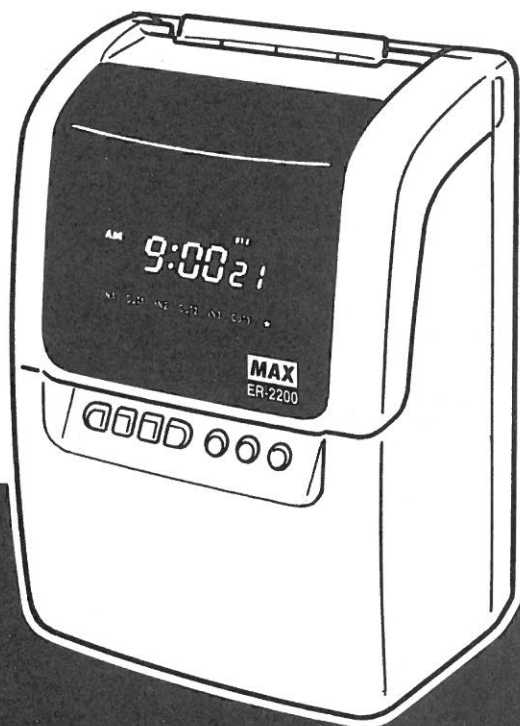


MAX[®]

ELECTRONIC TIME RECORDER

ER-2200

INSTRUCTION MANUAL



☆Before using this instrument, study this manual to ensure safety warning and instructions. Keep this instruction manual with the instrument for future reference.

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1 BEFORE USE

1-1 SAFETY INSTRUCTIONS

INDICATIONS

This instruction manual and the product use various indications to help you use this instrument safely and properly. The following describes those indications.

WARNING: Negligence of this could lead to a death or serious injury.

CAUTION: Negligence of this could lead to an injury, damage your properties, or cause created data lost.

REQUEST Describes operation which may cause a trouble to the instrument and require a repair, or operation which requires resetting operation, etc. to restore the condition of the instrument.

MEMO Describes the points of operation and tips.

★ Describes a functional precaution.

SYMBOLS

△ Denotes "what you should be aware of".

⊘ Denotes "what you must not do". An indication in or near this symbol shows a specific prohibition.

● Denotes "what you must do". An indication in this symbol shows a specific instruction.

WARNING

!	Clean regularly the plug of power cord. Dust on the plug could cause a fire.
⊘	Obtain the power directly from a single plug socket. Avoid connecting many wires to one plug socket. It could lead to a fire.
⊘	Do not connect/disconnect a power plug with a wet hand. It could cause an electric shock.
⊘	Do not operate the instrument which is still out of order. If it is operated in an out-of-order state such as it is smoking, emitting an abnormal sound, or smelling funny, it could cause a fire or electric shock. Disconnect a power plug immediately from socket and contact your dealer/distributor for a repair.
!	The lithium battery is used inside for memory backup. Never replace the lithium battery by yourself. Contact your dealer/distributor for replacement.

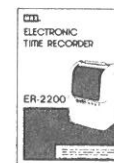
CAUTION

!	The data stored in the internal memory cannot be store permanently. We will not be responsible for damages and lost profits caused by loss of data attributed to battery consumption, trouble, repair and so on.
⊘	Never disassemble or modify this instrument. It could cause a fire, electric shock, or trouble.
⊘	<ul style="list-style-type: none"> Do not insert foreign substances such as finger, pen, wire, paper into this instrument. It could damage the instrument or cause a fire. Operate the instrument only on a correct supply voltage. Otherwise, it could trouble the instrument. Do not splash water or chemicals on the instrument. If water gets inside the instrument, disconnect the power plug immediately from the plug socket and contact your dealer/distributor for a repair. It could damage the instrument or cause a fire or electric shock. Do not put paper or cloth on the instrument. It could cause a fire. When disconnecting the power cord, be sure to hold the power plug. Do not pull on power cord, or the cord could be broken and cause a fire or electric shock. Never touch the printer head. It is very hot just after printing and you could get burned. Also, stain of your hand could cause a trouble to the printer head. Do not place any heavy material on power cord. It could cause a damage and a fire.
⊘	Never touch metallic part of the instrument.
⊘	When the instrument is not going to be operated for a long time period, be sure to disconnect the power cord from the power socket for your safety.

1-2 ACCESSORIES

This instrument comes with the following accessories. Confirm them before use.

1. Instruction manual : 1 booklet



2. "Key-card" : 10-pcs.



3. Screws for wall mounting : 4-pcs.



REQUEST

◆ Do not drop the instrument or give a strong hit to it.

◆ Install this instrument away from the following places:

① Any place that is not level or subject to vibration.

② Any place that has dust or high humidity. Keep beverages and liquid containers away from this instrument.

③ Any place that temperature goes below 0°C/32F or over 40°C/104F.

④ Any place that catches direct sunlight, or located close to heat source.

◆ Do not insert card or paper other than specified time card for this instrument. Avoid defective time card which is bent or torn.

◆ Be sure to use dry cloth for cleaning. Do not use solvents (alcohol, benzene, thinner, etc.) or a damp cloth.

◆ Do not re-ink cartridge. Replace with ink ribbon cassette ER-IR101.

◆ Do not hang this instrument on wall with other than using the included plate for wall mounting.

◆ The socket-outlet shall be installed near the instrument and shall be easily accessible.



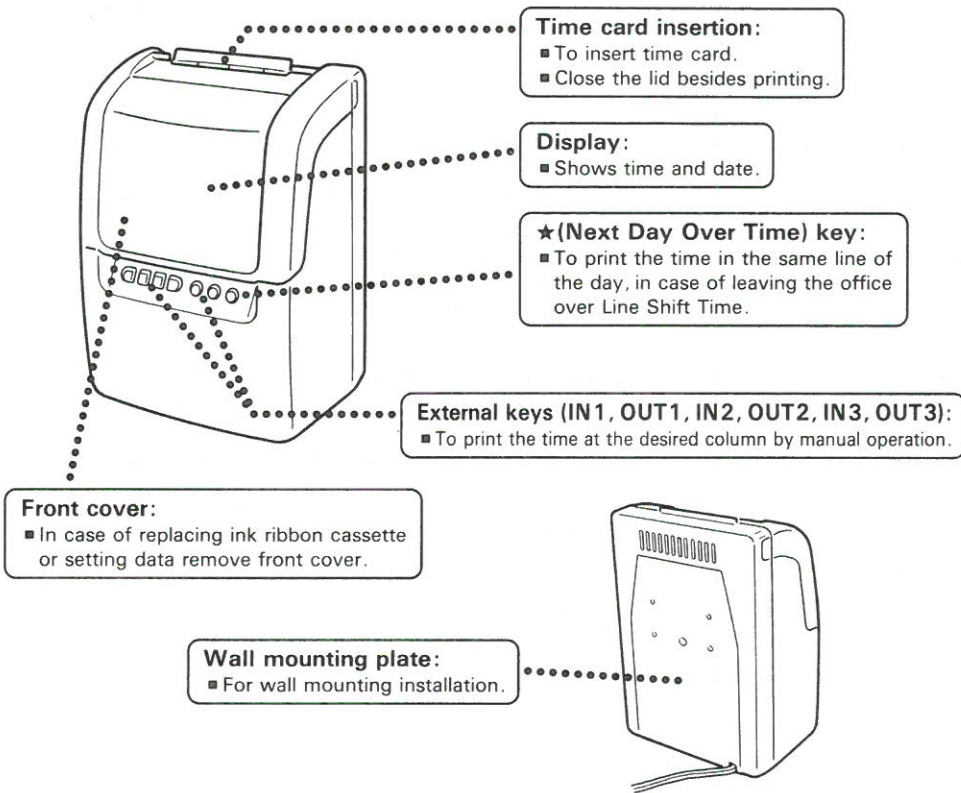
1-3 MAIN FEATURES

1. Fully automatic printing on time card is capable.
2. Manual operation is also capable by external keys to select a desired column.
3. Up to 6 columns are available.
4. Printing symbols of "Late-in: ▶ ", "Early-out: ◀ ", "Overtime: ⚡ " and "Next Day Overtime: ★ ".
5. Printing "Next Day Overtime" at the 6th column in the same line of the day.
6. "Key Card" for the protection of setting data.
7. 3 kinds of pay period format (Monthly, Weekly or Bi-weekly) are selectable.
8. Available for Daylight Saving Time (the summer time).
9. Printing past midnight time in the same line of the day by Line Shift Time.
10. Built-in lithium battery protects the clock, calendar and program data for 5 years.
11. 3 kinds of installation (Table, Wall, and Laid Down Position) are available.
12. Available for display by 12/24-hour formats.
13. Time/Date/Month/Year are already pre-set.



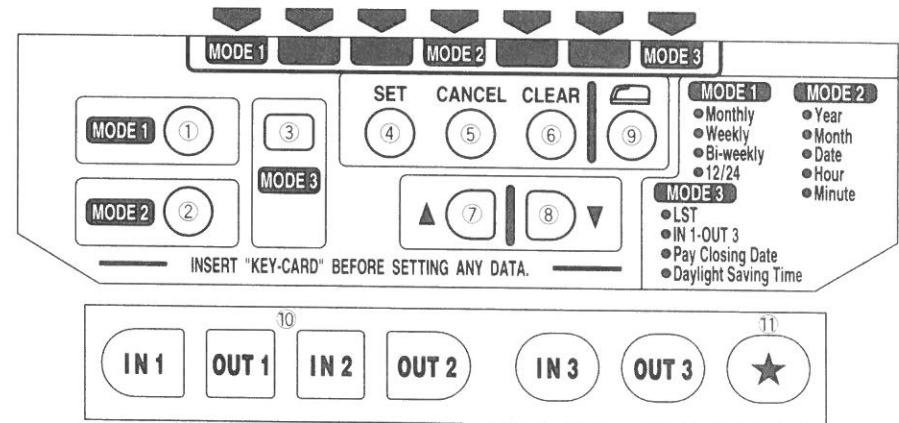
Some areas or countries will be required to reset the time.

2 PARTS DESCRIPTIONS



4 KEYBOARD AND DISPLAY

4-1 KEYBOARD LAYOUT



Functions of keys

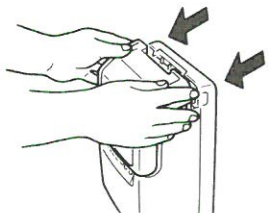
Key for setting (①~⑨) : Use these keys for setting modes or changing data after inserting key card.

Key for operation(⑩~⑪) : Use the keys for operation.

No.	Description	Functions
①	MODE 1 KEY	To set pay period and 12/24-hour format.
②	MODE 2 KEY	To set Year, Month, Date and current Time.
③	MODE 3 KEY	To set Line Shift Time, Working Time (IN1~OUT3), Pay Closing Date, Daylight Saving Time (the summer time).
④	SET KEY	To register figures.
⑤	CANCEL KEY	To return to the start of setting mode without registration.
⑥	CLEAR KEY	To initialize current setting item.
⑦	INCREMENT KEY	To increase the number of figures.
⑧	DECREMENT KEY	To decrease the number of figures.
⑨	KEY (LAID DOWN POSITION KEY)	To turn the time on the display upside down. (see 12 on page 17)
⑩	IN / OUT KEY	To select the column.
⑪	★ KEY (NEXT DAY OVERTIME KEY)	To print the time at 6th column in the same line of the day, in case of leaving the office over Line Shift Time.

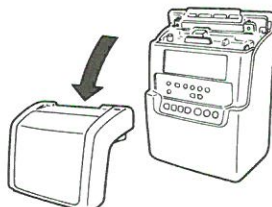
3 TO OPEN AND CLOSE FRONT COVER

● OPEN



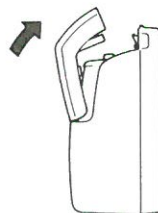
Pull as illustrated above.

● REMOVE



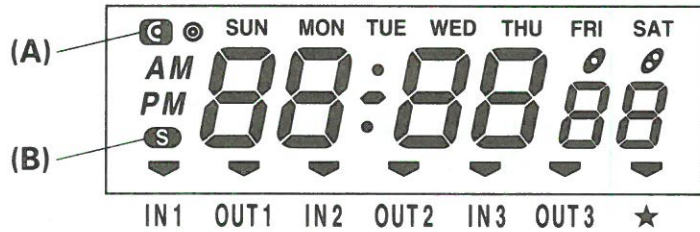
Remove the front cover.

● CLOSE



Push as illustrated above.

4-2 DISPLAY LAYOUT



- (A) The symbol of **C** appears on setting mode.
 (B) The symbol of **S** appears during the period of Daylight Saving Time.

5 OPERATION

CAUTION

- ! Install this instrument on a level place.
- ⊘ Do not install on or near a place subject to vibration.

1. AUTOMATIC OPERATION

ER-2200 shifts the column for printing automatically in the order of **IN 1**, **OUT 1**, **IN 2**, **OUT 2**, **IN 3** and **OUT 3** without pressing any external keys as the following procedure.

- ① Insert time card to the position where automatic feed starts.
- ② Time card will be ejected automatically after printing time.

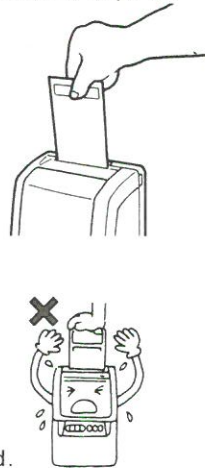
2. MANUAL OPERATION

ER-2200 allows manual operation for shifting column to print as the following procedure.

- ① Select a desired column to print on time card by pressing **IN 1**, **OUT 1**, **IN 2**, **OUT 2**, **IN 3**, or **OUT 3** key.
- ② **▼** symbol appears at the selected column on the display.
- ③ Insert time card to the position where automatic feed starts.
- ④ Time card will be ejected automatically after printing the time.

- REQUEST**
1. Do not keep holding time card during printing.
 2. Do not pull or push time card by hand.
 3. Do not cover any small holes at both edges on time card.

- MEMO**
1. ER-2200 doesn't accept printing in the same column which has been already printed in the same day.
 2. When "E-Q!" appears on the display, time card was inserted incorrectly.
 (→See **13** on page 18)



6 TO SET OR CHANGE DATA

When setting or changing any data, "Key-Card" must be used to start the setting.

Operation

- (1) Insert "Key-Card", then **C** symbol appears on the display.
- (2) After setting or changing, insert "Key-Card" again, then **C** symbol disappears.

REQUEST Keep "Key-Card" in a safe place to prevent it from being damaged, lost or used by unauthorized person.

MEMO If you do not touch any key for 60 seconds, **C** symbol disappears automatically.



7 SETTING PAY PERIOD AND 12/24-HOUR FORMAT (MODE 1)

Operation

- (1) Insert "Key-Card". **C** symbol appears on the display for the start of setting mode.
- (2) Press "MODE 1" key. **▼** symbol appears at "MODE 1" on the display.
- (3) Press **▲** or **▼** key to select desired Code No. from the following table.
- (4) Press "SET" key for registration. The buzzer beeps twice and the display returns to the start of setting mode.

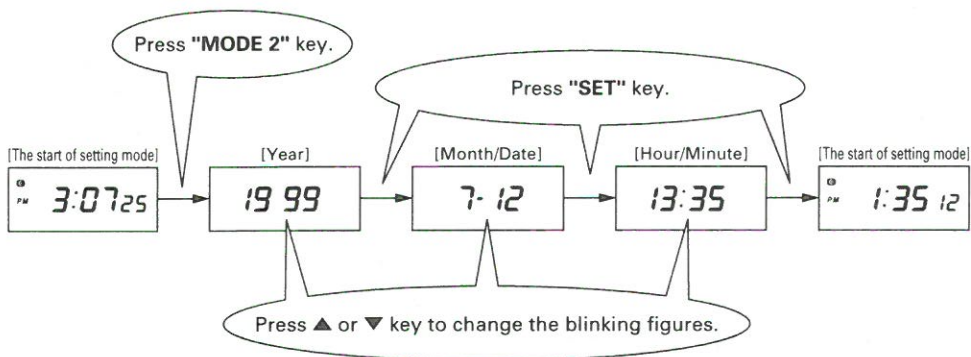
Pay period	12/24-Hour Format	Code No.
Monthly	12H	1
	24H	2
Weekly	12H	3
	24H	4
Bi-weekly	12H	5
	24H	6

- MEMO**
1. The time is printed only by 24-hour format.
 2. In case of setting Laid Down Position, only 24-hour format is displayed.
 3. In case of pressing "CANCEL" key during setting or changing data, the display returns to the start of setting mode without registration.

8 SETTING YEAR, MONTH, DATE, HOUR AND MINUTE (MODE 2)

Operation

- ① Insert "Key-Card". **C** symbol appears on the display for the start of setting mode.
- ② Press "MODE 2" key. **M** symbol appears at "MODE 2" on the display.
- ③ Press **▲** or **▼** key to change Year, Month, Date, Hour and Minute.
- ④ Press "SET" key for registration after changing each item. When the "SET" key is pressed at the end, the buzzer beeps twice and the display returns to the start of setting mode.



[Example] 1 : 35 (PM), July 12th, 1999

Operation [MODE 2]	Display
Press "MODE 2" key. Current Year is shown on the display.	19 99
Press "SET" key for registration of Year.	19 99
Press ▲ or ▼ key until the display shows "7" for July. Press "SET" key for registration of Month.	7-25
Press ▲ or ▼ key until the display shows "12". Press "SET" key for registration of Date.	7-12
Press ▲ or ▼ key until the display shows "13". Press "SET" key for registration of Hour.	13:20
Press ▲ or ▼ key until the display "35". Press "SET" key for registration of Minute.	13:35
The display returns to the start of setting mode.	PM 1:35 12

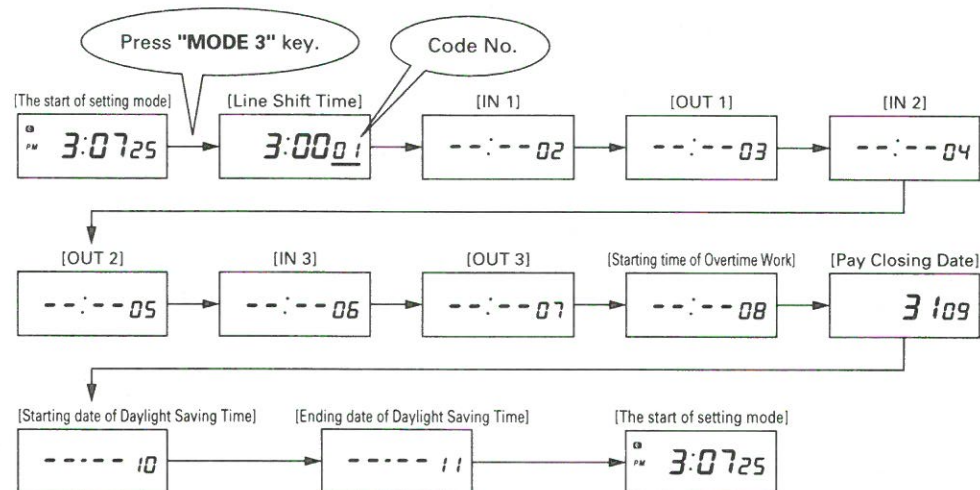
- MEMO**
1. In Europe, set Date first and Month second.
 2. Clock starts every "00" seconds, when "SET" key is pressed at the end.

9 SETTING LINE SHIFT TIME, IN/OUT, PAY CLOSING DATE AND DAYLIGHT SAVING TIME (MODE 3)

Operation

- ① Insert "Key Card". **C** symbol appears on the display for the start of setting mode.
- ② Press "MODE 3" key. **M** symbol appears at "MODE 3" on the display.
- ③ Press **▲** or **▼** key, to set or change each item.
- ④ Press "SET" key for registration after setting or changing each item, then the display moves to next item in order of LST, IN/OUT time, Starting time of Overtime Work, Pay Closing Date and Starting/Ending date of Daylight Saving Time. When "SET" key is pressed at the end, the buzzer beeps twice and the display turns to the start of setting mode.

NOTE : The time is displayed by only 24-Hour Format.



Items (MODE 3)	Initial data	Contents of setting	Code No.
LST	3:00	Line Shift Time (Day change time)	01
IN 1	--:--	Working start time (IN 1)	02
OUT 1	--:--	Working end time (OUT 1)	03
IN 2	--:--	Working start time (IN 2)	04
OUT 2	--:--	Working end time (OUT 2)	05
IN 3	--:--	Working start time (IN 3)	06
OUT 3	--:--	Working end time (OUT 3)	07
OTS	--:--	Starting time of Overtime Work	08
Pay Closing Date	31	Date of pay period	09
Daylight Saving Time Start	----	Starting date of daylight saving time	10
Daylight Saving Time End	----	Ending date of daylight saving time	11

Operation

1. Setting IN & OUT and starting time of Overtime Work

[Example]	Line Shift Time (Day change time)	:	4:00
	Starting time of work	:	9:00
	Starting time of lunch	:	12:00
	Ending time of lunch	:	13:00
	Ending time of work	:	17:00
	Starting time of Overtime work	:	17:30

Operation [MODE 3]

Press "MODE 3" key
Current Line Shift Time is shown on the display.

Press ▲ or ▼ key until the display shows "4".
Press "SET" key for registration of Line Shift Time.

Press ▲ or ▼ key until the display shows "9".
Press "SET" key for registration of Hour for "IN 1".

Press ▲ or ▼ key until the display shows "00".
Press "SET" key for registration of Minute for "IN 1".

Press ▲ or ▼ key until the display shows "12".
Press "SET" key for registration of Hour for "OUT 1".

Press ▲ or ▼ key until the display shows "00".
Press "SET" key for registration of Minute for "OUT 1".

Press ▲ or ▼ key until the display shows "13".
Press "SET" key for registration of Hour for "IN 2".

Press ▲ or ▼ key until the display shows "00".
Press "SET" key for registration of Minute for "IN 2".

Press ▲ or ▼ key until the display shows "17".
Press "SET" key for registration of Hour for "OUT 2".

Press ▲ or ▼ key until the display shows "00".
Press "SET" key for registration of Minute for "OUT 2".

Press "SET" key until the display shows Code No. "08".

Press ▲ or ▼ key until the display shows "17".
Press "SET" key for registration of Hour for "OTS".

Press ▲ or ▼ key until the display shows "30".
Press "SET" key for registration of Minute for "OTS".

Display

3:0001

4:0001

9:0002

9:0002

12:0003

12:0003

13:0004

13:0004

17:0005

17:0005

--:--06

--:--07

17:3008

17:3008

2. Setting Pay Closing Date

After setting "Overtime Work (OTS)", "Pay Period" format (Monthly/Weekly/Bi-weekly) set at "MODE 1" is shown on the display.

Monthly

Press ▲ or ▼ key to select Pay Closing Date until the display shows desired closing date, and press SET key.

from 109 to 3109

Weekly

Press ▲ or ▼ key to select Pay Closing Date (from today to next 6 days) until the display shows desired closing date, and press SET key.

from MON 11-3009 to MON 12-0609

Bi-weekly

Press ▲ or ▼ key to select Pay Closing Date (from today to next 13 days) until the display shows desired closing date, and press SET key.

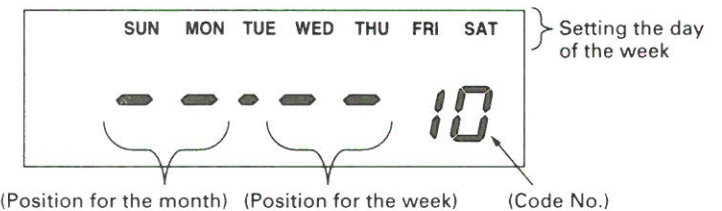
from MON 11-3009 to MON 12-1309



In Europe, set date first, and month second.

3. Setting Daylight Saving Time

After setting Pay Closing Date, the display moves to "Starting Date of Daylight Saving Time".



	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Figure for month	1	2	3	4	5	6	7	8	9	10	11	12
	1st week	2nd week	3rd week	4th week	Last week							
Figure for week	1	2	3	4	L							

NOTE : In case of the last week of the month, set "L" for last week even if the last week is 4th week or 5th week.

[Example] Starting Date of Daylight Saving Time : Sunday of the last week in March.
 Ending Date of Daylight Saving Time : Sunday of the last week in October.

Operation [MODE 3]	Display
After setting "Pay Closing Date", display moves to "Starting Date of Daylight Saving Time".	
Press ▲ or ▼ key until the display shows "3" for March. Press "SET" key for registration of Month.	
Press ▲ or ▼ key until the display shows "L" for the Last week. Press "SET" key for registration of Week.	
Move the cursor at the position of "SUN" for the day of the week by pressing ▲ or ▼ key. Press "SET" key for registration of the day of the week.	
Press ▲ or ▼ key until the display shows "10" for October. Press "SET" key for registration of Month.	
Press ▲ or ▼ key until the display shows "L" for the Last week. Press "SET" key for registration of Week.	
Move the cursor at the position of "SUN" for the day of the week by pressing ▲ or ▼ key. Press "SET" key for registration of the day of the week.	

NOTE : 1. During the period of Daylight Saving Time, symbol appears on the display.
 2. Once setting, Daylight Saving Time will be adjusted automatically from the next year, in accordance with setting data.

10 LATE-IN, EARLY-OUT, OVERTIME WORKING AND NEXT DAY OVERTIME SYMBOLS

ER-2200 can print automatically the symbols of **Late-In** (▶), **Early-Out** (◀), **Over Time Working** (⚡) at the right position of the time, in accordance with the setting time of **IN1 ~ OUT3** (Code No.2 ~ 07) and starting time of **Overtime Working** (Code No.8).

Also, in case of leaving the office over Line Shift Time for mid-night shift, ER-2200 can print the time in the same line of the day by pressing key. (see on page 11)

[Example of setting **MODE 3**]

Items (MODE 3)	Initial data	Code No.
LST	04 : 00	01
IN 1	09 : 00	02
OUT 1	12 : 00	03
IN 2	13 : 00	04
OUT 2	17 : 00	05
IN 3	-- : --	06
OUT 3	-- : --	07
OTS	17 : 30	08

[Printing examples by fully automatic operation]




D	IN 1	OUT 1	IN 2	OUT 2	IN 3	OUT 3	R
1	8:55	11:58▶	12:55	15:05▶	15:20	18:43▶	
2	9:22▶			13:01▶ (Note 1)			
3	8:57					17:31▶	
4	8:53	12:59 (Note 2)					
5	8:58	12:05	13:00			18:30▶	
6	9:00	11:59▶	12:58	17:29			
7			13:50▶ (Note 3)			19:50▶	
8	9:03▶			17:07			
9	8:50					7:52▶	
10							
11							
12							
13							
14							
15							

★ Note

- Second printing should be made in the fourth column (**OUT2**) because 13:01 is after the setting data of **IN2**, 13:00.
- Second printing should be made in the second column (**OUT1**) because 12:59 is before the setting data of **IN2**, 13:00.
- First printing should be made in the third column (**IN2**) because 13:50 is after the setting data of **IN2**, 13:00.

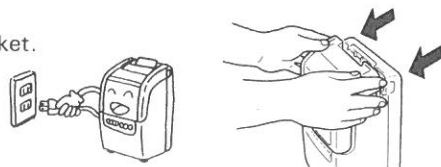
11 REPLACING AN INK RIBBON CASSETTE

Use only **ER-IR101** ink ribbon cassette for replacement.
Replace an ink ribbon cassette every 8 to 12 months by the following procedure.

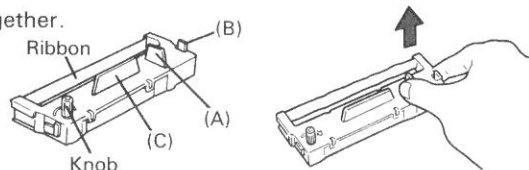
⚠ CAUTION	
	Never touch printer head. It is very hot just after printing and you could get burned.
	Do not fail to disconnect the power cord from plug socket.
	Wash your hand or body immediately by soap if they are stained with ink of ribbon.

Procedure

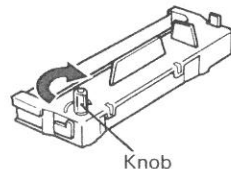
- ① Disconnect the power cord from a plug socket.
Open and remove front cover.



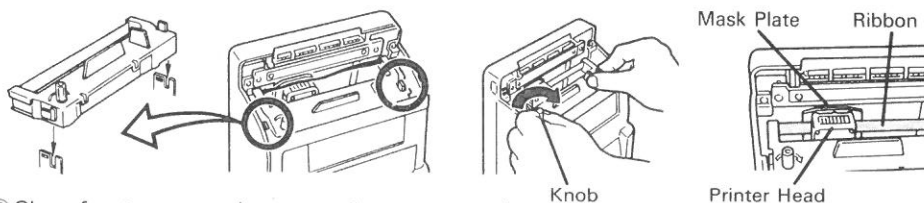
- ② Hold (A), (B) and (C), and pull up together.



- ③ Turn the knob of a new ink ribbon cassette to the direction indicated by an arrow to remove slack in ribbon.






- ④ Set the cassette properly as illustrated so that ribbon tape is set between Mask Plate and Printer Head. Then turn the knob again to remove slack in ribbon.



- ⑤ Close front cover and connect the power cord.

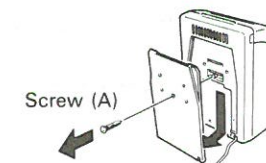
12 WALL MOUNTING AND LAID DOWN POSITION INSTALLATION

⚠ CAUTION	
	If mounting on a wall, make sure the wall is strong enough to hold the mount and recorder.
	Do not fail to mount ER-2200 by an attached plate. Do not use other materials.
	Do not fail to disconnect the power cord before installing on wall.

Wall Mounting

If you hang ER-2200 on the wall, install it by the following procedure.

- ① Remove screw (A) and an attached mounting plate as illustrated.



- ② Fix mounting plate to wall with attached 4 screws (accessories).




- ③ Install ER-2200 into the mounting plate as illustrated.



Laid Down Standing

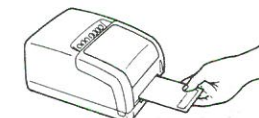
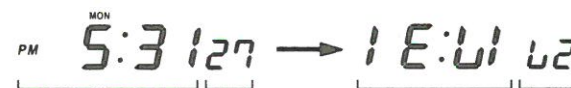
- ① Remove front cover.



- ② Press  key for "Laid Down Position".



- ③ Display of clock is turned upside down.



The time on the display shows 24-Hour format only.

13 ERROR CODE

Error Codes	Error Contents	Countermeasure
E-00	Time card is not inserted well inside to the position where automatic feed activates.	Insert time card to the position where automatic feed starts.
E-01	Time card is inserted with wrong side.	Insert time card with another side.
E-02	ER-2200 can not read holes on time card correctly.	Check if any hole is covered. Check if time card is bent or damaged.
E-04	6 printings are already completed in a day.	
E-05	150 time cards have already inserted a day/month.	(ER-2200 can deal with time cards up to 150 a day/month)
E-69	Automatic feed does not carry time card smoothly.	Do not hold time card during printing. Check if time card is bent or damaged.
E-EE	Printer malfunction	Try to get normal printout by connecting or disconnecting the power code.

14 TROUBLE SHOOTING

CAUTION



Never disassemble the instrument by yourself.



Contact your dealer/distributor if you could not solve the problem after you check it according to the following table.

Contents	Check	See
No display	Is the power cord connected to plug socket correctly?	1
No print out on time card	Is an ink ribbon cassette set correctly?	11
Card insertion obstructed	Is the card being inserted with correct face? Is the card bent or damaged?	5
Deviation in the printing line position	Is the card inserted too strongly? Do you pull out the card during the printing process? Do you keep holding the card when it was automatically being pulled inside? Is the card damp?	5
Faint printout	Is an ink ribbon being used too long? Is an ink ribbon set correctly?	11

15 SPECIFICATIONS

Production description	Max Electronic Time Recorder ER-2200
Power supply	R.O.C AC110V +6% -10% 60Hz
	Other countries AC220~240V +6% -10% 50/60Hz
Outside dimensions	240(H)×175(W)×120(D) mm [9 4/9"(H)×6 8/9"(W)×4 5/7"(D) in]
Weight	2.5 kg (5.51 lbs.)
Power consumption	Normal 4.5W, Maximum 35W
Clock system	Crystal quartz oscillation Monthly tolerance ±15 seconds (Under the condition of normal temperature: 25±5°C/77±41°F)
Display	Day, Hour, Minute, AM/PM, Day of week, , ,
Printed information	Day, Hour/minute (Up to 6 columns), symbol of , , ,
Guarantee in case of power failure	Memory backup supported by an internal battery and a clock function guaranteed over a period of 5 years as accumulated power failure after assembling at factory
Time card/Ink ribbon to be used	Recommended MAX time card ER-IR101 ink ribbon cassette
Operation temperature	0°C~40°C/32°F~104°F
Storage temperature	-20°C~60°C/-4°F~140°F

★ 7 minutes break is required after 150 times of continuous printing.

★ EU Declaration of Conformity is applied to the MAX Electronic Time Recorder ER-2200 with 230 voltages of power supply only.