1588 Defeat o	f the Spanish Armada	diagra
	1603 Engl. Parliament prints proce 1609 Galileo discovers "spyg	-
	1611 King James Bible	
		l's Calculating Machine, Liebnitz improves
		newspaper produced
	1697	Lloyd's List 1700s interest in static electricity
		1
		1714 "Typewriter" in use in US and UK
		1776 US Declaration of Independence
		1800 Alessandro Volta's Voltaic Pile (b

COMMUNICATION 1801 Jaquard loom - thus Hollerith card, binary logic 1840 Wheatstone Automatic Telegraph/Morse Code 1847 George Boole published "The Mathematical Analysis of Logic"- Symbolic Logic 1860 Charles Babbage's Analytical Engine and programs 1866 Transatlantic Cable finished 1870 Emile Baudot's 5-bit code used for telegraphy; replaced Morse code 1873 James Clerk Maxwell - Treatise on Electricity & Magnetism 1873 Christopher Latham Sholes (of Milwaukee) patented a typewriter. Remington produced Mark Twain owned one; set std for MS pages (Dbl-spaced, single-sided) 1876 AG Bell: Telephone 1880 Ottmar Mergenthaler (US) developed line-casting machine (Linotype). Used by NYTimes 1880 Eastman Dry Plate Company (Rochester NY); 1st halftone in daily newspaper 1882 Hollerith's tabulator for census (at MIT) ;no paper tape: card storage, used electricity 1886 American Point System - std type sizes; Monotype and Linotype cheated; Didot in Europe 1893 Columbia Exposition (Chgo) - Monotype machine displayed 1897 Cathode Ray Tube (Ferdinand Braun) 1889 Felt's Comptograph (built in printer)

1900

1801

1860

1870

1880

1890

1903 Kitty Hawk

1910 Hollerith's card standard for machine input of Y/N (binary) data, his tabulator inspired coded-paper-drive type machine by Lanston 1910 Alfred North Whitehead and Bertrand Russell published "Principia Mathematica"

1920? Morey (financed by Frank Gannett, newspapers, NY) built teletypesetting system - added 6th bit for 64 chars.; used by Time Inc in NYC, RR Donnelly here; Hence REMOTE typesetting

1920s Talking movies

1930 Vannevar Bush's Differential Analyzer

1937 Alan Turing published "On Computable Numbers..."- described a universal computational machine 1938 Germany invades Poland: WWII in earnest

1941-3 Germany successfully using ENIGMA machine; England sets up COLOSSUS at Bletchey Park

1941 Konrad Zuse, Z3 (general purpose, program-controlled calculator)

1945 ENIAC; Vannevar Bush's "MEMEX"idea (hypertext)

1945 John von Neumann "Report on the EDVAC"

1946 Intertype Fotosetter and Lithomat (Higonnet and Moyroud); Friden Justowriter, Photon (done by guys who'd been studying timing of airplane propellers)

1948 Mark I built at Manchester, Turing sees it.

1901 1938

1948

```
1956 Sputnik!
      1957 FORTRAN (IBM)
            1960s IC chips commercially priced; also, acoustic modems introduced
            1960? Linotron 505 - electronic sizing of characters, point size changes on fly, base line and set changes, obliquing
            1960 ARPANET: decentralized network and message units (packet switching) (Wesley Clark's idea)
                   1962 TelStar launched: US telecommunications satellite
                        1963 ASCII; 1964: EBCIDIC
                        1964 MINIcomputer (DEC) plasma display
                             1967 unix born at Bell Labs (Murray Hill, NJ)
                             1967 generic coding movement starts with speech William Tunnicliffe, chairman of the GCA Composition Committee
                                   separation of information content of documents from their format.
                                   1969 Commercial LCD displays
                                  1969 Compuserve founded
                                        1970s MOS (metal oxide silicon) miniaturization
                                        1971 Seybold Reports founded
                                              1972 Intel 8002 - chip "big" enough to run a microcomputer; (precursor of 8080, 8086)
                                                   1973 Compugraphic Videosetter
                                                         1974 Samuel Goldfarb(IBM) published "gml" later, improved to sgml
                                                               1975 Altair
                                                                    1976 John Warnock invents precursor of Postscript; refined at Xerox PARC
                                                                         (and used as internal language for Xerox printers, "Interpress")
                                                                    1976 s-100 bus, Cromemco, CP/M-common op system
                                                                            1978 Apple II dot matrix, no descenders), Lisa
                                                                            1979 commercial modem, bbses, xmodem
```

1950 1960 1970 1980

1981 IBM PC; dot matrix printers; Epson printer had 9x11 dots. IBM provided fonts for screen and calls for printer fontsx 1982 Adobe formed. Postscript named. Guides published, Hence characters as outlines and drawings as code. 1984 IBM-AT: 1 Meg of RAM, hard drive 1984 Pagemaker, Ventura - complete page/book makeup, with hyphenation, quadding, vertical justification built in."x 1984 Apple Laserwriter, Macintosh 1987? Hypercard for the Macintosh 1988 Donald Knuth publishes TEXBook 1988? Framemaker 1988 Interop Trade Show (internet to be) 1990 Tim Berners-Lee (CERN-European Laboratory for Particle Physics): Hypertext Transport Protocol and the World Wide Web - "a generic stateless object-oriented protocol" 1991 Linux (Linus Torvalds) 1992 Adobe announced PDF format 1992 SIGGRAPH (Chicago): parallel processing automation (Coke glass with logo ice cubes, bubbles. 128 MEG of RAM) 1992 UNICODE std set:: 16 bit characters 1995 Digital Versatile Disk 1995 Federal Networking Council defined "The Internet", W3c founded 1995 Charting and 3-d "visualizing" software matures 1997 Wireless Andrew at Carnegie Mellon 1999 Organic light-emitting diodes 2002 Commercial flat screens std, home-priced photo printers std 2003 Digital camera std 2004 < \$1000 for color laser printer (MacWorld) 2004 2000 1990 1980