

SHARP

Mouse

MODEL **MZ-1X10**

INSTRUCTION MANUAL



FOREWORD

Thank you for your purchase of the SHARP pointing device, model MZ-1X10. To ensure that this product serves you as intended, read these operating instructions carefully before use. After reading the instructions, keep this instruction manual in a safe place for future reference; you will find this useful in the event of trouble or if you encounter a contingency with which you are not familiar.

NOTICE

- Avoid using this unit in places which are extremely humid or dusty or in areas which are subject to frequent strong vibrations. Be especially careful to ensure that the surface over which the mouse is moved is free of contaminants such as dust, water, and oil; such materials will adhere to the surface of the tracking ball, resulting in incorrect operation or damage to the unit.
- Ensure that the running surface is level and free of marked irregularities.
- Be careful to avoid dropping the unit, banging it into objects, or subjecting it to strong shocks.
- When carrying the unit, do not hold it by its cord.
- The contents of this publication are subject to change without prior notice.

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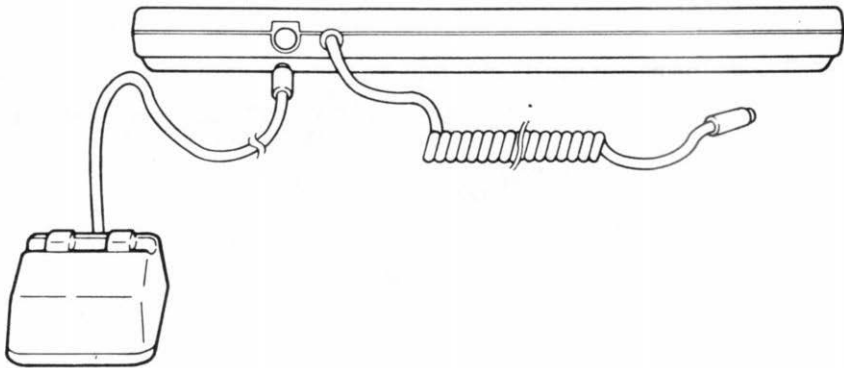
1. INTRODUCTION

The mouse is a device which is used for inputting Cartesian coordinates to a computer. The inside of the mouse contains a pair of disks at right angles to one another which are rotated as the mouse is moved, generating electrical pulses which convey coordinate information to the computer. The disks are rotated by a ball which is mounted in the bottom of the mouse and which causes X and Y coordinate values to be generated when the mouse is moved in any direction over a flat surface. The name "mouse" is used simply because of the whimsical notion that the device's range of movements resemble the random motions which a real mouse might make. The mouse is used by plugging it into a socket on the back of the keyboard of the Personal computer.

Note: Since the disks inside the mouse are rotated by friction between the ball and the surface over which the mouse is moved, proper operation may not be obtained if the running surface is very slick. This is not a sign of trouble with the mouse.

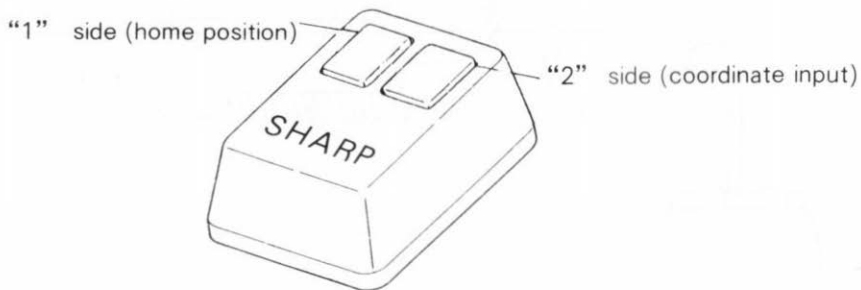
2. CONNECTION

- (1) The socket for connecting the mouse is located on the back of the keyboard of the Personal computer.
- (2) Make sure that the power switches of the Personal computer and all peripheral devices are turned off before plugging in the mouse.
- (3) Insert the plug on the end of the mouse's cable into the socket on the back of the keyboard.



3. PROCEDURES FOR USE

- The mouse cursor (a “+” sign) is displayed in the upper left corner of the screen when executing the MSIN statement. (See the Basic Language Manual for programming procedures.)
- When the mouse is moved, the cursor on the screen moves along with it.
- Pressing the switch on the “1” side of the mouse returns the mouse cursor to its home position (the upper left corner of the screen).
- Pressing the switch on the “2” side of the mouse inputs the current coordinate values to the main unit of the computer.



Some simple examples of BASIC programs using the MSIN statement are shown below.

Example 1. This example displays a "♥" mark at the screen position corresponding to the coordinates at which the switch on the "2" side is pressed after moving the mouse. When this program is executed, execution waits at line 20 until coordinates are input.

```
10 CHANGE DISP "80N"  
20 MSIN 0,0,X,Y  
30 CURSOR X/8, Y/8:DISP "♥"  
40 END
```

Example 2. The following program performs six repetitions of the operation described in Example 1.

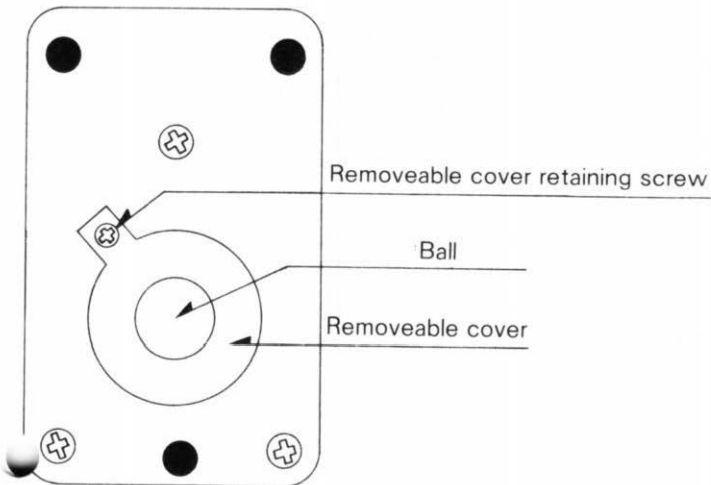
```
10 CHANGE DISP "80N"  
20 FOR I=1 TO 6  
30 A=X:B=Y  
40 MSIN A,B,X,Y  
50 CURSOR X/8,Y/8:DISP "♥"  
60 NEXT I  
70 END
```

Example 3. This program displays a "■" mark on the screen, then displays the numeral which is above the "■" mark when the mouse is moved so that the cursor overlaps the "■" mark and the input switch is pressed.

```
10 CHANGE DISP "80N"  
20 FOR X=10 TO 30 STEP 10  
30 A=A+1:CURSOR X-1,9:DISP A  
40 CURSOR X,10:DISP CHR$($1E)  
50 NEXT X  
60 MSIN 0,0,X,Y  
70 IF (79<X)*(X<88) THEN 90  
80 GOTO 60  
90 IF (79<X)*(X<88) THEN 130  
100 IF (159<X)*(X<168) THEN 140  
110 IF (239<X)*(X<248) THEN 150  
120 GOTO 60  
130 DISP "1" :END  
140 DISP "2" :END  
150 DISP "3" :END
```

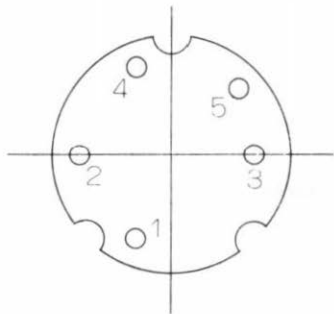

4 USER MAINTENANCE

- If the ball built into the bottom of the mouse becomes dirty, remove the bottom case cover by unscrewing the screw indicated in the figure below, then wash the ball with neutral detergent and wipe it with a dry cloth.
- Do not remove any screws other than that holding the removeable cover.



5. CONNECTOR SIGNALS TABLE

Pin arrangement

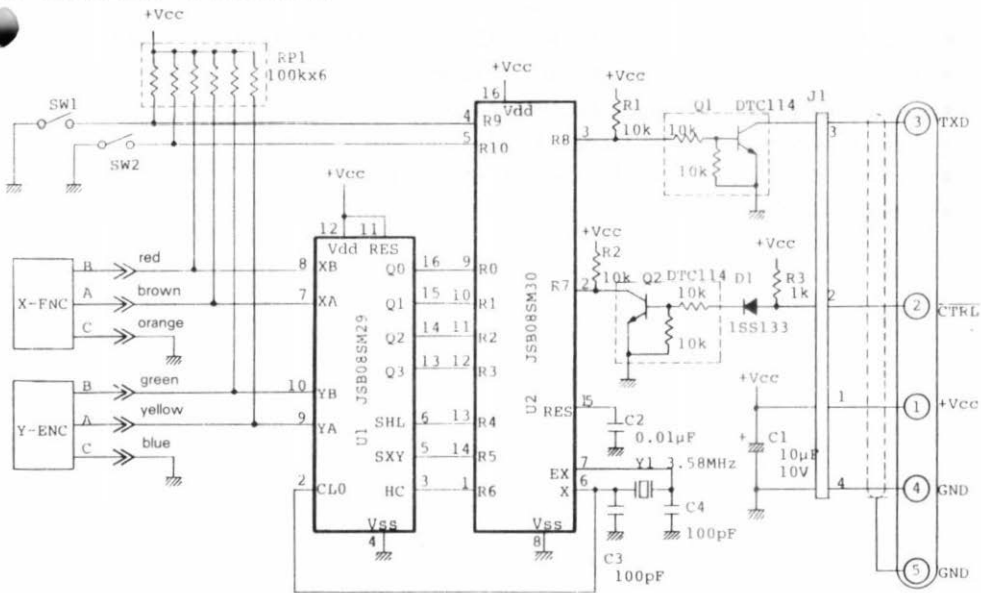


(From front of connector)

Signals

| | |
|---|--------------------------|
| 1 | V _{CC} |
| 2 | $\overline{\text{CTRL}}$ |
| 3 | TXD |
| 4 | GND |
| 5 | GND |

6. CIRCUIT DIAGRAM



7. SPECIFICATIONS

- Usable temperature range: 10°C to 35°C (at normal humidity and pressure)
- Resolution: 0.25mm/count (X and Y directions)
- Encoding system: Incremental contact type
- Select switches: Tactile feedback type (2)
- External dimensions: 58 (W) x 90 (D) x 34 (H) mm
- weight: 200g

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MEMO

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SHARP CORPORATION
OSAKA, JAPAN

Printed in Japan

