

TYPE-O-GRAPH

They come
from
Edinburgh

INTRODUCTION

Thank you for your purchase of the TYPE-O-GRAPH.

In order to insure full performance of the machine and make yourself familiar with all functions of the machine, please read this Manual carefully and store with the written guarantee.

"This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate the color graphic writer with respect to the receiver
- move the color graphic writer away from the receiver
- plug the color graphic writer into a different outlet so that color graphic writer and receiver are on different branch circuits.

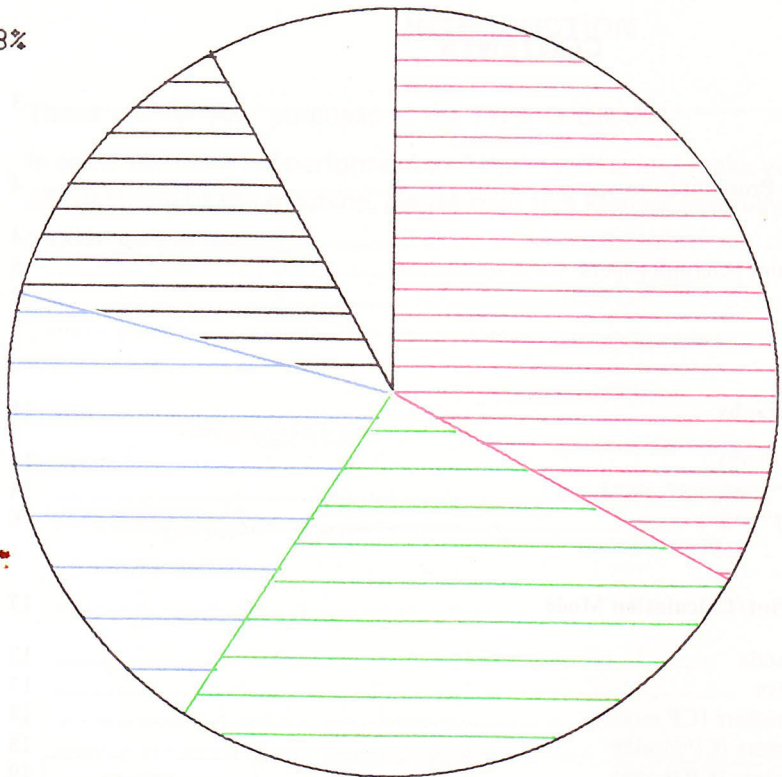
If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio — TV Interference Problems." This booklet is available from the US Government Printing Office, Washington D.C., 20402, Stock No.004-000-00345-4."

CONTENTS

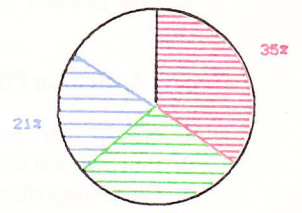
Parts identification	3
Chapter 1. Operating Procedures	4
1. Power switch	4
2. Loading ball-point pens and papers	5
3. Display	8
4. Function keys	9
Chapter 2. Making Graphs	11
1. Pie charts (“1”, “2”)	11
2. Bar graphs (“3”, “4”, “5”, “6”)	14
3. Line graphs (“7”, “8”)	16
Chapter 3. Setting Print/Calculation Mode	17
1. NP, CP, DP mode	17
2. Pen position keys	17
3. Correcting characters (CP mode)	18
4. Deleting characters (CP mode)	18
5. Inserting characters (CP mode)	19
6. Setting for typing characters	19
Chapter 4. Typing in Characters	22
1. Pen carrier	22
2. Capitals and symbols	22
3. Spacing	22
4. REPEAT key	23
5. Typing outside margins	23
6. Returning pen carrier	23
7. Moving pen carrier backward	23
8. TAB key	24
9. VECTOR key (Printing direction key)	24
Chapter 5. Use as a Calculator	26
1. Using arithmetic keys	26
2. Clearing figures	26
3. Correcting data	26
4. When figures on display blink at CP mode	26
5. When “E” appears on display	27
(Supplement)	28
Maintenance and cautions	28
Specifications	29

13%



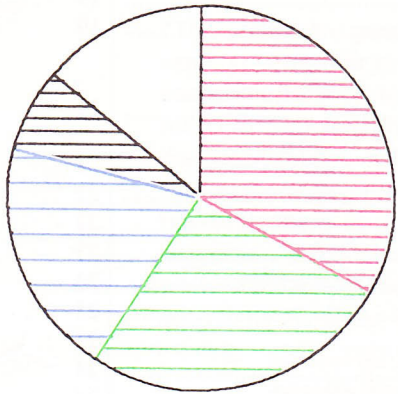
33%

20%



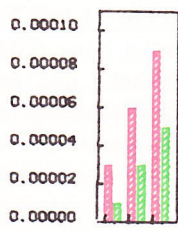
Pen position for drawing the above graph.

7%



33%

26%



20%

26%

Pen position for drawing the above graph.

7500000

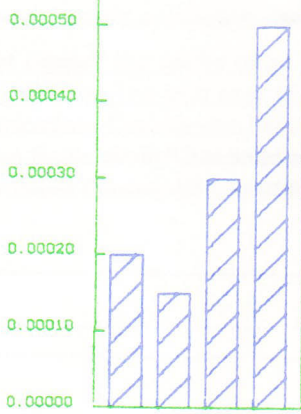
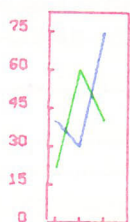
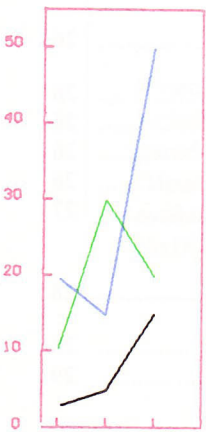
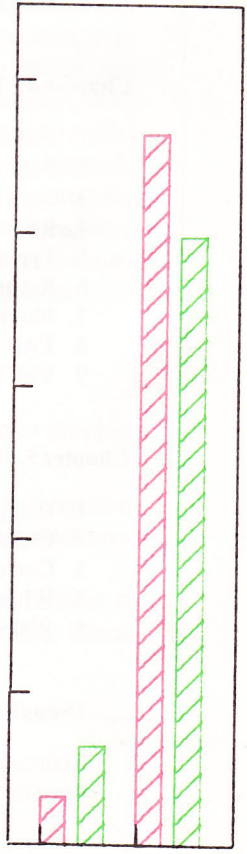
6000000

4500000

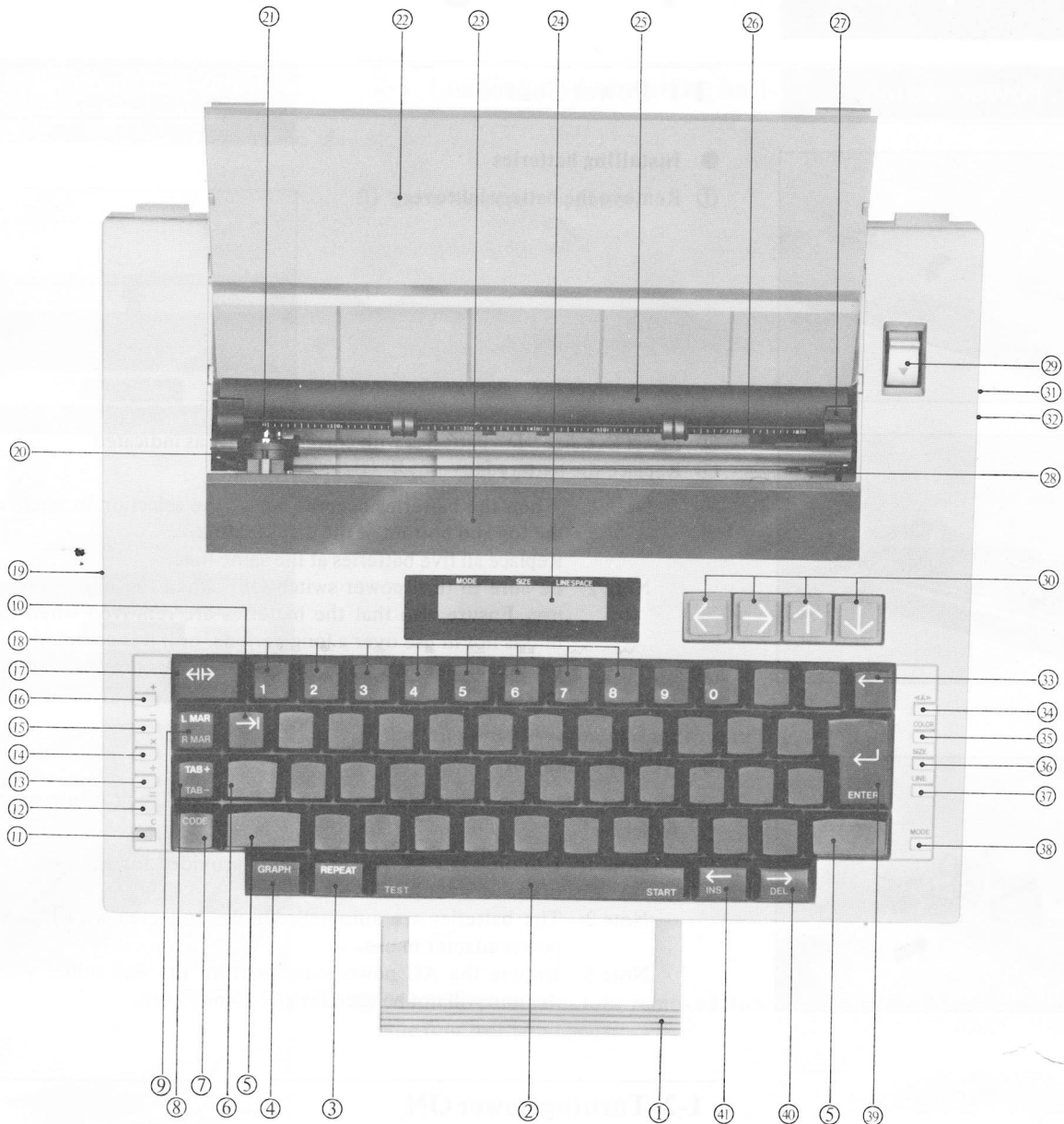
3000000

1500000

0



Parts identification

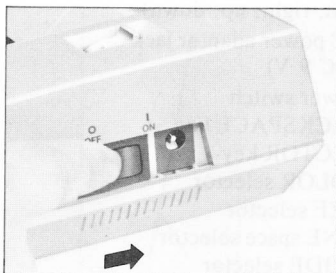
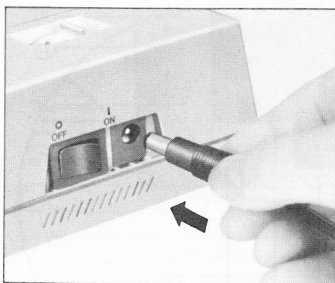
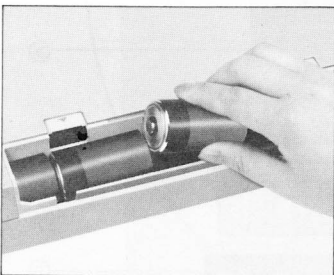
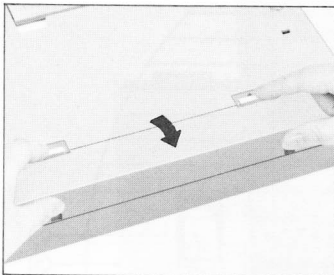


- ① Carrying handle
- ② SPACE bar
(GRAPH TEST bar,
GRAPH START bar)
- ③ REPEAT key
- ④ GRAPH key
- ⑤ SHIFT key
- ⑥ SHIFT LOCK key
- ⑦ CODE key
- ⑧ TAB SET key
(TAB CLEAR key)
- ⑨ LEFT MARGIN key
(RIGHT MARGIN key)
- ⑩ TAB key
- ⑪ CLEAR key
- ⑫ EQUAL key

- ⑬ DIVISION key
- ⑭ MULTIPLICATION key
- ⑮ SUBTRACTION key
- ⑯ ADDITION key
- ⑰ MARGIN RELEASE key
- ⑱ Graph select keys
- ⑲ Display adjuster
- ⑳ Ball-point pen carrier
- ㉑ Ball-point pen
- ㉒ Paper supporter
- ㉓ Pen cover
- ㉔ Display
- ㉕ Platen
- ㉖ Paper bail
- ㉗ Paper bail lever
- ㉘ Pen replacement lever
- ㉙ Paper release lever

- ⑳ PEN POSITION keys
(left, right, up, down)
- ㉑ AC power adaptor jack
(DC 9 V)
- ㉒ Power switch
- ㉓ BACKSPACE key
- ㉔ VECTOR key
- ㉕ COLOR selector
- ㉖ SIZE selector
- ㉗ LINE space selector
- ㉘ MODE selector
- ㉙ RETURN key
(GRAPH ENTER key)
- ④① CURSOR RIGHT key
(DELETE key)
- ④② CURSOR LEFT key
(INSERT key)

1. Power switch



1-1 Power Source

● Installing batteries

- ① Remove the battery lid cover.

- ② Insert five size "D" batteries with correct polarity as indicated.
- ③ Replace the battery lid.

Note 1: When the batteries become weak, the selection markers at the top and bottom of the display blink.
Replace all five batteries at the same time.

Note 2: Be sure to turn power switch OFF when the unit is not in use. Ensure also that the batteries are removed when the unit is not in use over a long periods, or if it is operated with the AC adaptor for an extended time. This prevents battery leakage.

● AC power adaptor

Connect the AC power adaptor to the DC jack and plug it into a wall outlet.

Note 1: Use only the AC power adaptor provided for exclusive use of the unit.

Note 2: The batteries are automatically disconnected with the AC power adaptor in use.

Note 3: Unplug the AC power adaptor from the wall outlet when the unit will not be used for an extended time.

1-2 Turning power ON

Turn the power switch ON.

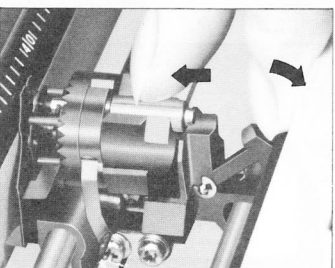
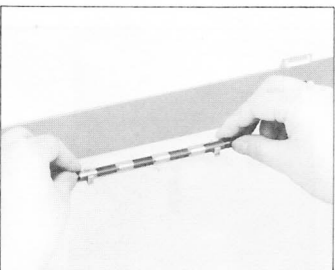
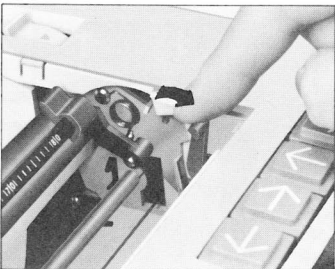
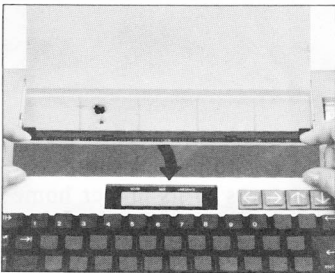
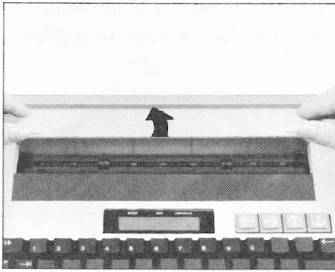
Note: Wait for 2 seconds or more when turning the power switch ON after it has been turned OFF.

● Auto power OFF



The unit is provided with an auto power off function. If about 10 minutes lapses and no data is entered while power is turned ON, this function automatically shuts off power to save battery consumption.

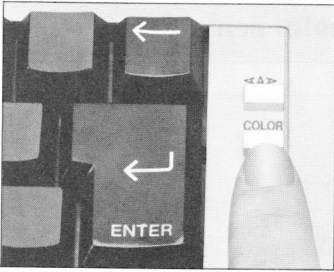
To resume power, press the return key (in this case, however, the ball-point pen carrier does not move).


2. Loading ball-point pens and paper



2-1 Loading and removing ball-point pens

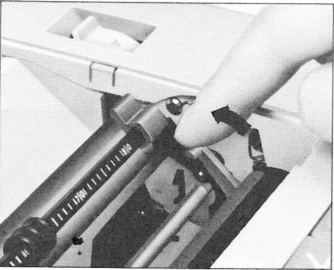
- ① Open the paper supporter.
- ② Remove the pen cover.
- ③ Press the PEN POSITION keys   to move the pen carrier to the center.
- ④ Pull the pen replacement lever toward you.
- ⑤ With the penholder tube removed from the back of the lid case, take out the four ball-point pens.
- ⑥ While pulling the pen hammer toward you, insert a pen into the pen carrier with its tip facing toward the platen.
To remove pens, reverse the order of loading.



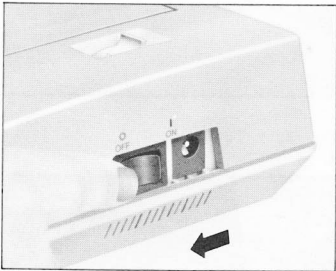
- ⑦ Press the COLOR selector  to turn the pen carrier.
Repeat these steps until all four pens are fitted in the pen carrier

Note 1: Pens may be faint because of uneven ink flow at the beginnings of printout.

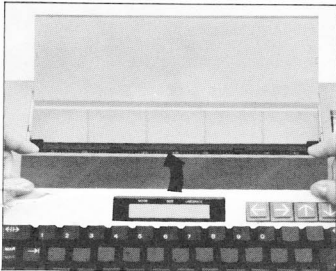
Note 2: When the unit is not in use for long periods of time, remove pens from the pen carrier and cap them for storage to prevent pen ink from drying.



- ⑧ Push the pen replacement lever back again.

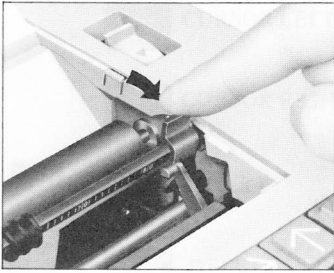


- ⑨ With all pens mounted in the pen carrier, be sure to turn the power switch OFF, then ON, so that the carrier returns to its proper home position.

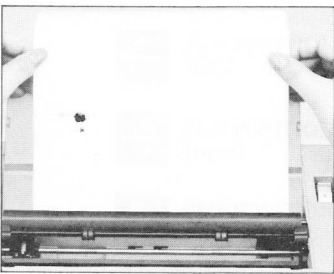


- ⑩ Replace the pen cover.

2-2 Loading paper



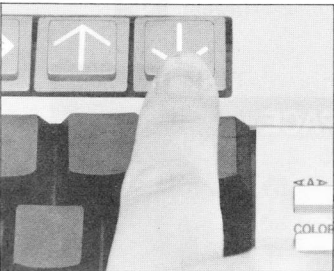
- ① Pull the paper bail lever toward you.






- ② Insert paper in the space behind the platen.

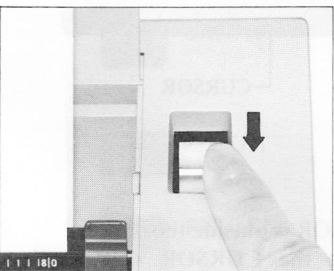
Note 1: No paper thicker than the paper used for this page can be inserted.

Note 2: Pen ink may not spread well on paper having grease marks.

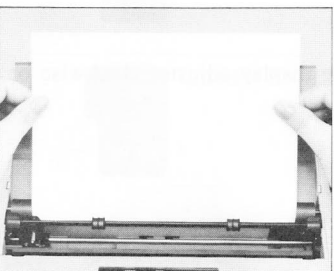


- ③ Keep pressing the pen position key (down) . Paper is automatically advanced.

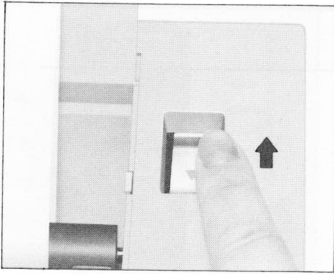
Note: Be sure to use the pen position key (down)  or (up)  to let the unit feed the paper. Never use your hand to pull the paper.



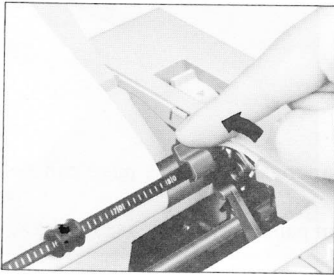
- ④ Pull the paper release lever toward you.



- ⑤ Align the paper horizontally.

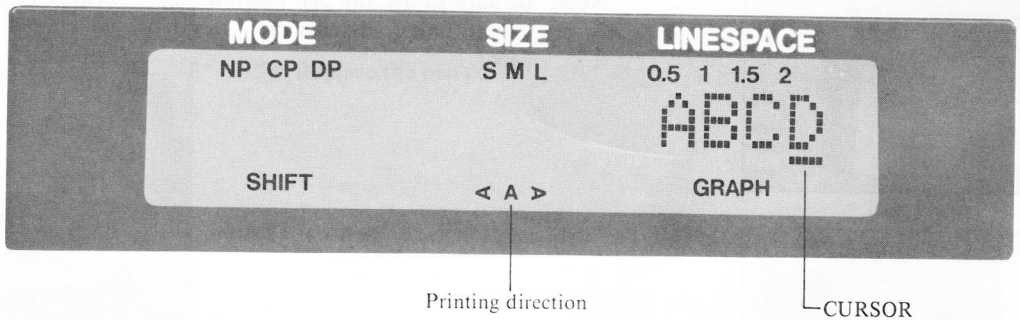




⑥ Push the paper release lever back again.



⑦ Close the paper bail to secure paper properly.

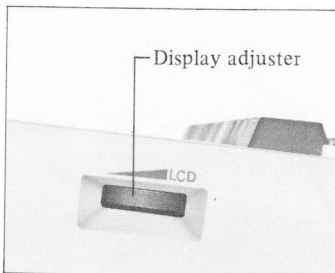
3. Display



Note: In NP and CP mode, the CURSOR is outside the display.
To move the CURSOR, use the CURSOR LEFT  or CURSOR RIGHT  key.

● Controlling display brightness

Control display brightness by turning the display adjuster clockwise or counterclockwise as required.



4. Function keys



CURSOR LEFT

This key moves the cursor to the left.



CURSOR RIGHT

This key moves the cursor to the right.



+



INSERT

This key provides a space before the cursor position.



+



DELETE

This deletes the character displayed above the cursor position.



PEN POSITION
(left)

Moves the pen position to the left by 1/20".



PEN POSITION
(right)

Moves the pen position to the right by 1/20".



PEN POSITION
(up)

Returns paper one-half line.



PEN POSITION
(down)

Advances paper one half line.

SHIFT

SHIFT

Capital letter, or symbol shown at the upper part of key top is selected while this key is held down.

SHIFT
LOCK

SHIFT LOCK

Holds the SHIFT key in a locked position until released. To release, depress the SHIFT key.



GRAPH

This key shifts "TYPE" mode to "GRAPH" mode, or shifts "GRAPH" mode to "TYPE" mode.



REPEAT

This key permits repetition of the previously selected function or key.



RETURN

Returns the pen carrier to the left margin of the next line.





GRAPH ENTER


After selecting graph type, use this key to enter each bit of data.

SPACE

The carrier moves one step to the right each time the space bar is pressed.

 + 
GRAPH TEST

This key makes graph outlining without printout.


GRAPH START

Press this key to start drawing a graph.

 BACKSPACE

The pen carrier moves one space to the left in DP mode. When this key is pressed in CP or NP mode, characters on the display are deleted one by one.

 LEFT MARGIN

Left margin is set by this key.

 +  RIGHT MARGIN

Right margin is set by this key.

 MARGIN
RELEASE

This temporarily releases the set margins.

 TAB SET

This key is for tabulation.

 +  TAB CLEAR

The tab set position is cleared when this key is depressed.

 TAB


The carrier moves rightward to the nearest tab position. In CP mode, this is done after characters on the display are printed.

 VECTOR

Printing direction is changed by this key. In CP mode, this is done after characters on the display are printed.

 COLOR

Color for graph or character is changed by this key. In CP mode, this is done after characters on the display are printed.

 SIZE

Size of graph or character is changed by this key. In CP mode, this is done after characters on the display are printed.

 LINE SPACE

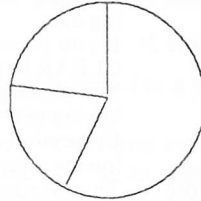
Paper feed pitch is changed by this key.

 MODE

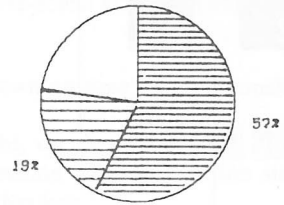
MODE (NP, CP or DP) is changed by this key. In CP mode, this is done after characters on the display are printed.

1. Pie charts ("1", "2")

With the TYPE-O-GRAPH, you can produce graphic data in various ways. The types of graphs available are pie chart, bar graph, and line graph, each drawn in three different sizes.



Type "1"



Type "2"

1-1 Drawing type "1" graph



① Press the COLOR selector  to the desired color.

② Indicated on the display are size selection markers S, M, or L.

Press the SIZE selector  to select graph size.

Note 1: When the power switch is first turned on, the size is automatically set to "M".

Note 2: For graph sizes, refer to graph samples shown on page 2.





③ Press the GRAPH key .

Note: Once the GRAPH key is pressed, color and size cannot be changed. To change color or size, press the GRAPH key again and check that the selection marker "GRAPH" at the bottom of the display disappears. Then, with color or size reselected, press the GRAPH key once again.

GRAPH ?

This message appears on the display.



④ Press the  key located just under the marking .

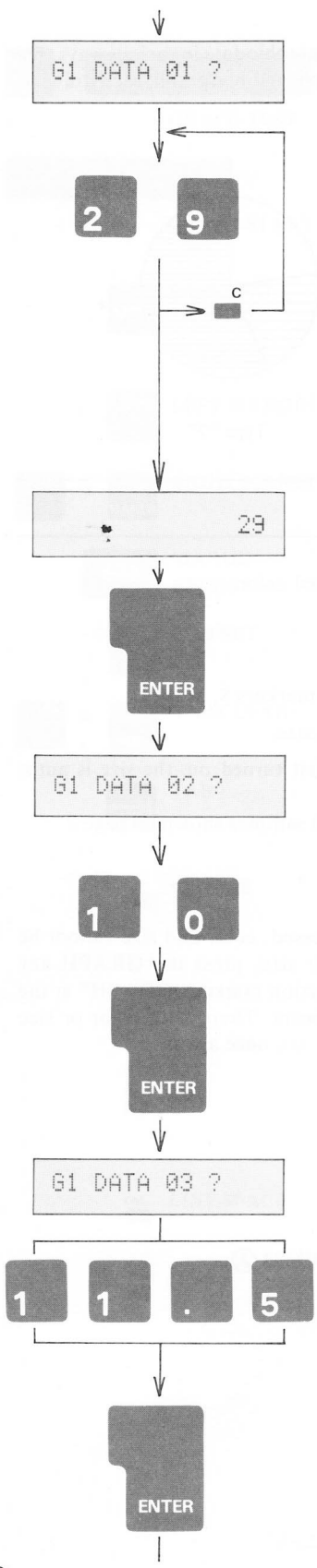
1

1

This message appears on the display.



⑤ Press the GRAPH ENTER key .



This message appears on the display, showing that, "Graph type "1" has been selected. Enter the first data of the graph."

- ⑥ Enter the first data of the graph. For example, press **2** and **9**.
 - Note 1: Use only the numeric keys **1** , **2** ... **9** , **0** or **.** for entering data.
 - Note 2: If you pressed the keys for the first data in error, press the CLEAR key **C** to correct the data. The message "G1 DATA 01?" reappears on the display, allowing you to reenter the first data. Correction can be made in the same way to the next and following data.
 - Note 3: The maximum data value that can be entered is 7,500,999; the minimum being any number including 0 (zero). If, however, each data value is less than 0.000076 that makes up a graph, no graph is drawn. Note that data with a minus value cannot be entered.

This message appears on the display.

- ⑦ Press the GRAPH ENTER key **ENTER**.

This message appears on the display, showing that, "You should now enter the second bit of data of the graph."

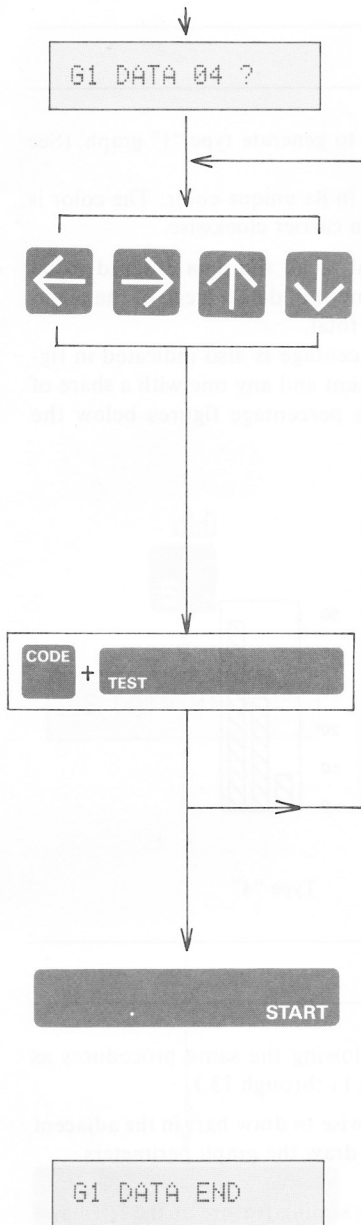
- ⑧ Enter the second bit of data of the graph. For example, press **1** and **0**.
 - Note: Enter at least two bits of data to make a graph. Up to 12 bits of data can be entered.

- ⑨ Press the GRAPH ENTER key **ENTER**.

This message appears on the display, showing that, "You should now enter the third bit of data of the graph."

- ⑩ Enter the third bit of data of the graph. For example, press **1** , **1** , **.** and **5**.

- ⑪ Press the GRAPH ENTER key **ENTER**.



This message appears on the display. Since this graph sample has only three bits of data, the fourth data is not needed.

Note: If you wish to cancel all data previously entered, press the GRAPH key and check that the selection marker "GRAPH" at the bottom of the display disappears. Then, press the GRAPH key once again to re-select graph and enter data.

- ⑫ The graph is drawn in a position shown on page 2 in relationship to the pen position.

Use the pen position keys (left, right, up, down) to move the pen to an appropriate position according to the size of the graph to be drawn. Do not use any other key.

Graph outlining without printout

(This operation may be skipped.)

To show the physical size and location of a graph on the paper before it is actually drawn, the unit allows the pen to trace the outline of a graph without actual printing.

With the CODE key kept pressed, at the same time press the GRAPH TEST bar .

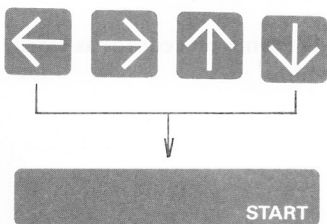
The bell sounds, however, if the pen position does not allow enough area of paper for the graph to be drawn. If this happens, use the pen position keys to move the pen carrier to another position. Then, press the CODE key and GRAPH TEST key once more.

- ⑬ Press the START bar , and the graph is drawn. If the bell sounds, however, use the pen position keys to move the pen carrier to another position.

Note: If you need to stop drawing during a printing operation, turn the power switch OFF. Remember, however, that all graph data entered is then lost.

This message appears on the display to inform you that the unit has completed drawing the graph.

1-2 Reprinting the same graph



- ① If you wish to reprint a graph that has just been drawn, move the pen carrier by pressing the pen position keys .

- ② Press the START bar .

Note: The same graph can be reproduced as many as you wish by repeating these steps.

1-3 Drawing type “2” graph

2

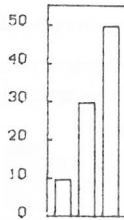
- ① To draw type “2” graph, follow the steps to generate type “1” graph. (See pages 11 through 13.)

Each element of type “2” graph is drawn in its unique color. The color is changed automatically by rotating the pen carrier clockwise.

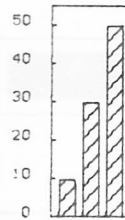
Note 1: The unit calculates the total of all the data entered to be 100%, then assigns each element of data a piece of the pie in proportion to its share of the total.

Note 2: In the graph drawn, the percentage is also indicated in figures except for the last element and any one with a share of less than 2%. Note that the percentage figures below the decimal point are omitted.

2. Bar graphs ("3", "4", "5", "6")



Type “3”



Type “4”

2-1 Drawing type “3” graph

3

- ① This type of graph can be drawn by following the same procedures as when drawing type “1” graph. (See pages 11 through 13.)

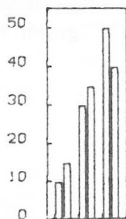
Note 1: The pen carrier rotates clockwise to draw bars in the adjacent color from the color used to draw the graph perimeters.

Note 2: The unit offers an automatic scaling feature at the left-hand side of the graph, which is computed and drawn based on the entered data.

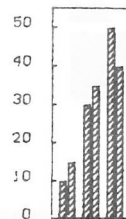
2-2 Drawing type “4” graph

4

This type of graph can be drawn by following the same procedures as when drawing type “1” graph. (See pages 11 through 13.)



Type "5"

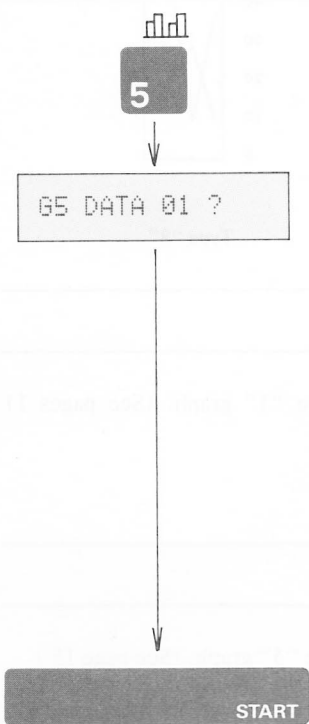


Type "6"

2-3 Drawing type "5" graph

This type of graph allows you to easily compare two sets of data.

- To enter the first set of data, follow steps to draw type "1" graph. (See pages 11 through 13.)
With the first print of the graph drawn on the paper, this message appears on the display.



- Enter the second set of data by following steps given on pages 12 and 13.

Note 1: More than two data entries must be made for the second set of data.

Note 2: The number of data entries for the second set may be less than, but must not exceed those for the first graph.

Note 3: During entry of the second set of data, if any data value exceeds the maximum scale value for the first data set, the bell sounds and the entry of that particular data is rejected.

- With all data entries complete, press the START bar to draw the graph.

Note 1: The color for the second set of bars is automatically changed from the first one.

Note 2: The same graph cannot be reproduced, as is possible with some other types of graphs.

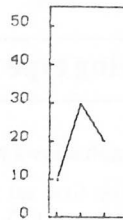
2-4 Drawing type “6” graph



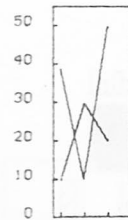
6

This type of graph can be drawn by following the same procedures as when drawing type “5” graph. (See page 15.)

3. Line graphs (“7”, “8”)



Type “7”



Type “8”

3-1 Drawing type “7” graph

Follow the same steps as when drawing type “1” graph. (See pages 11 through 13.)



7

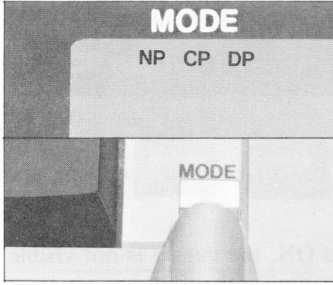
3-2 Drawing type “8” graph

- ① Follow the same steps as when drawing type “5” graph. (See page 15.)
- ② In type “5”, only two sets of graphs can be drawn; in this type “8”, however, it is possible to set up as many line charts as you wish on the same scale. To draw the third set of data and beyond, repeat the same steps as when drawing the second graph in type “5”. (See page 15.)

Note 1: The same graph cannot be reproduced, as is possible with some other types of graphs.



8



The print and calculation mode is set by pressing the MODE selector. The selected mode is shown by the selection markers on the display.

Note: When the power switch is turned ON, the mode is automatically set to "DP".

1. NP, CP, DP mode

DP (DIRECT PRINT)

At this setting, a character is printed each time a key is pressed. Use this mode when setting margins and tabs. Note that the calculating function cannot be used in this mode.

CP (CORRECTION PRINT)





The display allows up to 15 characters to be displayed at a single time, and printing starts when the 16th character (including a space) is keyed in. Correction of characters on the display can be made before printing. When the clear key is pressed, all characters on the display are all printed out. In this mode, the calculator functions can be performed.

NP (NON PRINT)

In this mode, no characters are printed even as you type in keys. Calculator functions can be performed.

2. Pen position keys





The pen position keys (left, right, up, down)     move the pen position or feed paper at a certain distance regardless of the mode selected or other conditions. Movement in either direction continues while the key is kept pressed.

3. Correcting characters (CP mode)

ABCBEFGHIJKLMNO




- ① Move the cursor to the character to be corrected by pressing the CURSOR LEFT  or RIGHT key .

Note 1: When the unit is first turned ON, the cursor is not visible behind the display “window frame” at the right.

Note 2: While the CURSOR LEFT or RIGHT key is kept pressed, the cursor continues to move either to the left or right.

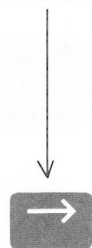
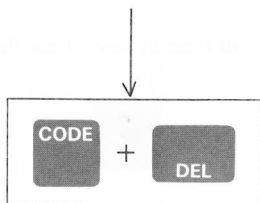
- ② Type in the correct character, for example, .



- ③ With correction made, press the CURSOR RIGHT key  to move cursor to the rightmost position behind the “frame”.



Note: Do not use the SPACE bar to return the cursor to the right.

4. Deleting characters (CP mode)

ABCDEFGHIGHJKLMN



- ① Using the CURSOR LEFT  or RIGHT key , move the cursor to the character to be deleted.

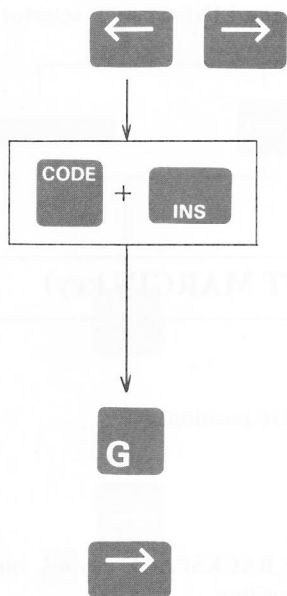
- ② With the CODE key  kept pressed, press the DELETE key . This deletes the character.

- ③ Then, using the CURSOR RIGHT key , move the cursor to the rightmost position behind the “frame”.



Note: To delete characters located at right of the cursor position consecutively, keep pressing the delete key with the code key kept pressed.

5. Inserting characters (CP mode)

ABCDEFGHIJKLMNP



① Using the CURSOR LEFT (←) or RIGHT key (→), move the cursor to the character position, before which a character is to be inserted.

② With the CODE key  kept pressed, press the INSERT key . A space will be provided before the cursor position.

Note 1: To insert two or more characters, keep pressing the INSERT key while the CODE key is kept pressed. Then, the spaces will be provided.

Note 2: When 15 characters are displayed on the screen, no further character can be inserted in front of the character at the left end.


③ Press the desired character key, for example, .

④ Using the CURSOR RIGHT key (→), move cursor to the rightmost position behind the “frame”.

6. Settings for typing characters

COLOR



6-1 COLOR selector

Each time the COLOR selector  is pressed, the color is changed to the adjacent color on the pen carrier turret.

Note: When the COLOR selector is pressed with the unit set in CP mode, characters on the display, if any, are printed before color is changed.

SIZE



6-2 SIZE selector

As with the graphs, characters can be printed in three different sizes (S, M, L). Selection can be made with the SIZE selector , indicated by the selection markers on the display.

Note: When the SIZE selector is pressed with the unit set in CP mode, characters on the display, if any, are printed before the size is changed.

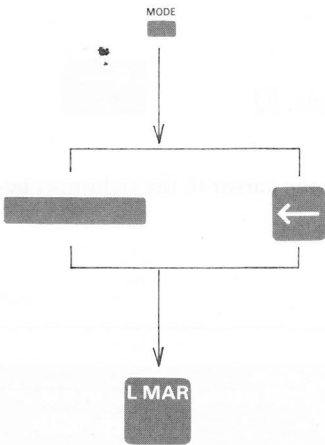
6-3 LINE SPACE selector







There are four line space settings (0.5, 1, 1.5, 2) available that are indicated by the selection markers on the display. Use the LINE SPACE selector  to set the desired line spacing.

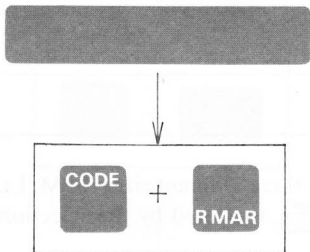
- Note: 0.5: 0.5 line spacing
 1 : Single-spacing
 1.5: 1.5 line spacing
 2 : Double-spacing

6-4 LEFT MARGIN key (RIGHT MARGIN key)






● Left margin

- ① Press the MODE selector  to set at the DP position.
- ② Using the SPACE bar  or BACKSPACE key , move the pen carrier to the desired left margin position.
- ③ Press the LEFT MARGIN key .
- ④ The left margin is now set at that position.

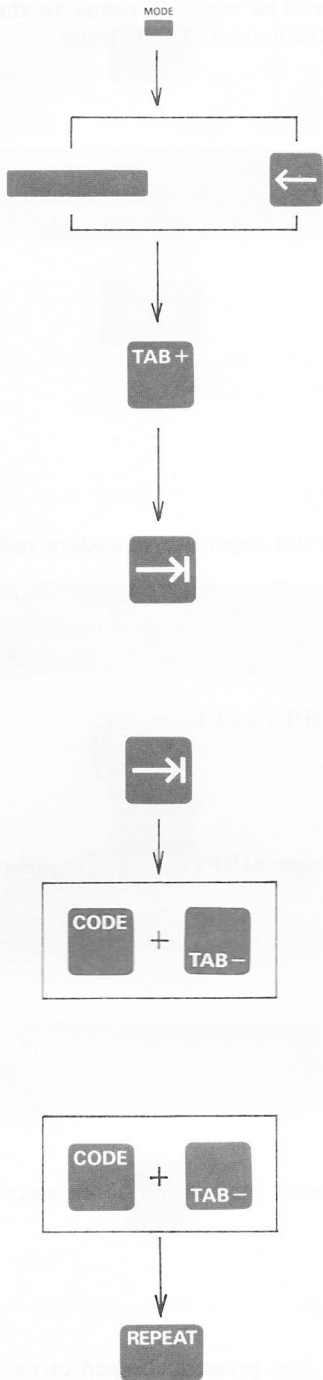



● Right margin

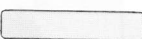

- ① Press the space bar  to move the pen carrier to the right.
- ② At the desired margin position, press the RIGHT MARGIN key  while the CODE key  is kept pressed.


- Note 1: Once you set a new margin, the old one is canceled.
 Note 2: When setting a new margin beyond the current margins, press the MARGIN RELEASE key to bypass the current margins.
 Note 3: The left margin cannot be set at paper bail scale reading of more than 70.
 Note 4: When power is turned OFF, all margins are cleared.


6-5 TAB SET key (TAB CLEAR key)




① Using the MODE selector , set the mode at DP.



② Move the pen carrier to the required position by SPACE bar  or BACKSPACE key .

③ Press the TAB SET key .
Note: Up to 16 tabs can be set in one line.


④ Press the TAB key  and the pen carrier stops at the tab positions.

● Clear tab

① To clear a tab stop, press the TAB key  to move pen carrier to the unwanted tab position.

② Press the TAB CLEAR key  while the CODE key  is kept pressed.

● Clear all tabs

① To clear all tab stops, press the TAB CLEAR key  while the CODE key  is kept pressed.

② Press the REPEAT key .

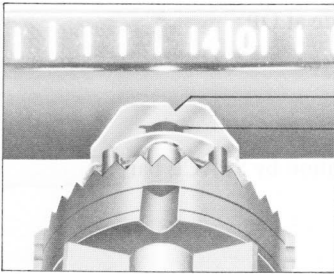
Note 1: All tab stops are cleared regardless of the position of pen carrier.

Note 2: When power is switched OFF, all tab settings are cleared.

Chapter 4

Typing in Characters

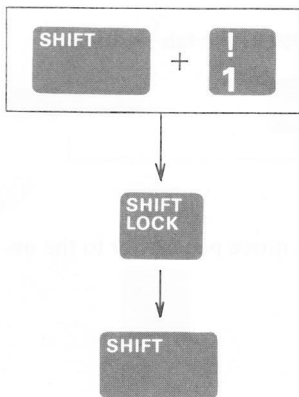
1. Pen carrier



There is a guide attached to the pen carrier. The arrow (a) comes to the center of a character. The recess (b) comes to the bottom of a character.

- (a) Center of a character
- (b) Bottom of a character

2. Capitals and symbols



- ① Use SHIFT key for capital letters, and uppercase characters and symbols. "SHIFT" shows on the display.
- ② To type capitals consecutively, press the SHIFT LOCK key .
- ③ To release shift lock, press either the left or right SHIFT key at either left or right.


3. Spacing



- ① Press the SPACE bar to move the pen carrier one space to the right.
- ② While the SPACE bar is kept pressed, the pen carrier keeps moving to the right until the bar is released.

4. REPEAT key

A dark grey rectangular button with the word "REPEAT" in white capital letters.

Use the REPEAT key  to repeat the character or function you typed in last.

5. Typing outside margins


A dark grey rectangular button with a white double-headed arrow symbol.

Press the MARGIN RELEASE key  to type outside either margin.

Note: A bell sounds when pen carrier reaches the 5th or the 6th character position immediately before the right margin.

6. Returning pen carrier


A dark grey rectangular button with a white arrow symbol pointing to the left.

When the RETURN key  is pressed, paper is advanced one line and the pen carrier, regardless of its position, returns to the left margin. While the return key is kept pressed, the paper advances consecutively.

Note: At CP mode, the carrier returns after characters on the display, if any, are printed.

7. Moving pen carrier backward

A dark grey rectangular button with a white arrow symbol pointing to the left.


To move the pen carrier backward one space, press the BACKSPACE key  once. When the key is kept pressed, the carrier continues moving backward.

Note: At CP and NP mode, characters on the display are deleted automatically, one by one.

Typing in Characters

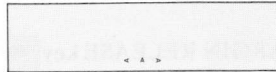
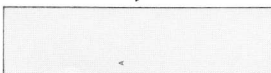
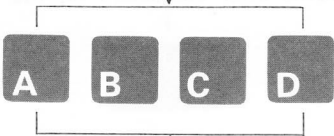
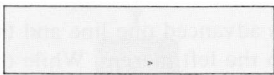
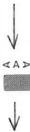
8. TAB key







Pressing the TAB key  causes the pen carrier to move to the next previously set tab stop.

Note: At CP mode, characters on the display, if any, are printed before the carrier moves to the next tab stop.

9. VECTOR key (Printing direction key)



When the power switch is turned ON, the vector selection marker on the display shows at "A," which is normal printing position (left to right).



① Move the pen carrier to the desired position using the pen position keys    .

② Press the VECTOR key .

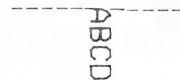
The marker now indicates at ">".


Note: When the VECTOR key is pressed with the unit set in CP mode, the vector marker changes after characters on the display, if any, are printed.

③ Type in characters.

Pressing, for instance,  to  keys causes the pen to draw characters in the direction shown above.

Note: Margins and tabs cannot be set when the unit prints in this direction.

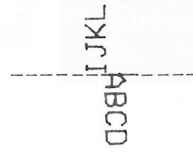
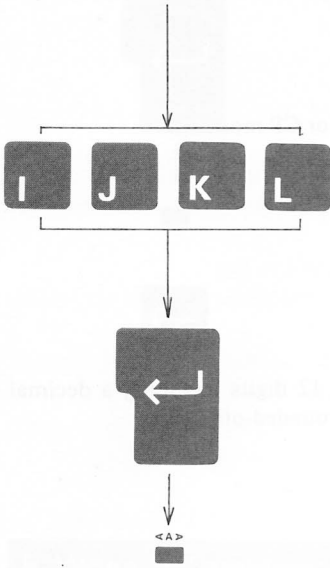


④ Next, when the RETURN key  is pressed, the pen carrier returns to the left margin temporarily set as the pen home position where the VECTOR key was pressed.

⑤ Press the VECTOR key  to change mode.

Note: The pen returns to home position from which printouts in ">" mode started.

Mode is now changed to "<."



- ⑥ Type in characters.

Striking, for instance to

The characters are drawn as above.

Note: Margins and tabs cannot be set in this mode.

- ⑦ Press RETURN key .

Note: The pen carrier returns to the left margin temporarily set as the pen home position where the VECTOR key was pressed.

- ⑧ Press the VECTOR key to change mode. Mode is now changed to "A".

Note 1: The pen returns to the home position at which printouts in "<" mode started.

Note 2: Always make sure that the mode is set at "A" when loading paper. Pressing the vector key with the paper loaded in ">" or "<" mode may cause the paper to be fed a certain distance automatically, because of the function to return pen carrier to home position shown above.

Chapter 5

Use as a Calculator

1. Using arithmetic keys



① Press the MODE selector to select NP or CP mode.

② Keys used for calculations are:

to

(Decimal point): Period key

(Clear)

Note: If a calculation result exceeds 12 digits including a decimal point, the answer is given as a rounded-off figure.

2. Clearing figures



Press the CLEAR key .

Note 1: Figures on the display are cleared at NP mode.

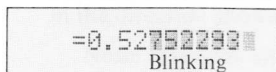
Note 2: When this key is pressed at CP mode, figures on display are automatically printed out and disappear from the display.

3. Correcting data



Use the CURSOR LEFT , RIGHT , DELETE , INSERT , or BACKSPACE key to correct data entered.

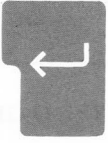
4. When figures on display blink at CP mode





If part of the calculation result on the display is blinking, it means that the blinking portion is past the right margin and cannot be printed on a single line.



- To print them past the right margin, press the MARGIN RELEASE key and then the RETURN key . When the MARGIN RELEASE key is pressed, they will stop blinking.





- To print the entire figures on the next line, press the RETURN key , and then the CLEAR key .



- To delete the blinking portion, use the BACKSPACE key . Then, press the CLEAR key .

5. When "E" appears on display

The "E" sign appears on the display when:

- The integer part of a calculation result exceeds 12 digits.
- Any figure is divided by 0 (zero).

Calculation examples

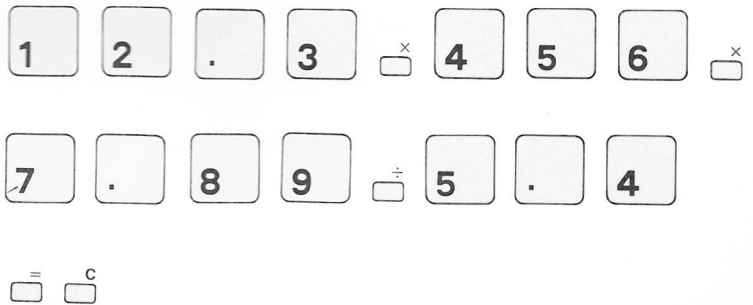
Ⓐ Addition and Subtraction

$$-1 + 3 - 2 = 0$$



Ⓑ Multiplication and Division

$$12.3 \times 456 \times 7.89 \div 5.4 = 8195.08$$



Maintenance and cautions

In order to assure trouble-free and long use of your TYPE-O-GRAPH, the following care should be taken.

- User's maintenance or cleaning should be restricted to removal of dust visible from the outside. Do not use water, alcohol, thinner or other organic solvent to clean.
- Do not allow any object to enter the machine interior.
A metallic item such as clip or a pin in the machine interior may cause problems.
- The slits provided in the side walls are for ventilation. Do not obstruct good ventilation by placing an object close to these slits.
- Do not locate the TYPE-O-GRAPH where it is exposed to direct sunlight, heat or intense vibration.
- Always place the TYPE-O-GRAPH horizontally.
(If any trouble occurs, consult with our service agency. We reserve the right to disclaim the responsibility for any trouble resulting from repair or improvement done by the user.)

If any functional trouble occurs, check as follows:

- Ⓐ When the TYPE-O-GRAPH does not operate with the on-off switch set at ON.....
 - (1) Is the power cord plugged in wall socket, or are good batteries installed?
- Ⓑ When characters are not printed or printing is too faint.....
 - (1) Is the ball-point pen properly set?
 - (2) Has the ball-point pen run out?

If the TYPE-O-GRAPH cannot be repaired after the above troubleshooting has been tried, consult with our service agency.

Specifications

Number of keys:	44
Graph-drawing speed:	2.6"/s
Average printing speed	(S size): 10 characters/second (M size): 6 characters/second (L size): 3 characters/second
Paper capacity:	9.5"
Printing capacity:	8.0"
Number of characters per line	(S size): 160 (M size): 80 (L size): 40
Printing method:	Ball-point pen (Water-soluble ink)
Pen colors:	Black, red, green, blue
Display:	15 character LCD
Calculations:	4 basic functions
Power:	5 size "D" batteries or AC adaptor
Dimensions:	13.3" x 2.3" x 10.5"
Weight:	6.0 lbs. (batteries included)
Types of graphs:	Pie chart, bar graph, line graph

Specifications are subject to change without notice.

