In 1933, widespread usage of electric typewriters was little more than a dream in the minds of a few progressive businessmen. A big, black, noisy machine that terrified girls who were learning to use it, the electric typewriter of the day bore little resemblance to the sleek, quiet office electrics we know today.

One firm, Electromatic Typewriters, Inc. of Rochester, New York, was making a modest amount of money manufacturing and selling the strange machine in the early years of the great depression, but although slightly profitable, it would have been a distortion of fact to term Electromatic's operations "successful." Moreover, previous attempts by other companies to manufacture and sell electric typewriters had all ended in disaster, and it is doubtful that Electromatic would have been the exception, considering the formidable sales resistance to the machines at that time.

However, Electromatic, which then had 30 employees, including four salesmen, caught the eye of Thomas J. Watson, Sr., IBM's founder and first president, and in July, 1933, IBM purchased the production facilities, tools and patents of that company. Only 20 years old itself at the time, IBM put its development, production and marketing know-how into perfecting an electric typewriter which was soon to start a revolution in the typewriter industry.

The first successful electric typewriter

Acutely aware of the problems connected with the marketing of an electric typewriter, IBM's management came up with a comprehensive program to meet the challenges. First, the basic machine needed improvement. In 1934, more than a million dollars was invested in the new typewriter which was designed to be completely free of the operating deficiencies inherent in the Electromatic design. Secondly, IBM realized that sales techniques had to overcome a multitude of groundless objections to the application of electricity to the typewriter. People had to be convinced that this electric was a safe, reliable, efficient machine. Only after this pioneering stage was completed could IBM sell the need for greater efficiency in business communications through the use of IBM electric typewriters. Thirdly, management saw the need for an effective service organization to work with production and sales, so a customer engineering operation was established to ensure all typewriter customers that their machines would be kept in top running condition at all times. Most important, however, was the IBM determination to keep up-to-date with business needs as they developed. This determination engendered a policy of continued product research and development. With this program supporting it, the IBM Electric Typewriter was introduced in 1935 and became the first commercially successful electric to be marketed in the United States. The product line was rapidly expanded in the late thirties with the addition of the toll biller, the manifest writer, and the automatic formswriter, which greatly increased the application of the electric typewriter to office procedures.

"Proportional spacing" developed

In 1941, IBM announced a radical breakthrough in typewriter technology. Since its invention, the typewriter had employed a single-spacing principle which allowed the same letterspace width for all characters, regardless of size. Inventors and manufacturers had struggled long and hard to develop a simple, low-friction carriage mechanism that would single space without jumping or sticking, and by 1941 such a spacing device had been perfected. But it seemed as though typewritten material

would always have an uneven appearance, with too much space surrounding I's and i's and not enough around m's and w's, thereby distinguishing typing from printed material produced by a typesetting machine which allows different widths for different characters.

IBM typewriter engineers spent years researching, developing and perfecting a mechanism that would measure each alphabetical character in units, and in 1944 the first IBM "Executive" Typewriter with proportional spacing was announced. This revolutionary concept allows from two to five units of space per letter and produces material that simulates the appearance of the printed page. After a scant eight years in the business, IBM had successfully solved a problem which had baffled typewriter inventors and manufacturers for more than 60 years.

Subsequent research showed that material typed on the proportional spacing "Executive" typewriter can be read six percent faster than material prepared on typewriters with ordinary spacing.

World War II interrupted the company's operations, and it was not until 1946 that normal activities were resumed. During this year, the "Executive" typewriter with proportional spacing was put on the market. Over a three-year period beginning in 1946, the company again invested heavily in typewriter product research and engineering. This resulted in the 1948 introduction of the completely new Model A Standard Electric Typewriter line which remained the staple of the company's typewriter product line until 1954.

More applications for electric equipment

In 1950, two developments that were extremely important to the division's growth took place. IBM introduced completely electric decimal tabulation, an invaluable addition to the typewriter's use in preparing statistical materials. The same year, the World Trade Corporation, one of the company's wholly-owned subsidiaries, began the manufacture of IBM typewriters abroad, and has since made a major contribution to the expansion and development of the division's products by opening new markets in countries throughout the free world.

The production of typewriters in pastel colors, and with changeable typebars, began in 1952. Changeable typebars allow the typist to replace standard typebars with special symbol typebars when needed.

Heavy investments in research during 1952 and the two years that followed brought about the introduction of the Model B typewriter line in 1954. Although it was not a radical departure from the Model A, it incorporated many new features, including cushioned carriage return, electric ribbon rewind, and multiple copy control.

Subsequently, typamatic keys were added to the Model B typewriter. They provided automatic repeat action on carriage return, spacebar, backspace, hyphen and underscore keys.

A new expanded division

In October, 1955, the Electric Typewriter Division was established as an autonomous segment of IBM's corporate structure. The division was completely integrated -- developing, manufacturing, marketing and servicing its entire product line.

In 1957, the division began the manufacture of typewriter supplies to ensure

customers that rigid quality controls would be maintained in the production of typewriter ribbons and carbon paper bearing the IBM trademark. In the same year, the Input-Output Typewriter, which automatically typed computer-originated solutions at a rate of 10 to 12 characters per second, was introduced. The machine provides a means through which the operator can automatically receive communication from, and manually enter information into, data processing systems, measurement recording devices, and automatic control mechanisms through electronic impulses.

In 1957, the division also completed transfer of its manufacturing and engineering operations to a new plant at Lexington, Kentucky. The new facility contained the world's most modern typewriter assembly operation as well as the only engineering laboratory in the world devoted solely to electric typewriter development, and soon became a showplace for advanced manufacturing and engineering techniques. In 1958, the division produced its one-millionth typewriter, a fitting climax to its silver anniversary year.

Model C typewriter

In January, 1959, the division introduced a newly-engineered and dramatically-restyled typebar electric typewriter. Known as the Model C, it featured a new decelerator mechanism for noise reduction and elimination of slack in carriage returns; a new touch control system; and a carbon ribbon feed to achieve book-style printing.

Introduction of dictation equipment

In 1960, the division entered a new line of office communications with the announcement of the IBM "Executary" dictation equipment line. The line included a dictating unit, a transcriber, a combination unit which can be used in or out of the office. Introduction of the IBM "Executary" dictation equipment represented a giant step into a new field, and one which had remained largely untapped because of a number of problems not unlike those which surrounded the introduction of the electric typewriter.The new line of IBM "Executary" dictation equipment was designed to provide efficiency, fidelity and ease of operation never before available in dictation equipment. As with the introduction of the electric typewriter in 1935, dictation equipment required concept marketing -- selling the idea first, then selling the product.

The solid-state IBM "Executary" dictating unit recorded up to 14 minutes of dictation on a magnetic belt and allowed the operator to revise unwanted material and completely erase the belt in six seconds so it could be used again.

In July, 1961, the IBM "Executary" portable dictating unit (Model 214) made its debut.

The "Selectric" typewriter revolution

In the summer of 1961, the division announced a technological breakthrough which revolutionized the typewriter industry -- the IBM "Selectric" Typewriter. It prints by means of a single, interchangeable sphere-shaped typing element bearing 88 alphabetic characters, numerals and punctuation symbols. It has no typebars and no movable carriage. The printing element is mounted on a small carrier which runs along a cylindrical metal bar while typing. Because the writing element moves, and not the paper-carrying unit, the need for a conventional carriage is eliminated. For this

reason, the "Selectric" typewriter requires less space, vibration is minimized, and there is no carriage return jolt. Another important feature of the new machine is the ability to change type styles in seconds through the single element typing principle.

First Magnetic Media typewriter

In 1964, the division introduced the IBM Magnetic Tape "Selectric" Typewriter which is capable of automatically producing error-free typing at a speed of 150 words per minute. This machine uses a magnetic tape which stores typed information in coded form. As the typist operates the machine's conventional keyboard, words and numbers are recorded and stored on a tape which can hold approximately a full day's typing. The MT/ST is designed for typing applications where revisions will be needed because of errors, insertions, or deletions.

A change of name

To indicate more accurately the scope of the product line, the Electric Typewriter Division changed its name to Office Products Division in August, 1964. That same year continued growth was reflected in a move to expanded headquarters facilities at 590 Madison Avenue in New York City.

224 Portable dictating unit

In July, 1965, a miniature full-featured dictating machine weighing just 28 ounces was introduced. Known as the 224, it had all the features associated with larger IBM dictating equipment such as backspace, playback and listen interlock.

A more powerful way to set type

In September, 1966, the Office Products Division entered the direct impression typesetting industry with two products which have improved the efficiency of cold type composition and provided a new method for high quality typesetting. The two products are the IBM "Selectric" Composer and the IBM Magnetic Tape "Selectric" Composer.

The Composer uses the "Selectric" typewriter principle of a single, sphere-shaped printing element. The type on the element, however, is designed to match conventional type fonts in size and appearance. To produce copy which can be reproduced with "justified," or straight left-and right-hand margins, the operator types the copy once and the composer computes the number of spaces needed to justify the line. As the operator types the copy a second time, the spaces are added automatically.

The Magnetic Tape "Selectric" Composer, a combination of the MT/ST and the "Selectric" composer, makes it possible to produce camera-ready copy automatically and error-free. Justified right-and left-hand margins, paragraphing, hyphenation, run-arounds, centering, are all done automatically as copy is prepared at the rate of 14 characters a second.

New manufacturing facilities

To build these new systems, the Office Products Division constructed a manufacturing plant and engineering laboratory in Austin, Texas. The 200,000 square-foot plant, occupying 400 acres adjacent to the city, opened in the summer of 1967.

Model D typewriter

In the spring of 1967, the division announced the IBM Model D "Executive" Typewriter. It features "proportional spacing," first developed by IBM, and incorporates the same type of contoured keyboard found on the "Selectric" typewriter. Other features include added typamatic keys and a "control row," containing such controls as margin and tab set, above the keyboard. In all, the Model D incorporated some 250 improvements over the Model C at the time of its introduction.

In addition to the new "Executive" typewriter, the Model D line includes a standard electric model without proportional spacing; an electric formswriter designed to speed the preparation of continuous business forms; and a new model, featuring decimal tabulation, especially designed for statistical typing.

Dictation line expands

In October, 1968, two new additions to IBM's line of dictating equipment were introduced -- the IBM "Executary" 271 dictating unit and the Model 272 transcriber. Featuring distinctive new styling and greatly improved serviceability, the new units also offered the customer more than 20 new features.

New headquarters

In the spring of 1969, ground was broken for the Office Products Division's new headquarters at Franklin Lakes, New Jersey. The new location was completed in 1971.

Magnetic card typewriter

In October, 1969, the IBM Mag Card "Selectric" Typewriter was announced. The first magnetic typing device of its kind, it operates on a unique principle enabling the secretary to capture each page of typing on Mylar-based magnetic cards identical in size to the familiar punched cards widely in use today. These cards have a capacity of 5,000 typed characters, which is equivalent to more than a full page of copy. Changes in text can be made without manually retyping the entire page. The secretary simply inserts a magnetic card into a small console placed alongside her desk and then types on the familiar keyboard of a specially engineered IBM "Selectric" Typewriter. If she makes a mistake while typing, all she needs to do is backspace and type over the error with the correct letter or word and continue typing. The recording on the card is automatically corrected.

New convenience copying machine

In April, 1970, a new convenience copying machine that produces plain paper copies at the rate of 600 per hour was announced.

A compact, flat-bed console that operates from a separate 115-volt, 14-ampere power source, the new IBM Copier is designed for everyday copying applications. It has, as one of its unique features, a specially-developed photoconductor which enables the machine to provide clean copies of consistent quality on plain paper.

Another unique feature is its toner cartridge, which offers several benefits to the machine's key operator. As easy to change as a tape cassette, this container holds enough toner to last for a full month of average copy production.

The plain bond paper used by the machine is roll-fed, and each roll of IBM General Copy Bond has a capacity of approximately 625 letter-size copies. The roll feed also enables the user to select either letter or legal size copies by pressing a button.

To operate the IBM Copier, the user selects the number of copies desired on the copy selector, places the original face down on the flat document bed, closes the document cover, and depresses the start bar. No warm-up period is required, and the first copy is produced in 15 seconds. Subsequent copies are produced every 6 seconds.

Communicating Mag Card "Selectric" typewriter

In July, 1971, the division announced a new communicating capability that made the IBM Mag Card "Selectric" Typewriter a combined communicating terminal and word processing machine. The new invention enabled mag card typewriters separated by thousands of miles to send information to each other over voice-grade telephone lines.

New "Selectric" typewriter

The IBM "Selectric" II Typewriter, featuring a number of dramatic developments in typewriter technology, was announced in September, 1971.

Among its unique features is a dual-pitch mechanism which enables the typist to switch from 10-pitch (ten characters per inch) to 12-pitch (twelve characters per inch) simply by moving a lever. Reports and correspondence may be typed in larger, 10-pitch type styles, while financial documents and business forms may be typed in space-saving, 12-pitch type styles -- all on the same typewriter.

The IBM Tech III Ribbon featured with the typewriter is enclosed in a snap-in/snap-out cartridge. This long-life ribbon is manufactured under a patented process which creates a tough polymer (plastic film) saturated with fluid ink. With average customer use the ribbon needs to be changed approximately five times a year, compared with 65 changes needed on carbon film ribbons used on the first IBM "Selectric" Typewriters.

Other features are an express backspace which moves the typing element backwards at carrier-return speed to save time in underscoring and forms typing, and a half backspace which lets the typist correct errors quickly, justify copy, and create two-letter combinations.

Mag Card "Executive" typewriter

A combination of three of IBM's most significant technological achievements was added to the OPD product line in April, 1972, with the announcement of the IBM Mag Card "Executive" Typewriter. Designed to fill the needs of typing stations where appearance of the typed document is a prime consideration, this machine combined the quality of proportional lettering, the convenience of single element typing, and the efficiency of magnetic media.

New name for dictating equipment

In September, 1972, the division announced that all of its dictating equipment would be known as "input processing equipment" since the term better describes the equipment's function within the total word processing concept. Simultaneously five new models were introduced: a tone input system, a microphone input system, a dial input system, a microphone input unit, and a transcribing unit.

Copier II

A plain paper copying machine with an advanced document feed was announced in November, 1972. Designated the IBM Copier II, the new machine accepts an original

and automatically positions it on a stationary flat bed. It can copy large rolled documents, photographs, drawings, and even the texts of thick books, providing the first copy in six seconds and subsequent copies in 2.4 seconds, with a copy selector that allows 1-20 copies to be made automatically in one setting. The IBM Copier II also has a continuous setting which permits multiple copies to be made and a darkness control for increased readability of documents with faint text or image.

Correcting "Selectric" typewriter

In March, 1973, the division announced a new typewriter which can make typing errors disappear on original copies. Called the IBM Correcting "Selectric" Typewriter, the new machine enables typists to do most work at "rough draft" speeds. Errors on originals can be corrected quickly without time-consuming erasures. When the typist makes an error, she simply backspaces to the incorrect character by depressing a correcting key. This activates a special tape which removes the error when the incorrect character is struck again. Equipped with the IBM Correctable Film Ribbon and Lift-off Tape, the IBM Correcting "Selectric" Typewriter actually lifts typing errors off the paper.

IBM Mag Card II typewriter

In April, 1973, IBM introduced the IBM Mag Card II Typewriter, the first of its magnetic media typewriters to employ solid state technology. The IBM Mag Card II features an electronic memory which holds up to 8,000 typewritten characters or about two-and-a-half average length pages of information. Once entered into memory, information may be recorded on one of 50 magnetic cards at 200 characters per second. The magnetic card machine adds a new degree of flexibility to the preparation of business correspondence and such documents as reports, proposals, technical specifications and statistical typing. The typewriter also has a new erase mechanism which simultaneously removes typing mistakes from memory and the typewritten page.

Boulder plant becomes part of OPD

In April, 1973, the division assumed responsibility for the IBM facilities at Boulder, Colorado. Engineering and manufacturing operations for the IBM copier products were transferred from Lexington to the Boulder location.

IBM Memory typewriter

In April, 1974, the division introduced the IBM Memory Typewriter, a desktop typewriter that stores everything typed and allows the operator to recall and revise previously typed material. It features a built-in electronic memory capable of storing up to 50 pages of material which can be played back in error-free form at 150 words per minute.

Electronic "Selectric" composer

In January, 1975, the division announced the IBM Electronic "Selectric" Composer, an automated, direct impression composition unit. This desktop unit has a built-in

memory that retains and replays automatically up to 8,000 characters of keyboard material. Other features include automatic justification with one keyboarding, automatic print out of columns in one playout and reformatting ease with capability of justified, "rag" right, flush left or virtually any configuration specified. The Electronic "Selectric" Composer utilizes over 125 interchangeable printing fonts in sizes from 3 to 12 point.

6:5 Cartridge cystem

In March, 1975, the division announced a new line of dictation equipment offering exclusive user benefits. A modular input processing line, the IBM 6:5 Cartridge System provides simplified operation and up to 5 hours recording time. The main feature of the system is a cartridge that contains up to 25 magnetic discs which hold 6 minutes of dictation time each and allow simplified work distribution.

Family of Magnetic Card typewriters expands

The IBM Mag Card/A Typewriter introduced in September 1975 combines the advantages of magnetic card typing and the power of a 6,000 character electronic memory. The memory, which holds over a page of typing, makes possible efficient revision of typewritten material. Once in memory, information can be transferred to magnetic cards at a rate of 200 characters per second. Information stored on cards can be read back into memory later on for further revision or playout.

OPD takes Greencastle responsibility

In October, 1975, the Information Records Division manufacturing plant in Greencastle, Indiana, was transferred to OPD. The plant manufactures selected IBM products and supplies.

Family of IBM Copying equipment expands

Two copying machines combining the convenience of a copier and the productivity of a duplicator were introduced in March 1976. Both machines, the Series III Copier/Duplicator, Model 10 and Model 20, feature an advanced document feed, completely automatic duplexing and a rated speed of 4,500 copies per hour. The Model 20 also offers two reduction modes -- 26 or 35 percent. Optional with both models are one or two collator modules, each with 20 bins.

Ink jet document printer introduced

In June, 1976, the division announced an ink jet printer that produces correspondence quality printing at speeds up to 92 characters per second. Activated by magnetic cards fed into a reader, the IBM 46/40 Document Printer accepts up to 200 cards recorded on any IBM magnetic card typewriter. In addition to automatic paper handling, the printer also offers extensive formatting capability and optional electronic communications.

IBM Computer provides word processing capabilities

In June, 1976, a joint announcement by the General Systems and Office Products Divisions introduced the IBM Word Processor/32. A program product which utilizes new enhancements to the IBM System/32, it provides the functions of a powerful and versatile word processing system. This desk-size computer provides up to 13.7 million characters of direct access fixed disk storage, 250,000 character removable diskettes, a line printer and keyboard display. Its capabilities include advanced text manipulation,

automatic letter writing and access to data processing functions. Optional is the IBM 5321 Mag Card Unit which reads and records magnetic cards, allowing input to the System/32 from magnetic card typewriters.