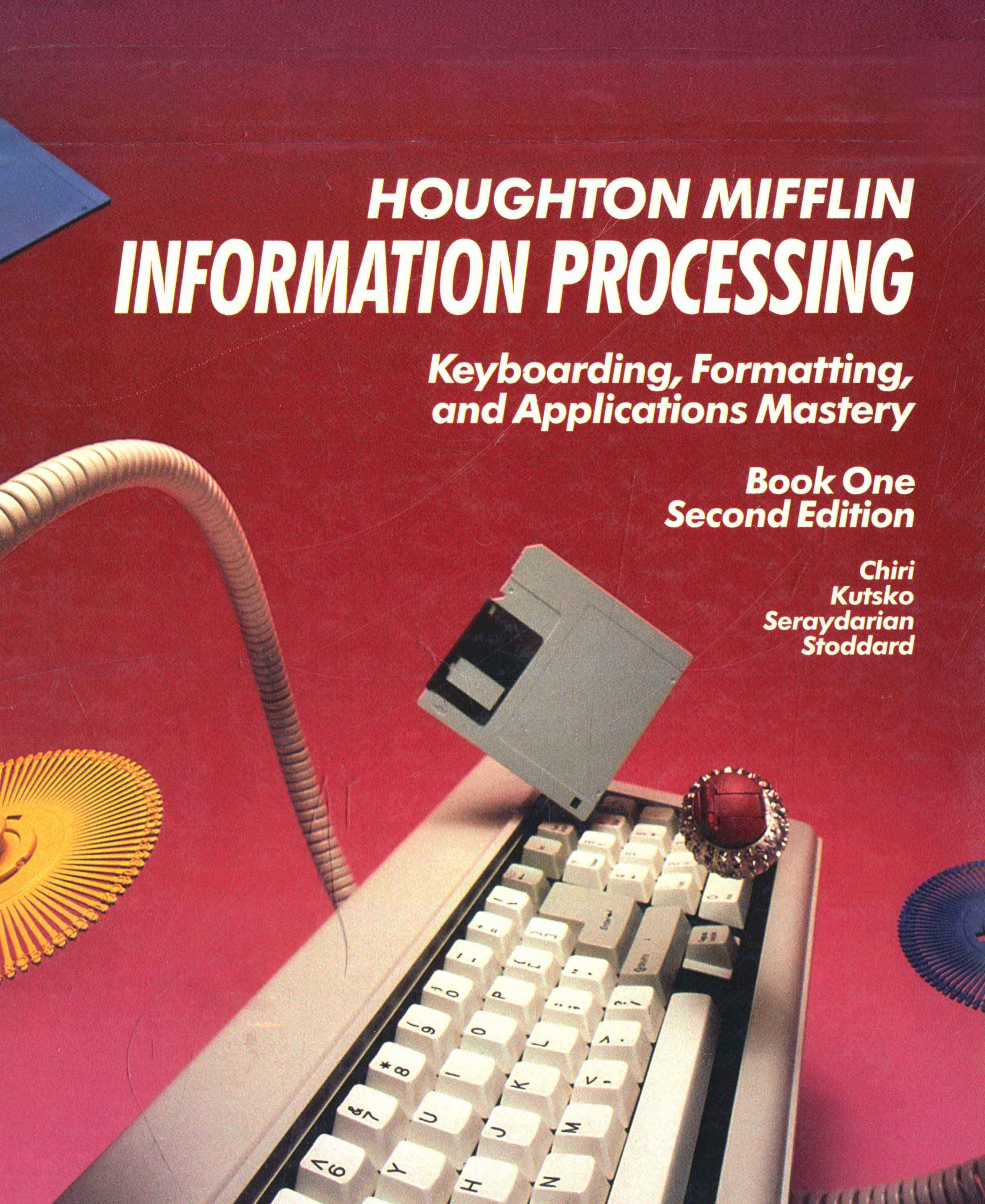
HOUGHTON MIFFLIN
INFORMATION PROCESSING

Keyboarding, Formatting, and Applications Mastery

Book One
Second Edition

Chiri
Kutsko
Seraydarian
Stoddard



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Preface

Keyboarding is a key to the future. With the unparalleled explosion of electronic technology, keyboarding skills are rapidly becoming life skills—skills needed to survive and succeed in personal and professional life.

Keyboarding skills are also marketable skills. Developing such skills involves a mastery of the knowledge and skills associated with keyboarding, formatting, and document processing. In today's electronic offices, keyboarding skills are used to process information ranging from simple electronic messages to professional looking reports prepared with desktop publishing software. To reflect the changes brought about by electronic technology, both in the office and in the classroom, we have changed the title of this new edition to *Houghton Mifflin Information Processing: Keyboarding, Formatting, and Applications Mastery*.

Regardless of what our students' ultimate career objectives may be, the keyboarding skills we teach *today* will help them open the doors to success *tomorrow*.

OBJECTIVES

This new edition of *Houghton Mifflin Information Processing* continues to offer a comprehensive instructional program—one that trains fast, accurate, and competent keyboard users of typewriters and information processing equipment. Critical personal and vocational objectives of this edition are:

- To develop mastery-level information-age keyboarding, formatting, and processing knowledges and skills.
- To develop decision-making skills, time-management skills, language-arts/communication skills, and positive work attitudes.
- To familiarize learners with critical information-age office procedures, terminologies, and technologies.

COMPONENTS

A complete package of instructional materials is available to help learners master those objectives. The package includes first-year, second-year, and combined student textbooks; teacher's annotated editions of both the first- and second-year textbooks; teacher's reference guide; teacher's resource materials; a workbook for each semester; a test package for each semester; and ancillary simulations, drill materials, cassettes, and disks.

FEATURES

The second edition promotes mastery-level keyboarding, formatting, and processing knowledges and skills through a variety of special features.

Skill-Building Program. Intensive technique development through technique timings, speed-building drills, and accuracy practices is the basis of the skill-building program, enabling learners to develop speed and accuracy.

Simplified Instructions. Directions for completing each activity and explanations of formats and procedures are presented in simple, easy-to-read language that is enhanced by the liberal use of color. Simple-to-complex presentations and realistic cycles of learning set the stage for the mastery-level philosophy followed throughout the textbook.

Realistic Work Assignments. A variety of handwritten, rough-draft, unarranged, and incomplete copy gives learners wide experience in dealing with different kinds of source documents and in planning their work routines.

Processing Skills. A production approach is advocated early in the first year and is intensified throughout the second year. Project Previews, Production Previews, timed Applications, Production Projects, and simulations foster a production approach. These activities provide intensive practice on frequently used formats and prepare learners to do quality work under the pressure of time.

Communication Skills. The unique Language Arts activities help learners to master critical capitalization, punctuation, grammar, and related language skills. Proper spelling of frequently misspelled words is also emphasized. Keyboard Composition activities give students practice in composing in a carefully sequenced, confidence-building way.

Decision-Making Skills. Activities are structured to give learners increasing responsibility for the details of their work. The sequence is *show, tell,* and *remind* to help students *remember*. Initially, learners work from completely formatted copy in Project Previews. The next few applications are accompanied by complete instructions. In later applications, detailed instructions are replaced by reminders called "cues" and "checkpoints." Finally, learners are expected to remember the format—or to look it up in Need to Knows. A simple-to-complex philosophy is inherent to these activities.

The Electronic Office. All lessons and vocabulary accommodate the equipment, terminology, and procedures of today's electronic office. Specific instructions, where needed, are provided for electronic typewriters, microcomputers, and electric typewriters.

Simulations. Unique in-text simulations are provided in the student textbook to give practice in on-the-job situations. A first-year simulation offers a culminating activity to allow students to demonstrate their mastery of basic keyboarding and formatting skills. Second-year simulations expose learners to the terminology and procedures for various office settings, such as legal, medical, and government. A unique, optional desktop publishing simulation is also provided in an optional workbook.

Testing Program. The Measuring Mastery lessons in the textbook can be used for informal or formal evaluation of learner progress. Longer tests in the separate test booklets contain alternate timed writings, applications, and objective questions—all designed to check learner progress and comprehension of basic concepts and formats.

ACKNOWLEDGMENTS

Many different people helped with this second edition. Above all, the students and teachers who used the first edition deserve special mention for their willingness to try an innovative textbook and for their support, encouragement, and suggestions for improvement. We have tried to incorporate into this new edition all the worthwhile suggestions given by users. To them we give our heartfelt thanks and appreciation.

—J. Chiri, J. Kutsko, P. Seraydarian, T. Stoddard

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76, 109, 135, 164, 170, 193, 216, 247, 279, 296, 321, 330

Keys Introduced

A 4
B 32
C 27
D 4
E 12
F 4
G 14
H 12
I 14
J 4
K 4
L 4
M 27
N 14
O 18
P 25
Q 28
R 18
S 4
T 12
U 20
V 34
W 20
X 32
Y 32
Z 34
1 63
2 57
3 57
4 57
5 65
6 65
7 59
8 60
9 60
0 63
" 48
' 46
: 43
; 4
, ...25
. ...20
? 43
/ 70
– 46
- 49
% 66
) 60
(.........70
$ 63
! 74
½ 74
¼ 74
@ 74
¢ 74
& 74
* 74
+ 74
= 74

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Backspace key, 44
Caps lock key, 47
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Decimal tab, 131
Return/Enter key, 5
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Symbols, 74
Tab, 34–35
Ten-key numeric keyboard, A12–A17

The Electronic Office

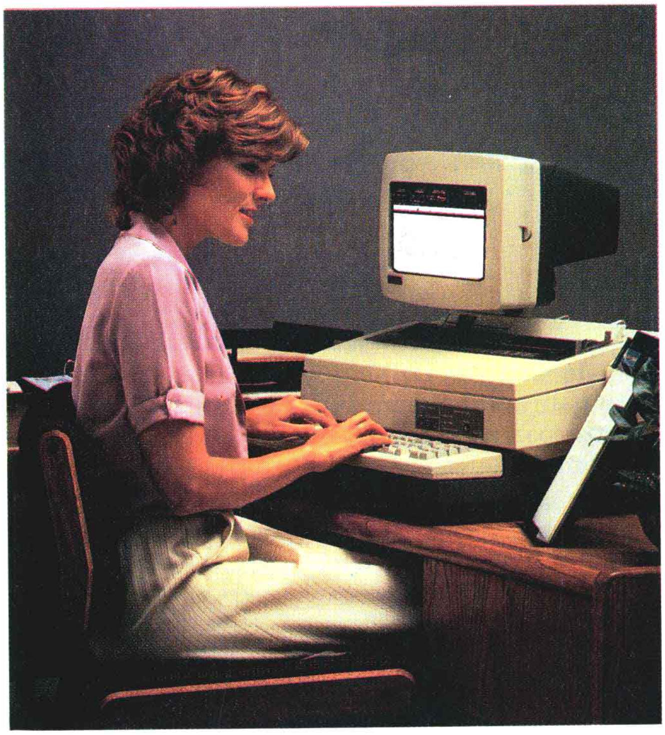
"The electronic office is here! With its electronic typewriters, microcomputers, scanners, and facsimile equipment, the electronic office is a fascinating place in which to work. Please come and join in a tour of our electronic office.

"First, we will stop at our communications center. As you'll see when we arrive, we use both electronic typewriters and microcomputers. You may be surprised that the two look so much alike—they both have keyboards and display screens. They also perform many of the same functions.

"Here we are. This is Kay Davis. She's using an electronic typewriter. Kay, tell us what you are doing now."

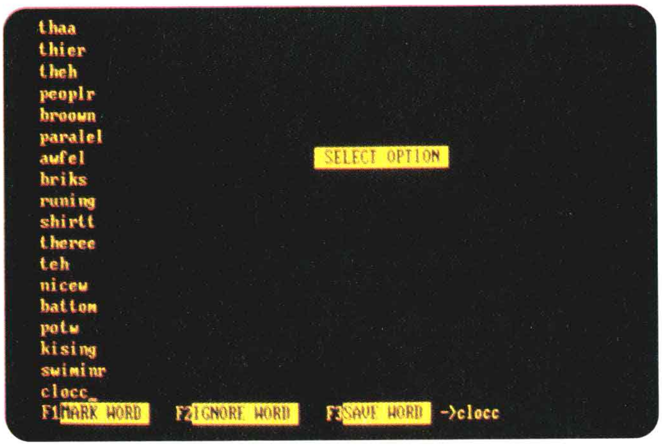
"I'm proofreading a letter that I keyed. The letter is stored in memory, so I can display the letter on the screen and edit the copy before printing it. I will delete words and change the order of paragraphs with just a few keyboard commands.

"I have electronically cut and pasted paragraphs from old letters to create this new letter. My electronic typewriter uses microchips and stores a library of letters and paragraphs in its memory. I can merge old paragraphs in endless combinations to create new letters. Since I am going to send this letter to 50 people, I will merge the letter with a list of customers' names and addresses that is also stored in memory. My typewriter will address and print a letter for each customer. To do this, I key the letter once, and my typewriter prints the letter 50 times! This typewriter prints at a rate of about 50 characters per second, so it should not take long to print these.



"Electronic typewriters are sold with many optional features, or capabilities. One capability that my typewriter has is a 90,000-word spelling checker. The spelling checker scans the text for misspelled words and highlights letter combinations like 'thos' that it does not recognize as a word. Then if I need to, I look up the words in a dictionary for the correct spelling. However, if I key 'send' for 'bend,' that error won't be highlighted because they both are recognized as words. The spelling checker scans for spelling, not for sense.

"My electronic typewriter also has disk-drive capability. That way, it can use the same floppy disks as microcomputers do. That means that I'm able to use information created on our microcomputers. I can electronically store more of the files that I create.



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thaa
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awfel
briks
runing
shirtt
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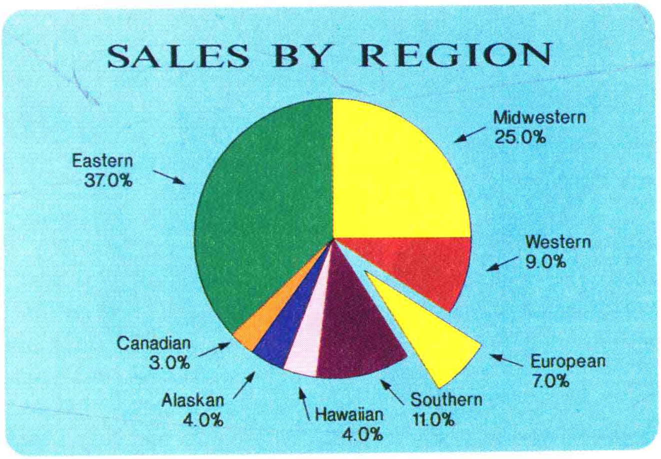
teh
nicew
batton
potw
kising
swiminr
clocc_
```

"I also use some great software packages on my typewriter. My favorite is the one that loads frequently used forms in memory and then displays them on the screen. I fill in the blanks on the forms as they appear on the screen."

"Thanks, Kay. I'll let you get back to work now. Next, you will meet Maria. She'll tell you more about our microcomputers and what they can do."

"Hi! I'm Maria. I'm creating some graphics on my microcomputer for a management report. My microcomputer is equipped for desktop publishing, which means that a variety of type styles and graphics can be produced, just as you would expect to see in a published report. The microcomputer makes it possible for me to create graphics and select the type styles that I want. I can print them with a laser printer.



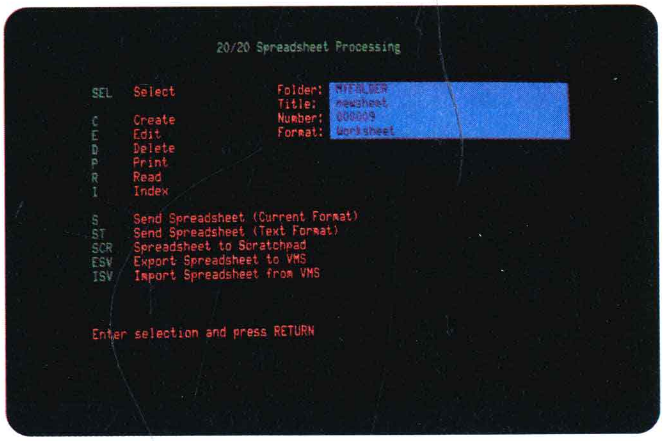
"Let me show you. I use a hand-held device called a 'mouse' to create drawings on the screen. To illustrate this year's sales, I used a symbol directory to create a pie chart. Using the on-screen menu, I can make the chart bigger or smaller or duplicate it as many times as I wish. I can print it in a variety of colors, too.

"Sometimes I use my microcomputer just for word processing jobs. Last week, Kay and I had to draft 20 different reports to send to about 100 people. We worked together, creating a variety of reports, and then electronically shared and merged what we had written. We're able to share information because our office equipment is integrated, which means that each electronic typewriter and microcomputer is linked to a network that allows files to be shared and exchanged.

On my laser printer, we printed the reports that contained graphs. We could print the other reports on either my printer or her electronic typewriter.

"Other departments use microcomputers for other purposes. For example, our payroll clerk keeps a database of all employee data to prepare paychecks that are automatically calculated with all deductions itemized.

"Our accountants use microcomputers to track the company's earnings, expenses, and spending. Our software programs prepare spreadsheets listing and summarizing all these activities. Then, our executives use the spreadsheets to plan the company's future. The executives display the spreadsheets on their microcomputers. By using different figures on the spreadsheets, they can see how profits would improve if components of our business were changed. For example, they can project how raising prices, reducing expenses, or hiring more people affect short-term and long-term profitability. They can get the results of a 'what if' question in seconds without performing hours of calculations.



```
                    20/20 Spreadsheet Processing

SEL   Select                  Folder: MYFOLDER
                              Title:  newsheet
C     Create                  Number: 000009
E     Edit                    Format: Worksheet
D     Delete
P     Print
R     Read
I     Index

S     Send Spreadsheet (Current Format)
ST    Send Spreadsheet (Text Format)
SCR   Spreadsheet to Scratchpad
ESV   Export Spreadsheet to VMS
ISV   Import Spreadsheet from VMS


Enter selection and press RETURN
```

"Excuse me, I have some electronic mail. The message flashing on my screen tells me I have mail in my mailbox. To get my mail, I just key a few commands and the message comes on my screen. This message is from Ms. Rubin, our vice president in Los Angeles. She wants to meet with me on Friday.

"I can check my electronic appointment calendar on my microcomputer. The screen is divided into sections for the days of the week, just like a calendar. I key my appointments so I can keep track of them. Yes, I am free then. Now I'll key a message to Ms. Rubin, and I'll ask Kay Davis if she wants to join us. Kay's electronic typewriter receives electronic mail, also. Ms. Rubin and Kay will receive my message on their screens, just as I received theirs."

"Thanks, Maria. Now we shall tour the Research Department. Some of the more high-tech components of our electronic office are used in the Research Department. To enter that department, we will use an electronic voice recognition system. It operates through our network of microcomputers and a mainframe computer. When I state my name, the computer digitizes my voice and compares the voice pattern with the pattern on file. This security is necessary to protect research from competitors.

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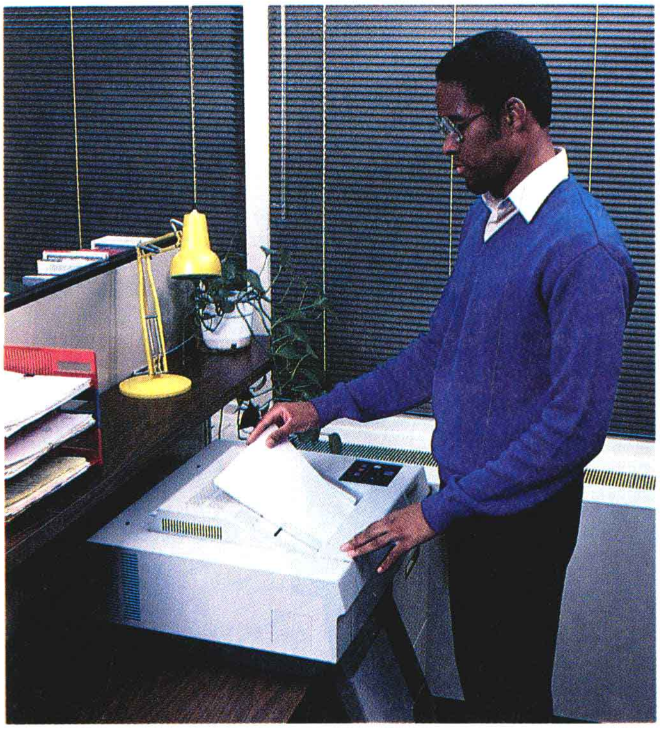
"And here we are. This is Thomas Alvarez. Thomas, could you show us the electronic equipment that you use in your department?"

"We have many things going on at the moment. As we walk around, I will show you what everybody is doing. Lee is sending photos of test results to our Paris office. The machine that does the sending is called a fax; that's short for 'facsimile'. First Lee feeds the document to be sent into the fax. Then, he dials the telephone number of our fax unit in Paris. The photo is electronically sent over telephone lines. We use the fax instead of electronic mail when we need an exact reproduction of something that cannot be sent by electronic mail, such as a photo, a blueprint, or a contract with signatures.



"Here you see Lisa using a scanner to copy 300 pages of statistics. Instead of Lisa having to key all those numbers, the scanner reads the numbers and feeds them into the computer. Then they can be printed on either a printer connected to a microcomputer or on an electronic typewriter. Both the fax and the scanner work on Optical Character Recognition (OCR) technology, similar to product code readers that are used in grocery stores.

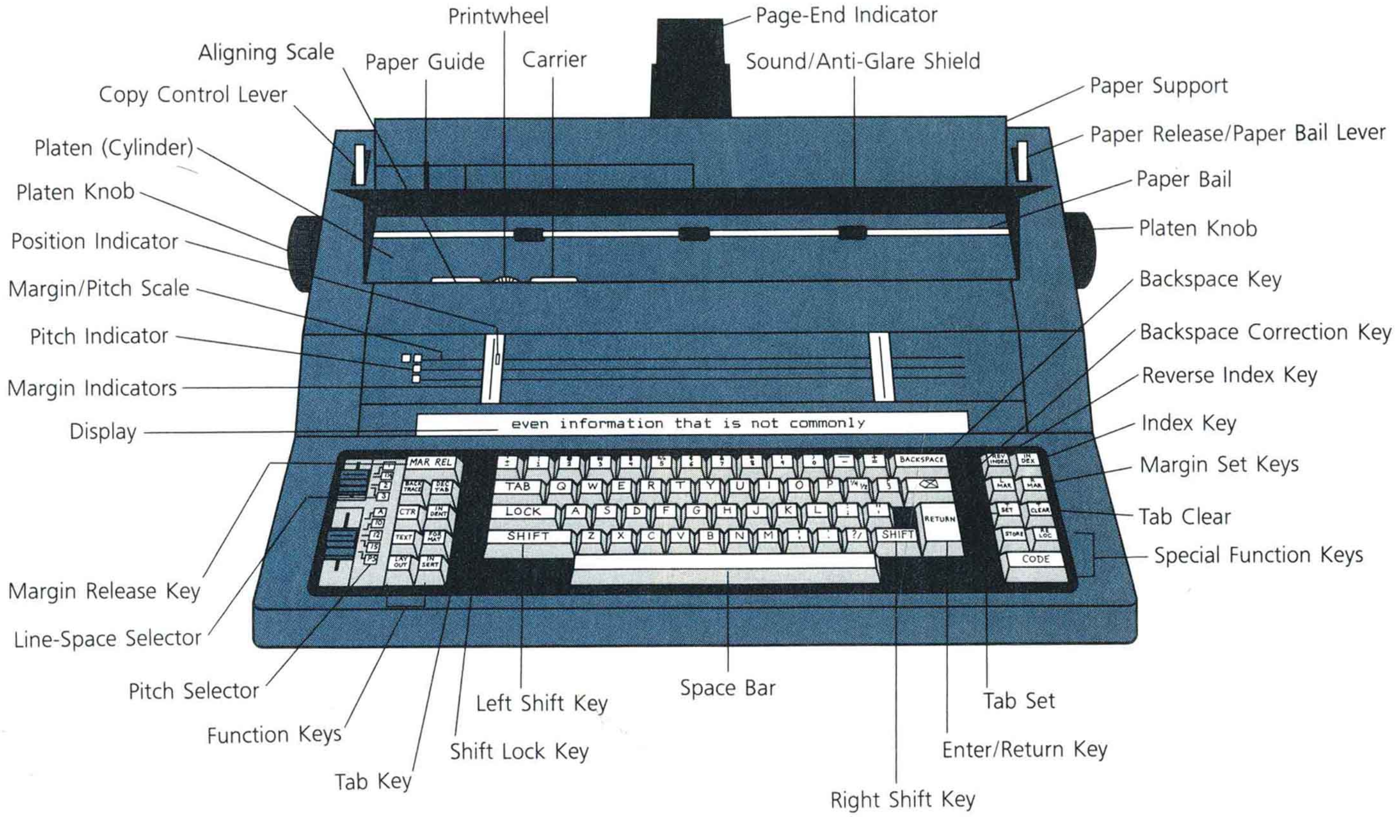
"In that conference room, some of our executives are having a videoconference with our vice president in Chicago. Videoconferencing allows people in different cities to see and hear each other and exchange ideas, just as they would if they were sitting around a conference table. But with videoconferencing, they do not have to travel, which saves a lot of time and airplane fare."

"When the new technology has been sufficiently developed, we will be able to send voices, videos, and data over telephone lines, all at the same time. Now we send them separately, using an expensive satellite relay for our video.

"This concludes our tour of the Research Department and our electronic office. I think you will enjoy working in an electronic office, too."

About Your Equipment

Electronic Typewriter


Printwheel
Page-End Indicator
Aligning Scale
Paper Guide
Carrier
Sound/Anti-Glare Shield
Copy Control Lever
Paper Support
Paper Release/Paper Bail Lever
Platen (Cylinder)
Paper Bail
Platen Knob
Platen Knob
Position Indicator
Margin/Pitch Scale
Backspace Key
Pitch Indicator
Backspace Correction Key
Margin Indicators
Reverse Index Key
Display
even information that is not commonly
Index Key
Margin Set Keys
Tab Clear
Special Function Keys
Margin Release Key
Line-Space Selector
Pitch Selector
Left Shift Key
Space Bar
Tab Set
Function Keys
Shift Lock Key
Enter/Return Key
Tab Key
Right Shift Key

Aligning Scale helps locate the text line when reinserting paper.

Backspace Correction Key backspaces and removes an incorrect character.

Backspace Key moves the carrier to the left (backward) one space at a time without deleting characters.

Carrier is the movable unit containing the printwheel and ribbon carrier.

Copy Control Lever moves the platen forward or backward to adjust for paper thickness.

Display shows keyed text for checking accuracy.

Enter/Return Key enters information into memory and/or returns the carrier to the left margin and moves the paper up to a new line.

Function Keys are those keys other than the alpha/numeric keys that allow the user to perform special functions such as auto centering.

Index Key moves the paper up without returning the carrier to the beginning of a line.

Left Shift Key is used to capitalize letters keyed with the right hand.

Line-Space Selector controls the space between lines of text.

Margin Indicators are adjustable tabs on the margin scale that can be positioned to show where current margins are set.

Margin/Pitch Scale indicates horizontal spaces, the position of the carrier, and the pitches available. It may also show the position of the margin sets.

Margin Release Key allows the carrier to move beyond the margin stops.

Margin Set Keys set the margins to control the beginning and ending of lines.

Page-End Indicator shows the lines/inches left on a standard 8½ × 11-inch sheet of paper.

Paper Bail holds the paper against the platen.

Paper Guide guides the paper into the machine so it is consistently in the same position.

Paper Release/Paper Bail Lever frees the paper for removing or straightening.

Paper Support supports the paper for reviewing.

Pitch Indicator shows the pitch that has been selected.

Pitch Selector allows the user to choose a pitch from those available.

Platen (Cylinder) is the large roller around which the paper turns.

Platen Knobs are used to turn the platen by hand.

Position Indicator shows the position of the carrier on a line.

Printwheel is a circular disk containing all the keyboard characters.

Reverse Index Key moves the paper down without returning the carrier to the beginning of a line.

Right Shift Key is used to capitalize letters keyed with the left hand.

Shift Lock is used to key all capital letters.

Sound/Anti-Glare Shield reduces noise and adjusts for glare.

Space Bar spaces the carrier forward one space at a time.

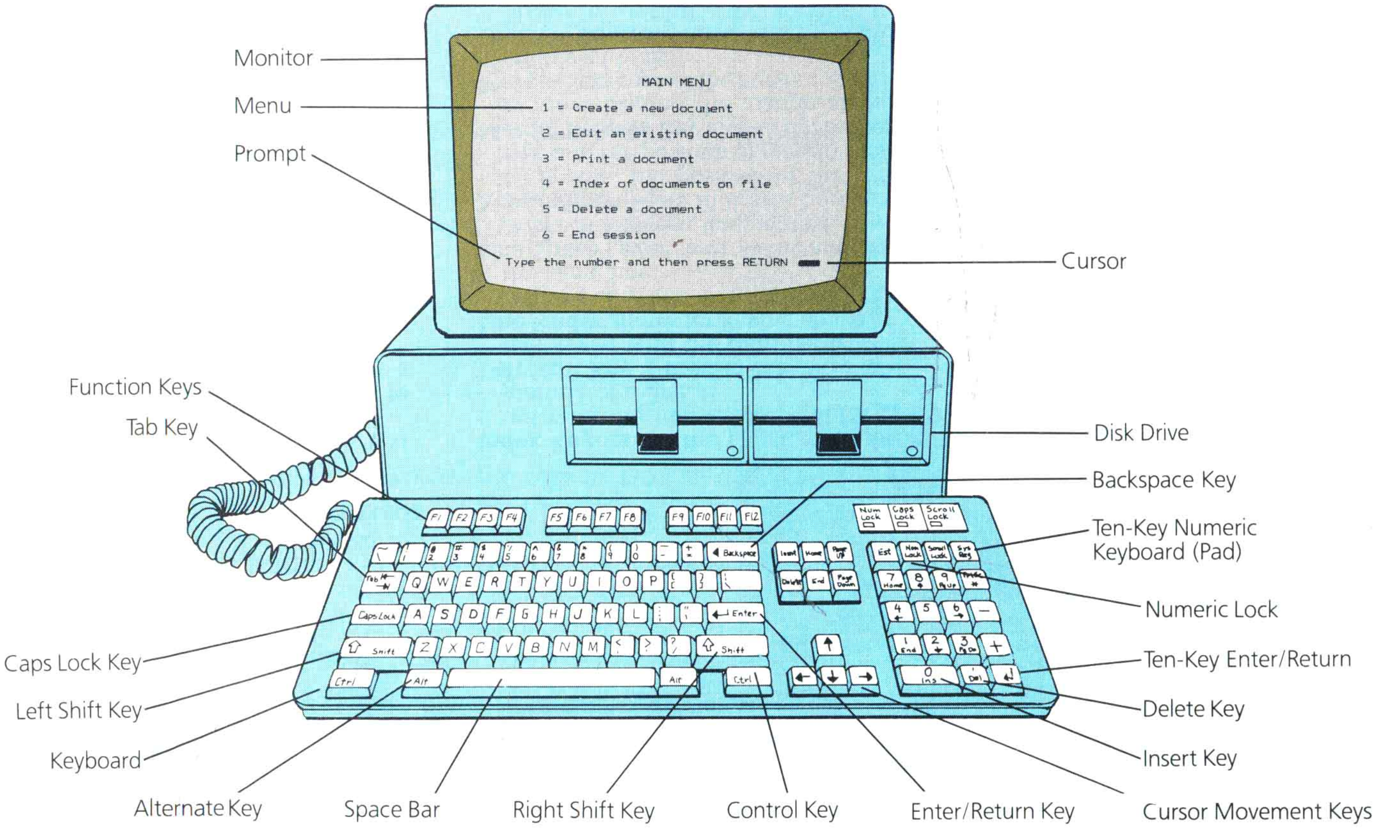
Special Function Keys are those keys that do not produce a letter, number, or special symbol.

Tab Clear clears, or removes, tab stops.

Tab Key moves the carrier directly to a tab stop.

Tab Set sets, or puts in, tab stops.

Microcomputer


Monitor
Menu
Prompt
MAIN MENU
1 = Create a new document
2 = Edit an existing document
3 = Print a document
4 = Index of documents on file
5 = Delete a document
6 = End session
Type the number and then press RETURN
Cursor
Function Keys
Tab Key
Disk Drive
Backspace Key
Ten-Key Numeric Keyboard (Pad)
Numeric Lock
Ten-Key Enter/Return
Caps Lock Key
Left Shift Key
Keyboard
Delete Key
Insert Key
Alternate Key
Space Bar
Right Shift Key
Control Key
Enter/Return Key
Cursor Movement Keys

Alt (Alternate Key) is used with other function keys to access software options.

Backspace Key moves the cursor to the left (backward) one space at a time. On some equipment, the backspace key may delete characters.

Caps Lock Key is used to key all capital letters.

Control Key is usually used with other keys to perform specific functions such as temporary indent.

Cursor is a lighted indicator on the display screen that shows a user's exact position within a document.

Cursor Movement Keys allow the cursor to be moved up, down, left, or right within text.

Delete Key is used to delete text.

Disk (Diskette/Floppy Disk) is the most common storage medium used with microcomputers. Disks are usually made of thin plastic, magnetically coated. Disks are protected by a jacket with openings to allow the disk drive to read or write information.

Disk Drive is the component of a microcomputer system that reads and writes data on a disk.

Enter/Return Key is used to enter information into a microcomputer or to return the cursor to the beginning of a new line.

Function Keys are those keys other than the alpha/numeric keys that allow the user to perform special functions such as auto centering.

Insert Key allows the user to insert text without deleting previously keyed text.

Keyboard is a device similar to a typewriter keyboard containing alphabetic, numeric, and special function keys.

Left Shift Key is used to capitalize letters keyed with the right hand.

Menu is a list of options available in a software program.

Monitor is an electronic screen that displays data. The monitor may also be called a CRT (Cathode Ray Tube) or a VDT (Video Display Terminal). Monitors can be color or monochrome (one color).

Numeric Lock is used to activate the numeric keypad.

Prompt is a line displayed on the monitor to request specific input from the user.

Right Shift Key is used to capitalize letters keyed with the left hand.

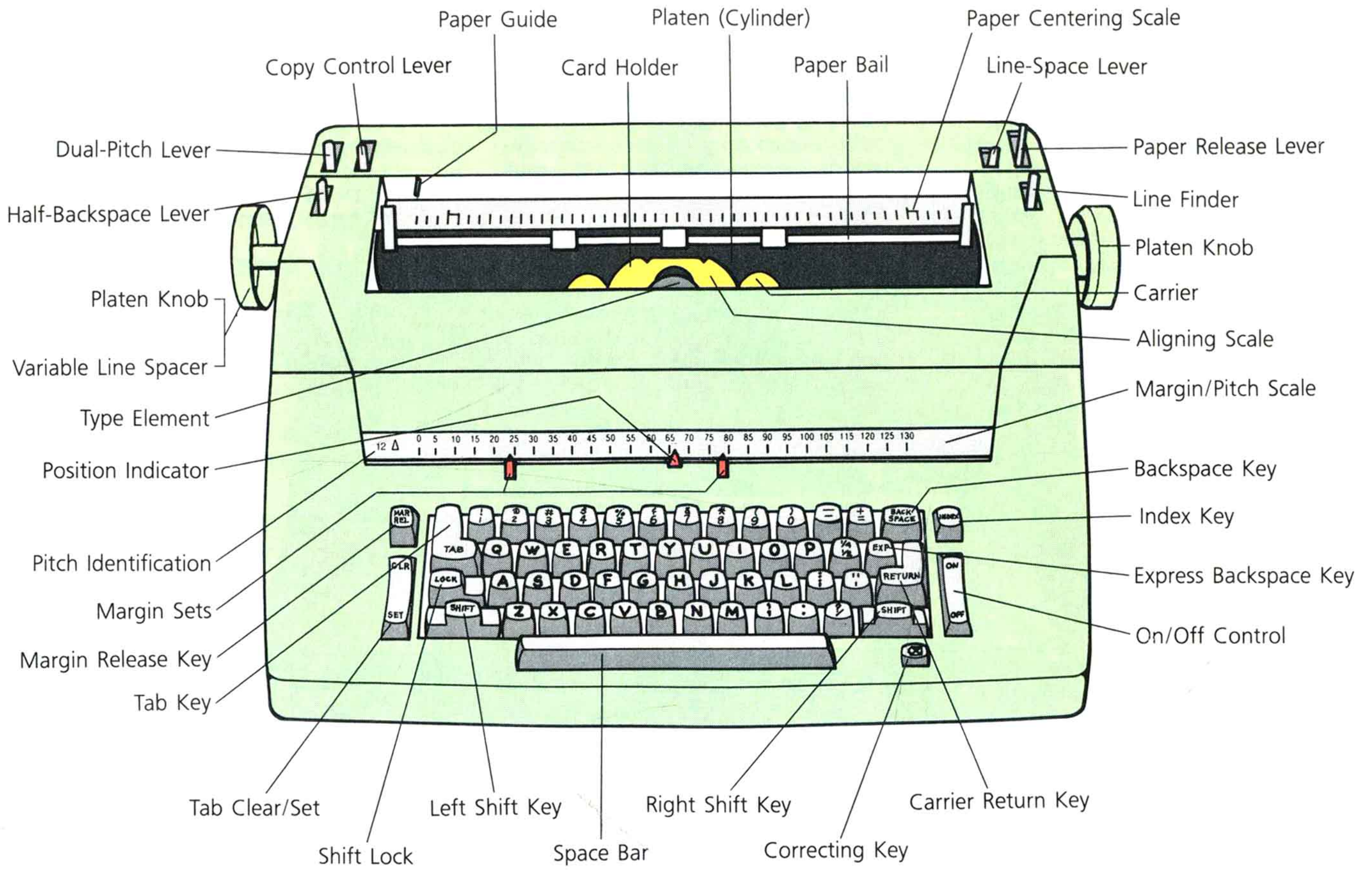
Space Bar spaces the cursor forward one space at a time.

Tab Key moves the cursor directly to a tab stop.

Ten-Key Enter/Return is used to enter numeric data from the ten-key numeric pad.

Ten-Key Numeric Keyboard (Pad) is a set of keys that resembles a calculator and is used to enter numeric data.

Element Typewriter


Paper Guide
Platen (Cylinder)
Paper Centering Scale
Copy Control Lever
Card Holder
Paper Bail
Line-Space Lever
Dual-Pitch Lever
Paper Release Lever
Half-Backspace Lever
Line Finder
Platen Knob
Platen Knob
Carrier
Variable Line Spacer
Aligning Scale
Margin/Pitch Scale
Type Element
Position Indicator
Backspace Key
Index Key
Pitch Identification
Express Backspace Key
Margin Sets
On/Off Control
Margin Release Key
Tab Key
Tab Clear/Set
Left Shift Key
Right Shift Key
Carrier Return Key
Shift Lock
Space Bar
Correcting Key

Aligning Scale helps locate the text line when reinserting paper.

Backspace Key moves the carrier to the left (backward) one space at a time.

Card Holder holds cards and envelopes against the platen.

Carrier is the movable unit containing the element and ribbon carrier.

Carrier Return Key returns the carrier to the left margin and moves the paper up to a new line.

Copy Control Lever moves the platen forward or backward to adjust for paper thickness.

Correcting Key backspaces to the error and moves the lift-off tape into position to make a correction.

Dual-Pitch Lever (special models only) resets spacing for 10 pitch or 12 pitch.

Express Backspace Key moves the carrier rapidly to the left without spacing the paper up.

Half-Backspace Lever moves the carrier to the left a half space at a time.

Index Key moves the paper up without returning the carrier to the beginning of a line.

Left Shift Key is used to capitalize letters keyed with the right hand.

Line Finder allows for keying above or below a line and then returning to the same line.

Line-Space Lever controls the amount of space between lines of text.

Margin/Pitch Scale indicates horizontal spaces, the position of the carrier, and the position of margin sets.

Margin Release Key allows the carrier to move beyond the margin stops.

Margin Sets control the beginning and ending of lines.

On/Off Control turns the electric power on and off.

Paper Bail holds the paper against the platen.

Paper Centering Scale centers the paper on the platen.

Paper Guide guides the paper into the machine so it is consistently in the same position.

Paper Release Lever frees the paper for straightening or removing.

Pitch Indicator shows the pitch that has been selected.

Platen (Cylinder) is the large roller around which the paper turns.

Platen Knobs are used to turn the platen by hand.

Position Indicator indicates position of the type element on a line.

Right Shift Key is used to capitalize letters keyed with the left hand.

Shift Lock is used to key all capital letters.

Space Bar spaces the carrier forward one space at a time.

Tab Clear/Set clears and sets tab stops.

Tab Key moves the carrier directly to a tab stop.

Type Element is the ball-shaped device containing all the keyboard characters.

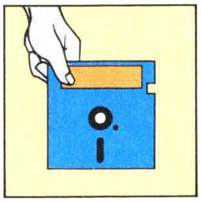
Variable Line Spacer is used to permanently change the text line.

Learn About Software

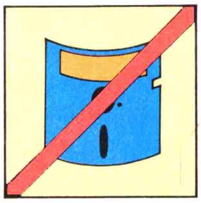
Disks

A **disk** is a magnetic storage device. Disks are sealed in a protective jacket. Through holes in the jacket, the disk drive "reads" information from or "writes" information to the disk. Never insert or remove a disk while the red "in use" light of the disk drive is on.

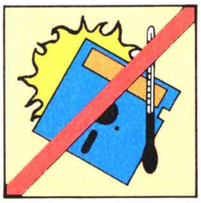
Disks must be handled with care to avoid damaging information stored on them. To avoid damage, follow these guidelines:



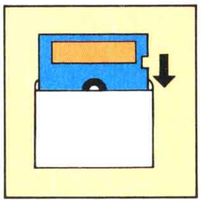
Hold the disk by the corner. Do not touch the exposed recording surface of the disk.



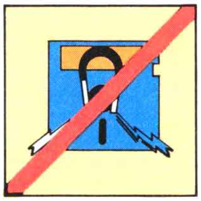
Do not bend or fold the disk.



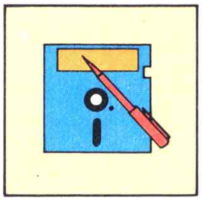
Do not expose the disk to extreme heat or cold. Never store the disk in direct sunlight.



Store disks in their protective sleeves in an upright position away from liquids, dust, smoke, and ashes.



Do not store disks near x-ray devices and magnetic fields such as telephones, dictation equipment, magnets, monitors, and other electronic equipment.



If it is necessary to write on a disk label, use only a felt tip pen. Do not use ballpoints, pencils, or paper clips.

Menus

The **menu** lists the options that are available on a software program. When the microcomputer is operating and a program disk has been inserted properly, a menu will appear on the display screen. A **prompt** will also appear. The prompt tells you how to choose a menu option.

Learn About Pitch (Type) and Paper Size

Pitch (Type) Size

Size of type, or **pitch,** is the number of horizontal spaces/characters to an inch. Most printwheels and elements are either 10 pitch (10 characters to a horizontal inch) or 12 pitch (12 characters to a horizontal inch). Some equipment also has 15 pitch (15 characters to a horizontal inch) and proportional spacing (a kind of pitch where the spacing for each character varies). More advanced software programs and printers may allow you to print in still other sizes. Notice the difference in the major pitch sizes shown in the type samples that follow.

This is a sample of 10-pitch type.

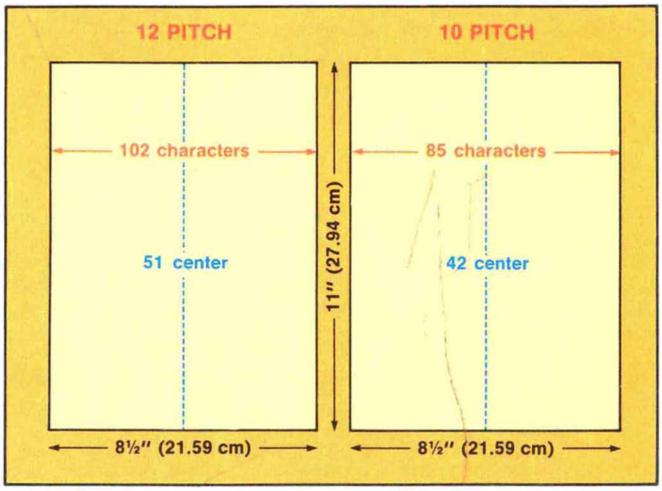
This is a sample of 12-pitch type.

This is a sample of 15-pitch type.

Paper Size

Standard-size paper is 8½ inches wide by 11 inches long (21.59 cm × 27.94 cm). With 10 pitch, there are 85 horizontal spaces across the page (8½ inches × 10 spaces = 85). With 12 pitch, there are 102 spaces across the page (8½ inches × 12 spaces = 102). With 15 pitch, there are 127 spaces across the page.

The center point of the paper for 10 pitch is half the number of spaces in the line, or 42½. Drop the half, and use 42 as the center point. For 12 pitch, the center point is 51. For 15 pitch, the center point is 63.



Microcomputers

With software, the center is found by dividing the number of spaces/columns displayed on the screen by 2. If 80 spaces (columns) are displayed, the center point is 40.

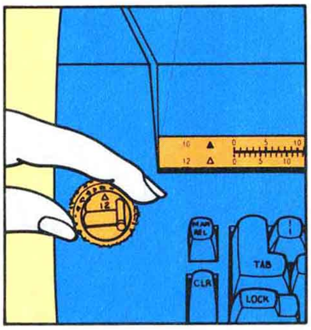
Standard vertical line spacing is 6 line spaces to 1 vertical inch. Therefore, a sheet of paper 11 inches long (27.94 cm) has 66 lines (11 inches × 6 lines = 66).

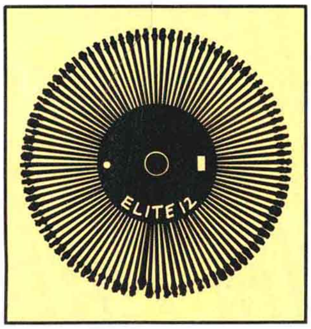
Determine the Pitch of Your Equipment

Electronic Typewriters/Typewriters

Multi-pitch typewriters can print in either 10 pitch, 12 pitch, or 15 pitch. When using a multi-pitch typewriter, always check to see if the printwheel or element is 10, 12, or 15 pitch. Set the pitch selector to correspond to the pitch marked on the printwheel or element. Be sure yours is set correctly.

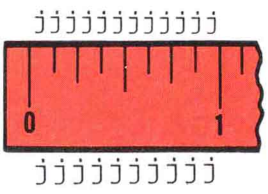
Multi-pitch typewriters also have 10-, 12-, and 15-pitch margin scales. Be sure to use the proper scale to set the margins for the pitch you are using.





If you are not using a multi-pitch typewriter, align the left edge of the paper with zero on the margin/pitch scale. If the right edge of the paper ends at 85, you have a 10-pitch typewriter (8½ inches × 10 spaces = 85). If the right edge ends at 102, you have a 12-pitch typewriter (8½ inches × 12 spaces = 102).

If your margin scale does not start at zero, key a line of characters and measure off 1 inch. Count the number of characters in the 1-inch space to determine whether you have a 10- or a 12-pitch typewriter.



12-pitch has 12 characters in 1 inch

10-pitch has 10 characters in 1 inch

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