

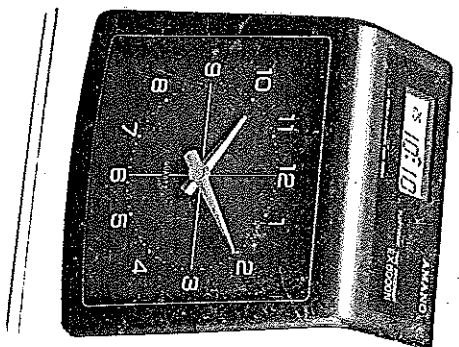
**AMANO**

ELECTRONIC TIME RECORDER

**EX6000N** series

**OPERATION MANUAL**

ENGLISH / 中国語 / ESPAÑOL



ENGLISH

中国語

ESPAÑOL

ELECTRONIC TIME RECORDER

**EX6000N** series

OPERATION MANUAL

~ENGLISH VERSION~

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## INTRODUCTION

Read this manual carefully, and you will be able to operate this EX6000N Series time recorder correctly and efficiently for a long time.

- ◆ The specifications, appearance, and descriptions are subject to change due to improvement.
- ◆ This manual has been carefully prepared, but if you find any errors or any descriptions which you cannot understand clearly, contact the dealer from whom you have bought this time recorder.

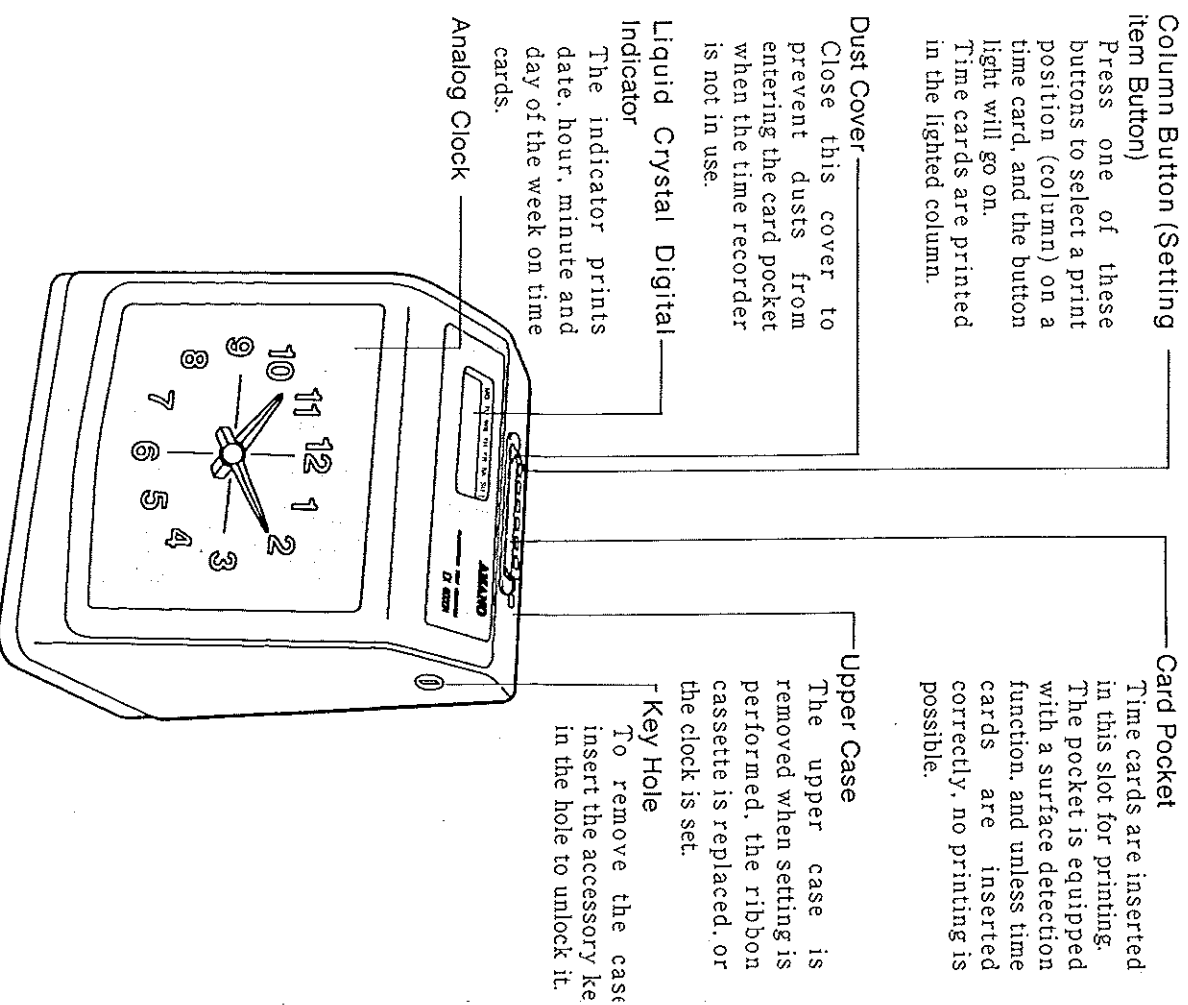
### List of Models

	EX6000N	EX6200N	EX6400N
Printing during power failure	○	○	○
1-color printing	○		
2-color printing		○	○
Time signal		○	○
Melody		○	○
Balanced printing		○	
Automatic shift of print position			○

Note : EX6000N Series time recorders will not operate normally unless installed in a proper environment. Do not install them outdoors or where they are exposed to rain.

# NAMES AND FUNCTIONS OF PARTS

## Names and Functions of Parts of Exterior Parts



## Programming Section

Remove the upper case to set each item. Turn the setting index, press the setting item button and start setting items written on the index. For setting details see pages 7~31.

**Note :** The following explains the setting method according to the index of EX6200N index. The functions of EX6000N is different from those of EX6200N, so parts of their indexes are blank.

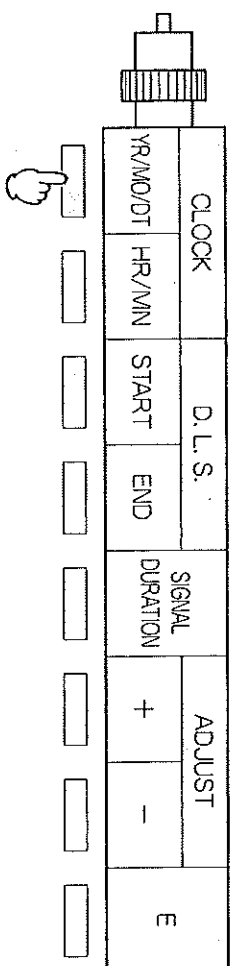
### Setting Index ①

	PAY END BLANK CURRENT W.	DAY CHANGE	SECOND RESET +MIN.	STOP	IMPRINT	ADJUST +      -		E

PAY END BLANK CURRENT W.	This button is used to select a pay period ending date or week, a blank row position on time card (monthly pay only) or a current week (in case of bi-weekly pay only). Press the "+" or "-" button to change the value.
DAY CHANGE	This button is used to change the time at which the date changes over. Press the "+" or "-" button to change the value.
SECOND RESET + MIN.	Press this button to advance the clock one minute. Hold this button down to advance the clock quickly. The moment this button is pressed, the clock is reset to 00 seconds. The analog clock is synchronized.
SECOND RESET STOP	Press this button to reset the clock at 0 seconds. At the moment this button is released, the clock is reset to 00 seconds.
IMPRINT	Use this button to change print formats such as card type, 24hours/12hours indication change-over, printing, minute imprint, day of the week, etc. The manual column selection ON/OFF can also be set. (EX6400N only)
ADJUST +	Press this button once to increase a set value by 1. Hold this button down to increase a set value quickly.
ADJUST -	Press this button once to decrease a set value by 1. Hold this button down to decrease a set value quickly.
E	Press this button to register set values.

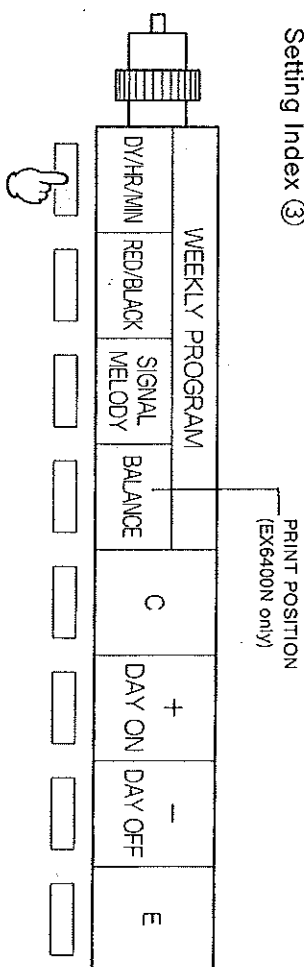
\*Connect the battery connector immediately. (See page 34)

## Setting Index ②



<b>CLOCK</b>	Use this button to change year, month, and day. To change these values, press the "+" or "-" button.
<b>YR/MO/DT</b>	
<b>CLOCK</b>	Use this button to change hour and minute. To change these values, press the "+" or "-" button.
<b>HR/MN</b>	
<b>D.L.S.</b>	Use this button to set the starting date of daylight savings time. The starting date can be set by designating a date and a month or a day of the week. The change-over time can be set at any time between one o'clock and nine o'clock in hour units. Change the value by pressing the "+" or "-" button.
<b>START</b>	
<b>D.L.S.</b>	Use this button to set the ending date of daylight savings time. If both the starting and the ending dates are set to the same date, the set daylight savings time is canceled. If only the starting date or the ending date is set, the daylight savings time function will not operate. Change the value by pressing the "+" or "-" button.
<b>END</b>	
<b>SIGNAL DURATION</b>	Use this button to change time signal duration. Change the value by pressing the "+" or "-" button. The initial value is 5 seconds.
<b>ADJUST</b>	Press this button once to increase a set value by 1. Hold this button down to increase a set value quickly.
<b>+</b>	
<b>ADJUST</b>	Press this button once to decrease a set value by 1. Hold the button down to decrease the set point quickly.
<b>-</b>	
<b>E</b>	Press this button to register set values.

## Setting Index ③

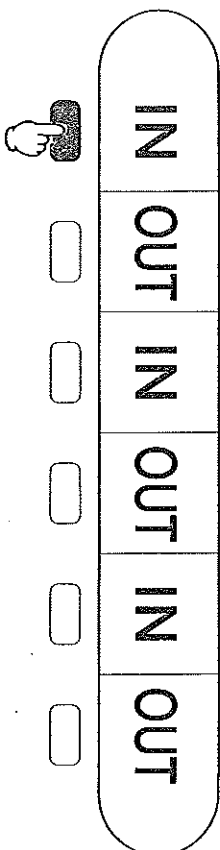


<b>WEEKLY PROGRAM</b>	Press this button to set day of the week, hour, and minute in a weekly program.
<b>DY/HR/MN</b>	
<b>WEEKLY PROGRAM</b>	Press this button to set change-over of ribbon color for printing time cards in black or red in a weekly program.
<b>RED/BLACK</b>	
<b>WEEKLY PROGRAM</b>	Press this button to set time signal and melody.
<b>SIGNAL MELODY</b>	
<b>WEEKLY PROGRAM</b>	Press this button to set balance printing (EX6200N) or to set shift of print column (EX6400N).
<b>BALANCE</b>	
<b>PRINT POSITION</b>	
<b>C</b>	Hold this button down for more than 2 seconds to cancel the content of the weekly program number displayed. (If this button is held down for less than 2 seconds, only the screen contents will be canceled, and the existing program contents will remain.)
<b>+</b>	When setting a weekly program, press this button to stop the day of the week from blinking and make it effective for the program. Hold this button down to advance any value quickly.
<b>DAY ON</b>	
<b>-</b>	When setting a weekly program, press this button to extinguish the day of the week blinking and make it ineffective for the program. Hold this button down to decrease any value quickly.
<b>DAY OFF</b>	
<b>E</b>	Press this button to register set values.

# OPERATION

## Selecting the Print Column

Press an appropriate IN or OUT button to select the print position for time cards.

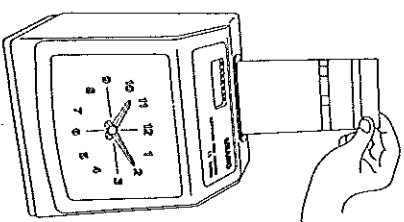


- ◆ Time cards are printed in the column where the column button light is on. To change the print position, press the button corresponding to the desired print position.
- ◆ The print position on time cards remains unchanged until another column button is pressed.

### Print Position Shift (EX6400N only)

The print position shifts automatically at the IN or OUT time set.

## Inserting Time Cards



Insert a time card lightly in the card pocket.  
The card is automatically pulled in and printed.

### Surface Detection Function

If a time card is inserted backwards by mistake, a long "pip" sound will occur, and the card will be rejected.

- ◆ Time cards are automatically pulled in. Do not push them in the card pocket by force, and do not try to pull them out during printing.

- ◆ If a time card is inserted upside down by mistake, it will be printed. Be careful to correctly insert time cards in the card pocket.

- ◆ Do not insert any objects other than time cards.

# SETTING

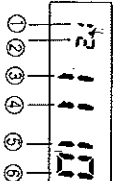
Since the clock runs on lithium batteries stored inside, it indicates dates and times set in Japan when the power is turned on. Initial values have been set for a pay period ending date and for a day time change. If the initial values are acceptable as they are, no setting is necessary. To adjust the clock change the pay period ending date, the day time change, or to set the weekly program, see pages 9 ~ 31 for those procedures after turning on the power. The weekly program enables the user to set 2-color printing, time signal, melody and balance printing.  
Note : In the EX6000N Series, items to be set are different for each model.

## Set Value Ranges and Initial Values

Item	Content	Set Value Range	Initial Value
Pay period ending date	Pay period ending date	(Monthly pay) 01 ~ 31	31
	Current Week	(Weekly pay) Monday to Sunday	Friday
	Blank	1, 2	1
Day time change	Hour	01 ~ 32	01
	Minute	00 ~ 23	03
	Minute	fixed at 00.	00
Year, month, day	Year	00 ~ 99	93
	Month	01 ~ 12	01
	Day	01 ~ 31	01
Hour, minute	Hour	00 ~ 23	00
	Minute	00 ~ 59	00
	Card type	1 ~ 7	1
Imprint	Surface detection function	1 ~ 2 (EX6000N/6200N) 1 ~ 4 (EX6400N)	2
	Display	1, 2	1
	Imprint of hours	1 ~ 3	1
	Imprint of minutes	1 ~ 4	1
	Imprint of day of the week	0 ~ 8	0

## Setting Imprint

Print formats are changed as follows :

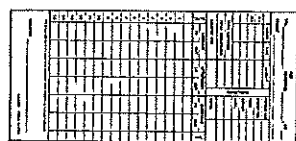


### ① Card Type

Select from 1 ~ 7 the mode which applies to the card you use.

Master Card  
72 2120

- 1 : Monthly pay
- 2 : Upper step Weekly pay (Bottom space : 23mm)
- 3 : Upper step Weekly pay (Bottom space : 35mm)
- 4 : Lower step Weekly pay (Bottom space : 23mm)
- 5 : Lower step Weekly pay (Bottom space : 35mm)
- 6 : Bi-weekly pay (Bottom space : 23mm)
- 7 : Bi-weekly pay (Bottom space : 35mm)



### ② Surface Detection Function

\* The surface detection function operates only when you use Amano time cards (monthly pay cards) or an equivalent with a surface detection cut-out.

Surface detection function	
1	operational
2	not operational

### ● EX6000N/6200N

When using a monthly pay time card, select 1 or 2. When using a weekly or bi-weekly pay time card, 2 is automatically set.

### ● EX6400N

When using a monthly pay time card, select 1 ~ 4. When using a weekly or bi-weekly pay time card, select 2 or 4.

Surface detection function		Shifting print position	
1	operational	operational	operational
2	not operational	operational	not operational
3	operational	not operational	operational
4	not operational	not operational	not operational

- ③ 24-hour/12-hour Indication Change-over
- ④ Print Format

### ⑤ Minute Indication

### ⑥ Day of The Week indication

Item	Content	Set Value Range	Initial Value
Time signal duration	Second	00 ~ 59 (EX6200N/6400N)	05
Day to start Daylight Savings Time	Function	0 ~ 2	0
	Time	1 ~ 9	2
	Month	01 ~ 12	--
	Day	01 ~ 31	--
Day to end Daylight Savings Time	Week/Day	1 ~ 5 / Monday to Sunday	--
	Function	0 ~ 2	0
	Time	1 ~ 9	2
	Month	01 ~ 12	--
Day, hour, minute	Day	01 ~ 31	--
	Week/Day	1 ~ 5 / Monday to Sunday	--
	Day	(Time and day of the week to execute a weekly program) (EX6200N and EX6400N)	Monday 00 : 00
2-color printing		R : To start printing in red. (EX6200N and EX6400N) B : To start printing in black.	R
Time signal	Time signal	ON/OFF (EX6200N and EX6400N)	ON
Melody	Melody	1. Greensleeves (32 sec.) 2. Home on the Range (35 sec.) 3. Westminster (15 sec.) 4. Two Mennetto (10 sec.) No melody (EX6200N and EX6400N)	1
Balance printing	Balance Printing	Time to start balance printing 1 : Work starting time 2 : Work ending time No balance printing (EX6200N)	1
Print column	Column position	0 ~ 6, None (EX6400N)	1

Remove the upper case and turn the setting index.

PAY END BLANK CURRENT W.	DAY CHANGE	SECOND	RESET	IMPRINT	ADJUST		E
		+MIN.	STOP		+	-	

Example : Set "Monthly pay", "Surface detection function is operational", "12-hour indication", "12-hour system printing", "1/100 hour B" and "Date printing".

- 1 Press the IMPRINT button. The initial value will appear.
- 2 To change the card type, press the "+" or "-" button and set "1". Press the "E" button to register it.
- 3 To change the surface detection function (monthly pay only), press the "+" or "-" button and set "1". Press the "E" button to register it.
- 4 To change the 24-hour/12-hour indication, press the "+" or "-" button and set "2". Press the "E" button to register it.
- 5 To change the print format, press the "+" or "-" button and set "2". Press the "E" button to register it.
- 6 To change the minute indication, press the "+" or "-" button and set "3". Press the "E" button to register it.
- 7 To change the day of the week indication, press the "+" or "-" button and set "0". Press the "E" button to register it.

## Changing Pay Period Ending Date

Pay period ending date can be set three ways : weekly pay, bi-weekly pay and monthly pay. Select the desired one. Make the selection when setting imprint. (See pages 9~10.)

Remove the upper case and turn the setting index.

PAY END BLANK CURRENT W.	DAY CHANGE	SECOND	RESET	IMPRINT	ADJUST		E
		+MIN.	STOP		+	-	

### <Weekly pay>

Example : Set the pay period ending date to Monday.

- 1 Press the PAY END button, and the initial value will appear. (The ▲ mark blinks at "FR".)
- 2 Press the "+" or "-" button and bring the ▲ mark to "MO". Press the "E" button, and the blinking ▲ mark stops blinking. The setting has been registered.

### <Bi-weekly pay>

Example : Set the pay period ending date to Sunday and the current week to the second week.

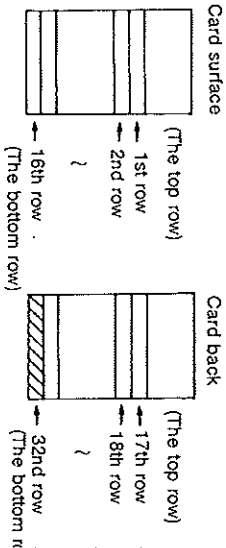
- 1 Press the PAY END button, and the initial value will appear. (The ▲ mark blinks at "FR", and the current week is the first week.)
- 2 Press the "+" or "-" button and bring the ▲ mark to "SU". Press the "E" button, and the blinking ▲ mark stops blinking. The setting has been registered.
- 3 Press the "+" or "-" button to change the number to "2". Press the "E" button, and the blinking number stops blinking. The setting has been registered.



## Monthly pay

In this case, blank rows are also set. A blank row means a row is left blank out of the 32 rows on the surface and back of a time card. The top row of the surface is numbered 01 and the last row on the back is numbered 32. The desired row can be set by designating the number. When the pay period ending date is set, the blank row is set automatically as follows :

Pay end	Blank row No.
31	01
20 - 25	17



Example : Set the pay period ending date to the 25th and the blank row to the 17th.

- 1 Press the PAY END button, and the initial value will appear. (The pay period ending date is the 31st, and the blank row is the 1st.)



- 2 Press the "+" or "-" button and set 25 in place of 31. Press the "E" button to register it. The blank row is set at the 17th.

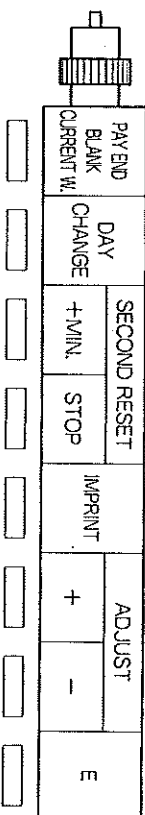


- 3 To change the blank row to another number, press the "+" or "-" button until the desired number appears. Press the "E" button, and the blinking number stops blinking. The setting has been registered.



## Day Time Change

A day time change is the time when a print row is changed on a time card. When a day time change is made, only hours are changed, and the minutes portion is fixed at 00. The initial day time change has been set at 3 o'clock a.m. Remove the upper case and turn the setting index.



Example : Set the day time change at 5 : 00.

- 1 Press the DAY CHANGE button. The initial value will appear. (3 : 00)



- 2 Press the "+" or "-" button, then set "05 : 00". Press the "E" button, and the blinking display will stop blinking. The setting has been registered.



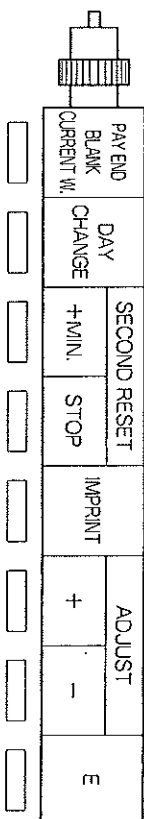
## Setting the Clock

There are two procedures : setting the minutes, and setting the date and hour.

Note : When the clock is set right, the hands will move by themselves, so, never touch the hands.

### Setting Minutes

Remove the upper case and turn the setting index.



- Correct the time by using the "+ MIN." and "STOP" buttons.

SECOND RESET	
+MIN. STOP	

When the + MIN. button or STOP button is pressed, the display indicates the time.

8:30

Each time this button is pressed, the clock advances one minute. Holding it down will advance the clock quickly. Press the clock button, and the clock will automatically begin at 00 seconds.

Press this button to correct seconds. Pressing this button stops the second counting. Release the button, and the clock will automatically start from 00 seconds.

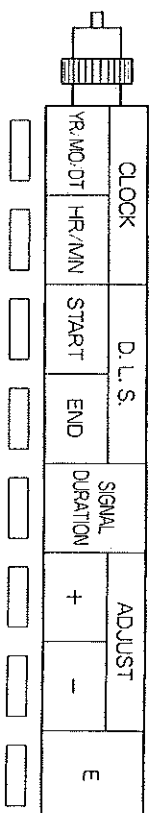
※Minutes cannot be moved backward. If the clock is several minutes fast, adjust the time by pressing the "STOP" button. When the clock is ten or more minutes fast, press the "HR/MIN" button of the clock to adjust the time. (See page 16.)

## Setting the Date

Year, month, date, hour, and minute are set as follows :

Press the "+" or "-" button to change values. Be sure to press the "E" button before setting a new item or when registering values.

Remove the upper case and turn the setting index to indicate the present year, month and date.



### <Setting of Year, Month, and Day>

Example : Change December 18, 1993 to December 21, 1993.

- Press the YR./MO./DT button.

93 12 18

- Press the "+" or "-" button to change the year. If it is not necessary to change the year, press the "E" button.

93 12 18

- Press the "+" or "-" button to change the month. If it is not necessary to change the month, press the "E" button.

93 12 18

- Press the "+" or "-" button to change the date. Press the "E" button to register the setting.

93 12 21

# <Setting of Hour and Minute>

Example : Change 18 : 00 to 8 : 30.

**1** Press the HR/MN button.



**2** Press the "+" or "-" button to change the hour. Press the "E" button to register the setting.



**3** Press the "+" or "-" button to change the minute. Press the "E" button to register the setting.



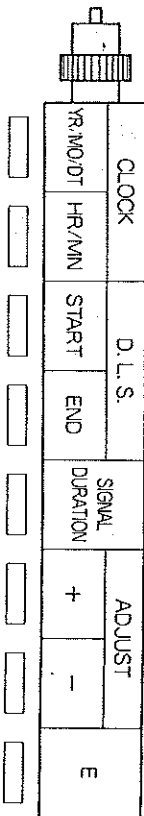
# Changing Time Signal Duration

(EX6200N, EX6400N)

Time signal duration is changed as follows :

Press the "+" or "-" button when changing values. Be sure to press the "E" button when registering values.

Remove the upper case and turn the setting index.



Example : Change the initial value to 10 seconds.

**1** Press the SIGNAL DURATION button, and the initial value (5 seconds) will appear.



**2** Press the "+" or "-" button to set the value at 10. Press the "E" button to register the setting.



## Setting Daylight Savings Time

The following explains how to set the starting and ending dates of daylight savings time. Daylight savings time can be set by setting months and dates or days of the week. If the starting and ending times are set at 2 : 00, the clock will advance to 3 : 00 at 2 : 00 of the starting date and will return to 1 : 00 at 2 : 00 of the ending date. If the starting and ending dates are set to the same date, no daylight savings time is set. (A long "pip" sound will be heard, and the setting will be canceled.)

Note : The function works only when both the starting and ending dates of daylight savings time are set.

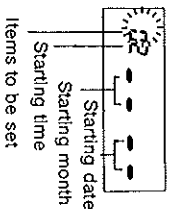
Remove the upper case and turn the setting index.

CLOCK		D. L. S.		SIGML		ADJUST		E
YR/MO/DT	HR/MN	START	END	DURATION	+	-		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### <Setting Month and Day>

Example : Set the starting time and date to 5 : 00 of March 15th.

- Press the START button, and the initial value 0 will blink.  
0 ... No function  
1 ... Setting of month and date



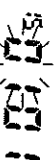
- Setting of month, week, and day of the week

- Press the "+" or "-" button and set 1. Press the "E" button to register the setting.



- Press the "+" or "-" button to set the starting time.

The time can be set from 1 : 00 to 9 : 00. Press the "E" button to register the setting.



- Press the "+" or "-" button to set the starting month. Press the "E" button to register the setting.



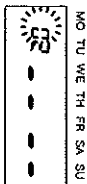
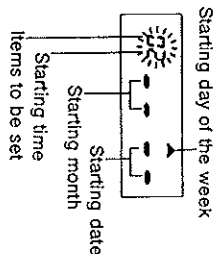
- Press the "+" or "-" button to set the starting date. Press the "E" button to register the setting.



- Set the ending date the same way as you set the starting date.

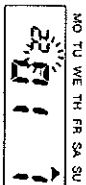
## <Setting Day of the Week>

Example : Set daylight savings time to 5 : 00  
on Friday of the 4th week in March.



- 1 Press the START button,  
and the initial value 0 will  
blink.

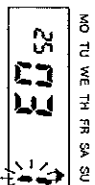
- 0 ... No function
- 1 ... Setting of month and  
date
- 2 ... Setting of month,  
week and day of the  
week



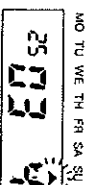
- 2 Press the "+" or "-"  
button to set 2. Press the  
"E" button to register the  
setting.



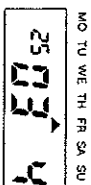
- 3 Press the "+" or "-"  
button to set the starting  
time.  
The time can be set from  
1 : 00 to 9 : 00. Press the  
"E" button to register the  
setting.



- 4 Press the "+" or "-"  
button to set the starting  
month.  
Press the "E" button to  
register the setting.



- 5 Press the "+" or "-" button to set the  
starting week.  
Press the "E" button to register the  
setting.



- 6 Press the "+" or "-" button to set the  
starting day of the week. Press the "E"  
button to register the setting.

- 7 Set the ending date the same way as you  
set the starting date.

## Setting Weekly Program

(EX6200N, EX6400N)

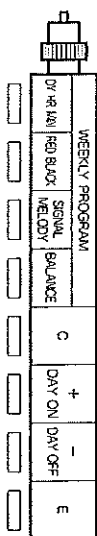
### Setting Day of the Week and Time

In a weekly program, day of the week and time are set first, and other items such as 2-color printing, time signal, melody, balance printing and shift of print position are set later.

Press the "+" DAY ON" or "—" DAY OFF" button to set days of the week and to change values. Be sure to press the "E" button before a new item is set and when values are registered.

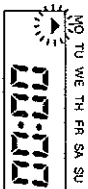
Example : Monday to Friday and 8 : 30

- 1 Remove the upper case and turn the setting index. Then, indicate the Program No.



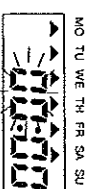
<sup>①</sup> Press the "+" button here and the program number will advance. Press the "—" button, and it will return to the preceding one.

- 2 Press the DY/HR/MN button to begin setting.



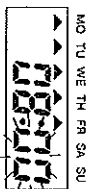
- 3 Set day of the week.

To set Monday to Friday, press the DAY ON button. To set Saturday and Sunday, press the DAY OFF button. Then, press the "E" button to register the setting.



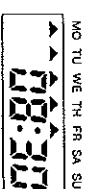
- 4 Set Hour.

Press the "+" or "—" button to set the hour. Press the "E" button to register the set.



- 5 Set Minute.

Press the "+" or "—" button to set the minute. Press the "E" button to register the setting.



- 6 Other items can be set.

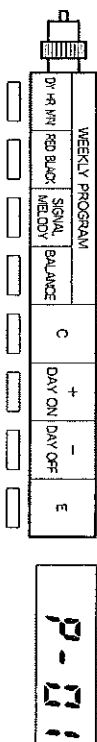
To set of other items, refer to "Setting 2-Color Printing", "Setting Time Signal", "Setting Melody", "Setting Balance Printing" and "Setting Shift of Print Position". More than item can be set, and their order does not matter.

## Setting 2-Color Printing (EX6200, EX6400)

It is possible to change printing color to distinguish between regular work hours, starting late, and leaving early. Set the desired day of the week first, then set 2-color printing.

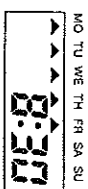
Example : Set printing in red at 8 : 30, Monday to Friday.

- 1 Turn the setting index.



- 2 Setting day of the week and time.

\* Refer to "Setting day of the Week and Time" (Page 22).



- 3 Press the RED/BLACK button.



- 4 Select the color.

R : Start of red printing.  
B : Start of black printing.  
No indication : No 2-color printing is made.

Press the DAY ON button or the DAY OFF button to select the color. Press the "E" button.



To set plural weekly programs, precede to other items after pressing the "E" button.

- 5 To register the setting, press the "E" button.



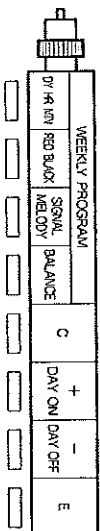
When the next program number appears, the registration is completed.

## Setting Time Signal (EX6200, EX6400)

It is possible to sound external time signals to signal starts and ends of breaks and working hours. Set the desired day of the week first, and then set signal time.

Example : Set a time signal sound at 8 : 30, Monday to Friday.

### 1 Turn the setting index.



### 2 Set day of the week and time.

\* Refer to "Setting day of the Week and Time" (Page 22).



### 3 Press the SIGNAL/MELODY button.



### 4 Select whether the time signal is sounded or not.

When 4 is indicated, the time signal sounds.

When no mark is shown, the time signal does not sound.

When 4 is indicated, to set a melody.

Select any of the above by using the DAY ON button or the DAY OFF button, then, press the "E" button.



### 5 To register the setting, press the "E" button.

Press the "E" button again, and the next program number will appear, and the registration will be completed.

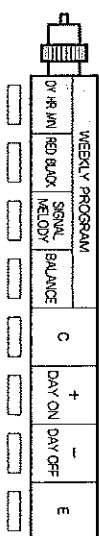


## Setting Melody (EX6200N, EX6400N)

It is possible to play melodies to signal starts and ends of working hours. Set the desired day of the week, and then set a signal time.

Example : Set "Home on the Range" to play at 8 : 30 Monday to Friday.

### 1 Turn the setting index.



### 2 Setting day of the week and time.

\* Refer to "Setting day of the Week and Time" (Page 22).



### 3 Press the SIGNAL/MELODY button.



### 4 Press the button once again.



### 5 Select a melody.

No indication :

No melody is played.

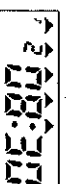
1 : Greensleeves

2 : Home on the Range

3 : Westminster

4 : Two Menuetto

Press the DAY ON button or the DAY OFF button to select a melody, then press the "E" button.



### 6 To register the setting, press the "E" button.

When the next program number appears, the registration is completed.



To set time signal, see page 24.

To set other weekly programs, proceed to other items after pressing the "E" button.

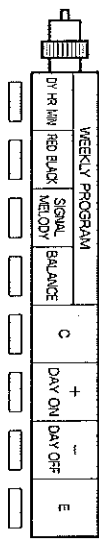
## Setting Balance Printing (EX6200N)

Balance printing is a function to print time differences between a set starting or ending time of work and the actual punched time. When the time difference is set to be punched in the 1st or 4th column of the time card, this function is effective. In case of the balance printing, minutes are printed in centesimal (1/100 hour A). To match them to the normal minutes, refer to the conversion table.

Set the desired day of the week first, and then set the change-over time before setting the balance printing.

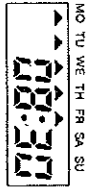
Example : Set the starting time of work at 8 : 30 Monday to Friday (When the starting time is printed in the 1st column, the balance printing is made in the 5th column.).

### 1 Turn the setting index



### 2 Setting day of the week and time.

\* Refer to "Setting day of the Week and Time" (Page 22).



### 3 Press the BALANCE button.



### 4 A print position is selected.

1 : When the starting hour is printed in the 1st column, the balance printing is made in the 5th column.

2 : When the starting hour is printed in the 4th column, the balance printing is made in the 6th column.

No indication : No balance printing is made.

Press the DAY ON button or the DAY OFF button to select a proper print position, then, press the "E" button.



To set other weekly programs, proceed to other items after pressing the "E" button.

### 5

To register the setting, press the "E" button. When the next program number appears, the registration is completed.



1/100 hour A, 1/100 hour B and 1/10 hour :

Minute	0	1	2	3	4	5	6	7	8	9	~
1/100 hour A	00	02	03	05	07	08	10	12	13	15	~
1/100 hour B	00	00	00	05	05	05	10	10	10	15	~
1/10 hour	0	0	0	0	0	0	1	1	1	1	~

Minute	29	30	31	32	33	34	35	~	54	55	56	57	58	59
1/100 hour A	48	50	52	53	55	57	58	~	90	92	93	95	97	98
1/100 hour B	45	50	50	50	55	55	55	~	90	90	90	95	95	95
1/10 hour	4	5	5	5	5	5	5	~	9	9	9	9	9	9

## An example of balance printing

DATE	MORNING		AFTERNOON		OVERTIME		RES.
	IN	OUT	IN	OUT	IN	OUT	
1	8:27				01:01	01:02	
2	8:29				01:02	01:00	
3	8:32				01:03	01:50	
4	8:20				01:17	01:28	

1st column standard hours = 8 : 30  
4th column standard hours = 17 : 00

MORNING IN column with balance printing

AFTERNOON OUT column with balance printing.

+ expresses an appearance at our departure from work outside the standard hours.

- expresses an appearance at our departure from work within the standard hours.

★ The balance printing minutes is expressed by the 100-th (a).



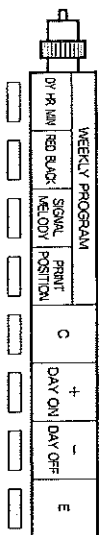
## Setting a Shift of Print Position (EX6400N)

-When the clock comes to a set time, the print column moves automatically. It is possible to make manual print column selection available by changing the print format. (See Page 9). Even if a print column is manually selected the print column will return to the original column after printing. If the print column shifting is set to 0, the column stays the same without regard to the programming.

A desired day of the week is set first, and the change-over time is registered before this setting.

Example : The print column moves to the 4th column at 18 : 00 Monday to Friday.

### 1 Turn the setting index.



### 2 Setting day of the week and time.

\* Refer to "Setting day of the Week and Time" (Page 22).



### 3 Press the PRINT POSITION button.



### 4 Select a print column.

Press the DAY ON button or the DAY OFF button to select a print column position. Press the "E" button.



### 5 To register the setting, press the "E" button.

When the next program number appears, the registration is completed.



## Copying Set Items

Set items (day of the week, time) can be copied in the next program. Setting time can be reduced by changing the copied data. When time and day of the week have already been set, hold the "E" button down for more than two seconds to copy them. When the next program has been set, they are copied in the next program in which no data has been set.

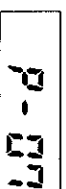
Example : Set "Greensleeves" to play at 9 : 00 Monday to Friday and also "Home on the Range" to play at 12 : 00 by using the copying function.

Note : Data can be copied after a weekly program has been set, but contents which have already been set cannot be copied.

### 1 Set a weekly program in which the Greensleeves is played at 9 : 00.



### 2 Hold the "E" button down for two seconds, and an empty program number will be indicated.



### 3 Release the "E" button, and the day of the week and time will be copied.



### 4 Press the "+" of "-" button to change to the desired time.



### 5 The melody is set.






### 6 The setting is registered.



## Changing (Confirming) Set Items

A weekly program is changed (confirmed) as follows :




Example : Change the melody from "Greensleeves", which used to be played at 9 : 00 Monday to Friday, to "Home on the Range".

- 1 Press the "+" or "-" button to indicate the number of the program to be changed (confirmed).  

  - 2 Press the "E" button, and the contents of the program to be changed (confirmed) will be displayed.  

  - 3 Press the SIGNAL/MELODY button first, then press the +/DAY ON button or the -/DAY OFF button to change the contents to the desired ones.  

- It is possible to change any single item in a set program by pressing the desired item button.

## Cancelling of Set Data

Weekly programs can be canceled as follows : The contents of a program to be canceled are confirmed before cancellation, but they can be canceled while their numbers are displayed.



Example : Cancel the set data of Program No. 5.

- 1 Press the "+" or "-" button to select Program No. 5.  

- 2 Press the "E" button, and the contents of the program to be canceled are displayed.  

- 3 Hold the "C" button down for two seconds. When you hear a long "pip" sound, the cancellation is completed.  


## Additional Setting

Weekly programs can be added as follows :

Example : Add set data to an empty program.

- 1 Display a program number on the screen and hold the "E" button down for two seconds, and an empty program number will appear. (The next program in which no data has been set.)  

- 2 Set data to be added.  


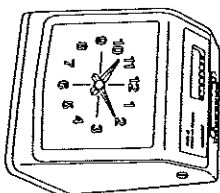
# BEFORE OPERATION

This section explains preparations required before starting operation of EX6000N Series time recorders.

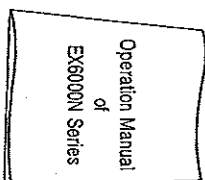
## Components

EX6000N Series components are as follows. Be sure to check before operation that all components are supplied.

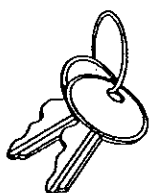
☐ EX6000N Series time recorder



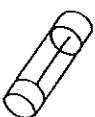
☐ An operation manual (this manual)



☐ A set of key (two keys)



☐ A fuse (250V 1A)···100/120VAC (250V T500mA)···220/240VAC fixed with tape on the inner bottom of the time recorder body.



☐ Wire holder A (EX6200N, 6400N)



☐ Wire holder B (EX6200N, 6400N)



☐ Cross recessed head machine screw (set on the back plate)

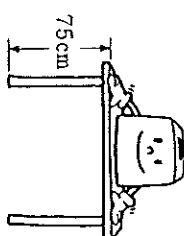


## Installation

Proper installation and good power conditions will enable you to operate the time recorder for a long time.

### Installation location

- Prepare a stand about 75cm high.
- Install the time recorder horizontally.



### Improper installation locations

- Places exposed to direct sunlight or close to heat sources



- Dusty or unstable places



- Places exposed to rain



- Places exposed to strong vibrations or shocks

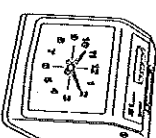


## Power Source

- Use a power source with a stable voltage.

- Use a power source that supplies continuous voltage and is independent of other equipment.

- The time recorder has a built-in lithium battery, on which the inner clock runs. (The battery is effective for three years of cumulative power failure hours.)



The time recorder has a built-in battery to compensate power failure. Remove the case and connect the battery connector to the body before setting.

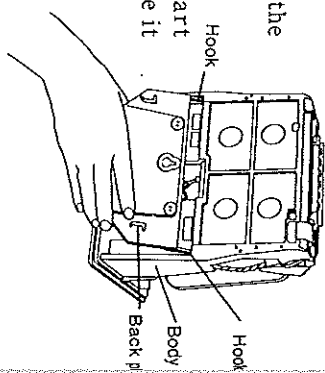
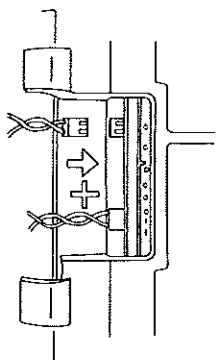
## Connecting the Battery Connector

Connect the battery connector in order to print during a power failure. Be sure to connect it before installation on a wall.

**Note :** Connect the battery connector carefully in the correct direction. Connection in wrong direction may result in failure. The life of the battery (nickel-cadmium) is two years. Be sure to replace it periodically.

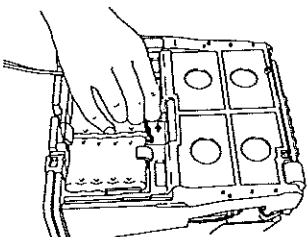
- 1 Remove the upper case and back plate from the time recorder.

- Disconnect the power cord.
- Hold the back plate, pull the lower part toward you, and pull it down to remove it from the body.

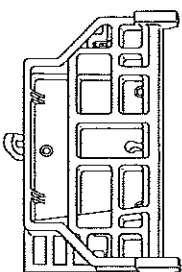


- 2 Connect the battery connector to the body.

Insert both red cords in the arrow direction to the "+" side.



- 3 Set the back plate in the original place. Set the hooks on the both sides of the back plate in the grooves on the body and push up to fasten them.



The time recorder has a built-in lithium battery as well, and the internal clock runs on the lithium battery.

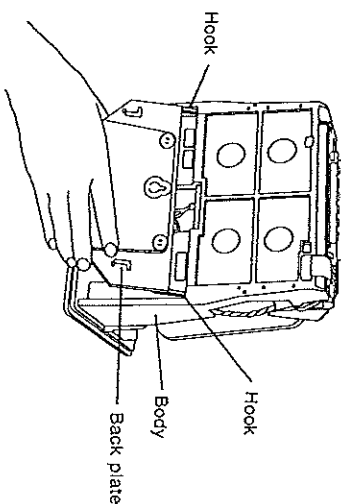
Place the upper case on the time recorder, connect the power cord, and the clock indicates the present time.

## Installation on a Wall

Prepare four 5mm wood screws.

- 1 Remove the upper case and the back plate from the time recorder.

- Disconnect the power cord.
- Hold the back plate, pull the lower part toward you, and pull it down to remove it from the body.
- Remove the screw from the back plate.



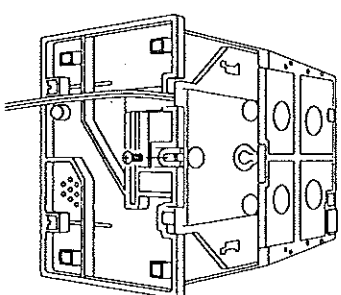
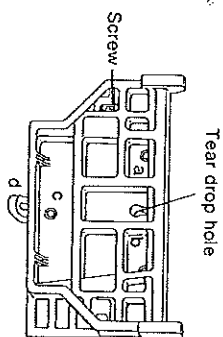
- 2 The tear drop hole and holes a, b, c on the removed back plate are half blanked. Push them completely through by using a screwdriver.

★ The size of holes a, b and c is 6.2mm across.

- 3 Attach the back plate at a proper height on a wall with a wood screw through the potbellied hole. Fix the back plate with wood screws through holes a, b and c.

- 4 Hang the body on the back plate. Set the hooks on both sides of the back plate in the grooves on the body and push up to fasten them.

- 5 Fix the screw, which was set on the back plate, through d from below.

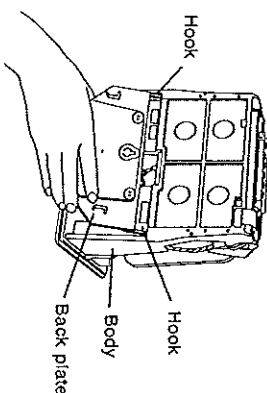


At this time, connect the battery to the body.  
(See Page 34.)

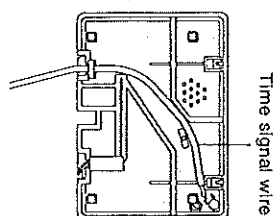
## Connecting the Time Signal Wire

Disconnect the power cord before connecting the time signal wire.

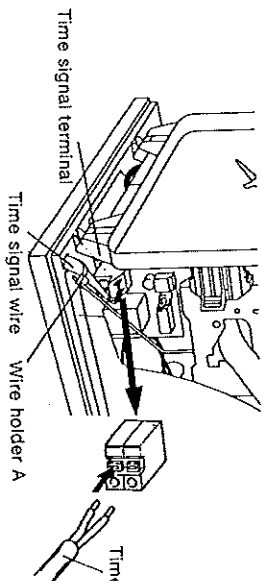
- 1 Remove the upper case and back plate.
  - Hold the back plate, pull the lower part toward you and pull down to remove it.



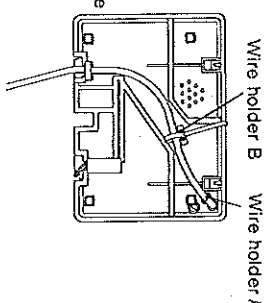
- 2 Pass the time signal wire through the hole on the bottom left side of the body.



- 3 Press the protrusion of the time signal wire terminal and insert the time signal wire in Nos. 1 and 2. Fasten the wire with wire holder A.

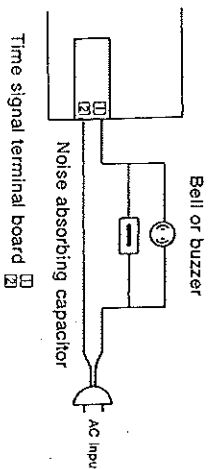


- 4 Fix the time signal wire on the bottom with wire holder B. Cut the cord holder to a proper length.



### Wiring Diagram of Time Signal Wire

To prevent malfunction due to noise, be sure to connect a noise absorbing capacitor on the time signal unit.



### Specifications for Connection

- Time signal circuit : One circuit
- Contact capacity :
- 250VAC inductive load 0.5A max
  - 24VDC inductive load 0.5A max
- Contact output :
- No-voltage contact output

## TROUBLESHOOTING

### Troubleshooting

Trouble	Causes and Corrective Measures
The time recorder does not accept time card.	<p>Power failure (for more than 72 hours) ⇒ Wait until power supply is restored.</p> <p>The power cord is disconnected. ⇒ Insert the power plug firmly into the power outlet.</p> <p>Cards were inserted or pulled out by force. ⇒ Pull the power plug out of the power outlet, then insert it again.</p>
A long "pip" sound is heard without printing.	<p>The card was inserted in the card pocket backwards. ⇒ Insert it in the pocket the other way round.</p> <p>The card was not correctly inserted in the card pocket. ⇒ Insert it in the pocket with slight pressure.</p> <p>Power failure (more than 72 hours) ⇒ Wait until the power supply is recovered.</p>
The clock does not run.	<p>The power cord is disconnected. ⇒ Insert the power plug firmly in the power outlet.</p> <p>The movement malfunctions. ⇒ Pull the power plug out of the power outlet, then insert it again.</p>
The clock is slow. (or fast)	<p>Mistakes in setting the clock ⇒ Set it correctly referring to (Page 14).</p> <p>Long time power failure. ⇒ Reset it referring to "Setting the Clock" (Page 14).</p> <p>The movement malfunctions ⇒ Pull the power plug out of the power outlet, then insert it again.</p>
The date is set incorrectly.	<p>Mistake in setting date. ⇒ Reset the date referring to "Setting the Date" (Page 15).</p>
Light printing (imperfect printing).	<p>The ribbon is worn out. ⇒ Replace the ribbon cassette.</p> <p>The ribbon cassette is not set correctly. ⇒ Set it correctly.</p>
The print position is wrong.	<p>Incorrect setting of pay period ending date, etc. ⇒ Set them correctly referring to "Changing Pay Period Ending Date" (Page 11~12) for an example.</p> <p>Improper use of the time recorder. ⇒ Explain how to insert cards in the card pocket and how to remove them.</p>
Incorrect printing	<p>Improper use of the time recorder ⇒ Explain how to remove a card from the card pocket.</p>

## List of Error Codes and Message

When the IN/OUT button lamp has gone out with an error signal, a problem may have occurred inside the time recorder. Disconnect the power cord, and after a while connect it to the power outlet. If the time recorder does not return to normal, check the error indication and contact the dealer from whom you bought the time recorder.

Error No.	Meaning of Error	Measures
Err 1	Error of clock home position sensor	Contact the dealer from whom you bought the time recorder.
Err 2	Error of column home position sensor	
Err 3	Error of printing timing pulse sensor	

\*Err 1 is printed on time cards, but the others are not.

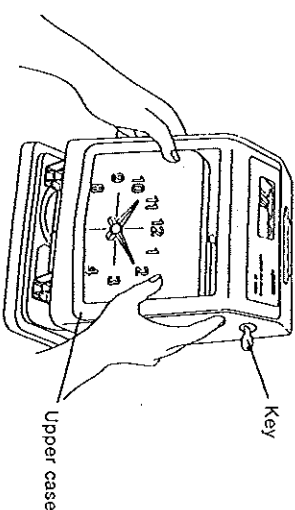
Message	Causes and Corrective Measures
Lo 'b RL	During a power failure the built-in Ni-cd battery became weak. ⇒ Change the battery after the power supply has been restored.

## Maintenance

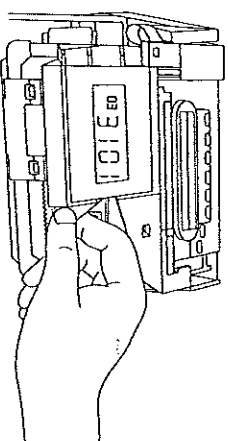
### Replacing Ribbon Cassette

When the print color has become light, replace the ribbon cassette as follows :

- 1 Remove the upper case.

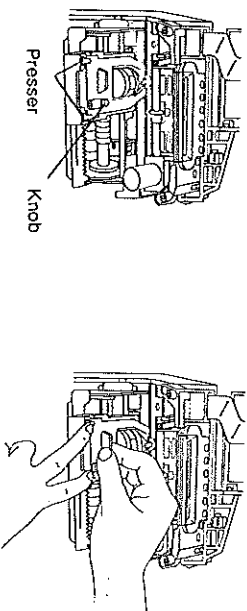


- 2 Grasp the handle of the liquid crystal digital indicator and lift it.



- 3 Pull the ribbon cassette presser toward you, remove the ribbon cassette and insert a new one in its place.

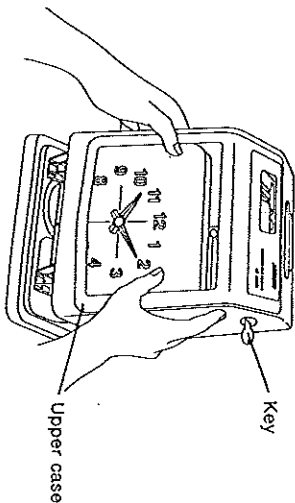
\* After inserting it, turn the ribbon cassette knob two or three times in the direction of the arrow to make the ribbon tight.



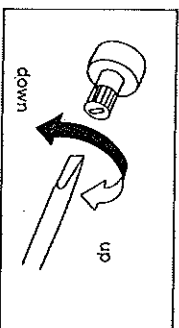
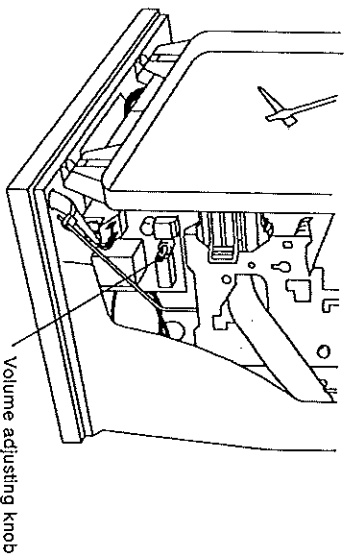
## Adjusting Melody Volume

Melody volume can be adjusted to suit your environment.

- 1 Remove the upper case.



- 2 While a melody is being played, turn the volume adjusting knob with a standard screwdriver to the proper volume. The volume can be adjusted by hand as well.

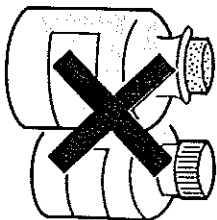


## Daily Maintenance

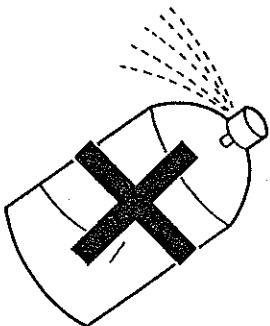
Clean the case when it becomes soiled.



- Wet a soft cloth with water or a neutral detergent and wipe the case lightly.



- Do not use benzine, volatile thinner or other chemicals for cleaning, because they may damage or discolor the case.



- Note that spraying insecticide over the case may also damage or discolor the case.

Wipe the window glass with a dry soft cloth. Be careful when wiping it because the glass surface has been specially processed.

# APPENDIX

## Specifications

- Power source : 100/120VAC or 220/240VAC  $\pm$   $\pm$  10%, 50/60Hz
- Power consumption : Ordinary 55mA, Maximum 280mA
- Ambient conditions : Temperature  $-10^{\circ}\text{C}$  to  $45^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $114^{\circ}\text{F}$ )  
Humidity 10% to 90%RH (without dew condensation)
- Weight : 3.2kg
- Clock system : Quartz oscillation system, Accuracy  $\pm$   $\pm$  3 seconds per week  
( $25^{\circ}\text{C}$   $\pm$   $\pm$   $5^{\circ}\text{C}$ ) ( $77^{\circ}\text{F}$   $\pm$   $\pm$   $10^{\circ}\text{F}$ )
- Battery backup : The built-in lithium battery can keep the inner clock running and protect programmed data for three years of cumulative power failure hours. (All functions other than the inner clock are not protected.)  
When the battery is fully charged (full power reserve), it maintains the following :  
1) The clock, 2-color selection, time signal, and melody for up to 72 hours.  
2) The printing frequency depends on the working conditions
  - 100 printings with 2-color selection and melody for up to 72 hours.
  - 1,000 printings without 2-color selection and melody for up to 24 hours.
 When the time recorder is operated with full power reserve, the IN/OUT indicator lamp goes on and off.

## Weekly Program Setting List

### Entry Example

PROGRAM No.	DAY	HR/MIN	RED/BLACK	SIGNAL	MELODY	BALANCE	PRINTING POSITION
1	MO TU WE TH FR SA SU	9:00	(R) B	X		1 2	
2	MO TU WE TH FR SA SU	17:30	R (B)	O		1 2	

### Setting List

PROGRAM No.	DAY	HR/MIN	RED/BLACK	SIGNAL	MELODY	BALANCE	PRINTING POSITION
1	MO TU WE TH FR SA SU	:	R B			1 2	
2	MO TU WE TH FR SA SU	:	R B			1 2	
3	MO TU WE TH FR SA SU	:	R B			1 2	
4	MO TU WE TH FR SA SU	:	R B			1 2	
5	MO TU WE TH FR SA SU	:	R B			1 2	
6	MO TU WE TH FR SA SU	:	R B			1 2	
7	MO TU WE TH FR SA SU	:	R B			1 2	
8	MO TU WE TH FR SA SU	:	R B			1 2	
9	MO TU WE TH FR SA SU	:	R B			1 2	
10	MO TU WE TH FR SA SU	:	R B			1 2	

- A maximum of 25 weekly programs can be set.
- Melody code number

1. Greensleeves
2. Home on the Range
3. Westminster
4. Two Mennetto