

SEIKO

WRIST INFORMATION SYSTEM
UC-2000 SERIES

Controller UC-2200

INSTRUCTION MANUAL

SEIKO WRIST INFORMATION SYSTEM
UC-2000 SERIES
WATCH RANGE UC-2000
CONTROL PANEL

CONTENTS

You are now the proud owner of a SEIKO Wrist Information System UC-2000 Series. The UC-2000 can, of course, be used as a conventional digital watch. In addition, it is a compact information processing device which you can use as a personal data base, as an electronic memo, and as a calculator.

Before using your UC-2000 Series, please thoroughly read the instructions in this booklet for its proper use and care.

Please keep this instruction manual for ready reference.

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SEIKO WRIST INFORMATION SYSTEM

UC-2000 SERIES

WRIST MODULE UC-2000

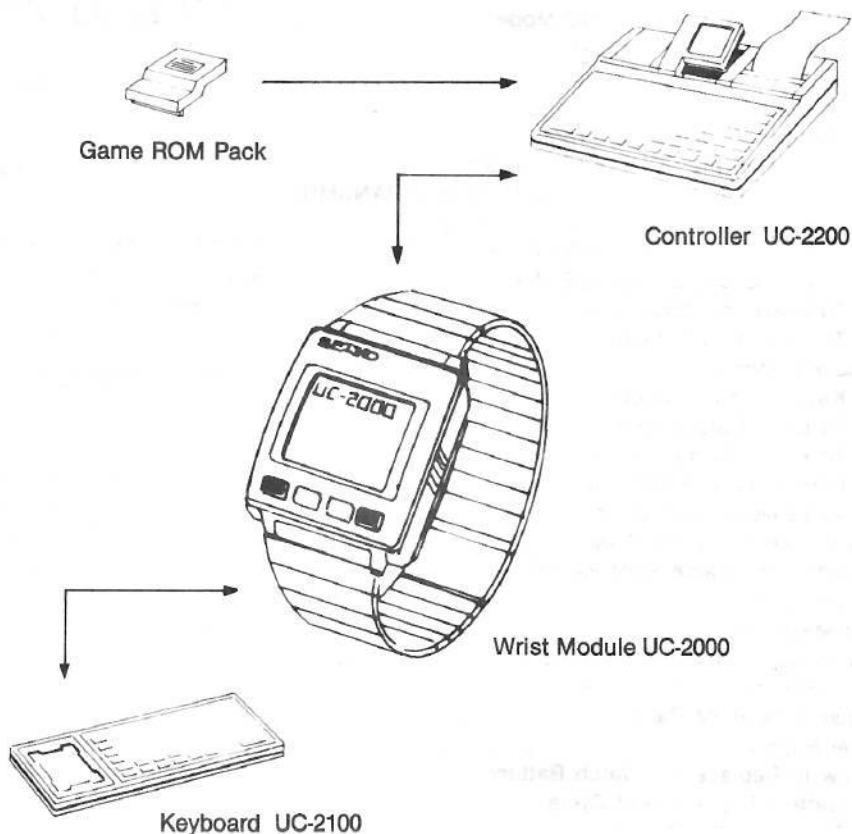
CONTROLLER UC-2200

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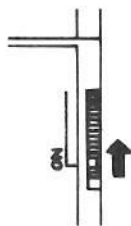
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UC-2000 SERIES SYSTEM CONFIGURATION



THE FIRST TIME YOU USE YOUR NEW UC-2200

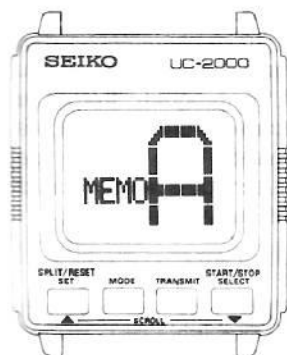
To use you system for the first time, do the following:



- 1 Put the batteries furnished with your system in the controller, following the battery replacement procedure on page 65.
 - 2 Turn the controller power switch ON.
 - 3 Hold down the **SHIFT** key and press the **□** key.
 - 4 Load the roll of thermal paper into your printer (see page 62).
- Now your system is ready for use.

CHARACTERISTICS OF THE SYSTEM

The watch



The watch is not just a digital watch. You can also use it to record and display up to 2000 characters of memo data.

WATCH FUNCTIONS

•Time and Calendar Function

Hours, minutes, seconds, month, date, and day of the week are displayed with the hours in the 12-hour format. The calendar automatically adjusts for the number of days in each month, except for February in leap year.

•Alarm Function

The alarm can be set to ring daily at a designated time (hour and minute).

•Stopwatch Function

Hours, minutes, seconds, and hundredths of a second are displayed, for a total of 10 hours. Split time is displayed in the upper row and total accumulated or elapsed time in the lower row.

•Hourly Time Signal

The watch can be set to give a single beep every hour on the hour.

Dual Memo Display Function

The watch contains two separate memo areas, Memo A and Memo B, for data input and display. Each area has a capacity of 1,000 characters, for a total of 2,000 characters. To input data into these areas, you need either the Keyboard UC-2100 or the Controller UC-2200. Once data have been input into the Memos, they can be displayed with the watch alone.

Schedule Display Function

The watch can record your month's schedule in up to 20 characters per day. Schedule entries for past days are automatically erased, permitting input of a new day's schedule. To input your schedule, you must have either the controller or the keyboard. Loading the SCHEDULE program from the controller into the watch will displace the watch dual-memo display function with the schedule display function.

Note: The watch is capable of either the dual-memo display function or the schedule display function, but not both simultaneously.

THE CONTROLLER

The controller and watch, when combined, offer the following functions:

Dual-Memo Display Function

- **Memo A and Memo B input and edit function:** Characters can be input into Memo A or Memo B. Editing the memo is simple since the controller's dual memo display function supports line delete, line insert, and all clear. The controller has 155 alphanumeric letters, graphics characters, and symbols for input of memo data.
- **Printout of data from Memo A and Memo B:** The data stored in Memo A and Memo B can be printed out for filing as memoranda.

BASIC Programming Function

The controller has a modified version of Micro-soft BASIC built in. It can be used as a personal computer.

Schedule Input Function

A month's schedule, up to 20 characters a day, can be input and displayed on the watch. Loading the SCHEDULE program from the controller into the watch sets up the schedule display function in the watch. Then you can use the controller to input schedule entries or to drive the printer to print out your schedule.

Calculator Function

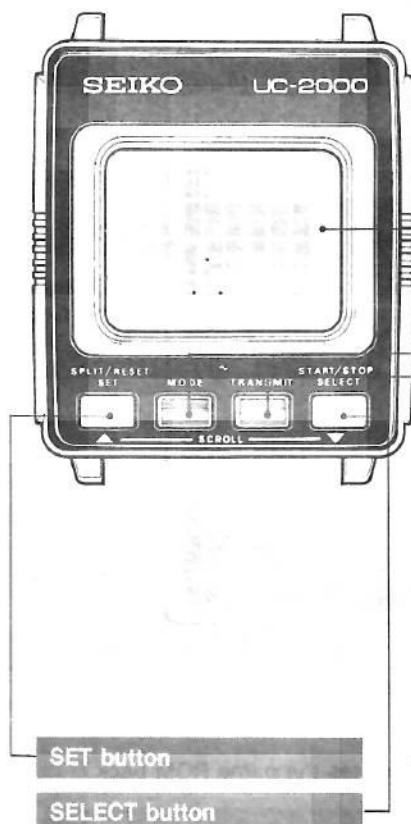
The watch-controller combination performs arithmetic operations at your command, just like an ordinary desk-top calculator. For your convenience, the calculation process is displayed in four lines.

Game ROM Pack

Using the game ROM pack furnished with the controller UC-2200, you can load game programs into the watch and enjoy unique graphics character games. Once a game is loaded, all you need is the watch to play it.

SYSTEM PARTS AND THEIR FUNCTIONS

The Watch



The watch is not only a digital watch; it can store and display 2,000 characters in its memos (10 characters per line with 100 lines in each of two memos).

Liquid Crystal Display Panel

This panel displays the time and calendar as well as letters, symbols, and numbers. The panel can display up to 40 characters at a time (10 characters in 4 lines).

MODE button

The watch operates in several modes—Time/Calendar, Stopwatch, and Memo Display (Memo A and Memo B). Press the MODE button to select the mode you want.

TRANSMIT button

At a press of this button, the message "TRANSMIT" STAND-BY will be displayed on the liquid crystal display panel. The watch is now ready for communication with the controller. You can input memo data and programs from the controller or use it as a calculator only when the watch is in the "TRANSMIT" STAND-BY mode. To use the watch with the controller, be sure to press the TRANSMIT button at the start. Another press of this button will return the watch to the time/calendar display mode.

SET button

SELECT button

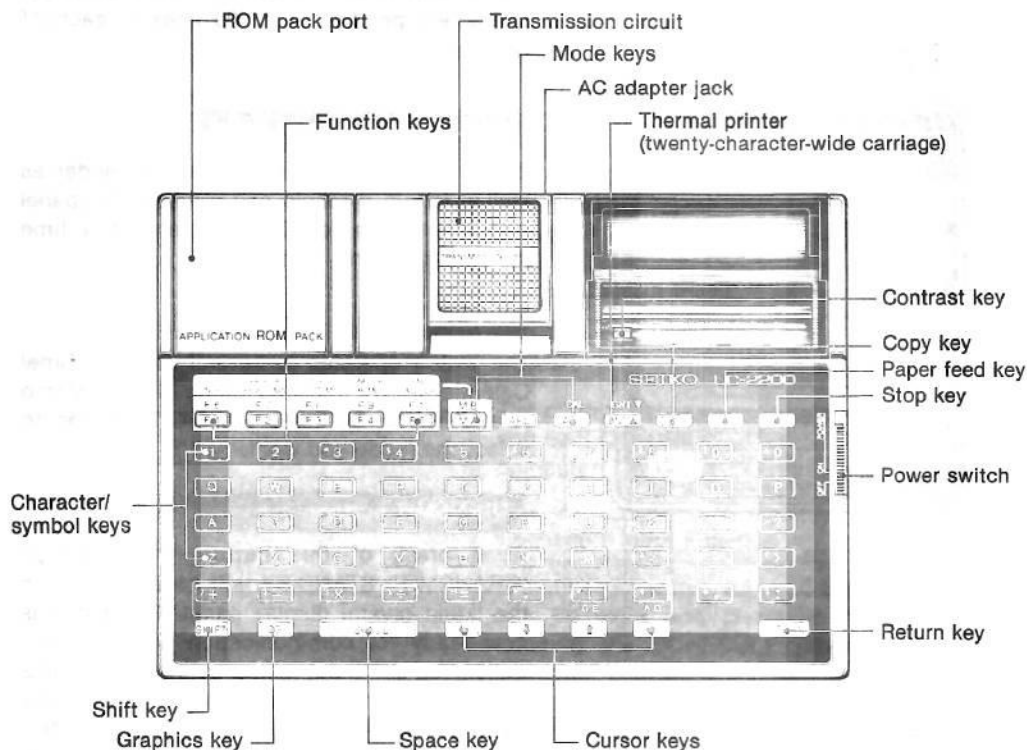
The SET and SELECT buttons are used in combination. Their functions are shown in the table.

Mode	Button	SET button	SELECT button
Time/calendar display mode		Pressing both buttons at the same time alternately engages and disengages both the hourly time signal and the button operation sound.	
Memo A display mode		Each press advances the display by one line. You can make it scroll up quickly, four lines at a time, by holding this key down.	Each press makes the display back up one line. You can make it scroll down quickly, four lines at a time, by holding this key down.
Memo B display mode			
Alarm setting mode		Sets the alarm time	Selects the digits to be changed
Stopwatch mode		Split/reset	Start/stop
Time/calendar setting mode		Sets the time/calendar	Selects the digits to be changed

For details, see "How to Use the Watch", page 11.

The Controller

When you are using the system to input a memo or as a calculator or personal computer, you will enter letters, symbols, and numbers from the controller. The controller operates when the watch is in place on the transmission circuit.



ROM pack port

Accommodates the game ROM pack

Transmission circuit

With the watch on the transmission circuit, data can be transmitted between the controller and watch by electromagnetic induction. All you need to do is set the watch on the transmission circuit. No troublesome wiring is required.

Thermal printer

Prints out alphanumeric characters and symbols in 20-character lines.

AC adapter jack

Plug in the optional AC adapter to operate the controller on alternating current.

Power switch

Turns the controller power ON and OFF.

The Keys and their Functions

Character/symbol keys

Use these keys to enter letters, numbers, and symbols. Each key is a multi-function key capable of inputting up to four different characters or symbols.

Shift key

While pressing the shift key, press a character/symbol key to enter a lower case letter or one of the symbols in the upper left corners of the keys. (See page 20.)

Graphics key

Press character/symbol keys while pressing this key to enter special graphics characters. (See page 21.)

Cursor keys

Press the cursor keys to move the cursor. The flashing square mark is called a cursor. Characters can be entered at the spot where the cursor is flashing.

Space key

Used to input a blank (space) or to delete a character.

Return key

In Memo mode, press the return key to start a new line. In BASIC mode, press the return key to enter a program. In menu display, press the return key to make your selection from the menu.

Function keys

Used to select and execute special functions defined for each mode.

Mode key

When the watch and controller are combined, the mode key selects one of the following five modes:

- Memo A mode
- Memo B mode
- BASIC mode
- Application mode
- Calculator mode

Contrast key

Use this key to control the contrast on the liquid crystal display panel. The contrast increases with each press of the key. To decrease the contrast, press the contrast key while holding down the shift key.

Copy key

Used to print out memo data when you are editing in memo mode.

Paper feed key

Used to advance the paper in the thermal printer.

Note: This key is disabled when the printer is in use.

Stop key

Used to interrupt operations in any mode.

※ The function keys, mode key, contrast key, copy key, paper feed key, and stop key are as a group called the utility keys.

HOW TO USE THE WATCH

MODE button

The MODE button is used to select the mode in which you wish to operate your watch. Every press of the MODE button changes the mode in the sequence shown below.

You can change the watch mode without having it attached to the controller.

- Normal Status
- Application Status
- ⊙ Indicates that part of the display is blinking

① Time/Calendar Display Mode
Hours, minutes, seconds, month, date, and day of the week are displayed with hours in the 12-hour format. The calendar automatically adjusts for the number of days in the month except for February in leap year.

Schedule Display Mode



Displays schedule for the day; schedule has been entered using the controller.

② Memo A Display Mode



③ Memo B Display Mode



The watch has two separate memo areas, Memo A and Memo B. To call up data from Memo A, the watch must be in the Memo A display mode. To call up Memo B, the watch must be in the Memo B display mode.



⑥ Time/Calendar Setting Mode
Use this mode to set the time (hours, minutes, and seconds) and calendar (month, date, and day of the week).



⑤ Stopwatch Mode
Up to 10 hours can be measured in one hundredths of a second. Split time is displayed in the upper row and total or accumulated elapsed time in the lower row.



④ Alarm Setting Mode
In this mode, you can set or change the alarm. The alarm will ring daily at the designated time for 20 seconds.

Note 1: When you use your watch for the first time, it will be in the normal status.

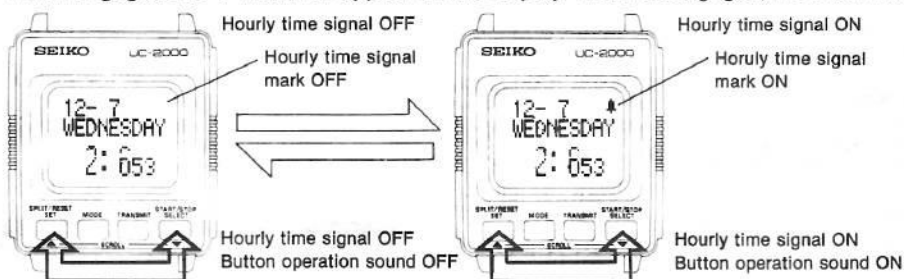
Note 2: When the schedule program has been transferred from the controller to the watch, the watch is said to be in the application status. Then the watch will display the schedule instead of Memo A and B. If you load in a game program, it will replace the schedule display mode or Memo A and B with the game display mode.

Time/Calendar Display Mode

In the time/calendar display mode, the watch displays the time, month, date, and day of the week.

•To engage or disengage the hourly time signal and button operation sound

In the time/calendar display mode, pressing the SET and SELECT buttons at the same time alternately engages and disengages both the hourly time signal and the button operation sound. When engaged the \uparrow mark will appear on the display. When disengaged, the mark will disappear.



•Alarm Test

To hear how the alarm sounds, press the SET and SELECT buttons simultaneously and hold them down, in the time/calendar display mode.

How to set the time and calendar

Pressing the SELECT button selects the digits to be adjusted. Pressing the SET button sets the digits.

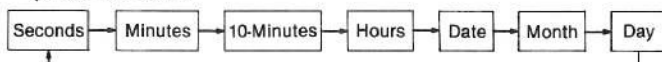


① Set the watch to the time/calendar setting mode

Press the MODE button 5 times to activate the time/calendar setting function. When it is activated, the seconds digits will start flashing.

② Select the digits to be adjusted

Press the SELECT button to select the digits to be changed. Each digit can be changed only when it is blinking. The digits will blink in the following sequence when you repeatedly press SELECT:



③ To set the current time

Every press of the SET button will advance the blinking digit by one. Set the present time and date.

- ✦ The day of the week will be changed from Sunday through Saturday in sequence.
- ✦ To set the seconds, press the SET button in the Time/Calendar Setting Mode (while the seconds digits are flashing) just when the time signal is given. If the seconds read less than 30, pressing SET returns them to 0. That is, 11:15:29 is reset to 11:15:00. If the seconds read 30 or more, pressing SET advances the minutes by one and sets the seconds to 0. 11:15:30 becomes 11:16:00.

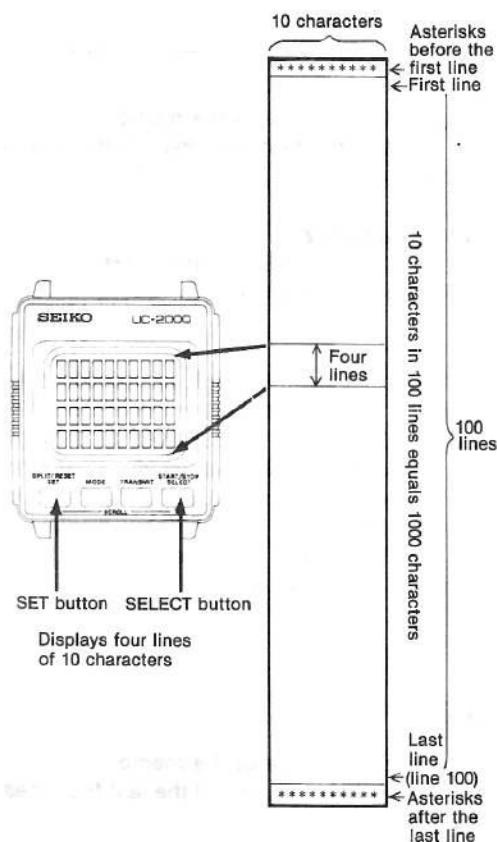
④ To return to time/calendar display mode

After all adjustments are completed, press the MODE button to return to the time/calendar display mode.

If the watch is left in the time/calendar setting mode, it will automatically return to the time/calendar display mode after 9 or 10 minutes.

How to display Memo A and Memo B

Press the SET and SELECT buttons to select the part of the memo you wish to display



Which memo area?

The watch has two memo areas, Memo A and Memo B, each with a memory capacity of 1000 characters (10 characters per line in 100 lines). You can select either Memo A or Memo B for display by pressing the MODE button.

Which line?

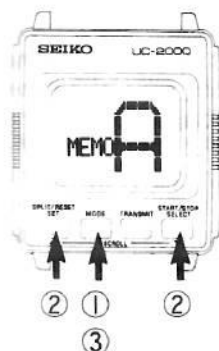
Of the 100 lines in each memo, only four lines can be displayed at a time. Press the SET and SELECT buttons to find the part of the memo you wish to display.

How?

To advance the memo display, press the SET button. To make the memo display back up, press the SELECT button. A row of 10 asterisks (*) is displayed preceding the first line and following the last line to make them readily identifiable.

Note: Data cannot be entered in the row of asterisks.

Operating Procedure



To display Memo A or Memo B, follow the steps below.

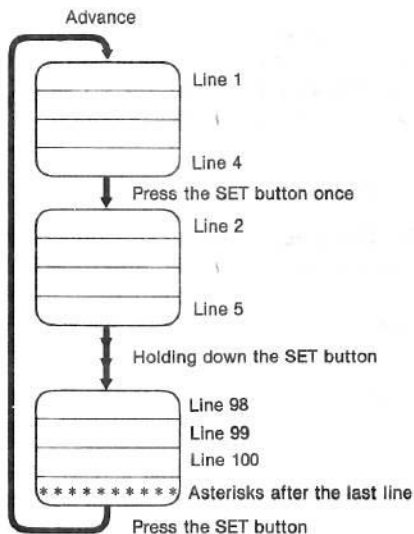
- To set the watch to Memo A (or Memo B) display mode:**
Press the MODE button, and the words MEMO A will appear. Press again for MEMO B.

Note 1: If the SCHEDULE program or a game program has been loaded into the watch, neither Memo A nor Memo B can be displayed.

Note 2: Memo A and Memo B are perfectly empty in your brand new watch. Nothing will be displayed even when the watch is set in the memo display mode. To make a memo, refer to the instructions on page

- ② **To select the part of the memo you wish to display:**
Press the SET or SELECT button to find the lines you want to display.

Advancing the display with the SET button



To display the first line of the memo

Press SET and the first four lines of the memo will appear.

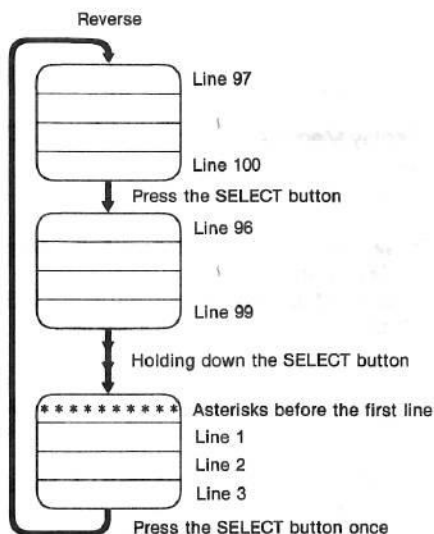
Single line advance

Each press of the SET button advances the memo display by one line.

Quick advance

The memo display will scroll up quickly, four lines at a time, if you hold down the SET button. A row of 10 asterisks is displayed at the end of the memo. The quick advance stops, and the watch beeps if the button operation sound is engaged. Lines 98 to 100 are now displayed. Press the SET button again and the first four lines of the memo will appear.

Reversing the display with the SELECT button



To display the last line of the memo

Press the SELECT button and the last four lines of the memo will appear.

Single line reverse

Each subsequent press of the SELECT button scrolls down the memo display by one line.

Quick reverse

If you hold down the SELECT button, the memo display will scroll down four lines at a time. A row of 10 asterisks is displayed when the scrolling reaches the start of the memo. The watch beeps if the button operation sound is engaged. Lines 1 to 3 are now displayed. Pressing the SELECT button again will cause the last four lines of the memo to be displayed.

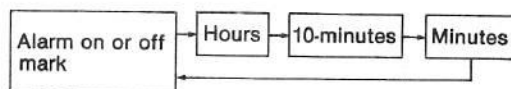
- ③ **To return to the time/calendar display mode**
Press the MODE button to return to the time/calendar display mode.

How to set the alarm



Press the SELECT button first to make blink the digit to be adjusted, then press the SET button to set it.

- ① To reach the alarm setting mode**
Press the MODE button to activate the alarm setting function. The alarm on or off mark will start flashing.
- ② To set the alarm on or off**
Press the SET button; the alarm will be set on or off.
When the alarm on or off mark is flashing, each press of the SET button will set the alarm on or off alternately.
- ③ To select the digit to be adjusted**
Press the SELECT button to select the digits to be adjusted; they will start blinking. The digits will blink and can be changed in the following sequence:



- ④ To set the time for the alarm**
Each press of the SET button will advance the blinking digit by one. Set the alarm time.
- ⑤ To return to time/calendar display mode**
When you have finished setting the alarm, press the MODE button to return to the time/calendar display mode.
* If the watch is left in the alarm setting mode, it will automatically return to the time/calendar display mode after 9 or 10 minutes.

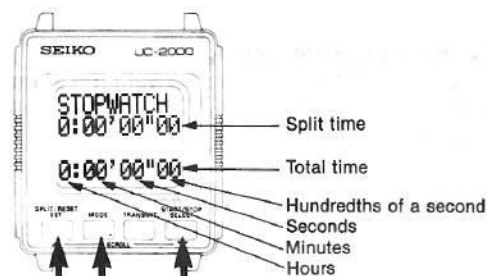
•How to shut off the alarm

The alarm will ring at the designated time for 20 seconds. It can be stopped manually by pressing any of the four (SET, MODE, TRANSMIT, SELECT) buttons. The display is not affected by stopping the alarm.

Note: When the watch is attached to the controller, the alarm will not ring even if it has been set.

How to Use the Stopwatch

Press the SELECT button to START—STOP—RESTART stopwatch measurement, and press the SET button to measure split time.

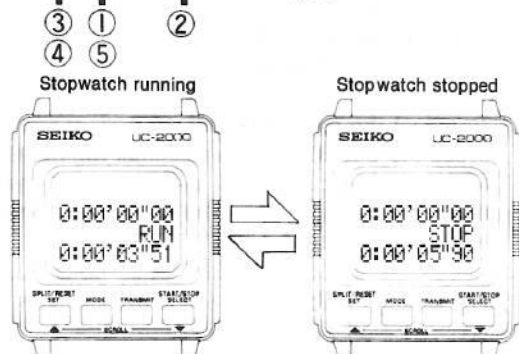


① To reach the stopwatch mode

Press the MODE button four times to activate the stopwatch function. The word STOPWATCH will be displayed.

② START—STOP—RESTART

Press the SELECT button to start clocking time. Accumulated elapsed time will be displayed in the lower row. To stop the stopwatch, give another press on the SELECT button. Each successive press of SELECT will RESTART or STOP the stopwatch in alternation.



Press the **SELECT** button

③ Split time

If you press the SET button while the stopwatch is running (the word RUN is displayed), split time will be displayed on the upper row. Pressing the SET button again will update the split time.



Press the **SET** button

④ To reset the stopwatch

Press the SET button after you have stopped the watch (that is, when STOP is displayed) to reset the stopwatch to 0:00'00"00.

⑤ To return to time/calendar display mode

When you are finished with the stopwatch, press the MODE button to return to the time/calendar display mode.

Note: If you press the MODE button while using the stopwatch, the display will change to the time/calendar display mode, the stopwatch measurement stops, and the digits are reset to 0:00'00"00.

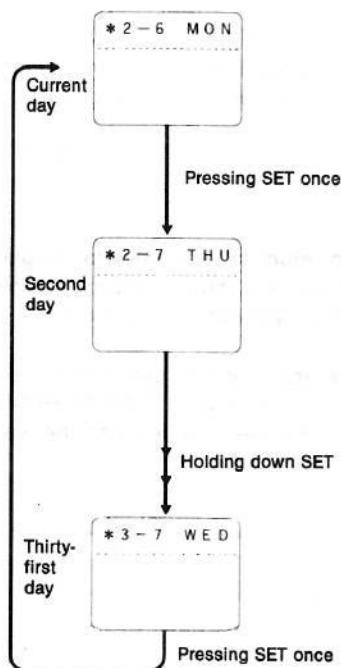
How to Display Schedule

Press the SET and SELECT buttons to select the part of the schedule you wish to display.



- ① To set the watch to the schedule display mode**
Press the MODE button to activate the schedule display function. The current date and day will be displayed in the upper half of the display. The lower half of the display shows the schedule entry already input using the controller.
- ② To find the schedule entry you wish to display**
Press the SET and SELECT buttons to locate the schedule entry you want to display.

Using the SET button

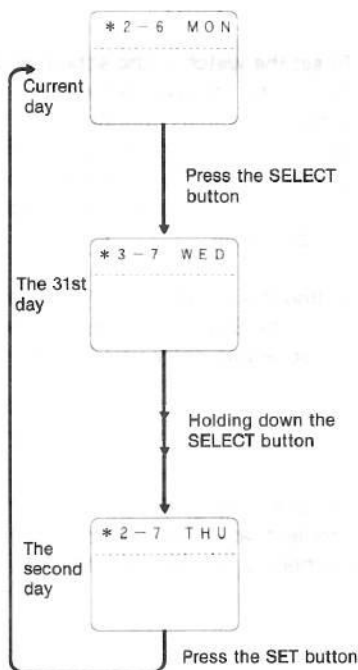


If you press the SET button when the current schedule (that is, today's schedule) is displayed, the schedule for the next day will appear.

The schedule is advanced one day with each press of the SET button. Holding down the SET button makes it scroll up quickly.

If you press the SET button when the schedule for 31 days from now is displayed, the current schedule (today's schedule) will appear again.

Using the SELECT button



If you press SELECT when the current schedule (that is, today's schedule) is on display, the schedule for 31 days later will appear.

Each press of the SELECT button will make the schedule scroll down by one day. The schedule will scroll down quickly if you hold down the SELECT button.

If you press the SELECT button when the second day's schedule is on display, the current schedule (today's schedule) will reappear.

③ To return to time/calendar display mode


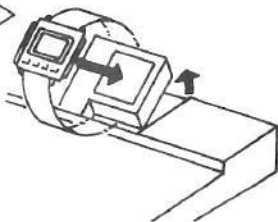
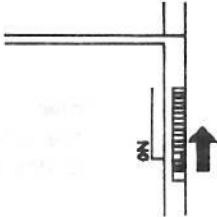
Press the MODE button to return to the time/calendar display mode.

Note: You cannot use the schedule display function unless the SCHEDULE program has been loaded into the watch from the controller.

THE CONTROLLER

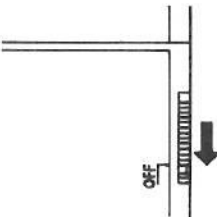

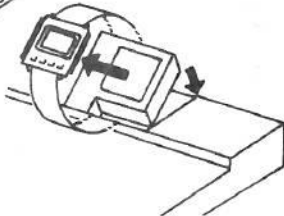
•To attach the watch to the controller

Follow these steps to attach the watch to the controller.

<p>1</p>  <p>Press the TRANSMIT button on the watch; the words "TRANSMIT" STAND-BY will be displayed. Now the watch is ready to communicate with the controller.</p>	<p>2</p>  <p>Flick up the transmission circuit on the controller and place the watch on it as illustrated.</p>	<p>3</p>  <p>Turn the controller power switch ON. Now the controller and the watch are ready for data transmission.</p>
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•To remove the watch from the controller

Follow these steps when you remove the watch from the controller.

<p>1</p>  <p>Make sure that the words "TRANSMIT" STAND-BY are displayed on the screen. Then turn the controller power switch OFF.</p>	<p>2</p>  <p>Press the TRANSMIT button on the watch. It will return to the time/calendar display mode.</p>	<p>3</p>  <p>Slip the watch off the transmission circuit.</p>
---	--	--

Note: Never touch the TRANSMIT button or remove the watch from the transmission circuit before you have finished using the watch with the controller. You could destroy the data you have input.

As soon as you turn the controller power switch ON, you can carry out the following operations:

1 Turning the controller's button operation sound ON or OFF:

Holding down the **[SHIFT]** key while you press **[B]** turns the button operation sound on and off in alternation.

2 Testing the controller's button operation sound:

If you hold down the **[SHIFT]** key and press **[A]**, the button operation sound will sound until you press the **[STOP]** key.

3 Testing the printer:

Holding down the **[SHIFT]** key while you press **[P]** makes the printer print out a string of Ks. Press **[STOP]** to stop the printer.

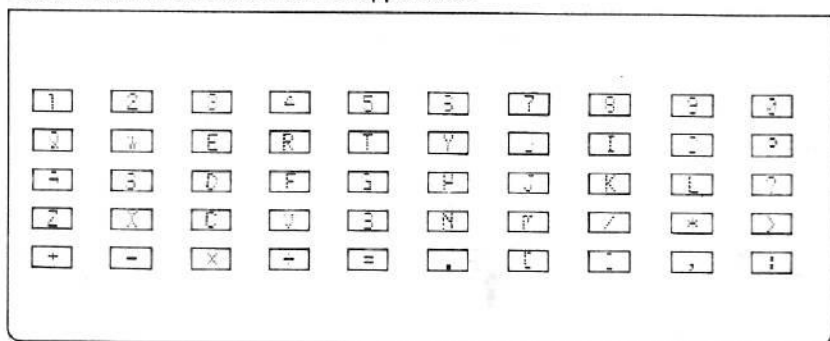
•The Character/Symbol Keys

Each character/symbol key serves as a multi-function key, capable of inputting up to four different characters or symbols when used with the **[SHIFT]** and **[GR]** keys.

The diagrams below show the characters and symbols as they are printed out or displayed on the screen.

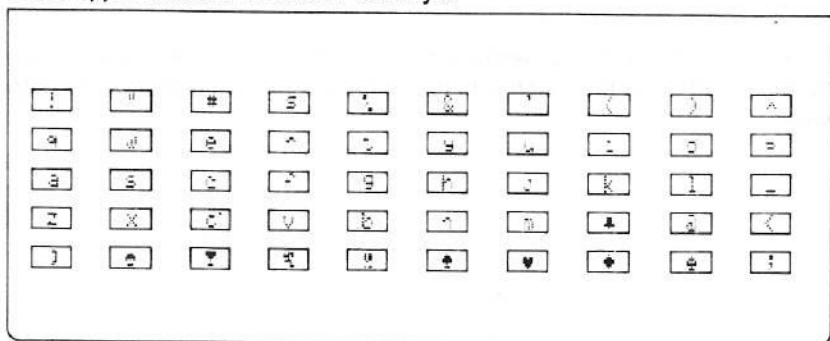
• Locations of the primary set of characters and symbols.

Pressing the character/symbol keys alone produces the primary set of letters and symbols shown below. The letters are all uppercase.



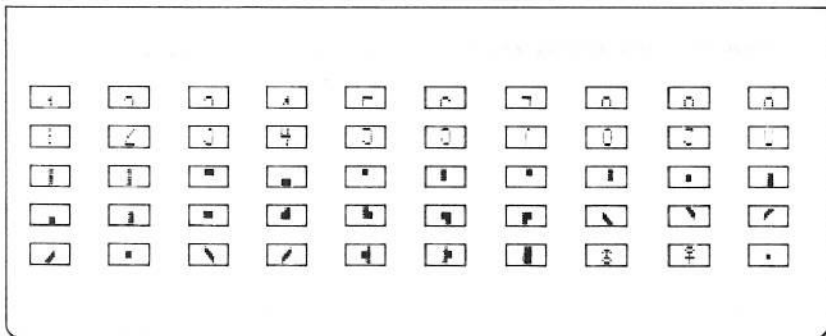
• Locations of the SHIFT set of characters/symbols

Pressing the character/symbol keys while holding down the **[SHIFT]** key produces the SHIFT set of letters and symbols shown below. Letters are all lowercase and the symbols are those shown in the upper lefthand corners of the keys.



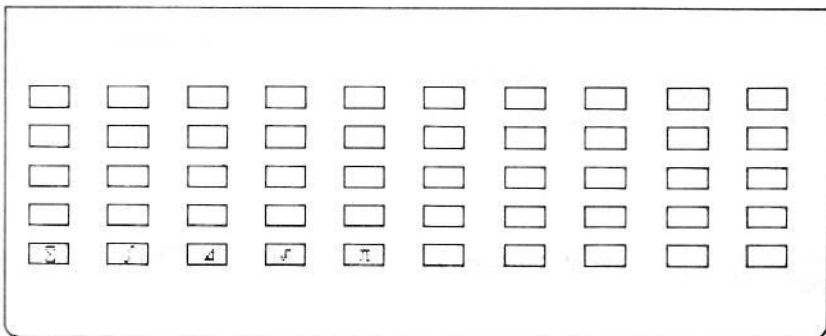
●Locations of the GRAPHICS set of characters/symbols

Pressing the character/symbol keys while holding down the **GR** (GRAPHICS) key produces the graphics characters shown below.



●Locations of the GRAPHICS+SHIFT set of characters.

Pressing the character/symbol key while holding down both the **GR** (GRAPHICS) and **SHIFT** keys produces the Greek letters shown below.



Operating Modes Available when the Watch is Combined with the Controller

You can choose among five operating modes when the watch and controller are used together.

- Memo A Mode Press **M-A**
- Memo B Mode Press **M-B** (Hold down **SHIFT** and press **M-A** .)
- BASIC Mode Press **BASIC**
- Application Mode Press **APL**
- Calculator Mode Press **CAL** (Hold down **SHIFT** and press **BASIC** .)

With the watch in place on the controller and "TRANSMIT" STAND-BY on the screen, select the mode you wish to use by pressing the appropriate mode key.

"TRANSMIT"
STAND-BY

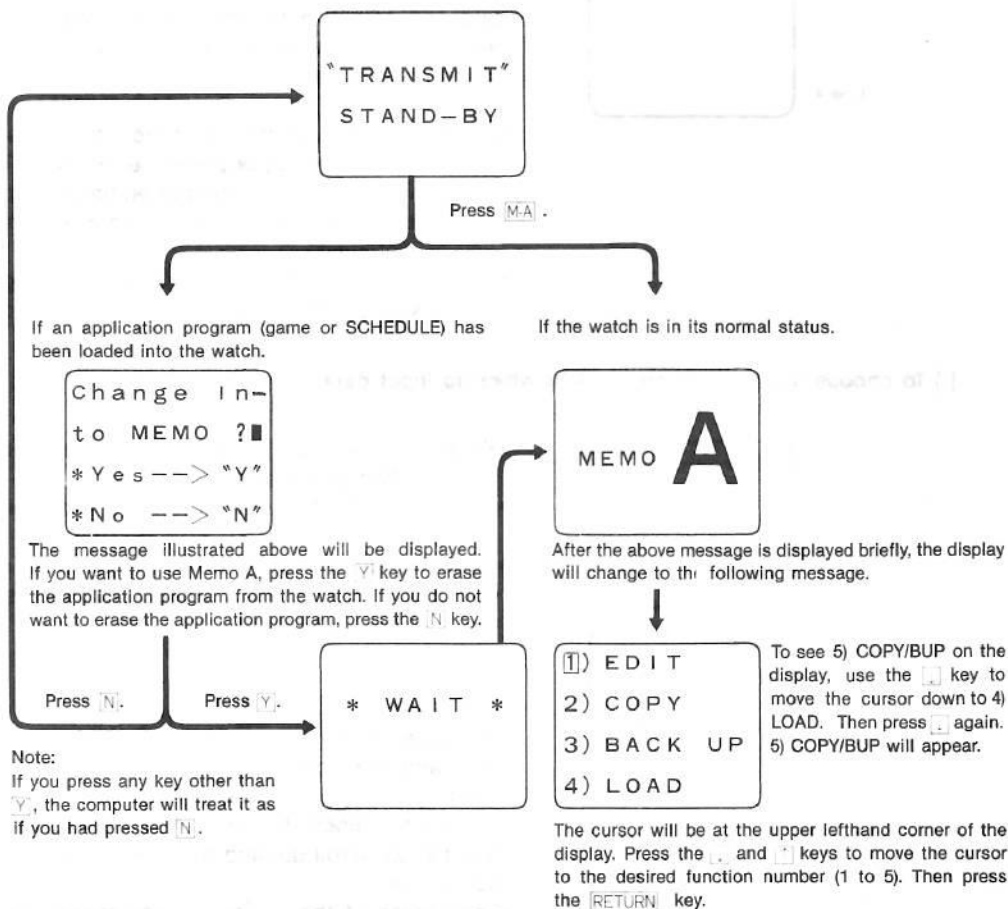
To leave any mode, press the **F10** key. (Hold down **SHIFT** and press **F5**). The display will return to "TRANSMIT" STAND-BY.

Memo A Mode

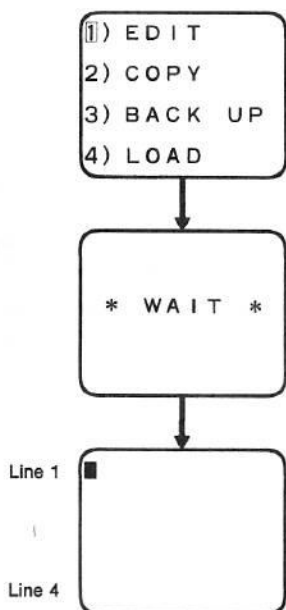
In Memo A Mode, the following functions are available:

- EDIT Used to input and edit data for Memo A
- COPY Used to print out the memo data in Memo A
- BACKUP Used to save Memo A data in the controller memory
- LOAD Used to transfer Memo A data saved in the controller memory back to Memo A in the watch.
- COPY/BU (COPY/BACKUP) Used to print out Memo A data which have been saved in the controller memory with the BACKUP function.

● Using Memo A Mode



● To input data into Memo A and edit it



Press the \uparrow and \downarrow keys to move the cursor to 1) EDIT. Press RETURN .

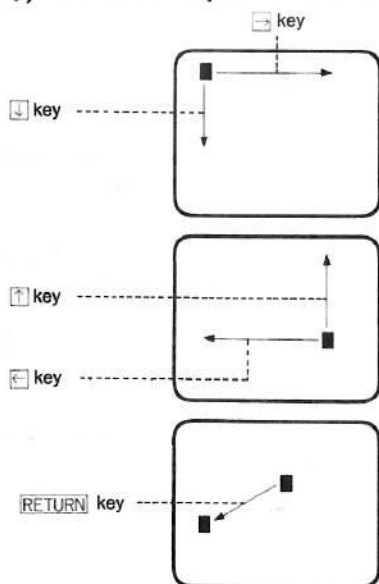
The display will lock for about 10 seconds, during which this message will be shown.

The first four lines of the memo area appear on the screen. The system is ready for you to input data and edit it in Memo A. If your watch is new, however, the screen will be blank, since no memo data has been input.

Note 1: If you remove the watch from the transmission circuit or press the TRANSMIT button while inputting or editing memo data, the data you have input will be destroyed.

Note 2: If you press the COPY key while editing Memo A, the memo data will be printed out.

1) To choose the place in Memo A in which to input data



• Press \uparrow , \downarrow , \leftarrow , or \rightarrow to move the cursor in the direction of the arrow.

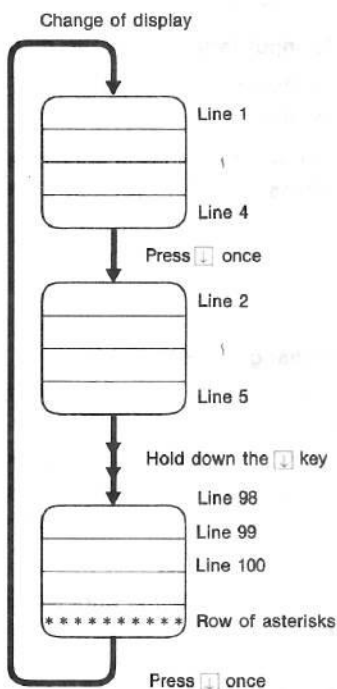
• Press RETURN to jump the cursor to the head of the next line.

• Move the cursor to the place in Memo A in which you want to input characters/symbols.

※ The cursor moves up one line with each press of \uparrow and down one line with each press of \downarrow . Holding down \uparrow or \downarrow makes the display scroll quickly, four lines at a time. The \downarrow key makes the display scroll up, and the \uparrow key makes it scroll down.

※ Each press of the \leftarrow or \rightarrow key moves the cursor one character in the direction of the arrow.

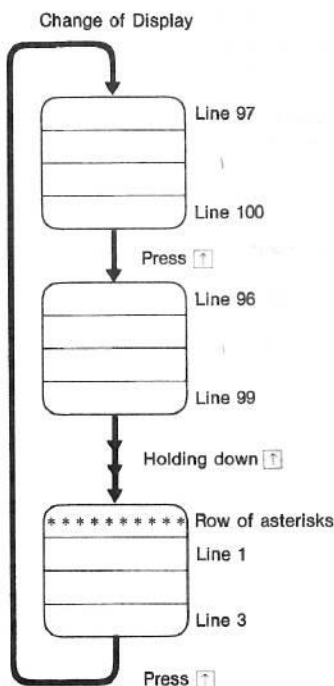
2) To locate a blank area in the memo.



① Advancing the display using the key

When the cursor is at the bottom of the display, pressing again moves the display upwards so that a new line appears at the bottom.

The display scrolls up four lines at a time if you hold the key down. When the display reaches the last line (line 100), a row of 10 asterisks (*) is displayed after it. The scrolling automatically stops. If you then press again, the first four lines of Memo A will appear.



② Moving in reverse with the key

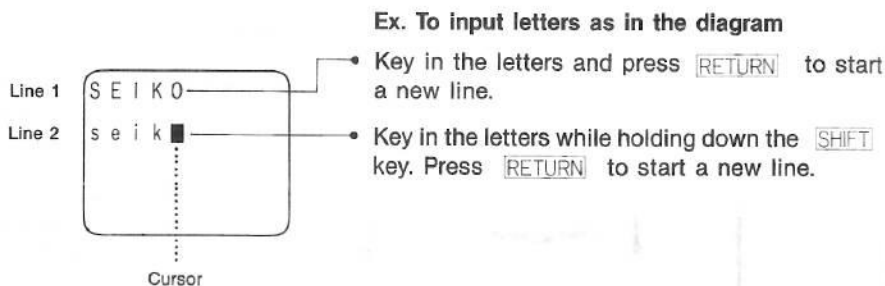
When the cursor is on the top line of the display, pressing makes the display move in reverse.

The display scrolls down, four lines at a time, if you hold down the key. When the display reaches the first line, a row of 10 asterisks (*) is displayed above it. The scrolling stops automatically.

✦ If you press again when the cursor is on the first line, the last four lines (lines 97-100) will appear.

3) To input data

Press a character/symbol key. That character/symbol will be input at the cursor location.

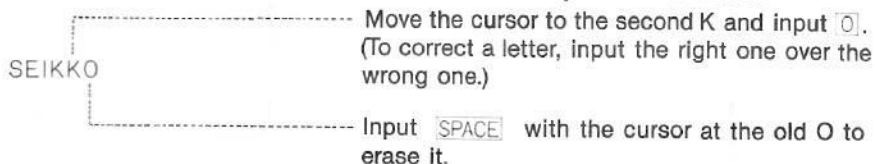


4) To correct what you have input

(1) To change letters

Use the cursor and **SPACE** keys to correct the mistake.

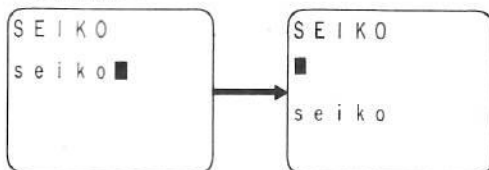
Ex. SEIKO is misspelled as SEIKKO.



SEIK K O	Move the cursor to the character/symbol to be corrected. (← key)
SEIKO O	Press O . K will be corrected into O, and the cursor will move to the right by one character.
SEIKO █	Press SPACE . The extra O will be erased, and the cursor will move to the right by one character.

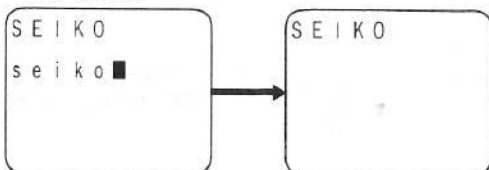
(2) To insert or delete a line

•Line insert



To insert a new line above an existing line, move the cursor to that line. Press **F1**. The existing line will be pushed down to make a new blank line. Move the cursor to the left edge of the new line. Now you can input data there.

•Line delete



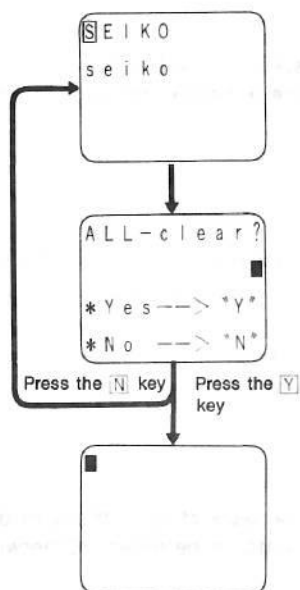
To delete a line, move the cursor to that line. Press **F6**. The line will be wiped out, and the cursor will move to the left edge of the line below.

(3) To clear all the memo contents (All Clear)

To clear the memo totally, press the **F5** key,

WARNING: Think twice before pressing the **F5** key, since this operation wipes out all the data in the Memo A memory.

The cursor position does not affect the All Clear operation.



When you press the **F5** key, this message will be displayed on the screen. If you do want to clear the memo, press **Y**. If not, press **N**.

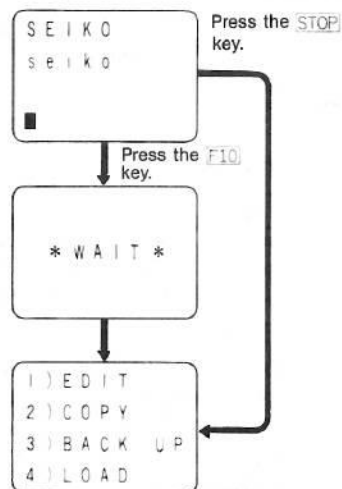
Pressing **Y** will clear all the data in Memo A. The display will then become blank. Pressing **N** will return you to your previous location in Memo A.

Note: Pressing any key other than **Y** has the same effect as pressing **N**.

● To leave the EDIT function

When you have finished inputting and editing memo data, press either the **F10** key or the **STOP** key.

Always follow the procedure below to leave the EDIT function.



(1) Pressing the **F10** key

Pressing the **F10** key is the normal way to terminate the EDIT function. Memo data input or edited using the EDIT function will be transferred to the watch's memory only if you press **F10**. When you press **F10** the message *WAIT* will appear on the screen. After about 10 seconds the menu for the Memo A Mode will appear.

(2) Pressing the **STOP** key

Use the **STOP** key to terminate the EDIT function when you want to wipe out the memo data you have just input or edited. It will not be saved or transferred and the data in the watch's memory will remain unchanged. Pressing the **STOP** key will cause the Memo A Mode menu to appear on the screen.

● To print out Memo A

```

1) EDIT
2) COPY
3) BACK UP
4) LOAD
    
```

Use the \downarrow and \uparrow keys to move the cursor to 2) COPY and press the **RETURN** key.

```

* WAIT *
    
```

The display will be locked for about 10 seconds while the *WAIT* message is on the screen.

The Memo A Mode menu will reappear when the printout is completed.

```

1) EDIT
2) COPY
3) BACK UP
4) LOAD
    
```

```

* COPY *
  START
    
```

The printer starts printing out the Memo A data.

Note: To terminate the printout, press the **STOP** key. The printer will stop after completing the line in progress. The Memo A Mode menu will reappear on the screen.

● To backup Memo A

The memo data in the watch's Memo A memory can be backed up in the controller memory. This feature is handy when you are replacing the watch's batteries. (Otherwise Memo A would be erased.)

```

1) EDIT
2) COPY
3) BACK UP
4) LOAD
    
```

Use the \downarrow and \uparrow keys to move the cursor to 3) BACKUP, and press the **RETURN** key.

```

BASIC Prog
clear ?
*Yes-->*Y*
*No -->*N*
    
```

This message will be displayed. If you do want to clear the BASIC program, press the **Y** key. If not, press the **N** key.

Press **N**.

Press the **Y** key to clear the BASIC program.

If a BASIC program is stored in the controller memory.

```

*BACK UP*
  START
    
```

If there is no BASIC program stored in the controller memory.

The memo data stored in Memo A will be backed up in the controller memory.

```

1) EDIT
2) COPY
3) BACK UP
4) LOAD
    
```

After the backup is complete, the menu for the Memo A Mode will reappear.

Note 1: During BACKUP, your pressing the **STOP** key will be ignored until the BACKUP operation is completed. The display will then change to "TRANSMIT" STAND-BY.

Note 2: Data backed up in the controller memory will not be lost even when the controller power switch is turned off.

● To load backed up data into Memo A in the watch

Data backed up in the controller memory can be loaded into Memo A in the watch.

After LOAD is completed, the Memo A Mode menu will reappear.

```
1) EDIT
2) COPY
3) BACK UP
4) LOAD
```

Press the \downarrow and \uparrow keys to move the cursor to 4) LOAD, and press the RETURN key.

```
1) EDIT
2) COPY
3) BACK UP
4) LOAD
```

```
* LOAD *
  START
```

The data backed up in the controller will be transferred to the watch's Memo A memory area.

Note: Your pressing the STOP key during LOAD will be ignored until the LOAD operation is completed. The display will then change to "TRANSMIT" STAND-BY.

● To print out Memo A data backed up in the controller

Memo A data backed up in the controller memory can be printed out.

```
1) EDIT
2) COPY
3) BACK UP
4) LOAD
```

Use the \downarrow and \uparrow keys to move the cursor to 4).

```
2) COPY
3) BACK UP
4) LOAD
5) COPY/BUP
```

Press \downarrow again. The display will move up and 5) COPY/BUP will appear on the screen. Move the cursor to 5) and press RETURN .

When the printout is completed, the Memo A Mode menu will reappear.

```
1) EDIT
2) COPY
3) BACK UP
4) LOAD
```

```
* COPY *
  START
```

Memo A data backed up in the controller will be printed out.

Note: To stop the printout, press the STOP key. The printer will halt after completing the line in progress, and the Memo A Mode menu will reappear.

● To leave the Memo A Mode

```
1) EDIT
2) COPY
3) BACK UP
4) LOAD
```

Press the F10 key to display the Memo A Mode menu.

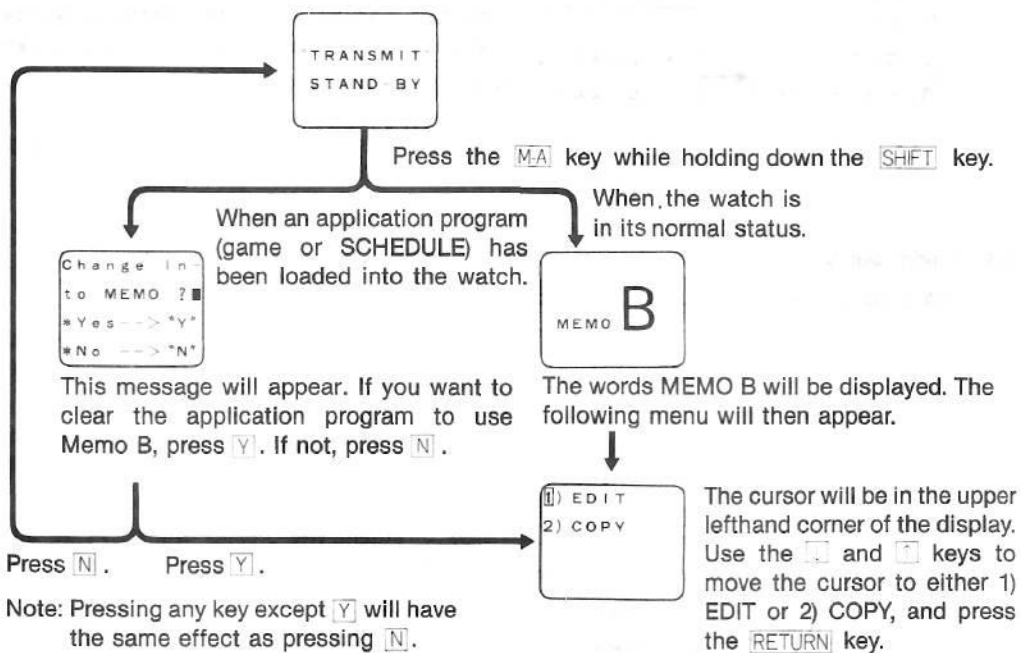
```
"TRANSMIT"
  STAND-BY
```

Pressing the F10 key again will terminate the Memo A Mode. "TRANSMIT" STAND-BY will appear on the screen.

Memo B Mode

These functions are available in Memo B Mode.

- EDITUsed to input and edit Memo B data.
- COPYUsed to print out Memo B data.



*The EDIT and COPY functions work in the same way as in Memo A Mode. For details refer to pages 24 to 28.

The function keys in Memo Mode (Memo A or Memo B)

In Memo Mode the function keys work as follows.

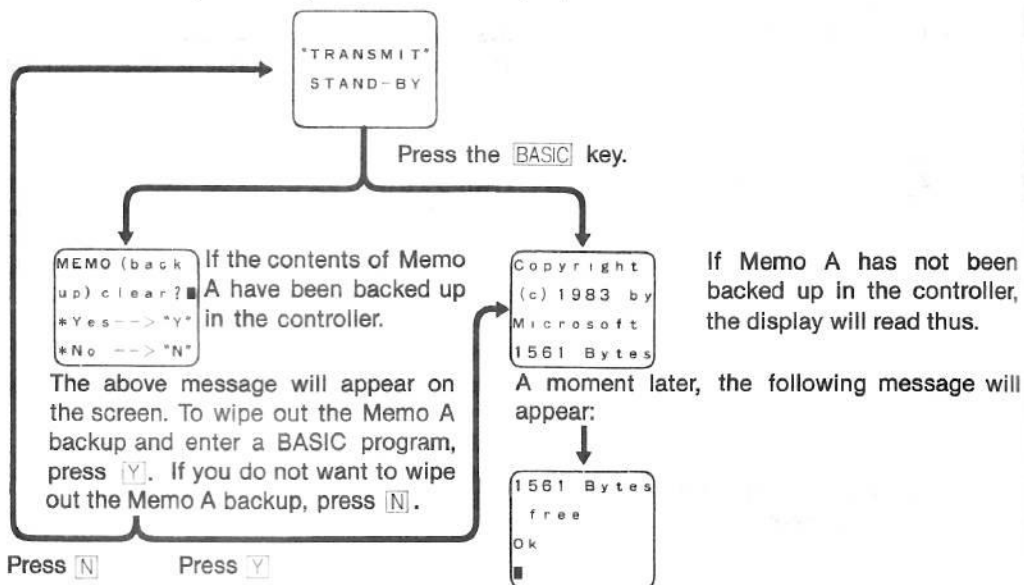
- F1** **INSERT (for insertion of a new line)**
The line in which the cursor is located will be pushed down to make way for an additional 10-character long line.
- F2** **PAGEDOWN**
Each time you press this button the display advances by four lines. If you hold this button down, the display will scroll up continuously (the same effect as holding down the **↓** key).
- F3** **BOTTOM**
Displays the last four lines in the memo area.
- F4** **HOME**
Returns the cursor to the upper lefthand corner of the display.
- F5** **ALL CLEAR**
Clears all the data in the Memo A or Memo B area (whichever is in use).
- F6** **DELETE**
(**SHIFT** + **F1**)
Deletes the line in which the cursor is located.
- F7** **PAGEUP**
(**SHIFT** + **F2**)
Scrolls the screen down four lines at a time. Holding it down will cause the screen to scroll continuously. (The same effect as holding down the **↑** key.)
- F8** **TOP**
(**SHIFT** + **F3**)
Displays the first four lines in the memo.
- F9** **LINE CLEAR**
(**SHIFT** + **F4**)
Clears the data in the line where the cursor is located.
- F10** **END**
(**SHIFT** + **F5**)
Terminates Memo Mode, leaving memo data saved in the watch.

* **SHIFT** + **F1** means to press **F1** while holding down **SHIFT**,

Basic Mode

To Enter BASIC mode

In this mode you can input and run BASIC programs.



Note: The computer will treat pressing any key other than **Y** as if the **N** key had been pressed.

Now the system is ready for you to use it in BASIC mode. You can enter a program in BASIC.

ENTERING A PROGRAM

For details of BASIC programming, refer to the Basic Manual.

To run a program you have entered, press the **R**, **U**, **N**, and **RETURN** keys, or the **F5** key.

OK

When your BASIC program has run, the word OK will appear on the screen. To interrupt the run, press the **STOP** key.

"TRANSMIT"
STAND-BY

To terminate BASIC mode, press the **F10** key. "TRANSMIT" STAND-BY will appear on the screen.

Note1: The span from the line number to the point at which you pressed the **RETURN** key is called "one logical line." When you press the **RETURN** key, you instruct the computer to enter that logical line into memory.

Note2: The maximum number of characters per logical line is 39. If you enter a long line of code, more than 39 characters, the screen will display an error message. If you are using the **F1** key (insert) to add to parts of your program, take care not to exceed 39 characters per logical line. If you exceed this limit, the printer will print out "System Error," and what you have already entered of your program may be destroyed.

MEMORY LEVELS FOR BASIC

Two memory levels are available for the BASIC mode: low level (1,561 bytes free) and high level (2,922 bytes free). Switching between the low and the high level is performed as explained below. Normally, you should use the low level.

How to set the level

Immediately after turning the controller power switch ON, set the level.

LOW LEVEL

..... Holding down the **[SHIFT]** key, press the **[L]** key.

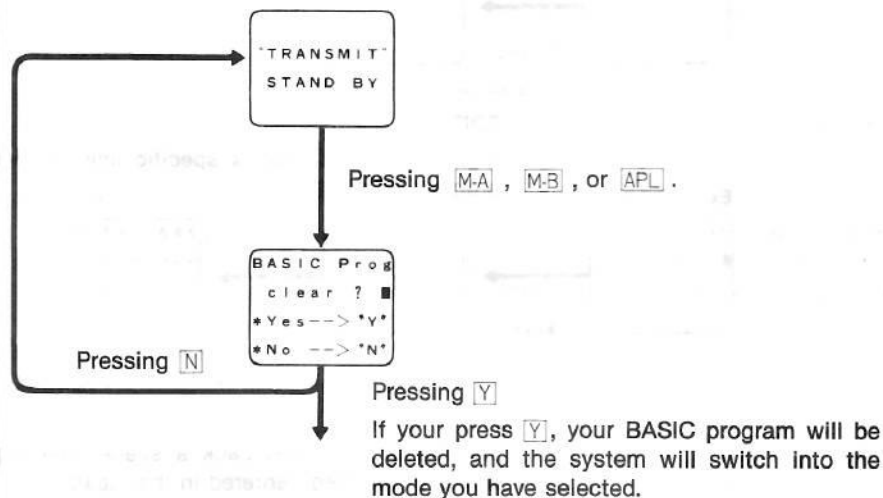
HIGH LEVEL

..... Holding down the **[SHIFT]** key, press the **[H]** key.

When the high level is set, you can use the system only in the BASIC mode or calculator mode.

Bear in mind the following facts about using the high level:

In the high level, you can enter a larger program. In the high level, however, using Memo A mode, Memo B mode or the Application mode will wipe out your BASIC program. Thus, you normally should avoid using the high level. If you are in the high mode and press **[M-A]**, **[M-B]**, or **[APL]**, the message illustrated here will appear on the screen, to verify that you want to wipe out your program.



Note 2: Level changeover will erase all programs already entered.

Note 3: When you reset the controller (by holding down the **[SHIFT]** key and pressing **[I]**), BASIC mode will automatically be set at the low level.

The Utility Keys in Basic Mode

In BASIC mode, the utility keys work as follows:

  **CURSOR keys**



Move the cursor one space in the direction of the arrow. No fast forward or scrolling by holding down the cursor keys is available in BASIC mode.

RETURN **RETURN (input of logical line)**

Used to input a line of program.

Ex. 10 LET A = B + C **RETURN** means input of 10 LET A = B + C.

STOP **STOP**

The program run is halted.

F1 **INSERT**

Each press of the **F1** key adds a space just to the left of the cursor.

Ex.

```
10 LET A=B
+C
```

F1 key

```
10 LET A =
B+C
```

When using insert, be sure not exceed 39 characters in a logical line.

F2 **EDIT**

Allows you to display a specific line of your program to edit it.

Ex.

```
Ok
█
```

F2 **2** **0**
0 keys

```
Ok
EDIT 200 █
```

RETURN
key

```
200 LET A=
B+C-SIN(D*
E):PRINT*
A=:A
```

Now you can edit line 200, which is displayed on the screen.

F3 **BACKSPACE**

The cursor is moved back a space, deleting whatever had been entered in that space.

Ex.

```
ABCD █
```

F3 key

```
ABC █
```

F4 **PAUSE**

Use this key to temporarily halt the listing of your program. Pressing **F4** once will stop the listing; pressing it again will make the computer resume listing.

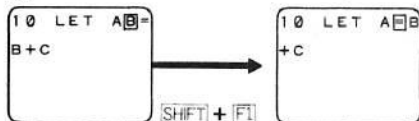
F5**RUN + C/R (execution)**

Use this key to run a program. It has the same effect as keying in **R** **U** **N** and **RETURN**

F6**DELETE****(SHIFT + F1)**

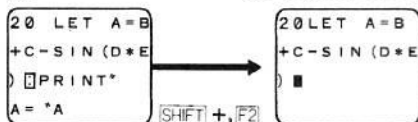
When you press **F6**, the character in the spot marked by the cursor will be deleted.

Ex.

**F7****DELETE TO THE END OF THE LINE****(SHIFT + F2)**

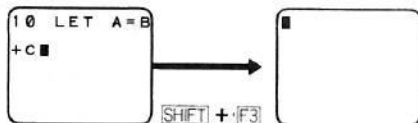
When you press **F7**, everything from the character at the cursor position to the end of the logical line will be deleted.

Ex.

**F8****LINE DELETE****(SHIFT + F3)**

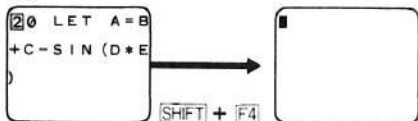
Pressing **F8** deletes the entire logical line in which the cursor is located.

Ex.

**F9****CLEAR SCREEN****(SHIFT + F4)**

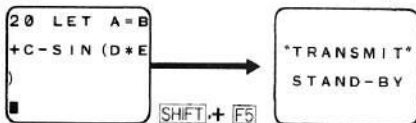
All the characters, codes, and symbols on the screen are cleared off. It does not erase program lines already stored in memory, however.

Ex.

**F10****END****(SHIFT + F5)**

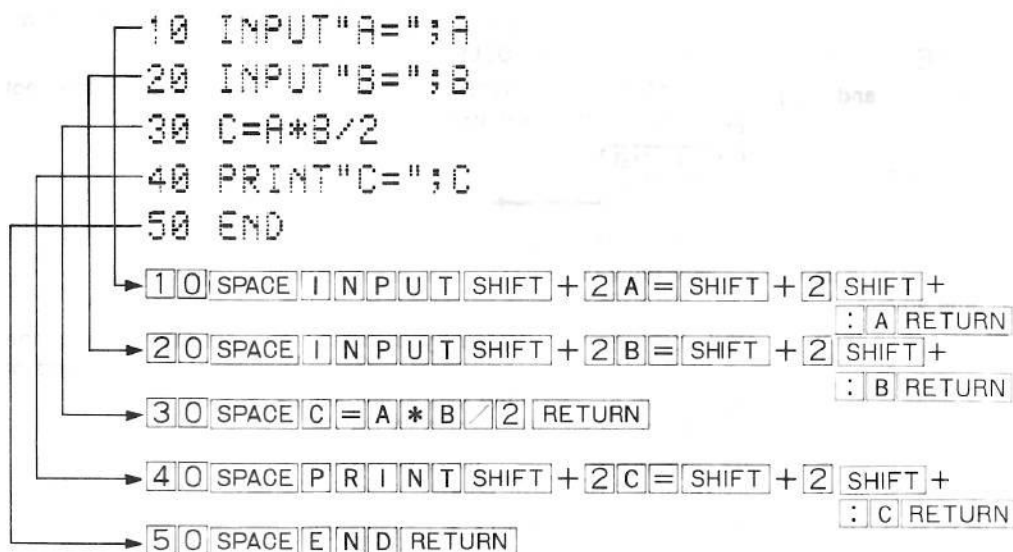
Use **F10** to leave BASIC mode. Ex. When you wish to leave BASIC mode while you are in the middle of programming.

Ex.



*(**SHIFT** + **F1**) means to hold down the **SHIFT** key and press **F1**

● Loading a Basic Program



※ (SHIFT + 2) means to hold down the SHIFT key and then press 2.

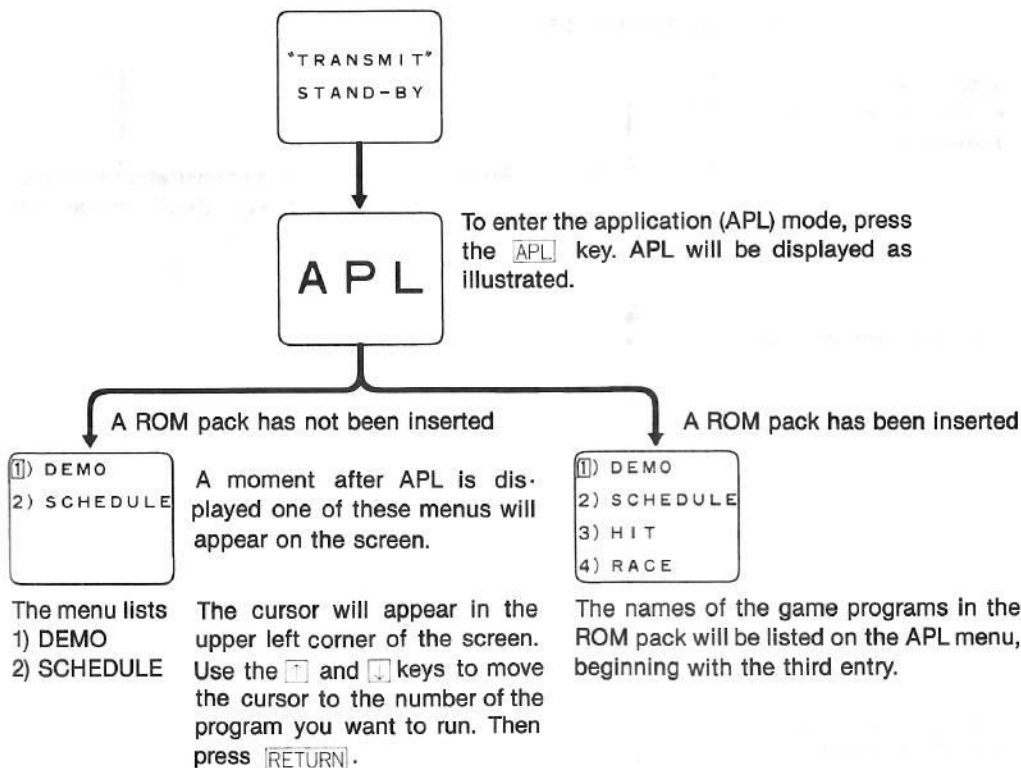
※ The span from the line number to the point at which you press the RETURN key is called one logical line. Pressing the RETURN key inputs that logical line into the memory.

※ The maximum number of characters per logical line is 39.

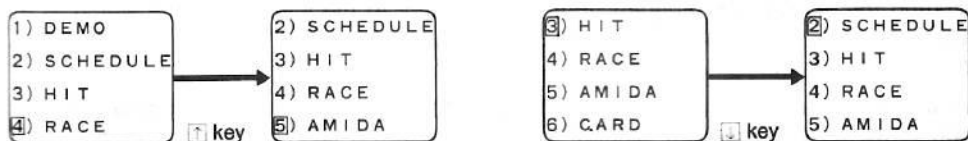
Note 1: Your BASIC program will not be erased from memory when you turn off the controller power switch.

Note 2: For the use of the AC adapter with the controller, see page 64 "Power Supply".

In this mode, it is possible to run an application program (DEMO, SCHEDULE) or a ROM pack game program.



The Menu when a Game ROM Pack has been Inserted.



If you want to run the fifth or sixth program on the menu, move the cursor down to the last line shown on the display. Press the **[↑]** key, and the fifth entry, AMIDA, will appear. Another press on **[↓]** will bring up the sixth entry, CARD, onto the screen.

● To Run Demo

DEMO is one of the application programs built into the Controller UC-2000. It demonstrates the features of the controller. It is the first program listed on the APL menu.

1) DEMO
2) SCHEDULE

Use the \downarrow and \uparrow keys to move the cursor to 1).

SEIKO
Wrist
Computer
System

Press RETURN . The demonstration will start, displaying MEMO mode, BASIC mode, and CALCULATOR mode in turn.

1) DEMO
2) SCHEDULE

To end the demonstration, press STOP . The APL menu will reappear, as illustrated.

"TRANSMIT"
STAND-BY

To exit from the application mode, press F10 . The screen will return to the "TRANSMIT" STAND-BY display.

● Using The Schedule Program

Transferring the SCHEDULE program from the controller to the watch puts the watch in its application mode, in which you can input the display your schedule on the watch. The SCHEDULE has the following features:

- You can enter your schedule for the next 31 days, beginning with the current date (the date displayed in the time/calendar display mode). Each day's schedule entry can be up to 20 characters long.
- The program automatically erases the schedule for past days so that space for future scheduling is made available. The date changes, and the previous day's schedule is erased, at the turn of 11:59:59 P.M. into 12:00:00 A.M.
- You must have a controller or optional keyboard to input SCHEDULE information. Once you have input your SCHEDULE entries, however, all you need is the watch to display them.

Note: Loading the SCHEDULE program into the watch erases everything recorded in Memo A and Memo B in the watch. You can, however, back up Memo A in the controller or print the memos out. (See page 27.)

1) Using The SCHEDULE Program

```
1) DEMO
2) SCHEDULE
```

Use the \uparrow and \downarrow keys to move the cursor down to 2) on the APL menu.

```
1) INPUT
2) COPY
3) TRANSMIT
```

Press RETURN . The SCHEDULE menu will appear on the screen. Move the cursor to the number of the operation you wish to perform—1), 2), or 3)—and press RETURN .

2) Loading the SCHEDULE program (TRANSMIT).

If no SCHEDULE is stored in the watch, load the SCHEDULE program from the controller to the watch before trying to input or copy your schedule.

```
1) INPUT
2) COPY
3) TRANSMIT
```

Use the \downarrow and \uparrow keys to move the cursor to 3) TRANSMIT, and press RETURN .

```
THIS YEAR
ENTER
. ■■
```

Key in the last two digits of the calendar year.

Press N .

```
THIS YEAR
ENTER
. 84
ENTER Y/N
```

If the year entered is correct, press Y . If the year entered is wrong, press N .

Note: The program will treat pressing any key other than Y as if the N key had been pressed.

Press Y

```
* WAIT *
```

The screen will display *WAIT* for about 20 seconds, as illustrated here.

```
1) INPUT
2) COPY
3) TRANSMIT
```

When the program is loaded, the screen will automatically switch to displaying the menu for SCHEDULE.

3) To input SCHEDULE data (INPUT)

To input SCHEDULE data, follow the procedure below.

1) INPUT
2) COPY
3) TRANSMIT

Use the and keys to move the cursor to 1) INPUT, and press .

The current date
* 2 - 6 MON

█

The current date and day of the week will be displayed on the first line of the screen. The cursor will be blinking at the beginning of the third line. Now you can select the date for which you want to record your schedule.

The next day
* 2 - 7 TUE

█

Press

30 days after the current date (the 31st day on the SCHEDULE)

Press

Press to display the next day.

* 3 - 7 WED

█

Pressing displays the last day (31st day) of the SCHEDULE.

Two days after the current date.
* 2 - 8 WED

█

29 days after the current date (the 30th day of the SCHEDULE)

* 3 - 6 TUE

█

Each press of will advance the display by one day.

Each press of will make the SCHEDULE display scroll up by one day.

Use and to locate the day for which you wish to input SCHEDULE data. Then key in your SCHEDULE entry, beginning at the cursor position below the line. You may use a maximum of 20 characters for each day's SCHEDULE entry. Repeat this procedure to record a month's SCHEDULE in the watch.

You can also use the and keys to scroll through the SCHEDULE display.

1) INPUT
2) COPY
3) TRANSMIT

When you are finished making SCHEDULE entries, press . The SCHEDULE menu will appear, as illustrated.

4) To print out SCHEDULE data (COPY)

1) INPUT
2) COPY
3) TRANSMIT

Use the \uparrow and \downarrow keys to move the cursor to 2) COPY on the SCHEDULE menu. Press RETURN.

* WAIT *

The screen will display the message *WAIT* for a few seconds.

* COPY *
START

Then the printer will start to print out everything you have entered for your schedule.

1) INPUT
2) COPY
3) TRANSMIT

After the schedule has been printed out, the screen will automatically return to the SCHEDULE menu.

Note: To interrupt the printing, press the STOP key. The printer will stop as soon as it finishes the line in process, and the screen will return to the SCHEDULE menu.

5) To leave SCHEDULE mode

1) DEMO
2) SCHEDULE

Press F10 to return to the APL mode menu.

● To Leave the Application Mode

"TRANSMIT"
STAND-BY

When the APL menu is on the screen, press F10 to exit from the application (APL) mode. "TRANSMIT" STAND-BY will appear on the screen, as shown here.

● To Input your Schedule with the Keyboard UC-2100

You can input SCHEDULE entries with the optional Keyboard UC-2100 if the SCHEDULE program has already been loaded into the watch from the controller.

"TRANSMIT"
STAND-BY

Attach the watch to the keyboard. Press the TRANSMIT button on the watch in the time/calendar display mode, and turn the keyboard power switch ON. Press the **M.B** key on the keyboard.

* 2 - 6 MON

MEETING
AM 9:30

The SCHEDULE entry for the current day will be displayed on the watch screen. The cursor will be blinking at the left of the third line.

* 3 - 3 SAT

█

Use the **↓** and **↑** keys on the keyboard to scroll through the SCHEDULE to the date for which you want to input your schedule.

- To display the next day on the SCHEDULE, move the cursor to the fourth line of the display and press **↓**. If you hold the **↑** key down for two or three seconds, the SCHEDULE entries will scroll down quickly, four lines at a time.

- To display the last day of the SCHEDULE (the 31st day), move the cursor to the third line in the first day's entry and press **↓**. If you hold the **↑** key down, the SCHEDULE entries will scroll up quickly, four lines at a time. Input SCHEDULE data from the keyboard.

* 2 - 9 THU

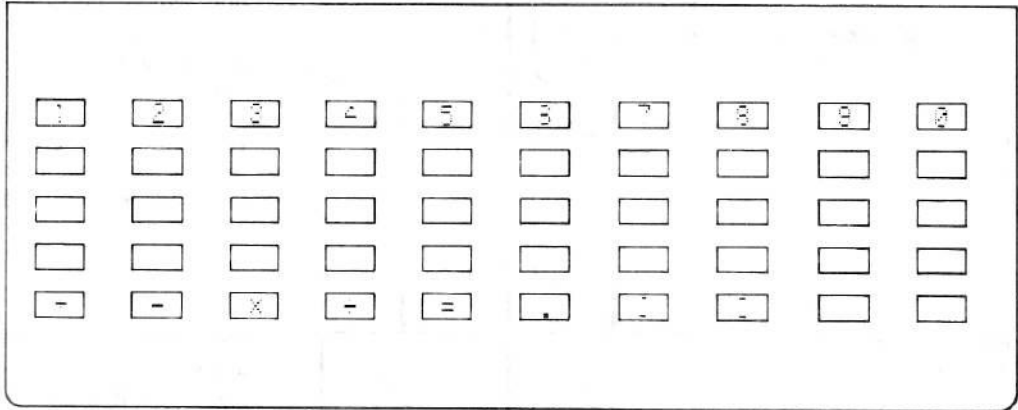
SALES
MEETING
AM 10:00

When your scheduling is finished, turn the keyboard power switch OFF. Press the TRANSMIT button on the watch. The watch will return to the time/calendar display mode.

In calculator mode, you can perform the same arithmetical operations as with an ordinary electronic desk-top calculator.

※ The printer cannot be used in calculator mode, however.

● Keys Used in Calculator Mode



Note: **C** is used to clear the previous entry (the **CE** key), and **AC** is used to clear everything entered (the **AC** key). You do not need to press two keys simultaneously for **CE** and **AC**.

- **C** is the **CE** key. It deletes the last number or symbol entered.
- **AC** is the **AC** key. It deletes all data entered to clear the system and ready it for a new computation.

● To Enter Calculator Mode



Pressing the **CAL** key shifts the system into calculator mode and wipes the screen clean. Now it is waiting for you to enter figures for calculation.

● To Key in Numerical Expressions

In calculator mode the system can perform ordinary arithmetic—addition, subtraction, multiplication, and division. The numbers, operators, and result are displayed in four lines on the screen.

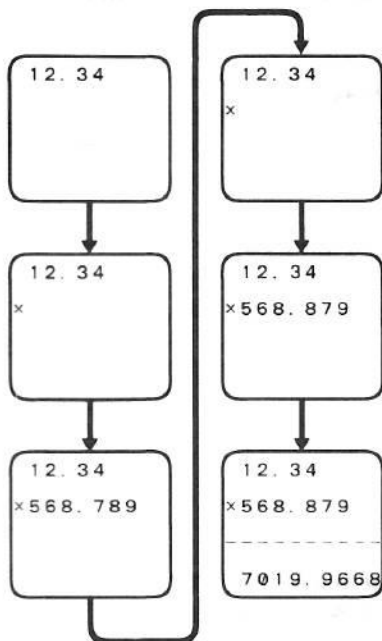
Ex. 1: Calculate 12.34×568.879

Key in the first number:

Key in the multiplication sign:

Key in the second number:

※ Whoops, that was supposed to be 568.879!
Now what?



If you key in an incorrect numeral or operation symbol, press the key; the last number or symbol entered will be deleted.

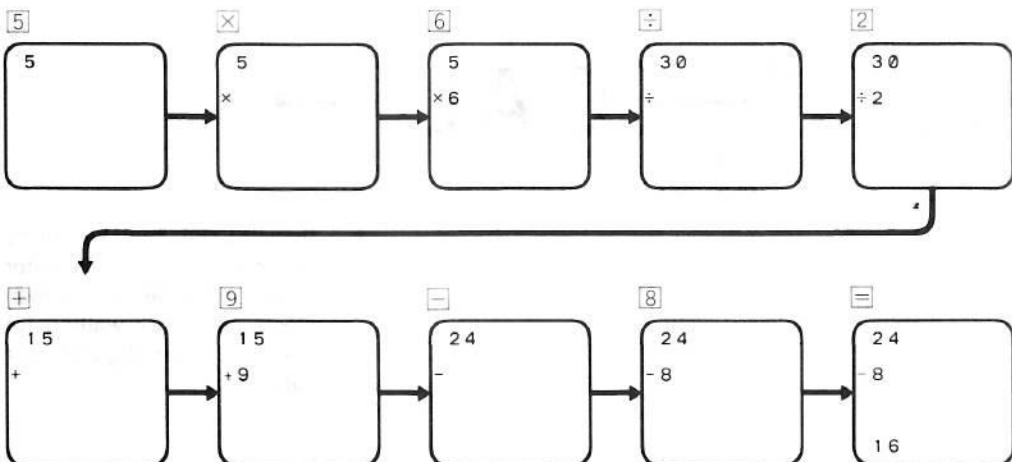
Then enter the correct number or symbol. In the example, key in the second number again: .

Press the key. The answer will be displayed at the bottom of the screen.

Press the or key to clear the screen for the next calculation.

Ex. 2: Calculate $5 \times 6 \div 2 + 9 - 8$.

Key in the numbers and symbols from left to right. The interim process and the result will appear on the screen in turn.



● If you get an Error Message

When the result of a calculation exceeds 8 digits, it overflows the capacity of the screen. The word ERROR will be displayed along with an approximate result.

Ex.

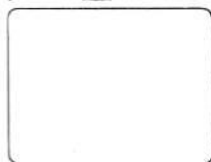
12.34
× 56789102
*** ERROR*
7.0077751

 Calculate $12.34 \times 56789102 = 700777518.68$. In the illustration, the decimal point marks the hundred millions place. Thus, 7.0077751 should be read as the approximate result 700,777,510 by moving the decimal point eight places to the right.

HOW TO GO ON AFTER THE ERROR MESSAGE HAS APPEARED

To abandon the calculation

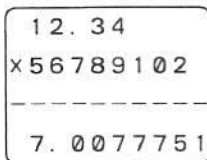
press **AC**.



All the data on the screen will be cleared. Now you can begin a new calculation.

To proceed with the approximate calculation

Press **CE**.

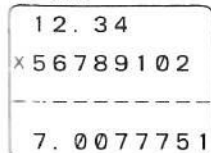


Only ERROR will be cleared; you can carry on with the approximate calculation.

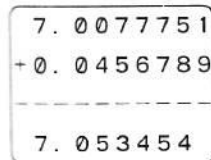
TO CARRY OUT AN APPROXIMATE CALCULATION AFTER THE ERROR MESSAGE HAS APPEARED

To add or subtract

Convert the number you want to add/subtract to the previous approximate result into an exponential expression ($\times 10^8$) by moving the decimal point eight places to the left.



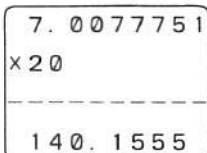
To add 4567890 to the approximate result shown here, convert it into 0.0456789×10^8 .



Enter 0.0456789 and press **=**. The result is given as 7.053454. Multiply it by 10^8 (move the decimal point eight places to the right) to find the approximate result, 705,345,400.

To multiply or divide

Key in the next number (unchanged) to obtain an approximate result.

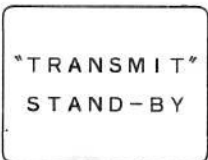


To multiply by 20 : Key in 20 and press the **=** key. The result is given as 140.1555. Multiply it by 10^8 (move the decimal point eight places to the right) to find the approximate result, 14,015,550,000 ($140.1555 \text{ times } 10^8$).

● To Leave Calculator Mode

page 46 of 46

When you have finished using the calculator, press the **F10** key to leave the calculator mode. The display will then read "TRANSMIT" STAND-BY, as shown here.



HOW TO USE THE GAME ROM PACK

With the game ROM pack, your watch becomes a game center. When the rom pack is inserted in the controller ROM pack port, games from it can then be loaded into the watch. This ROM pack contains four game programs.



HIT GAME

Beat the invading enemy!



RACE

How much money can you win?



AMIDA'S LUCK

Get lucky while drawing lots!

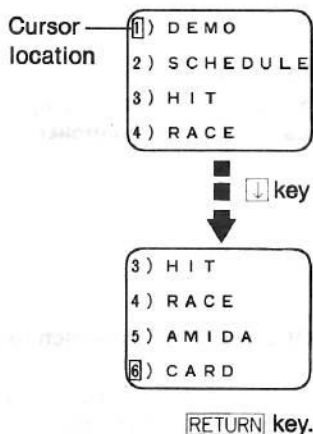


30 CARDS

How many pairs of cards can you guess correctly? Test your memory against the computer's.

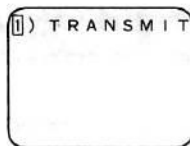
Note: The game ROM pack is provided with your controller and has already been inserted. To insert the ROM pack correctly, see page 63.

● Loading the Game ROM Pack programs

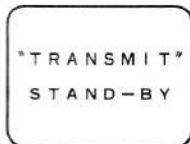
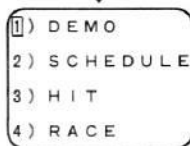
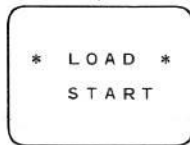


- 1 Move the cursor to the number of the game you wish to load into the watch and press the **RETURN** key.

*When the cursor is at the bottom of the screen, pressing the **↓** key again will cause 5) AMIDA and 6) CARD to appear on the display.



RETURN key



- ② Press the **RETURN** key again to load the game you have selected into the watch.

(Loading the game into the watch will take approximately 40 seconds.)

*When the game is loaded, the application mode menu will be displayed. The watch is now in the application mode. Memo A and Memo B have been erased and replaced by the game program.

- ③ Press the **F10** or **STOP** key on the controller. "TRANSMIT" STAND-BY will appear on the display.

- ④ Turn the controller power switch OFF.

- ⑤ Press the **TRANSMIT** button on the watch to return to the time/calendar display, then remove the watch from the controller.



- ⑥ Press the **MODE** button on the watch to play the game.

The name of the game will be displayed, and the program will start running.

*Game sound effects are linked with the watch's hourly time signal. If the hourly time signal is not engaged, the game will run without sound effects. To restore sound effects engage the hourly time signal.

HIT GAME

Summary

Shoot the enemy!

You must maneuver and fire the cannon (■) to destroy the enemies (>, X, ♣) who invade the screen.

[Rules]

- You are initially allotted 100 seconds.
- You score one point each time you hit an enemy with a cannonball.
- Each time you score 50 points you are allotted an additional 30 seconds.
- The game is over when the total allotted time (the initial 100 seconds plus extensions) counts down to 0.
- If your cannon brushes an enemy without striking it dead on, your allotted time will be reduced by 10 seconds. (It will not, however, be reduced if your allotted time is already less than 10 seconds.)

Button Operation



- A: Fires a cannonball.
- B: Stops the game.
- C: Moves the cannon to the left.
- D: Moves the cannon downward.

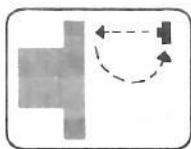


Button Operation



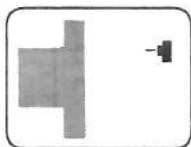
● Moving the cannon downward

The cannon moves downward each time you press the D button. Pressing the D button when the cannon is at the bottom of the screen will cause it to jump to the top of the screen.



● Moving the cannon to the left

The cannon advances toward the enemy each time to press the C button. But pressing the C button when the cannon has already advanced three steps to the left will cause it to jump back to the right side of the same line.



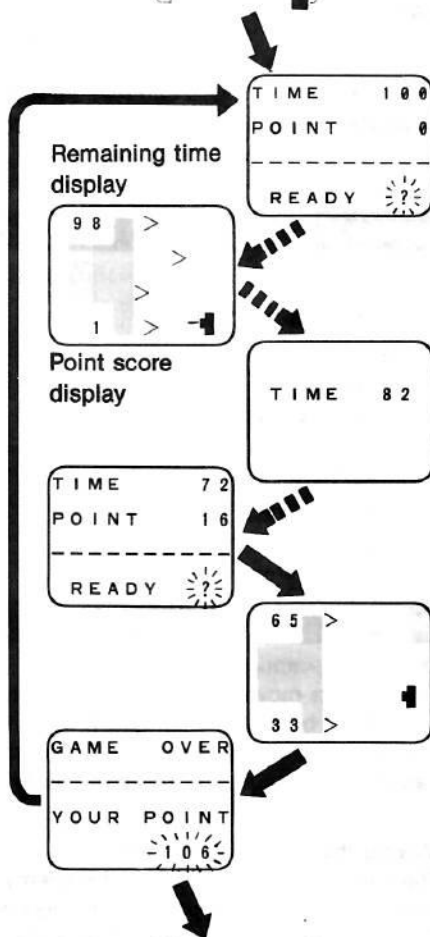
● Firing a cannon

Press the A button each time you wish to fire the cannon.

How to Play the Game



Press the D button. When the words HIT GAME appear on the screen, the watch is ready for play.



Press the D button again to start the game.

Your remaining time is displayed in the upper left corner of the watch's liquid crystal display. Your score is displayed in the lower left corner. Press the C and D buttons to maneuver the cannon and the A button to fire it at the enemy. Remember, if a cannon only brushes an enemy without hitting it directly, your allotted time will be reduced by 10 seconds as a penalty.

The game is interrupted while the display shows your remaining time and point score. Press the D button to resume play.

When your allotted time counts down to 0 seconds, the game is over. Your point score will be displayed.

Press the D button to restart the game. Press the B button to stop the game.

※ Pressing the B button during play will cancel the game. The watch will return to the time/calendar display.



RACE

Summary

The thrill of the big race!

The runners are off. It's going to be close! Who will reach the finish line first?

[Rules]

- After the payoff rate for each of the four lanes is displayed, decide how much you will bet.
- You are allowed to bet up to \$90 in \$10 units.
- You start with \$100 in hand.
- The results of each race will automatically increase or decrease your funds.
- The game is over when you have less than \$10 or more than \$999,999.

Button Operation



- A: Selects the lane and sets the amount of money you bet.
- B: Stops the game.
- C: (Not used in this game)
- D: Starts the game/Sets the lane/Starts a race



How to Play Race.



Press the D button. When the word RACE appears on the screen, the game is ready to play. Pressing the D button again starts the game.

```
> 1 LANE : 7 . 1  
2 LANE : 2 . 5  
3 LANE : 1 . 7  
4 LANE : 3 . 4
```

```
1 LANE : 7 . 1  
> 2 LANE : 2 . 5  
3 LANE : 1 . 7  
4 LANE : 3 . 4
```

```
2 LANE : 2 . 5  
$ 1 0 0      $-0-0
```

Display of money remaining

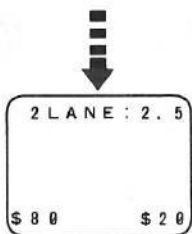
Display of amount bet

The payoff rate for each lane will now be displayed.

Press the A button to select the lane you want. (The > mark moves down one line each time you press the A button.)

Press the D button to set the lane on which you wish to bet (lane 2, for example, in the illustration above).

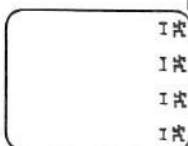
The number and payoff rate of the lane you select will be displayed at the top of the liquid crystal display, the amount of money you have remaining in the lower left corner, and the amount of your bet in the lower right.



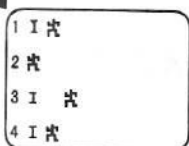
Each time you press the A button, you increase your bet by \$10. (In the illustration \$20 out of \$100 are being bet, leaving \$80 left over.)



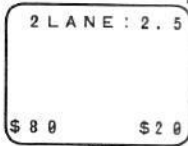
Press the D button to record the amount of your bet and start the race.



The runners dash for the finish line. It's going to be close.



Which one will reach the finish first?



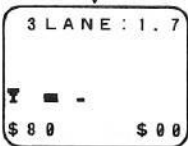
When the winner reaches the finish line, the lane display disappears and is replaced by the display illustrated above.

If your runner loses (left)

If your runner wins (right)

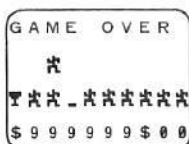


The number of the lane you selected and its payoff rate start flashing. Your winnings will be added to the amount of money you have remaining. (In the illustration $2.5 \times \$20 + \$80 = \$130$) The bet is reset to \$00.



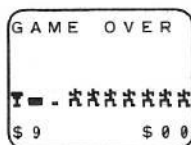
The bet is reset to \$00, as illustrated above. Press the D button to restart the race.

Game Over



When the amount of money you have remaining exceeds \$999,999.

The display in the illustration appears, signaling the end of the game.



When the amount of money you have remaining is less than \$10.

The display in the illustration appears, signaling the end of the game.



To stop the game, press the B button.

* Pressing B during play cancels the game and returns the watch to the time/calendar display.

AMIDA'S LUCK

Summary

Who draws the lucky lot?

Let the computer tell your fortune. (One to four persons can play.)

[Rules]

- Four symbols are displayed at the top of a maze. Position each symbol above one line of the maze.
- The symbols will move through the maze. The one which completes it first represents good fortune. The second is worse, and so on down to the fourth which represents bad luck.

Button Operation



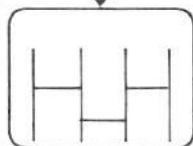
- A: Moves the symbols.
- B: Stops the game.
- C: (Not used in this game)
- D: Starts the game/Starts the symbols moving through the maze/Sets the location of each symbol at the start of the game.



How to Play the Game



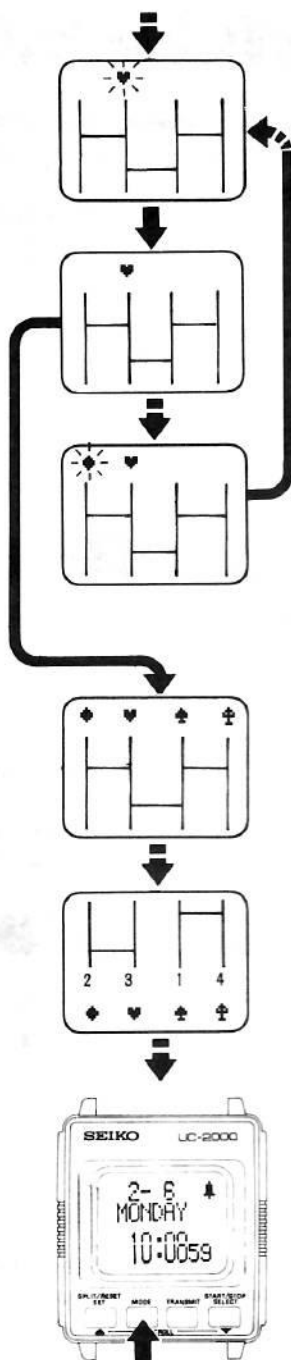
Press the D button.



The game is ready to play when the display illustrated above appears.



When you press the A button, the first symbol appears above the leftmost line.



Pressing A again will move it one line to the right.

Move the symbol to the line you select and press the D button to set its position.

Press the A button again and repeat the same process until all four symbols are in place.

Now press the D button to start the symbols moving through the maze. The display will show their movements and their "luck" (1-4) at the end.

To stop the game, press the B button.
To restart the game, press the D button.

※ If you press the B button while playing the game, the game will be canceled and the watch will return to the time/calendar display.

30 CARDS

Summary

This game is an enhanced version of concentration, a game in which you try to remember where pairs of cards with the same face value are located.

How many pairs can you collect out of 30 cards? Pit your intuition and memory against the computer.

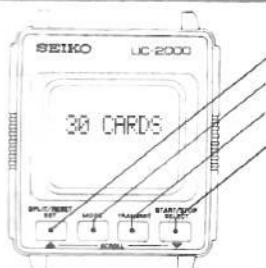
[Rules]

- There are 30 cards in all.
- You score points by picking two cards with the same face value.
- There are two skill levels: Level 1 for beginners and Level 2 for advanced players.

Designs, number of cards with each design, score

Designs	Number of cards with each design	Score
♥ ♦ ♣ ♠	4	1
♣ ♠ ♠ ♠	2	2

Button Operation



- A: Selects level/cards.
- B: Stops the game.
- C: (Not used in this game)
- D: Starts game/Sets level/Turns over a card

- If two cards have the same design you score points and may turn over another pair of cards. (The first pair disappears.)
- If the cards you turn over are not a pair, they will be turned face down again. It is then the computer's turn to play.

How to Play the Game

Press the D button.

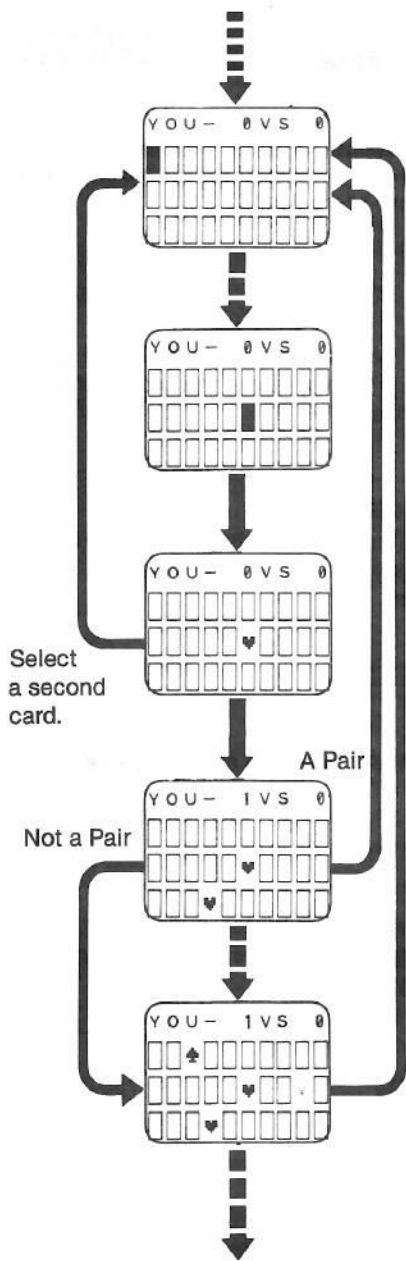


LEVEL?
> LEVEL 1
LEVEL 2

The display will ask which skill level, Level 1 or Level 2, you want. Press the A button to select the level you prefer.

LEVEL?
LEVEL 1
> LEVEL 2

Press the D button again to start play.



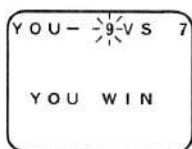
Press the A button to select a card.

Press the D button to turn that card over.
Turn it over, too.

If the two cards share the same design you will score either one or two points. You may then select and turn over another pair of cards.

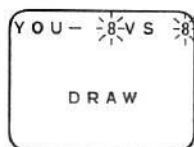
Matching cards disappear. Nonmatching cards are turned face down again. Now wait a moment while the computer takes its turn.

Your score will be displayed when the last card has been turned over.



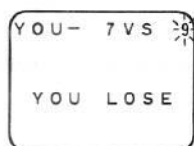
YOU WIN

If you win, the words YOU WIN are displayed and your score flashes.



DRAW

When the game ends in a draw, the word DRAW is displayed and the scores of both sides flash.



YOU LOSE

When the computer wins, words YOU LOSE are displayed and the computer's score flashes.



When the game is over, the two skill levels (Level 1 and Level 2) are displayed again.



Press the B button to stop the game.

**Pressing the B button during play will cancel the game and return the watch to the time/calendar display.

ERROR MESSAGES

If you make a mistake in using the Wrist module UC-2000 or Controller UC-2200 while the watch is attached to the controller, the printer will print out an error message.

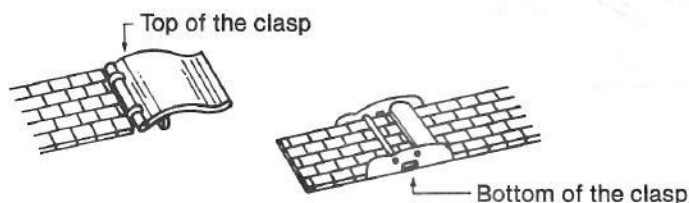
ERROR MESSAGE	SOURCE OF THE PROBLEM	REMEDY
Memory Empty	An attempt has been made to PRINT or BACKUP a blank Memo or SCHEDULE.	Input data into the Memo or SCHEDULE before attempting to PRINT or BACKUP.
Memory Limit Error	In Editing Memo A or B, you have exceeded the limit of 100 lines.	Delete unneeded lines, then enter more data in Memo.
	An attempt has been made to load the Memo B area of the watch with more than 1,000 characters (100 lines) of data, using BASIC.	Limit entries to 1,000 characters (100).
Loading Error	An attempt has been made to load data from the BACKUP area of the controller into Memo A on the watch although no data have been saved in the BACKUP area.	BACKUP Memo A before attempting to load from BACKUP.

ERROR MESSAGE	SOURCE OF THE PROBLEM	REMEDY
Program Choice Error	An attempt has been made to use an application program which has not been loaded into the watch. For instance, this error message will be printed if an attempt is made to use the controller to input a SCHEDULE entry (INPUT) when a game program has been loaded into the watch instead of the SCHEDULE program.	Identify the program loaded into the watch; load the desired program.
Transmission Error	Transmission has not been completed properly. <ul style="list-style-type: none"> •The watch may have slipped off the transmission circuit during transmission, or the transmission may have been garbled by heavy external electrical noise. •The watch may not be on set on the controller transmission circuit. •The watch may not have been in the transmit mode (screen reading "TRANSMIT" STAND-BY). 	Set the watch on the controller transmission circuit properly. (See page19.)
System Error	Presence of heavy external electrical noise	No particular remedy can be taken; the system will return to normal automatically when the electrical noise ceases.

HOW TO ADJUST AND FASTEN THE BRACELET

To put on the watch

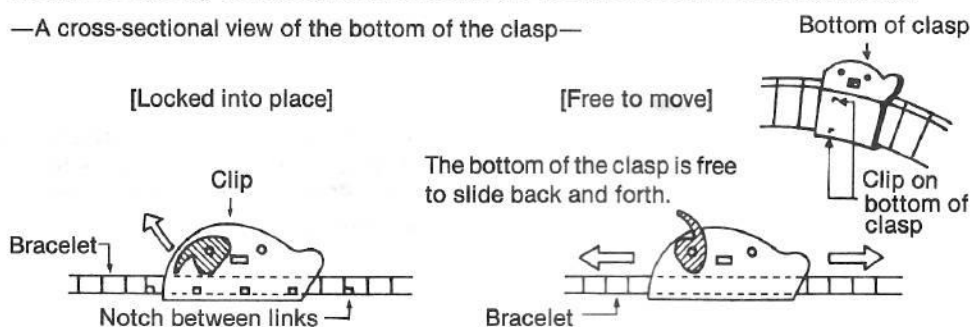
The bracelet has an adjustable clasp. To adjust the length of the bracelet, pry up the clip on the bottom of the clasp. Move the clasp to loosen or tighten the bracelet. Then press the clip down, locking the bottom of the clasp in position.



To Adjust the Length of the Bracelet

Pry up the clip in the bottom of the clasp and shift the clasp to find the length that suits you. Then press the clip down so that it locks into the notch between links in the bracelet.

—A cross-sectional view of the bottom of the clasp—

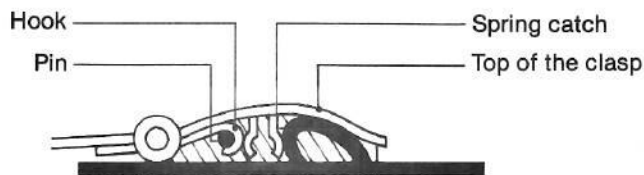


*To fix the position of the clasp, the clip must lock into a notch between two links on the bracelet.

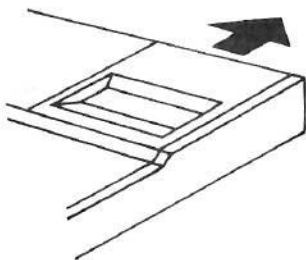
To clasp the bracelet

Fit the hook on the top of the clasp over the pin on the bottom of the clasp. Press down the top lightly. The spring catch in the top of the clasp will engage, holding the clasp closed.

—A cross-sectional view of the clasp when closed —



TO INSERT PAPER IN THE PRINTER



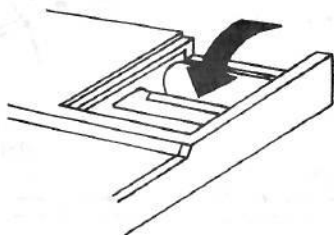
1

Slide the printer cover in the direction of the arrow. It will come off.



2

With scissors, trim the leading edge of the paper roll to a point, as illustrated.



3

Turn the controller power switch ON and insert the leading edge of the paper into the feed slit. Press the **FEED** key. The leading edge of the paper will feed up and out from the printer.



4

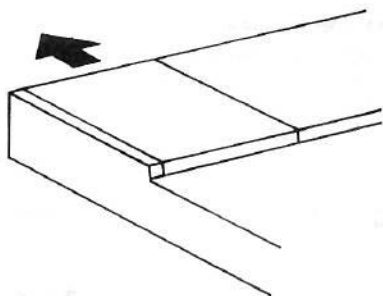
Replace the printer cover.

* Use SEIKO 58mm-wide thermal paper rolls (SEIKO RP-010).

TO INSERT THE ROM PACK

Always turn the controller power switch OFF before inserting or removing the ROM pack.

The game ROM pack comes with the system.

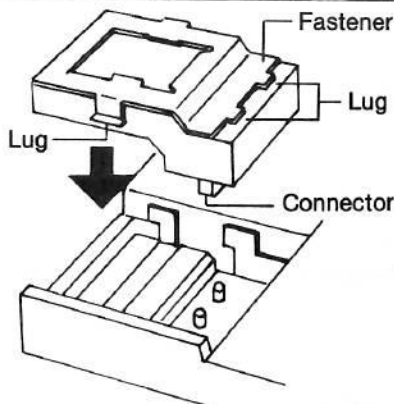


1

Turn the controller power switch OFF.

2

Slide the controller ROM pack port cover in the direction of the arrow. It will come off.

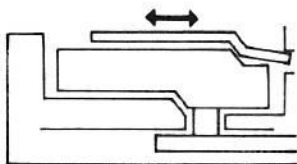


3

Fit the ROM pack connector into the slot in the bottom of the ROM pack port in the controller.

4

Slide the fastener forward so that the lugs on the ROM pack will fit into the slots in the ROM pack port.



5

Replace the ROM pack port cover.

Note 1: Never touch the connector of the ROM pack with your bare hands; that can cause failure through bad contact between the ROM pack and controller.

Note 2: Should the controller fail to function properly after you have inserted the ROM pack, reinsert the ROM pack after carrying out the following steps:

- 1 Turn the controller power switch OFF.
- 2 Remove the ROM pack port cover and take out the ROM pack
- 3 Remove the battery hatch to check whether batteries have been installed. Then replace the battery hatch.
- 4 Re-insert the ROM pack, following the instructions above.

How to Replace the Watch Battery

● Battery replacement cycle

1) First replacement after purchase

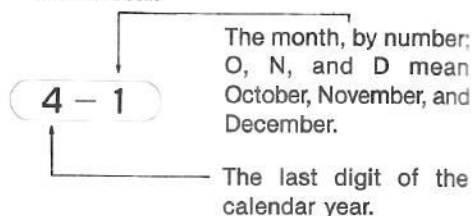
A new battery will serve about a year and a half. The seal on the back of your Wrist module UC-2000 shows the date on which the new battery was inserted at the factory. Replace the battery on time by reckoning the remaining battery life from the date shown on the seal.

2) Subsequent battery replacements

Refer to the last date on which the battery was replaced to calculate when the next replacement is due.

● Reading the seal

If the battery was inserted during January, 1984, the following codes would appear on the seal.



Note 1: Letting the battery run down or replacing the battery destroys the data in Memo A and Memo B. We recommend that you save your data by printing it out or by backing it up in the controller. (See page 27.)

Note 2: Battery life may be shorter than the specified period if the alarm sound for more than 20 seconds a day and the button operation sounds more than 29 times a day. The following circumstances may also shorten the watch battery life:

- Frequent use of the watch in combination with the controller
- Frequent use of the watch for playing games loaded from the game ROM pack.

● Replacing the Battery

For details, consult your agent or dealer.

● How to reset the watch

If the watch does not function properly or if its display is acting oddly, try the following procedures:

- 1 Set the watch on the controller. The watch may be in any mode.
- 2 Turn the controller power switch ON.
- 3 Hold down all four watch buttons and press the controller **STOP** key.
- 4 If this procedure succeeds in resetting the watch properly, the screen will display 1-1, SUNDAY, 12:00:00 A.M. Set the time and calendar to the current time, date, and day.

Note: Resetting the watch destroys all the memo data recorded in it. Never try resetting the watch when it is working properly.

● Contrast adjustment

After battery replacement, the contrast on the liquid crystal display panel may change. If the display is too faint to read, attach the watch to the controller and adjust the contrast. (For details, see page 10.)

The controller is powered by three AA alkali-manganese batteries. It can also run on alternating current if used with the optional AC adapter. If you use your printer frequently, we suggest you use the AC adapter, since running the printer is a heavy drain on the batteries.

● Battery replacement

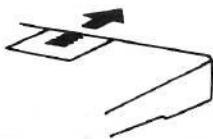
When the battery voltage grows too weak, the printer will print out "Change Batteries." The printer will not work from then on until you change the batteries. The other controller features will continue to work for some time, however. With some battery types or at some temperatures or other environmental conditions, the printer may fail before it is able to print out the "Change Batteries" message. Replace the batteries immediately. If you leave the dead batteries in the controller, they may leak, causing serious damage. Always replace all three batteries at once.

YOU HAVE THREE MINUTES FOR REPLACING THE BATTERIES WITHOUT ERASING THE MEMO A BACK UP AND BASIC PROGRAM RECORDED IN THE CONTROLLER.

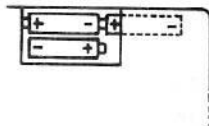
To replace the batteries, follow the steps below.

1 Turn the controller power switch OFF.

2 Slide the battery hatch on the back of the controller in the direction of the arrow. It will come off.



3 Replace all three batteries with new ones. Be sure to put the positive and negative ends of the batteries in the right direction. Take only three minutes to change the batteries.



4 Replace the battery hatch. Battery replacement is completed.

With new batteries, the controller will work for about 300 hours, if you do not operate the printer. If you use the printer, the batteries will last to print out about 2,500 lines.

THE CONTROLLER IS PROVIDED WITH AN AUTO POWER-OFF FEATURE. EVEN IF YOU FORGET TO TURN OFF THE CONTROLLER POWER SWITCH, IT WILL TURN OFF AUTOMATICALLY IN ABOUT 10 MINUTES.

● How to Reset the Controller

If the controller is left without batteries for a long time, it may not function properly when you install new batteries. Follow the reset procedure below.

- 1 Turn the controller power switch ON. If the switch is already on, turn it off, then turn it on again.
- 2 Holding down **SHIFT**, press the **□** key.
- 3 Turn the controller power switch OFF again. This procedure resets the controller.

Note: Resetting the controller will destroy anything stored in it—backup of Memo A and BASIC program. Therefore, if the controller is working properly, never try resetting it.

● How to Use the AC Adapter (optional)

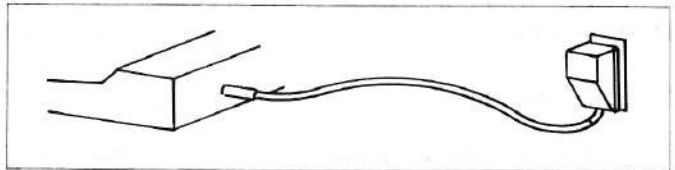
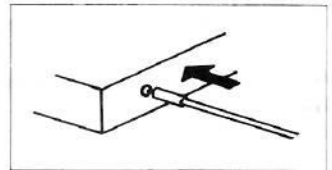
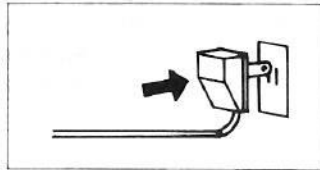
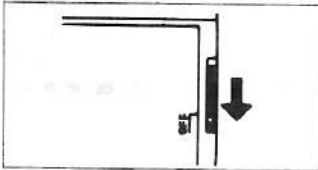
Always keep batteries in the controller, even when you are using the AC adapter. Without the batteries, the backup of Memo A and BASIC program will be destroyed if the AC adapter is unplugged from the outlet.

● To connect the AC adapter, follow the procedure below.

1 Turn the controller power switch OFF.

2 Plug the AC adapter into a wall outlet.

3 Insert the AC adapter plug into the AC adapter jack on the controller.

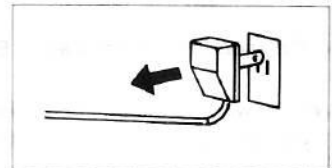
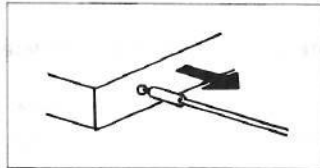
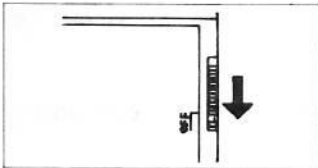


● To disconnect the AC adapter, follow the procedure below.

1 Turn the controller power switch OFF.

2 Remove the AC adapter plug from the jack on the controller.

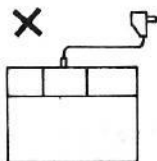
3 Unplug the AC adapter from the wall outlet.



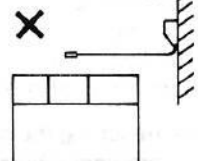
Note: If you need to use the AC adapter without batteries in the controller, be sure to perform the reset procedure (**SHIFT** + **□**) before using the controller.

Note: Disconnect the AC adapter when not in use.

Do not leave it plugged into the AC adapter jack on the controller.



Do not leave it plugged into a wall outlet.



TAKE PROPER CARE OF YOUR WATCH AND CONTROLLER

WATCH

Water

Your watch is not water resistant; care should be taken not to expose it to water or heavy perspiration. If it becomes wet with water or perspiration, wipe it completely dry with an absorbent cloth.

Do not operate any of the buttons when the watch is wet.

A small amount of moisture normally exists in the watch; the crystal may become fogged if the outside temperature is lower than that inside the watch. A temporary fogging will not cause a malfunction, but if it does not clear, consult your agent or dealer.

Temperature

Your watch is preadjusted to function accurately when worn on the wrist at a normal temperature range (5°C to 35°C or 41°F to 95°F).

Extremely High Temperatures

Care should be taken not to expose your watch to high temperatures (over 50°C or 122°F). Keep it away from direct sunlight or hot locations. If left in excessive heat:

- The digital display may become black, but this condition will disappear without aftereffects when the temperature returns to normal.
- The battery life may be shortened, and the battery may suffer electrolyte leakage.

Extremely low temperatures

The watch will work accurately down to -10°C (14°F), but do not leave it in a cold place. If exposed to excessive cold for a long time:

- *A small amount of time loss/gain may occur.
- *The display may change more slowly.

The watch will, however, return to normal when the temperature rises.

Shocks

Light sports activities will not damage your watch. However, be careful not to drop the watch or slam it against a hard surface.

Magnetism

Your watch itself will not be affected by magnetism. However, magnetism may have an adverse effect when data is being transmitted from the controller.

CONTROLLER

Temperature

Never expose the controller and ROM pack to high temperatures. Never leave them near a heating appliance or in a closed car in direct sunlight.

Shocks

Be careful not to drop your controller and ROM pack or to hit them hard.

Water and Dust

Be careful not to leave the controller and ROM pack in a dusty place or where they are likely to be splashed with water.

OTHER THINGS TO BE AVOIDED

Chemicals

Be careful not to expose watch, controller and ROM pack to chemicals, solvents (alcohol, gasoline), adhesives, or paints. They could damage or discolor the watch and controller.



Care of Case and Bracelet

Dust and moisture on the case and bracelet may cause rust. Wipe them off with a soft, absorbent cloth.

The liquid crystal display may, after seven years of continuous use, develop loss of contrast and a blurring of the display. If that occurs, have your dealer or agent replace the liquid crystal display.

BEFORE ASKING FOR SERVICING

Should your system develop a bug, read the following checklist before calling a serviceman. You may be able to solve the problem yourself.

SYMPTOM	CAUSE	REMEDY
Nothing shows up on the watch screen	Low contrast on liquid crystal panel	Attach the watch to the keyboard or controller and intensify the contrast on the liquid crystal panel. (See page 10.)
	The watch has not been reset after battery replacement.	Reset the watch. (See page 64.)
	The watch battery is dead.	Replace the the battery. (See page 64.)
The watch display is hard to read.	Low contrast on liquid crystal panel. Battery replacement has changed the contrast on the liquid crystal panel.	Attach the watch to the controller or keyboard and adjust the contrast on the liquid crystal panel. Note: If the liquid crystal panel has been used for more than seven years, it may lose contrast and data display may become blurry.
The watch buttons will not work.	The watch has not been reset after battery replacement.	Reset the watch. (See page 64.)
Pressing a controller or keyboard key does not make that character or symbol appear on the display.	The key is stuck under the faceboard. 	Unstick the key. 
	ROM pack is not inserted correctly.	Insert the ROM properly. (See page 63.)
	The battery replacement for the controller has taken more than three minutes.	Reset the controller. (See page 65.)
	The controller batteries are dead.	Replace the batteries. (See page 65.)
No hourly time signal	The hourly time signal mark (#) is not displayed. Testing the alarm has erased the hourly time signal mark.	With the watch in the time/ calendar display mode, press the SET and SELECT buttons simultaneously.
The alarm does not ring at the time set.	The alarm will not ring when the watch is in the "TRANSMIT" STAND-BY mode or when it is in use on the controller.	

PRODUCT SPECIFICATIONS

Wrist Module UC-2000		
Quartz oscillating frequency		32,768 Hz
Accuracy		To within ± 15 seconds a month at normal temperature range (5°C to 35°C or 41°F to 95°F).
Operating temperature range		-10°C to 50°C (14°F to 122°F).
Usable temperature range		0°C to 40°C (32°F to 104°F).
Display	Time/calendar	Hours, minutes, seconds, month, day, and date, hourly time signal mark.
	Alarm	Hours, minutes, AM/PM, alarm ON/OFF
	Stopwatch	Hours, minutes, seconds, hundredths of a second; STOPWATCH, STOP, RUN, SPLIT
	Memo A	MEMO A, characters and symbols (total of 1000 characters)
	Memo B	MEMO B, characters and symbols (total of 1000 characters)
Display medium		FE (field-effect) nematic liquid crystal
Battery		One lithium battery, SB-T12 (BR2325)
Battery life		Approximately 1.5 years
Electronic circuitry		Five CMOS LSIs and one bipolar IC

Controller UC-2200	
External dimensions and weight	External dimensions: 200(W)×140(D)×30(H)mm
	Weight: 452g (including batteries, paper, and game ROM pack)
Operating environment	Operating temperature range: 0°C to 40°C (32°F to 104°F)
Power supply	Batteries: Three AA alkali-manganese batteries
	Battery life: approximately 300 hours under normal continuous operation.
	Power consumption: 0.045 watts when the power switch is on, 1.35 watts when the printer is in use.
Electronic circuitry	Clock frequency: 455 kHz
	IC: five LSIs and five gates
	ROM: 26 KB (Up to 34 KB with additional ROM pack)
	RAM: 4 KB.
Transmission circuit	Transmission system: Electromagnetic coupling duplex serial system.
	Transmission rate: 2,048 baud
Printer	Printing system: Thermal printer (20-digit dot matrix)
	Paper: Heat-sensitive roll paper (SEIKO-RP-010), 58 mm wide in roll of 18 mm diameter max.
ROM Pack	Dimensions: 44 (W)×42 (D)×21 (H) mm Weight: 20g Operating temperature range: 0°C to 40°C (32°F to 104°F) Operating voltage: DC 4.5V Power consumption: 0.0075W Electronic circuitry: 1 CMOS LSI, 8KB

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