulating library.

#### 1750-1799

- 1755: Regular mail ship runs between England and the colonies.
- 1770: The eraser.
- 1774: Swedish chemist invents a future paper whitener.
- 1775: Continental Congress authorizes Post Office; Ben Franklin first Postmaster General.
- 1780: Steel pen points begin to replace quill feathers.
- 1784: French book is made without rags, from vegetation.
- 1785: Stagecoaches carry the mail between towns in U.S.
- 1790: In England the hydraulic press is invented.
- 1792: Mechanical semaphore signaler built in France.
- 1792: In Britain, postal money orders.
- 1792: Postal Act gives mail regularity throughout U.S.
- 1794: First letter carriers appear on American city streets.
- 1794: Panorama, forerunner of movie theaters, opens.

1794: Signaling system connects Paris and Lille.  
1798: Senefelder in Germany invents lithography.  
1799: Robert in France invents a paper-making machine.

#### 1800-1809

1800: Paper can be made from vegetable fibers instead of rags.  
1800: Letter takes 20 days to reach Savannah from Portland, Maine.  
1801: Semaphore system built along the coast of France.  
1801: Joseph-Marie Jacquard invents a loom using punch cards.  
1803: Fourdrinier continuous web paper-making machine.  
1804: In Germany, lithography is invented.  
1806: Carbon paper.  
1807: Camera lucida improves image tracing.  
1808: Turri of Italy builds a typewriter for a blind contessa.

#### 1810-1819

1810: An electro-chemical telegraph is constructed in Germany.  
1810: Postal services consolidated under uniform private contracts.  
1813: Congress authorizes steam boats to carry mail.  
1814: In England, a steam-powered rotary press prints The Times.  
1815: 3,000 post offices in U.S.  
1816: Newspapers carried for less than 2 cents postage.  
1816: Niépce captures image with 8-hour exposure.  
1818: Stamped letter paper is sold in Sardinia.  
1818: In Sweden, Berzelius isolates selenium; its electric conductivity reacts to light.  
1819: Napier builds a rotary printing press.

#### 1820-1829

1820: Arithmometer, forerunner of the calculator.  
1821: In England, Wheatstone reproduces sound.  
1823: Babbage builds a section of a calculating machine.  
1823: In England, Ronalds builds a telegraph in his garden; no one is interested.  
1825: Persistence of vision shown with Thaumatrope.  
1827: Niépce makes a true photograph.  
1827: In London, Wheatstone constructs a microphone.  
1829: Daguerre joins Niépce to pursue photographic inventions.  
1829: Burt gets the first U.S. patent for a typewriter.

#### 1830-1839

1830: Calendered paper is produced in England.  
1832: Phenakistoscope in Belgium and Stroboscope in Austria point to motion pictures.  
1833: A penny buys a New York newspaper, opening a mass market.  
1833: In Germany, a telegraph running nearly two miles.  
1834: Babbage conceives the analytical engine, forerunner of the computer.  
1835: Bennett publishes the first of his penny press editions.  
1836: Rowland Hill starts to reform British postal system.  
1837: Wheatstone and Cooke patent an electric telegraph in England.  
1837: Morse exhibits an electric telegraph in the U.S.  
1837: Pitman publishes a book on shorthand in England.  
1837: Daguerre cuts photo exposure time to 20 minutes.  
1838: In England, Wheatstone's Stereoscope shows pictures in 3-D.  
1838: Morse exhibits an electric telegraph in the U.S.  
1838: Daguerre-Niépce method begins photography craze.  
1839: Fox Talbot in England produces photographs.  
1839: Herschel invents hypo fixative.  
1839: In Russia, Jacobi invents electrotyping, the duplicating of printing plates.  
1839: Electricity runs a printing press.  
1839: Fox Talbot in England prints photographs from negatives.

#### 1840-1849

1840: In Britain, first postage stamps are sold.  
1841: Petzval of Austria builds an f/3.6 lens.  
1841: The advertising agency is born.  
1841: The first type-composing machine goes into use in London.  
1842: Illustrated London News appears.  
1842: Another use for paper: the Christmas card.

1843: In the U.S., the photographic enlarger.  
1843: Ada, Lady Lovelace publishes her Notes explaining a computer.  
1844: Morse's telegraph connects Washington and Baltimore.  
1845: Postal reform bill lowers rates and regulates domestic and international service.  
1845: English Channel cable.  
1845: The typewriter ribbon.  
1846: In Germany, Zeiss begins manufacturing lenses.  
1846: Double cylinder rotary press produces 8,000 sheets an hour.  
1847: A Philadelphia newspaper rolls off a rotary printing press.  
1847: First use of telegraph as business tool.  
1847: In England, Bakewell constructs a "copying telegraph."  
1848: Forerunner of the Associated Press is founded in New York.  
1849: The photographic slide.

#### 1850-1859

1850: The paper bag arrives.  
1851: In the U.S., paper is made from wood fiber.  
1851: The Erie railroad depends on the telegraph.  
1851: Cable is laid across the English Channel.  
1851: Archer invents wet-plate photography process.  
1851: In England, Talbot takes a flash photograph at 1/100,000 second exposure.  
1851: Newspaper postage cut in half; free distribution within county.  
1852: Postage stamps are widely used.  
1853: Envelopes made by paper folding machine.  
1854: Telegraph used in Crimean War.  
1854: Wood pulp is added by paper makers.  
1854: Bourseul in France builds an experimental telephone.  
1854: Carte-de-visite process simplifies photography.  
1854: Curved stereotype plate obviates column rules; wide ads soon.  
1855: Printing telegraph invented in the U.S.  
1855: Prepayment of letters made compulsory.  
1855: Registered letters enter service.  
1856: Poitevan starts photolithography.  
1856: Blotting paper replaces sand boxes.  
1856: Machine folds newspapers, paper for books.  
1857: A machine to set type is demonstrated.  
1857: In France, Scott's phonograph is a forerunner of Edison's phonograph.  
1858: Mail boxes appear on American streets.  
1858: First effort at transatlantic telegraph service fails.  
1858: Eraser is fitted to the end of a pencil.  
1858: An aerial photograph is taken.  
1859: Camera gets a wide-angled lens.

#### 1860-1869

1860: In U.S., Sholes builds a functional typewriter.  
1860: Pony Express carries mail between St. Joseph, Mo. and Sacramento.  
1861: Telegraph brings Pony Express to an abrupt end.  
1861: First chemical means to color photography.  
1861: Oliver Wendell Holmes invents stereoscope.  
1862: In Italy, Caselli sends a drawing over a wire.  
1862: in U.S., paper money.  
1863: Large U.S. cities get free home delivery of mail.  
1863: First international postal conference held in Paris.  
1864: Workers in "railway post office" sort mail on trains.  
1864: Postal money orders sold in U.S; \$1.3 million in 6 months.  
1864: The railroad train hooks on a mail car.  
1864: In Virginia, wireless electromagnetic waves are transmitted 14 miles.  
1865: Atlantic cable ties Europe and U.S. for instant communication.  
1866: Western Union dominates U.S. wires.  
1867: In U.S., Sholes builds a functional typewriter.  
1868: Writing machine is called a "Type-Writer"; so is the typist.  
1869: Carbon paper is invented.  
1869: Color photography, using the subtractive method.

1869: From Austria, postcards.

#### 1870-1879

1870: Stock ticker comes to Wall Street.

1871: Halftone process allows newspaper printing of pictures.

1872: Simultaneous transmission from both ends of a telegraph wire.

1872: Wood pulp will be the source of paper, thanks to Swedish sulfite process.

1873: U.S. postcard debuts; costs one penny.

1873: Illustrated daily newspaper appears in New York.

1873: Maxwell publishes theory of radio waves.

1873: First color photographs.

1873: Remington starts manufacturing Sholes' typewriters.

1873: Typewriters get the QWERTY pseudo-scientific keyboard.

1873: Lord Kelvin calculates the tides with a machine.

1873: In Ireland, May uses selenium to send a signal through the Atlantic cable.

1874: Universal Postal Union formed.

1875: Edison invents the mimeograph.

1875: In the U.S., Carey designs a selenium mosaic to transmit a picture.

1876: Bell invents the telephone.

1877: In France, Charles Cros invents the phonograph.

1877: In America, Edison also invents the phonograph.

1878: Muybridge photographs a horse in motion.

1878: Cathode ray tube is invented by Crookes, English chemist.

1878: The dynamic microphone is invented in the U.S. and Germany.

1878: Telephone directories are issued.

1878: Full page newspaper ads.

1878: In France, praxinoscope, an optical toy, a step toward movies.

1878: Hughes invents the microphone.

1878: Dry-plate photography.

1879: Benda process aids newspaper production of maps, drawings.

#### 1880-1889

1880: First photos in newspapers, using halftones.

1880: Edison invents the electric light.

1880: France's Leblanc theorizes transmitting a picture in segments.

1880: First parcel post.

1880: Business offices begin to look modern.

1882: In England, the first Wirephotos.

1883: Edison stumbles onto "Edison effect"; basis of broadcast tubes.

1884: In Germany, Nipkow scanning disc, early version of television.

1884: People can now make long distance phone calls.

1884: Electric tabulator is introduced.

1884: Waterman's fountain pen blots out earlier versions.

1885: Dictating machines are bought for offices.

1885: Eastman makes coated photo printing paper.

1885: U.S. Post Office offers special delivery.

1885: Trains are delivering newspapers daily.

1886: Graphophone's wax cylinder and sapphire stylus improve sound.

1886: Mergenthaler constructs a linotype machine for setting type.

1887: Celluloid film; it will replace glass plate photography.

1887: Montgomery Ward mails out a 540-page catalog.

1887: Berliner gets music from a flat disc stamped out by machine.

1887: Comptometer multi-function adding machine is manufactured.

1888: "Kodak" box camera makes picture taking simple.

1888: Heinrich Hertz proves the existence of radio waves.

1888: The coin-operated public telephone.

1888: Edison's phonograph is manufactured for sale to the public.

1889: Herman Hollerith counts the population with punch cards.

1889: Strowger, Kansas City undertaker, invents automatic telephone exchange.

#### 1890-1899

1890: A.B. Dick markets the mimeograph.

1890: Typewriters are in common use in offices.

1890: In England, Friese-Greene builds the kinematograph camera and projector.

1890: In France, Branly's coherer conducts radio waves.  
1891: Large press prints and folds 90,000 4-page papers an hour.  
1891: Telephoto lens is attached to the camera.  
1891: Edison's assistant, Dickson, builds the Kinetograph motion picture camera.  
1892: Edison and Dickson invent the peep-show Kinetoscope.  
1892: 4-color rotary press.  
1892: Portable typewriters.  
1892: Automatic telephone switchboard comes into service.  
1893: Dickson builds a motion picture studio in New Jersey.  
1893: Addressograph joins the office machinery.  
1894: Marconi invents wireless telegraphy.  
1894: Box making machines give impetus to packaging industry.  
1894: Berliner's flat phonograph disc competes with the cylinder.  
1895: France's Lumiere brothers build a portable movie camera.  
1895: Paris audience sees movies projected.  
1895: In England, Friese-Greene invents phototypesetting.  
1895: Dial telephones go into Milwaukee's city hall.  
1896: Underwood model permits typists to see what they are typing.  
1896: The monotype sets type by machine in single characters.  
1896: Electric power is used to run a paper mill.  
1896: In Britain, the motion picture projector is manufactured.  
1896: X-ray photography.  
1896: Rural free delivery (RFD) inaugurated.  
1897: In England, postmen deliver mail to every home.  
1897: In Germany, Braun improves Crookes' tube with fluorescence.  
1897: General Electric creates a publicity department.  
1898: Photographs taken by artificial light.  
1898: New York State passes a law against misleading advertising.  
1899: The loudspeaker.  
1899: Sound is recorded magnetically by Poulsen of Denmark.  
1899: American Marconi Company incorporated; forerunner of RCA.

#### 1900-1902

1900: Kodak Brownie makes photography cheaper and simpler.  
1900: Pupin's loading coil reduces telephone voice distortion.  
1901: Sale of phonograph disc made of hard resinous shellac.  
1901: First electric typewriter, the Blickensderfer.  
1901: Marconi sends a radio signal across the Atlantic.  
1902: Germany's Zeiss invents the four-element Tessar camera lens.  
1902: Etched zinc engravings start to replace hand-cut wood blocks.  
1902: U.S. Navy installs radio telephones aboard ships.  
1902: Photoelectric scanning can send and receive a picture.  
1902: Trans-Pacific telephone cable connects Canada and Australia.

#### 1903-1904

1903: Technical improvements in radio, telegraph, phonograph, movies and printing.  
1903: London Daily Mirror illustrates only with photographs.  
1904: A telephone answering machine is invented.  
1904: Fleming invents the diode to improve radio communication.  
1904: Offset lithography becomes a commercial reality.  
1904: A photograph is transmitted by wire in Germany.  
1904: Hine photographs America's underclass.  
1904: The Great Train Robbery creates demand for fiction movies.  
1904: The comic book.  
1904: The double-sided phonograph disc.

#### 1905-1906

1905: In Pittsburgh the first nickelodeon opens.  
1905: Photography, printing, and post combine in the year's craze, picture postcards.  
1905: In France, Pathe colors black and white films by machine.  
1905: In New Zealand, the postage meter is introduced.  
1905: The Yellow Pages.  
1905: The juke box; 24 choices.  
1906: In Britain, new process colors books cheaply.

- 1906: A program of voice and music is broadcast in the U.S.
- 1906: Lee de Forest invents the three-element vacuum tube.
- 1906: Dunwoody and Pickard build a crystal-and-cat's-whisker radio.
- 1906: An animated cartoon film is produced.
- 1906: Fessenden plays violin for startled ship wireless operators.
- 1906: An experimental sound-on-film motion picture.
- 1906: Strowger invents automatic dial telephone switching.
- 1907-1908
  - 1907: Bell and Howell develop a film projection system.
  - 1907: Lumiere brothers invent still color photography process.
  - 1907: DeForest begins regular radio music broadcasts.
  - 1907: In Russia, Rosing develops theory of television.
  - 1908: In U.S., Smith introduces true color motion pictures.
- 1909-1910
  - 1909: Radio distress signal saves 1,700 lives after ships collide.
  - 1909: First broadcast talk; the subject: women's suffrage.
  - 1910: Sweden's Elkstrom invents "flying spot" camera light beam.
- 1911-1912
  - 1911: Efforts are made to bring sound to motion pictures.
  - 1911: Rotogravure aids magazine production of photos.
  - 1911: "Postal savings system" inaugurated.
  - 1912: U.S. passes law to control radio stations.
  - 1912: Motorized movie cameras replace hand cranks.
  - 1912: Feedback and heterodyne systems usher in modern radio.
  - 1912: First mail carried by airplane.
- 1913-1914
  - 1913: The portable phonograph is manufactured.
  - 1913: Type composing machines roll out of the factory.
  - 1914: A better triode vacuum tube improves radio reception.
  - 1914: Radio message is sent to an airplane.
  - 1914: In Germany, the 35mm still camera, a Leica.
  - 1914: In the U.S., Goddard begins rocket experiments.
  - 1914: First transcontinental telephone call.
- 1915-1916
  - 1915: Wireless radio service connects U.S. and Japan.
  - 1915: Radio-telephone carries speech across the Atlantic.
  - 1915: Birth of a Nation sets new movie standards.
  - 1915: The electric loudspeaker.
  - 1916: David Sarnoff envisions radio as "a household utility."
  - 1916: Cameras get optical rangefinders.
  - 1916: Radios get tuners.
- 1917-1918
  - 1917: Photocomposition begins.
  - 1917: Frank Conrad builds a radio station, later KDKA.
  - 1917: Condenser microphone aids broadcasting, recording.
  - 1918: First regular airmail service: Washington, D.C. to New York.
- 1919
  - 1919: People can now dial telephone numbers themselves.
  - 1919: Shortwave radio is invented.
  - 1919: Flip-flop circuit invented; will help computers to count.
- 1920
  - 1920: The first broadcasting stations are opened.
  - 1920: First cross-country airmail flight in the U.S.
  - 1920: Sound recording is done electrically.
  - 1920: Post Office accepts the postage meter.
  - 1920: KDKA in Pittsburgh broadcasts first scheduled programs.
- 1921
  - 1921: Quartz crystals keep radio signals from wandering.
  - 1921: The word "robot" enters the language.
  - 1921: Western Union begins wirephoto service.

1922

- 1922: A commercial is broadcast, \$100 for ten minutes.
- 1922: Technicolor introduces two-color process for movies.
- 1922: Germany's UFA produces a film with an optical sound track.
- 1922: First 3-D movie, requires spectacles with one red and one green lens.
- 1922: Singers desert phonograph horn mouths for acoustic studios.
- 1922: Nanook of the North, the first documentary.

1923

- 1923: Zworykin's electronic iconoscope camera tube and kinescope display tube.
- 1923: People on one ship can talk to people on another.
- 1923: Ribbon microphone becomes the studio standard.
- 1923: A picture, broken into dots, is sent by wire.
- 1923: 16 mm nonflammable film makes its debut.
- 1923: Kodak introduces home movie equipment.
- 1923: Neon advertising signs.

1924

- 1924: Low tech achievement: notebooks get spiral bindings.
- 1924: The Eveready Hour is the first sponsored radio program.
- 1924: At KDKA, Conrad sets up a short-wave radio transmitter.
- 1924: Daily coast-to-coast air mail service.
- 1924: Pictures are transmitted over telephone lines.
- 1924: Two and a half million radio sets in the U.S.

1925

- 1925: The Leica 35 mm camera sets a new standard.
- 1925: Commercial picture facsimile radio service across the U.S.
- 1925: All-electric phonograph is built.
- 1925: A moving image, the blades of a model windmill, is telecast.
- 1925: From France, a wide-screen film.

1926

- 1926: Commercial picture facsimile radio service across the Atlantic.
- 1926: Baird demonstrates an electro-mechanical TV system.
- 1926: Some radios get automatic volume control, a mixed blessing.
- 1926: The Book-of-the-Month Club.
- 1926: In U.S., first 16mm movie is shot.
- 1926: Goddard launches liquid-fuel rocket.
- 1926: Permanent radio network, NBC, is formed.
- 1926: Bell Telephone Labs transmit film by television.

1927

- 1927: NBC begins two radio networks; CBS formed.
- 1927: Farnsworth assembles a complete electronic TV system.
- 1927: Jolson's "The Jazz Singer" is the first popular "talkie."
- 1927: Movietone offers newsreels in sound.
- 1927: U.S. Radio Act declares public ownership of the airwaves.
- 1927: Technicolor.
- 1927: Negative feedback makes hi-fi possible.

1928

- 1928: Baird demonstrates color TV on electro-mechanical system.
- 1928: The teletype machine makes its debut.
- 1928: Television sets are put in three homes, programming begins.
- 1928: Baird invents a video disc to record television.
- 1928: In an experiment, television crosses the Atlantic.
- 1928: In Schenectady, N.Y., the first scheduled television broadcasts.
- 1928: Steamboat Willie introduces Mickey Mouse.
- 1928: A motion picture is shown in color.
- 1928: Times Square gets moving headlines in electric lights.
- 1928: IBM adopts the 80-column punched card.

1929

- 1929: Experiments begin on electronic color television.
- 1929: Telegraph ticker sends 500 characters per minute.
- 1929: Ship passengers can phone relatives ashore.



- 1929: Brokers watch stock prices on an automated electric board.
- 1929: Something else new: the car radio.
- 1929: In Germany, magnetic sound recording on plastic tape.
- 1929: Television studio is built in London.
- 1929: Air mail flown from Miami to South America.
- 1929: Bell Lab transmits stills in color by mechanical scanning.
- 1929: Zworykin demonstrates cathode-ray tube "kinescope" receiver, 60 scan lines.
- 1930
- 1930: Photo flashbulbs replace dangerous flash powder.
- 1930: "Golden Age" of radio begins in U.S.
- 1930: Lowell Thomas begins first regular network newscast.
- 1930: TVs based on British mechanical system roll off factory line.
- 1930: Bush's differential analyzer introduces the computer.
- 1930: AT&T tries the picture telephone.
- 1931
- 1931: Commercial teletype service.
- 1931: Electronic TV broadcasts in Los Angeles and Moscow.
- 1931: Exposures meters go on sale to photographers.
- 1931: NBC experimentally doubles transmission to 120-line screen.
- 1932
- 1932: Disney adopts a three-color Technicolor process for cartoons.
- 1932: Kodak introduces 8 mm film for home movies.
- 1932: The "Times" of London uses its new Times Roman typeface.
- 1932: Stereophonic sound in a motion picture, "Napoleon."
- 1932: Zoom lens is invented, but a practical model is 21 years off.
- 1932: The light meter.
- 1932: NBC and CBS allow prices to be mentioned in commercials.
- 1933
- 1933: Armstrong invents FM, but its real future is 20 years off.
- 1933: Multiple-flash sports photography.
- 1933: Singing telegrams.
- 1933: Phonograph records go stereo.
- 1934
- 1934: Drive-in movie theater opens in New Jersey.
- 1934: Associated Press starts wirephoto service.
- 1934: In Germany, a mobile television truck roams the streets.
- 1934: In Scotland, teletypesetting sets type by phone line.
- 1934: Three-color Technicolor used in live action film.
- 1934: Communications Act of 1934 creates FCC.
- 1934: Half of the homes in the U.S. have radios.
- 1934: Mutual Radio Network begins operations.
- 1935
- 1935: German single lens reflex roll film camera synchronized for flash bulbs.
- 1935: Also in Germany, audio tape recorders go on sale.
- 1935: IBM's electric typewriter comes off the assembly line.
- 1935: The Penguin paperback book sells for the price of 10 cigarettes.
- 1935: All-electronic VHF television comes out of the lab.
- 1935: Eastman-Kodak develops Kodachrome color film.
- 1935: Nielsen's Audimeter tracks radio audiences.
- 1936
- 1936: Berlin Olympics are televised closed circuit.
- 1936: Bell Labs invents a voice recognition machine.
- 1936: Kodachrome film sharpens color photography.
- 1936: Co-axial cable connects New York to Philadelphia.
- 1936: Alan Turing's "On Computable Numbers" describes a general purpose computer.
- 1937
- 1937: Stibitz of Bell Labs invents the electrical digital calculator.
- 1937: Pulse Code Modulation points the way to digital transmission.
- 1937: NBC sends mobile TV truck onto New York streets.
- 1937: A recording, the Hindenburg crash, is broadcast coast to coast.
- 1937: Carlson invents the photocopier.

- 1937: Snow White is the first feature-length cartoon.
- 1938
- 1938: Strobe lighting.
  - 1938: Baird demonstrates live TV in color.
  - 1938: Broadcasts can be taped and edited.
  - 1938: Two brothers named Biro invent the ballpoint pen in Argentina.
  - 1938: CBS "World News Roundup" ushers in modern newscasting.
  - 1938: DuMont markets electronic television receiver for the home.
  - 1938: Radio drama, "War of the Worlds," causes national panic.
- 1939
- 1939: Mechanical scanning system abandoned.
  - 1939: New York World's Fair shows television to public.
  - 1939: Regular TV broadcasts begin.
  - 1939: Air mail service across the Atlantic.
  - 1939: Many firsts: sports coverage, variety show, feature film, etc.
- 1940
- 1940: Fantasia introduces stereo sound to American public.
- 1941
- 1941: Stereo is installed in a Moscow movie theater.
  - 1941: FCC sets U.S. TV standards.
  - 1941: CBS and NBC start commercial transmission; WW II intervenes.
  - 1941: Goldmark at CBS experiments with electronic color TV.
  - 1941: Microwave transmission.
  - 1941: Zuse's Z3 is the first computer controlled by software.
- 1942
- 1942: Atanasoff, Berry build the first electronic digital computer.
  - 1942: Kodacolor process produces the color print.
- 1943
- 1943: Repeaters on phone lines quiet long distance call noise.
- 1944
- 1944: Harvard's Mark I, first digital computer, put in service.
  - 1944: IBM offers a typewriter with proportional spacing.
  - 1944: NBC presents first U.S. network newscast, a curiosity.
- 1945
- 1945: Clarke envisions geo-synchronous communication satellites.
  - 1945: It is estimated that 14,000 products are made from paper.
- 1946
- 1946: Jukeboxes go into mass production.
  - 1946: Pennsylvania's ENIAC heralds the modern electronic computer.
  - 1946: Automobile radio telephones connect to telephone network.
  - 1946: French engineers build a phototypesetting machine.
- 1947
- 1947: Hungarian engineer in England invents holography.
  - 1947: The transistor is invented, will replace vacuum tubes.
  - 1947: The zoom lens covers baseball's world series for TV.
  - 1947: Holography invented.
- 1948
- 1948: The LP record arrives on a vinyl disk.
  - 1948: Shannon and Weaver of Bell Labs propound information theory.
  - 1948: Land's Polaroid camera prints pictures in a minute.
  - 1948: Hollywood switches to nonflammable film.
  - 1948: Public clamor for television begins; FCC freezes new licenses.
  - 1948: Airplane re-broadcasts TV signal across nine states.
- 1949
- 1949: Network TV in U.S.
  - 1949: RCA offers the 45 rpm record.
  - 1949: Community Antenna Television, forerunner to cable.
  - 1949: Whirlwind at MIT is the first real time computer.
  - 1949: Magnetic core computer memory is invented.
- 1950
- 1950: Regular color television transmission.

- 1950: Vidicon camera tube improves television picture.
- 1950: Changeable typewriter typefaces in use.
- 1950: A.C. Nielsen's Audimeters track viewer watching.
- 1951
  - 1951: One and a half million TV sets in U.S., a tenfold jump in one year.
  - 1951: Cinerama will briefly dazzle with a wide, curved screen and three projectors.
  - 1951: Computers are sold commercially.
  - 1951: Still camera get built-in flash units.
  - 1951: Coaxial cable reaches coast to coast.
- 1952
  - 1952: 3-D movies offer thrills to the audience.
  - 1952: Bing Crosby's company tests video recording.
  - 1952: Wide-screen Cinerama appears; other systems soon follow.
  - 1952: Sony offers a miniature transistor radio.
  - 1952: EDVAC takes computer technology a giant leap forward.
  - 1952: Univac projects the winner of the presidential election on CBS.
  - 1952: Telephone area codes.
  - 1952: Zenith proposes pay-TV system using punched cards.
  - 1952: Sony offers a miniature transistor radio.
- 1953
  - 1953: NTSC color standard adopted.
  - 1953: CATV system uses microwave to bring in distant signals.
- 1954
  - 1954: U.S.S.R. launches Sputnik.
  - 1954: Radio sets in the world now outnumber newspapers printed daily.
  - 1954: Regular color TV broadcasts begin.
  - 1954: Sporting events are broadcast live in color.
  - 1954: Radio sets in the world now outnumber daily newspapers.
  - 1954: Transistor radios are sold.
- 1955
  - 1955: Tests begin to communicate via fiber optics.
  - 1955: Music is recorded on tape in stereo.
- 1956
  - 1956: Ampex builds a practical videotape recorder.
  - 1956: Bell tests the picture phone.
  - 1956: First transatlantic telephone calls by cable.
- 1957
  - 1957: Soviet Union's Sputnik sends signals from space.
  - 1957: FORTRAN becomes the first high-level language.
  - 1957: A surgical operation is televised.
  - 1957: First book to be entirely phototypeset is offset printed.
- 1958
  - 1958: Videotape delivers color.
  - 1958: Stereo recording is introduced.
  - 1958: Data moves over regular phone circuits.
  - 1958: Broadcast bounced off rocket, pre-satellite communication.
  - 1958: The laser.
  - 1958: Cable carries FM radio stations.
- 1959
  - 1959: Local announcements, weather data and local ads go on cable.
  - 1959: The microchip is invented.
  - 1959: Xerox manufactures a plain paper copier.
  - 1959: Bell Labs experiments with artificial intelligence.
  - 1959: French SECAM and German PAL systems introduced.
- 1960
  - 1960: Echo I, a U.S. balloon in orbit, reflects radio signals to Earth.
  - 1960: In Rhode Island, an electronic, automated post office.
  - 1960: A movie gets Smell-O-Vision, but the public just sniffs.
  - 1960: Zenith tests subscription TV; unsuccessful.
- 1961
  - 1961: Boxing match test shows potential of pay-TV.

- 1961: FCC approves FM stereo broadcasting; spurs FM development.
- 1961: Bell Labs tests communication by light waves.
- 1961: IBM introduces the "golf ball" typewriter.
- 1961: Letraset makes headlines simple.
- 1961: The time-sharing computer is developed.
- 1962
  - 1962: Cable companies import distant signals.
  - 1962: FCC requires UHF tuners on tv sets.
  - 1962: The minicomputer arrives.
  - 1962: Comsat created to launch, operate global system.
  - 1962: Telstar satellite transmits an image across the Atlantic.
- 1963
  - 1963: From Holland comes the audio cassette.
  - 1963: Zip codes.
  - 1963: CBS and NBC TV newscasts expand to 30 minutes in color.
  - 1963: PDP-8 becomes the first popular minicomputer.
  - 1963: Polaroid camera instant photography adds color.
  - 1963: Communications satellite is placed in geo-synchronous orbit.
  - 1963: TV news "comes of age" in reporting JFK assassination.
- 1964
  - 1964: Olympic Games in Tokyo telecast live globally by satellite.
  - 1964: Touch Tone telephones and Picturephone service.
  - 1964: From Japan, the videotape recorder for home use.
  - 1964: Russian scientists bounce a signal off Jupiter.
  - 1964: Intelsat, international satellite organization, is formed.
- 1965
  - 1965: Electronic phone exchange gives customers extra services.
  - 1965: Satellites begin domestic TV distribution in Soviet Union.
  - 1965: Computer time-sharing becomes popular.
  - 1965: Color news film.
  - 1965: Communications satellite Early Bird (Intelsat I) orbits above the Atlantic.
  - 1965: Kodak offers Super 8 film for home movies.
  - 1965: Cartridge audio tapes go on sale for a few years.
  - 1965: Most broadcasts are in color.
  - 1965: FCC rules bring structure to cable television.
  - 1965: Solid-state equipment spreads through the cable industry.
- 1966
  - 1966: Linotron can produce 1,000 characters per second.
  - 1966: Fiber optic cable multiplies communication channels.
  - 1966: Xerox sells the Telecopier, a fax machine.
- 1967
  - 1967: Dolby eliminates audio hiss.
  - 1967: Computers get the light pen.
  - 1967: Pre-recorded movies on videotape sold for home TV sets.
  - 1967: Cordless telephones get some calls.
  - 1967: Approx. 200 million telephones in the world, half in U.S.
- 1968
  - 1968: FCC approves non-Bell equipment attached to phone system.
  - 1968: Intelsat completes global communications satellite loop.
  - 1968: Approx. 200 million TV sets in the world, 78 million in U.S.
  - 1968: The RAM microchip reaches the market.
- 1969
  - 1969: Astronauts send live photographs from the moon.
  - 1969: Sony's U-Matic puts videotape on a cassette.
- 1970
  - 1970: Postal Reform Bill makes U.S. Postal Service a government corporation.
  - 1970: In Germany, a videodisc is demonstrated.
  - 1970: U.S. Post Office and Western Union offer Mailgrams.
  - 1970: The computer floppy disc is an instant success.
- 1971
  - 1971: Intel builds the microprocessor, "a computer on a chip."

- 1971: Wang 1200 is the first word processor.
- 1972
- 1972: HBO starts pay-TV service for cable.
  - 1972: Sony introduces 3/4 inch "U-Matic" cassette VCR.
  - 1972: New FCC rules lead to community access channels.
  - 1972: Polaroid camera can focus by itself.
  - 1972: Digital television comes out of the lab.
  - 1972: The BBC offers "Ceefax," two-way cable information system.
  - 1972: "Open Skies": any U.S. firm can have communication satellites.
  - 1972: Landsat I, "eye-in-the-sky" satellite, is launched.
  - 1972: Sony's Port-a-Pak, a portable video recorder.
  - 1972: "Pong" starts the video game craze.
- 1973
- 1973: The microcomputer is born in France.
  - 1973: IBM's Selectric typewriter is now "self-correcting."
- 1974
- 1974: In England, the BBC transmits Teletext data to TV sets.
  - 1974: Electronic News Gathering, or ENG.
  - 1974: "Teacher-in-the-Sky" satellite begins educational mission.
- 1975
- 1975: The microcomputer, in kit form, reaches the U.S. home market.
  - 1975: Sony's Betamax and JVC's VHS battle for public acceptance.
  - 1975: "Thrilla' from Manila"; substantial original cable programming.
- 1976
- 1976: Apple I.
  - 1976: Ted Turner delivers programming nationwide by satellite.
  - 1976: Still cameras are controlled by microprocessors.
  - 1976: British TV networks begin first teletext system.
- 1977
- 1977: Columbus, Ohio, residents try 2-way cable experiment, QUBE.
- 1978
- 1978: From Konica, the point-and-shoot camera.
  - 1978: PBS goes to satellite for delivery, abandoning telephone lines.
  - 1978: Electronic typewriters go on sale.
- 1979
- 1979: Speech recognition machine has a vocabulary of 1,000 words.
  - 1979: Videotext provides data by television on command.
  - 1979: From Holland comes the digital videodisc read by laser.
  - 1979: In Japan, first cellular phone network.
  - 1979: Computerized laser printing is a boon to Chinese printers.
- 1980
- 1980: Sony Walkman tape player starts a fad.
  - 1980: In France, a holographic film shows a gull flying.
  - 1980: Phototypesetting can be done by laser.
  - 1980: Intelsat V relays 12,000 phone calls, 2 color TV channels.
  - 1980: Public international electronic fax service, Intelpost, begins.
  - 1980: Atlanta gets first fiber optics system.
  - 1980: CNN 24-hour news channel.
  - 1980: Addressable converters pinpoint individual homes.
- 1981
- 1981: 450,000 transistors fit on a silicon chip 1/4-inch square.
  - 1981: Hologram technology improves, now in video games.
  - 1981: The IBM PC.
  - 1981: The laptop computer is introduced.
  - 1981: The first mouse pointing device.
- 1982
- 1982: From Japan, a camera with electronic picture storage, no film.
  - 1982: USA Today type set in regional plants by satellite command.
  - 1982: Kodak camera uses film on a disc cassette.
- 1983
- 1983: Cellular phone network starts in U.S.

- 1983: Lasers and plastics improve newspaper production.
- 1983: Computer chip holds 288,000 bits of memory.
- 1983: Time names the computer as "Man of the Year."
- 1983: ZIP + 4, expanded 9-digit ZIP code is introduced.
- 1983: AT&T forced to break up; 7 Baby Bells are born.
- 1983: American videotext service starts; fails in three years.
- 1984
  - 1984: Trucks used for SNG transmission.
  - 1984: Experimental machine can translate Japanese into English.
  - 1984: Portable compact disc player arrives.
  - 1984: National Geographic puts a hologram on its cover.
  - 1984: A television set can be worn on the wrist.
  - 1984: Japanese introduce high quality facsimile.
  - 1984: Camera and tape deck combine in the camcorder.
  - 1984: Apple Macintosh, IBM PC AT.
  - 1984: The 32-bit microprocessor.
  - 1984: The one megabyte memory chip.
  - 1984: Conus relays news feeds for stations on Ku-Band satellites.
- 1985
  - 1985: Digital image processing for editing stills bit by bit.
  - 1985: CD-ROM can put 270,000 papers of text on a CD record.
  - 1985: Cellular telephones go into cars.
  - 1985: Synthetic text-to-speech computer pronounces 20,000 words.
  - 1985: Picture, broken into dots, can be transmitted and recreated.
  - 1985: U.S. TV networks begin satellite distribution to affiliates.
  - 1985: At Expo, a Sony TV screen measures 40x25 meters.
  - 1985: Sony builds a radio the size of a credit card.
  - 1985: In Japan, 3-D television; no spectacles needed.
  - 1985: Pay-per-view channels open for business.
- 1986
  - 1986: HBO scrambles its signals.
  - 1986: Cable shopping networks.
- 1987
  - 1987: Half of all U.S. homes with TV are on cable.
  - 1987: Government deregulates cable industry.
- 1988
  - 1988: Government brochure mailed to 107 million addresses.
- 1989
  - 1989: Tiananmen Square demonstrates power of media to inform the world.
  - 1989: Pacific Link fiber optic cable opens, can carry 40,000 phone calls.
- 1990
  - 1990: Flyaway SNG aids foreign reportage.
  - 1990: IBM sells Selectric, a sign of the typewriter's passing.
  - 1990: Most 2-inch videotape machines are also gone.
  - 1990: Videodisc returns in a new laser form.
- 1991
  - 1991: Beauty and the Beast, a cartoon, Oscar nominee as best picture.
  - 1991: CNN dominates news coverage worldwide during Gulf War.
  - 1991: Live TV news switching between world capitals during Gulf War looks simple.
  - 1991: Denver viewers can order movies at home from list of more than 1,000 titles.
  - 1991: Moviegoers astonished by computer morphing in Terminator 2.
  - 1991: Baby Bells get government permission to offer information services.
  - 1991: Collapse of Soviet anti-Gorbachev plot aided by global system called the Internet.
  - 1991: More than 4 billion cassette tape rentals in U.S. alone.
  - 1991: 3 out of 4 U.S. homes own VCRs; fastest selling domestic appliance in history.
- 1992
  - 1992: Cable TV revenues reach \$22 billion.
  - 1992: At least 50 U.S. cities have competing cable services.
  - 1992: After President Bush speaks, 25 million viewers try to phone in their opinions.
- 1993
  - 1993: Dinosaurs roam the earth in Jurassic Park.

1993: Unfounded rumors fly that cellphones cause brain cancer.  
1993: Demand begins for "V-chip" to block out violent television programs.  
1993: 1 in 3 Americans does some work at home instead of driving to work.

1994

1994: After 25 years, U.S. government privatizes Internet management.  
1994: Rolling Stones concert goes to 200 workstations worldwide on Internet "MBone."  
1994: To reduce Western influence, a dozen nations ban or restrict satellite dishes.  
1994: Prodigy bulletin board fields 12,000 messages in one after after L.A. earthquake.

1995

1995: CD-ROM disk can carry a full-length feature film.  
1995: Sony demonstrates flat TV set.  
1995: DBS feeds are offered nationwide.  
1995: Denmark announces plan to put much of the nation on-line within 5 years.  
1995: Major U.S. dailies create national on-line newspaper network.  
1995: Lamar Alexander chooses the Internet to announce presidential candidacy.

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