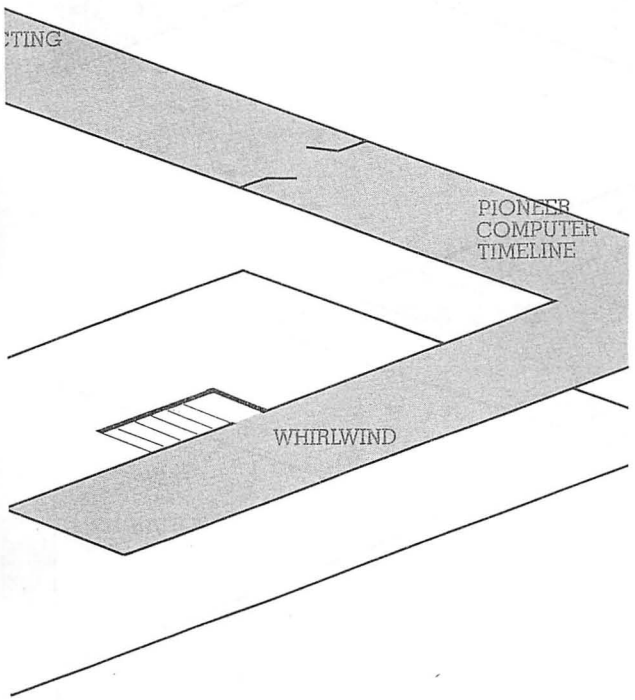
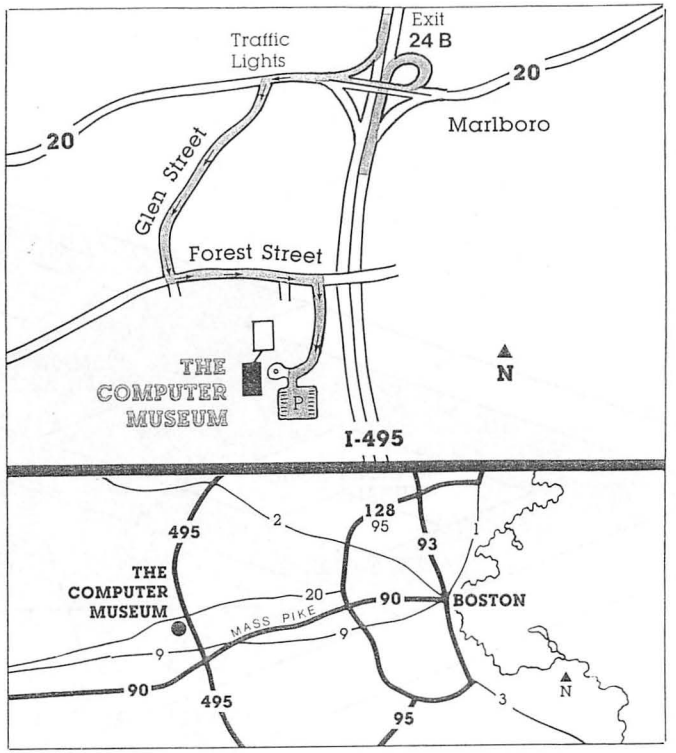
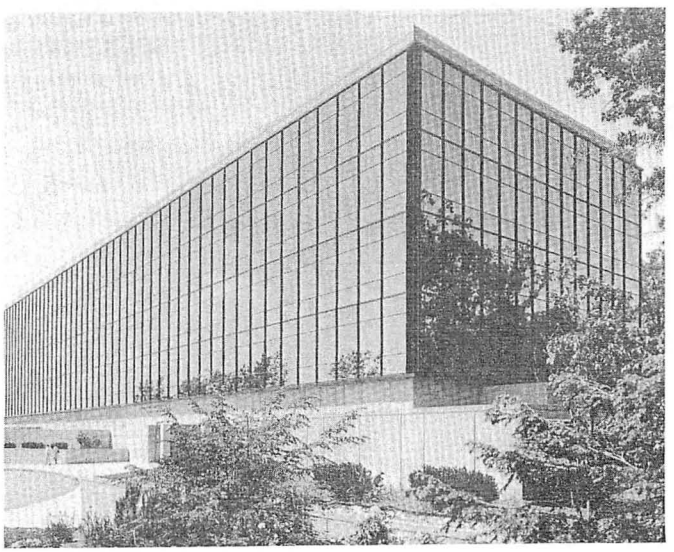



The Computer Museum is open to the public Sunday through Friday, 1:00 pm to 6:00 pm. There is no charge for admission.

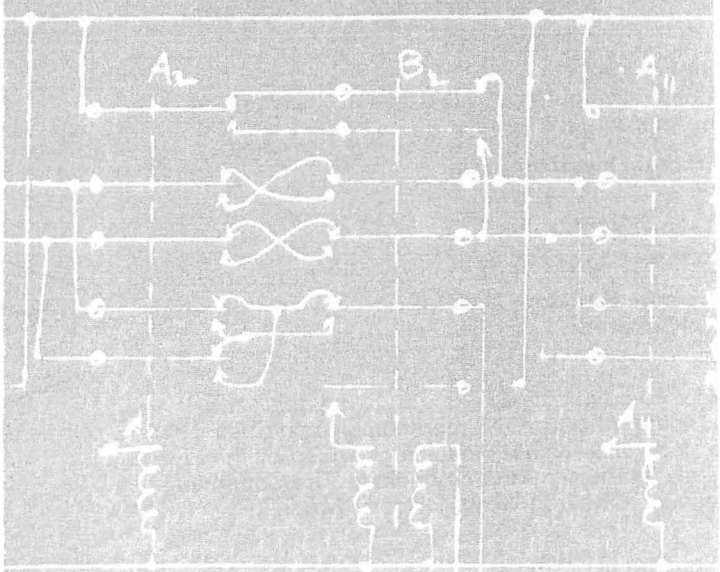
For more information call 617-467-4036.

**The Computer Museum**
One Iron Way
Marlboro, Massachusetts 01752



# The Computer Museum

## For the preservation of computing history



Memories
Controls
Links and Switches
Transducers
Calculators
Digital Computers
Robotics

CIRCUIT DRAWING DIAGRAM FOR DECIMAL DIGIT ADDING RELAYS, GEORGE STIBITZ, 1938

## Membership

Members of The Computer Museum receive announcements of lectures, seminars and excursions, invitations to events and openings, discounts in the Museum store, a membership card, and the quarterly Museum **Report.** Through the Association, members can participate in the docents program, planning events and programs, and advising on activities.

**Member** – $25
(Individuals, non-profit organizations, libraries one year membership)

**Corporate Member** – $125
(One year membership)

**Founder** – $250
(Must be received by 6/84)

**Corporate Founder** – $2500
(Must be received by 6/84)

I enclose payment of $_____ payable to The Computer Museum. All membership contributions are tax-deductible within the limits provided by the law. Please return form and payment to: The Computer Museum, One Iron Way, Marlboro, MA 01752

_____

_____

Address _____

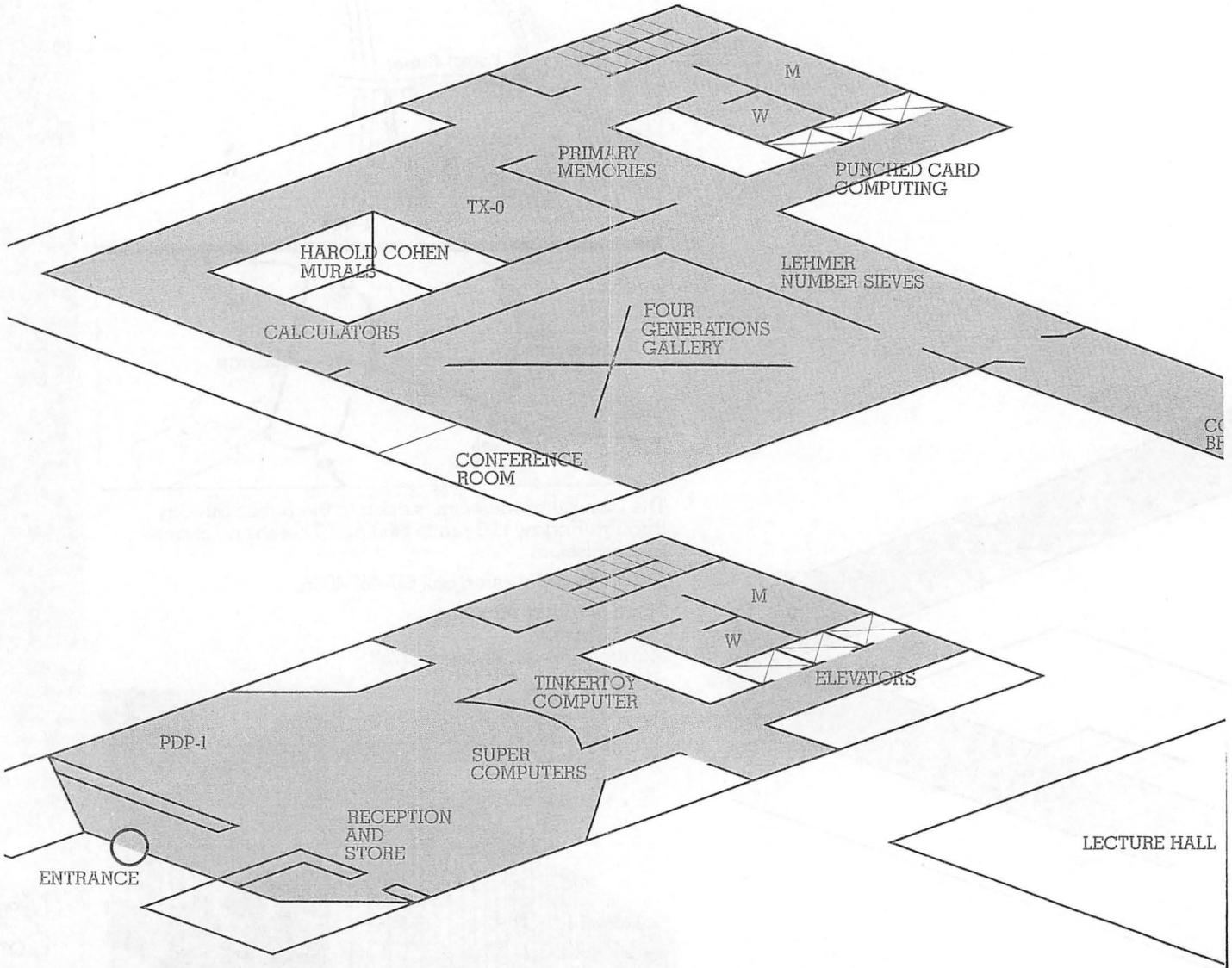
Town _____

_____ Zip

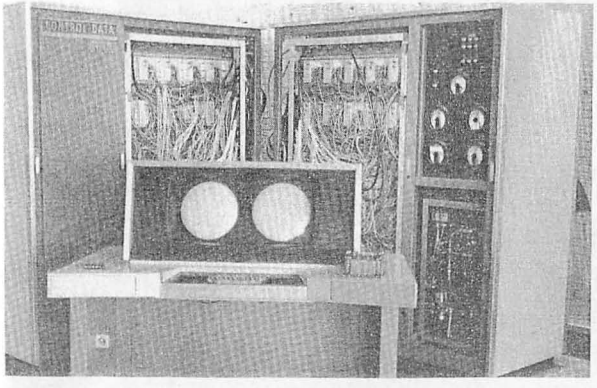
Name _____

Address _____

_____ State _____ Zip



Computer Museum is a non-profit public foundation, ated to preserving and exhibiting an industry-wide, d-based collection of the history of information pro- ng with significant artifacts, documents, photographs ilms. Some of the areas of collecting and exhibitions escribed below.

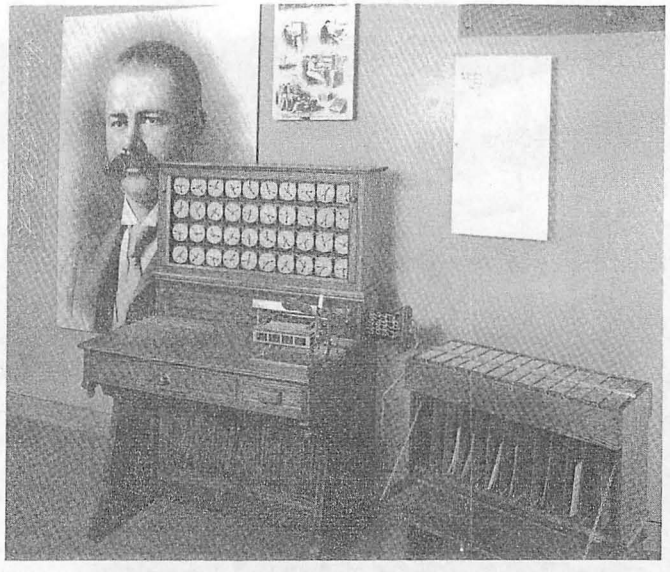


**Computers** The class of super computers repre- he largest possible configuration and computing ilities among systems. Major displays are devoted e super computers. Exhibited are the console and processing bays of IBM's 7030, the "Stretch", 1961, 6600 serial #1, designed by Seymour Cray, and Instrument's Advanced Scientific Computer, 1971, n illustration of its multi-layered board design. lition smaller displays include parts of the LARC nore Automatic Research Computer) and the sity of Illinois Illiac IV.

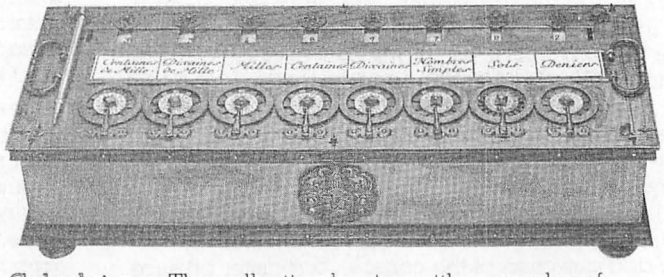
Becky Cohen

**Cohen Murals** The artist produced the computer ted murals with an artificial intelligence program a PDP-11/45. The program is self-directed, driven t of rules and decisions that emulate the human s of art-making. The black outline is computer out- color is added by Harold Cohen.

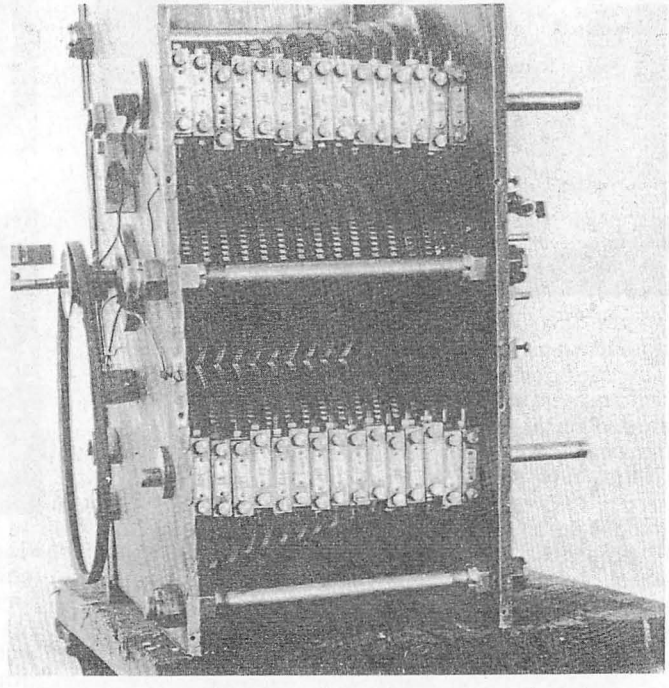
**Tinker Toy Computer** Designed by students at MIT's Artificial Intelligence Laboratory, the tinker toy computer is a mechanical model of a tic-tac-toe program written in LISP on a PDP-10.



**Punched Card Computing** The exhibition traces the roots of card-controlled machines beginning with a 19th century model used to demonstrate Jacquard's mechanization of the French silk weaving process. Prior to using cards, the patterns on tapestries were generated manually, by lifting the individual silk cords on the loom. Hermann Hollerith's invention of a tabulator and sorter for the 1890 US census is the first instance of the use of punched cards in information processing. The Powers-Samas card processing system, manufactured in Great Britain in the 1950's, was designed to compile data on plant life in the United Kingdom for the British Botanical Society and produce species location dot maps.

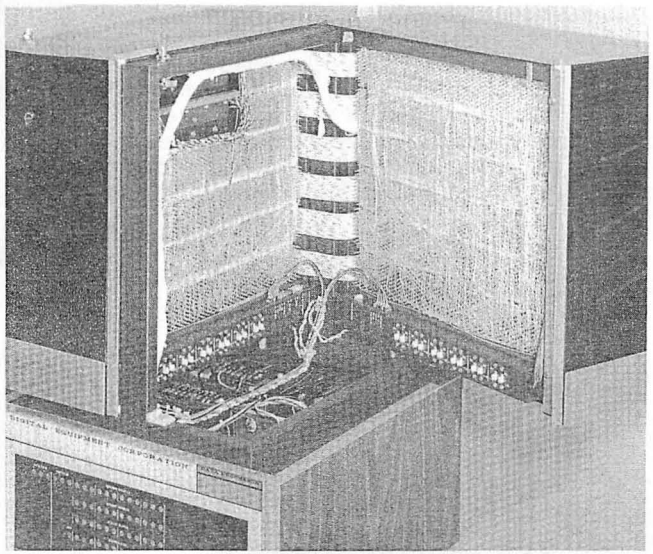


**Calculators** The collection begins with examples of the abacus, the oldest single register calculator still in use, and analog calculators such as early slide rules and sectors. Pascal's two function calculator of 1645 is the first of the mechanical, single register calculators based on the toothed wheel mechanism. Addition is direct and subtraction is by complement arithmetic. Three and four register calculators were derived from Leibniz's concept of a stepped-wheel mechanism. This allowed an automatic carry, thus multiplication and division. Steiger's Millionaire is a late 19th-century example of a four register calculator with an automatic multiply function. The Comptometer, Brunsviga, Burroughs and Monroe desk calculators follow, the latter two motor-driven to increase the speed of operation.

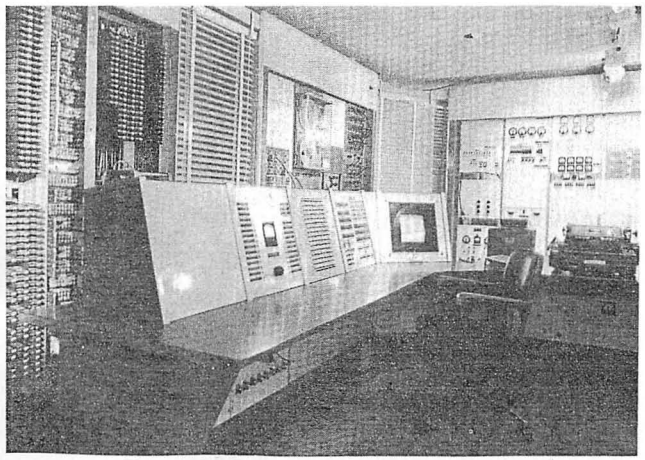


**Lehmer Number Sieves** D.H. Lehmer, a number theorist, constructed the four exhibited number sieves to test possible solutions to complex problems. The earliest examples date from 1928, with a reconstructed model of a sieve that used bicycle chains as its technology and a 1932 photoelectric sieve that used gears, vacuum tube amplifiers and a photoelectric cell to detect solutions.

**Four Computer Generations** The exhibition is designed to show the major technological inventions and patents, significant computers, software and applications of each computer generation. The first computer generation is marked by machines that used vacuum tubes, diodes or a combination for logic. Most of the computers manufactured during this period were inaccessible to the general user because of their size and cost, but the LGP-30 and the Bendix G-15 are examples of computers for small scale scientific computing. The advent of the second generation was seen in the transition from vacuum tubes to solid state, semiconductor devices during the 'fifties. The transistor permitted more flexibility in logic design, faster speed and smaller size, establishing the concept of the

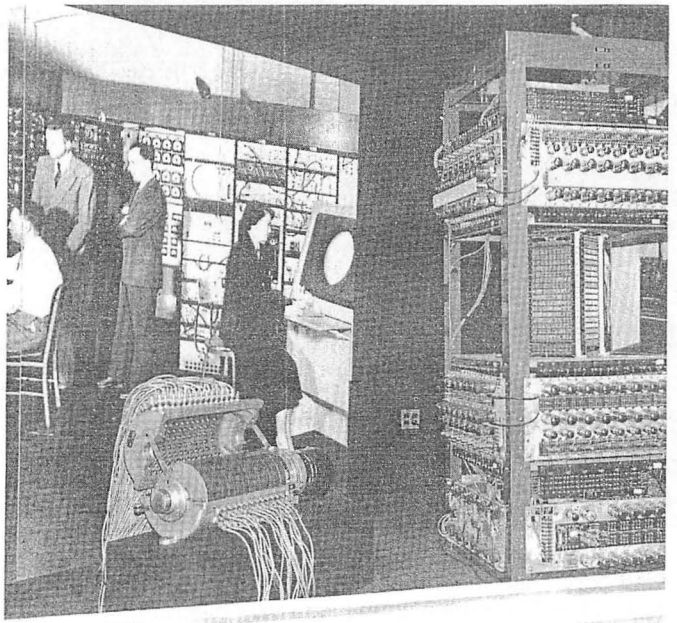


ninicomputer. The CDC 160A and the PDP-8 are exam-
les of significant machines manufactured during this
eriod. The third generation was started by several indi-
iduals who envisaged the integration of electrical func-
ons, introducing the integrated circuit. This allowed
rther miniaturization and mass production of computer
ystems. Many new companies built minicomputers and
3M 360/370 plug-compatible machines, based on pur-
hased integrated circuits. The technological leap into
ie fourth generation was marked by the production of an
ntire central processing unit on a single chip—the micro-
rocessor—by Intel. The design and manufacture of chips
nd several examples of fourth generation computers are
xplained.



**X-0** One of the first full-scale transistorized computers, IT's Lincoln Laboratory designed and built the TX-0 in 56 to test transistor logic. It is reconstructed in operating ondition at the Museum.

**Primary Memories** A range of devices, from the Williams tube to the magnetostrictive delay line, illustrates the diversity of first generation memories. The evolution of core memory from the 1951 first core plane used on Whirlwind to the highly dense cores of the mid-70's is shown.

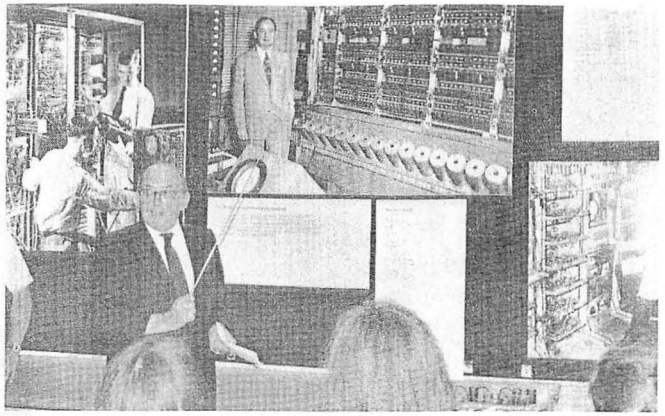


**Pioneer Computer Timeline** Thirteen one-of-a-kind machines designed and built during the years 1935–1951 demonstrated the feasibility of programmed data processing. Each one added to the knowledge base needed for manufacturing commercially available computers. Photographs, machine specifications and quotations from the project leaders are included for George Stibitz's complex calculators; Konrad Zuse's Z1 through Z3; the Atanasoff-Berry Computer; Harvard University's Mark I; the British Colossus; the University of Pennsylvania's ENIAC; John von Neumann's EDVAC; the IAS computers; Cambridge University's EDSAC; early Manchester University computers; Alan Turing's Pilot ACE; and the National Bureau of Standards SEAC and SWAC. Significant artifacts accompany photographs and text for certain machines: a model of Stibitz's binary adder and a Bell Telephone Laboratories' Model 19 teleprinter; the breadboard and original memory drum from the Atanasoff-Berry Computer; a tape pulley from the Colossus; a function table from the ENIAC; a mercury memory tank cover and driver from the EDSAC; a Williams tube from the Manchester machines; and a section of the console, a register bit slice and the core memory from MIT's Whirlwind. The twelve projects, developed in laboratories and universities and by individuals with specific computational needs, convinced the scientific, government and business communities of the reality of the potential of the stored program, general purpose computer.

## Museum Services

### The Computer Museum Lecture Series

Lectures focus on benchmarks in computing history and are held six times a year. All lectures are videotaped and archived for scholarly use.



### Gallery Talks

Talks by computer historians, staff members and docents are offered throughout the year. Museum members receive notices of the scheduled talks which are open to the public.

### Group Tours

Guided group tours are available by appointment for a fee of $25. The tours last about one hour and cover highlights from the history of computing.

### Museum Store

Books, posters, postcards, and other items related to the history of computing are available for sale.

### Facilities

The Museum's lecture hall and reception facilities are available for rent on a prearranged basis. For information call 617-467-4443.

### The Computer Museum Report

A quarterly publication, The Computer Museum Report offers articles on exhibits, announces future events, gives information on the Museum Members Association and recaps past events and lectures. Issues of the Report are sent to members and are available in the Museum store.

### Museum Library and Viewing Room

The library is open for research to students, historians and members of the Museum. Its holdings include documents relevant to exhibited artifacts, rare books, computing history books, photographs and periodicals. A collection of videotapes is available for viewing by appointment.

### Intern Program

Students are invited to apply for paid internships at the Museum for any period up to six months. The number of students varies according to the number of activities going on at any time. Internships complement the various operational sections of the Museum.