

AUDIOVISUAL HERITAGE

WORLD DAY FOR AUDIOVISUAL HERITAGE 27 OCTOBER

PHOTOGRAPHY

CINEMA

SOUND

TELEVISION & VIDEO

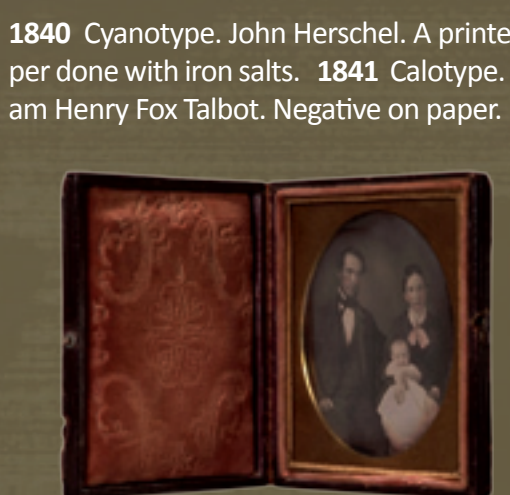
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1826 Joseph Nicéphore Niépce. First photograph (heliography).



Joseph Nicéphore Niépce. View from the window of Gras.

1832 Charles Wheatstone defines the principle of the stereoscopic image. 1839 Presentation in Paris of the Daguerreotype, by Louis Jacques Mandé Daguerre.



Cyanotype. Author unknown. CDDI



Calotype. Author unknown. CDDI

1850 Albumen print. Abel Niépce de Saint-Victor and Louis-Désiré Blanquart-Évrard. 1851 Wet collodion. Frederick Scott Archer. The negative par excellence until 1880. 1854 André-Adolphe-Eugène Disdéri patents the *carte de visite* format. 1854 Ambrotype. James Ambrose Cutting. 1855 Collotype, a photomechanical process. Alphonse-Louis Poitevin. 1855 Carbon prints, a pigmentary process. Alphonse-Louis Poitevin. 1856 Adolphe Alexandre Martin discovers the ferrotype, patented by Hamilton Smith.

1861 First colour photograph. Sir James Clerk Maxwell.

1864 Woodburytype. Photomechanical process patented by Thomas Woodbury.



Phenakistiscope. MDC



Magic lantern. MDC



The projecting praxinoscope. MDC



Eadweard Muybridge. Cinematography. CDDI



Cinematographe Lumière camera. MDC

1871 Richard Leach Maddox invents the dry plate, with a gelatin and silver bromide emulsion. 1872 Louis Ducos du Hauron. First colour photograph using the subtractive method. 1879 Photogravure, photomechanical process. Karl Klic.

1890 Collodion aristotype, a print made by contact. Simpson, Liesegang and Johann Obernetter. 1890 Platinotype. William Willis and Alfred Clements. 1890 Letterpress halftone, a widely used photomechanical process. 1892 Gelatin aristotype, a print made by contact. William Abney. 1892 The manufacture of orthochromatic plates begins. 1895 Gelatin DOP, gelatin silver bromide developing paper. Peter Mawdsley. 1897 Cellulose nitrate film on a stiff plate. Produced by John Carbutt. 1898 Kodak is founded and produces its first camera.



Cyanotype. Author Unknown. Colleción JM Oliveras

1906 The first panchromatic plate, sensitive to all the colours of the spectrum. 1907 The Lumière brothers patent the autochrome, the first commercial colour photograph.



Autochrome print. Photo Lux. CDDI



Autochrome camera. MDC

1923 Cellulose diacetate film. 1924 Leica camera. The first 35mm camera. 1925 Electronic flash. 1928 Rolleiflex camera, which works with medium-format roll-film.

1932 Photoelectric photometer. 1934 Fuji Photo Film Company is founded. 1935 First modern colour film, Kodachrome.



Autochrome. Joan Maseo (Valenti). CDDI

1942 Introduction of colour negative film and print process. 1948 Black and white snapshot photography arrives with Polaroid.

1950 Cellulose triacetate film. 1955 Polyester film. 1957 The first reflex camera. Asahi Pentax.



Reflex camera. MDC

1972 RC paper comes onto the market. 1972 The first SLR (reflex) camera with electronic shutter and automatic exposure control.

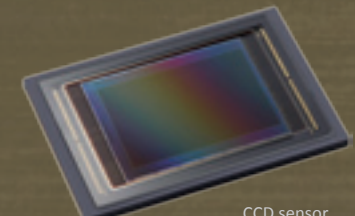


Photographic paper



Sony Mavica camera

1980 First digital camera, the Sony Mavica. 1986 Creation of the TIFF format by the Aldus Corporation, which would later be transferred to Adobe.



CCD sensor

1990 Adobe's image editing programme Photoshop 1. 1992 JPEG format is recognized as standard, ISO 10.918-1.



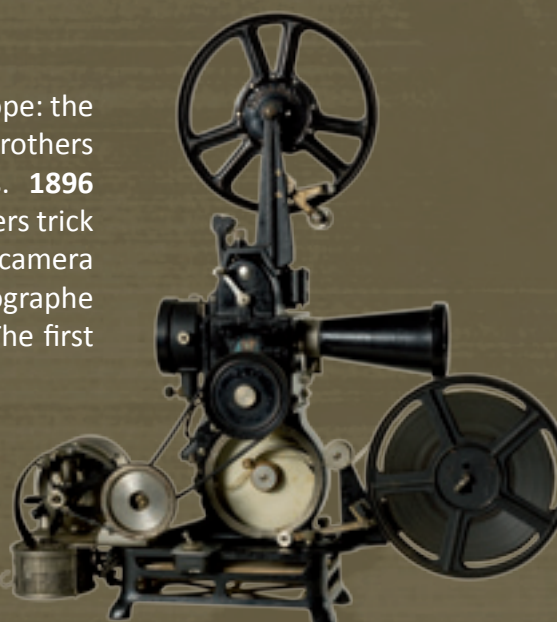
Adobe Photoshop CS2

2000 The JPEG2000 format is recognised as standard, ISO/IEC 15444-1. 2005 Kodak stops making black and white photographic paper.

1874 Pierre Jules Janssen. The first photographic sequence with the *photographic revolver*. 1877 Frenchman Émile Reynaud invents the praxinoscope. 1878 Eadweard Muybridge. Series of photographic images of a moving animal.

1882 Étienne-Jules Marey invents the photographic gun. 1887 Marey invents chronophotography on moving film. 1888 Louis Aimé Augustin Le Prince builds a device for taking views and the projection of moving photographic images. 1889 Thomas Alva Edison defines 35mm film with four perforations on either side of the frame. 1889 Reynaud patents the Optical Theatre.

1891 Thomas Alva Edison patents the kinetoscope: the first individual film viewer. 1895 The Lumière brothers give the first public film screening in Paris. 1896 Georges Méliès makes his first films, and discovers trick photography by chance. 1897 The first film camera for non-professionals. Gaumont's Chronophotographe Dénery. 1898 Birt Acres patents the Birtac. The first narrow-gauge film (17.5mm).

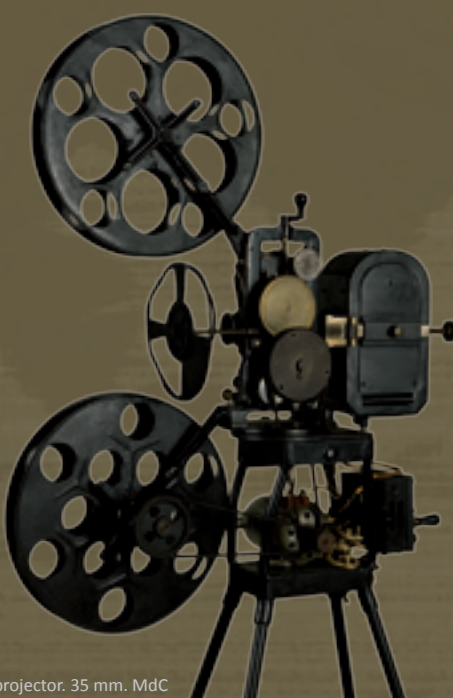


Pathé Baby projector. 9.5 mm. MDC

1911 Chronochrome-Gaumont. The first three-colour process for colour projection. 1912 Cellulose diacetate film made by Bayer & Co. 1912 Edison's Home Kinetoscope. The first projector to use 22mm Safety Film. 1912 The Pathé Kok (28mm). The best-selling home movie projector until 1922. 1917 *The Gulf Between*, the first film in Technicolor.



Bell & Howell camera. 35 mm. MDC



ICA AB projector. 35 mm. MDC

1931 The Nicolau brothers patent the first toy film projector in Barcelona: the Cine NIC. 1932 Kodak markets 8mm film. 1936 Colour film for home filmmaking: Kodachrome and Agfacolor. 1937 Cinérama. Panoramic screen projection with three synchronized projectors.



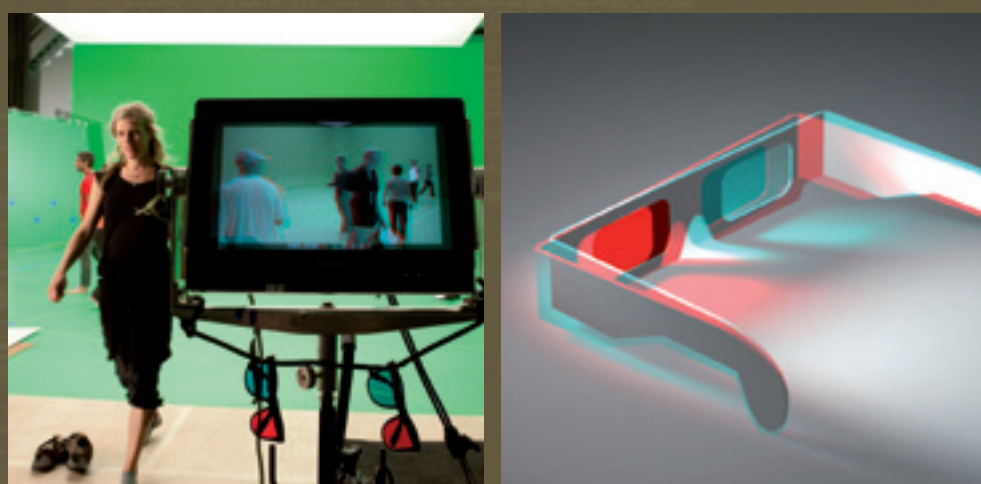
1953 *The Robe*, the first film shot in CinemaScope.

1960 The first home movie cameras with magnetic sound recording (8mm). 1964 Kodak markets the Super8 format.



Canon camera. MDC

1970 Screening of the first film made with the Imax process. 1973 Omnimax. Projects images on a semi-circular screen.



Anthony Mclaren. 3D shooting



Digital projector

1985 The introduction of multiscreen cinemas. 1986 Imax presents Imax 3D.

1995 *Toy Story*, produced by Pixar. The first feature-length computer-animated film.

2002 Digital Cinema Initiatives (DCI) consortium. Technical specifications for digital cinema.



Tinfoil phonograph. MDC



Phonograph cylinders. MDC



Gramophone. MDC

1857 Édouard-Léon Scott de Martinville designs the phonautograph, the first device capable of recording sound on a physical medium.



Disraphone. MDC



Pathé disc. MDC

1876 Elisha Gray and Alexander Graham Bell create, almost simultaneously, the first microphones. 1877 Charles Cros designs the *paleophone*. 1878 Phonograph. Thomas Alva Edison. The first device capable of recording and reproducing sound.

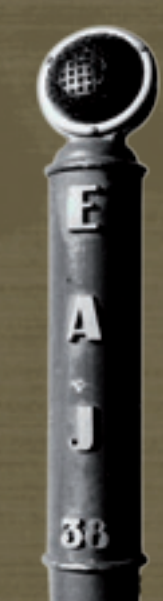
1887 Gramophone. Emile Berliner. It uses a flat disc for recording sound. 1888 Oberlin Smith publishes the basic principles for recording magnetic support. 1888 Thomas Alva Edison introduces an electric motor to his phonographs and incorporates wax cylinders. 1888 Heinrich Rudolf Hertz proves by experiment the existence and behaviour of electro-magnetic waves.

1894 Kinetophone. Thomas Alva Edison. Kinetoscope film synchronized with a phonograph. 1896 Guglielmo Marconi obtains the first patent for radio. 1898 Telephonograph. Valdemar Poulsen. First magnetic sound recording device.



Gramophone. MDC

1906 Reginald Aubrey Fessenden makes the first audio radio broadcast in the world. 1906 Lee De Forest invents the triode. The first electronic system for amplifying and controlling the volume of sound.



Microphone. FAI 38 Radio Girona. CDDI



Author unknown. Francisca Borris. FAI 38 Radio Girona. CDDI

1920 The first regular radio entertainment broadcasts. 1923 Phonofilm. Lee De Forest. First films with optical sound incorporated. 1927 Fritz Pfelemer. Sound recording on cigarette paper covered with iron oxide powder. 1927 First sound film: *The Jazz Singer*, with the Vitaphone system. 1928 Harry Nyquist lays the theoretical foundations for the digitization of sound.

1932 Eric M. Bern. The first home movie camera equipped with a sound recording system. 1933 The companies AEG and BASF form an alliance to make the first magnetophonic tapes. 1933 Edwin Howard Armstrong patents Frequency Modulation radio. 1933 The first stereophonic record is produced, based on the work of Alan Blumlein.

1940 *Fantasia*, by Walt Disney. First use of stereophonic sound in a film. 1942 Helmut Krüger makes the first recordings on stereophonic magnetic tape. 1947 John Bardeen, William Shockley and Walter Houser Brattain, at the Bell Telephone Company, invent the germanium transistor. 1948 Columbia Records patents Long Play (LP) records (33 1/3 rpm). 1949 The 45 rpm or single record appears.

1954 Sony begins making the first pocket-sized transistor radios. 1957 The stereophonic vinyl record. It would dominate the music market until the appearance of the CD.



Pocket-sized transistor radio

1964 Philips patents the cassette tape and cedes it to the public domain. 1965 Bob Moog presents the first synthesizer. 1969 Thomas Greenway Stockham begins his experiments in the field of digital audio.

1974 DuPont uses chrome dioxide in the emulsions of magnetic tapes. 1974 *Earthquake* by Mark Robson. First film with the Sensurround sound system. 1974 *Tonny* by Ken Russell. The first film with Dolby Stereo sound. 1979 Sony launches the popular Walkman onto the market.



Walkman



iPod

1981 The MIDI (Musical Instrument Digital Interface) protocol. Electronic music communication between computers. 1982 The first Compact Disc (CD) is marketed. 1986 Digital Audio Tape (DAT) appears. 1989 The first Sound Blaster sound card appears on the market.

1990 George Lucas patents the THX film sound system. 1991 The specifications of the MPEG-1 layer 3, better known as MP3, are approved as ISO/IEC standard. 1992 Sony introduces the MiniDisc. 1993 Steven Spielberg's *Jurassic Park*, the first film with the DTS (Digital Sound) system. 1997 EBU/UER (European Union of Radio Diffusion) specifies the rules of BWF (Broadcast Wave Format). 1999 Napster appears. Music archive distribution through P2P (peer-to-peer) networks.

2001 Apple presents the iPod. 2006 iTunes, the on-line music store, opens. 2008 Internet portal Spotify opens.



Baird television. MDC



Crookes tube. MDC



E.R.M. television set. MDC

1878 William Crookes discovers the properties of cathode rays.



Television set. MDC

1900 Constantin Perski uses the term television for the first time. 1907 Boris Rosing experiments with the cathode ray tube for the exploration of the image.



Video recorder



Videotapes

1923 Iconoscope. Vladimir Zworykin. A device capable of capturing images and turning them into electronic signals. 1926 John Logie Baird offers the first public demonstration of a mechanical television system. 1927 Philo Farnsworth develops an electronic television system with image dissector tube. 1929 BBC makes its first experimental broadcast.



Video camera

1936 BBC One, the oldest television channel in the world, begins regular broadcasting.

1940 Colour television systems begin to be developed.

1951 Charles Ginsburg and the Ampex Corporation. The first experiments into filming images on magnetic tape. 1953 The NTSC (National Television System Committee) colour system is standardized in the USA. 1956 VR-1000 or Quadrex, made by Ampex. The first video recorder.

1962 Ampex develops the first system of electronic video editing. 1963 The PAL television system is created in the Telefunken laboratories; it will become the norm in Europe. 1963 *Hamlet*, by Bill Colleran. The first commercial film made with electronic images. 1967 Sony's Portapak. The first portable video recorder.

1970 First VCR (Video Cassette Recorder) by Philips. 1971 The U-matic format, by Sony. JVC and Matsuhita, appears. 1976 JVC brings out its VHS home video system. 1977 George Atkinson creates the first video rental business.



Flat screen TV

1982 Sony brings out the Betacam format. 1984 The first 8mm video format appears, created by Eastman Kodak. 1985 Sony Handycam. One of the most successful 8mm cameras. 1986 Betacam SP by Sony. Widely used in the television industry. 1986 The first digital video format, Sony's D1. 1988 The first MPEG (Motion Pictures Expert Group) meeting.

1991 Apple's QuickTime. The first software capable of playing videos on a PC. 1992 Microsoft's Video for Windows. Linked to the AVI (Audio Video Interleave) format. 1992 The MPEG-1 standard is definitively approved for the coding of digital video and audio. 1995 The DV (Digital Video) standard is created. 1995 DVB (Digital Video Broadcasting) approves the standards for digital television. 1996 The launch of the DVD is announced. 1998 The MPEG-4 video and audio coding standard is introduced.

2004 New optical discs are developed for storing high-definition video. Blu-ray and HD-DVD. 2004 The first high-definition digital television broadcasts in Europe. 2005 The first video is uploaded on YouTube.

PROJECT: BODAS/VOLEAS/SPONS/DAVID/DAVID