AMANO

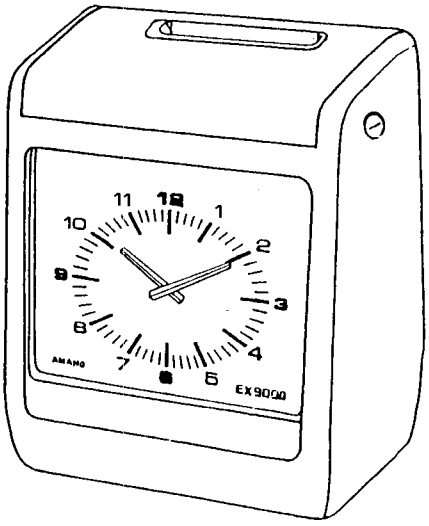
ENGLISH

ESPAÑOL

ELECTRONIC TIME RECORDER

EX9000 series

OPERATION MANUAL
ENGLISH/ESPAÑOL



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INTRODUCTION

Read this operation manual in order to operate EX9000 Series correctly to ensure that it operates efficiently for a long time.

- Specifications, appearance, descriptions, etc. may be subject to change due to improvement of product.
- This manual has been prepared very carefully, but if you find any errors or descriptions which you cannot understand clearly, please contact the dealer from whom you have purchased this product.

List of EX9000 Series Features

	EX9000	EX9100	EX9300	EX9600
1-color printing	◎			
2-color printing		◎	◎	◎
Time signal			◎	◎
Melody			◎	◎
Automatic shift of print position				◎
Across the card	◎	◎	◎	◎
Down or up the card				◎
Full power reserve	◎	◎	◎	◎
Column dividing sensor	☆	☆	☆	☆
Master-slave function	☆	☆	☆	☆
Two time signal circuits			☆	☆

☆ : Extension : Since expansion functions are assembled during the production process in our plant, so please inform us in advance it you need the expansion functions. It is sometimes impossible to assemble the expansion function in your unit or to replace your unit after purchase.

Accessories

After unpacking the package of EX9000 Series, please check to see that you have the following accessories.

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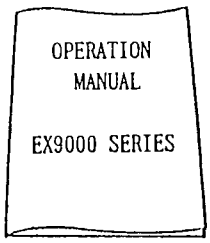
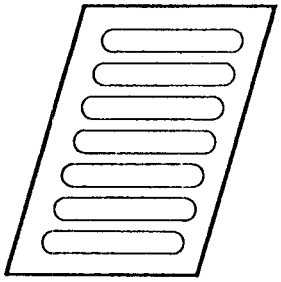
■ Manual



■ Keys

■ Seals for Different Language



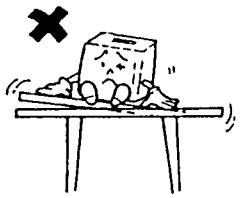
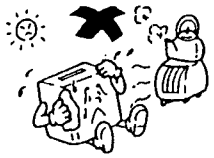
Specifications

Power source	:	100VAC, 120VAC, 220VAC, 240VAC ±10% (50 or 60Hz)
Power consumption	:	Ordinary 5W, Maximum 30W
Environmental conditions	:	Temperature : −10°C to 45°C (14°F to 114°F) Humidity : 10% to 90%RH (without dew condensation)
Dimensions	:	260(W) × 180(D) × 320(H)mm, 10.2(W) × 7.2(D) × 12.3(H) in
Weight	:	3.5 kg (7.8 lbs)
Clock system	:	Quartz, Accuracy ±3 seconds a week (at 25°C±5°C) (at 77°F±10°F)
Battery backup	:	Standard: Built-in lithium battery keeps inner clock running and protects programmed data for 3 years of accumulated power failure time. Full power reserve When the battery is fully charged, it maintains: 1) Clock advancement: 2-color selection, shift of print column, time signal or melody, for up to 72 hours. 2) 200 printings, or within 72 hours. When the unit is operating on the full power reserve, the IN/OUT indicator light blinks.

INSTALLATION PROCEDURES

Place of Installation

For best use, do not install the clock at the places mentioned below:

 Unstable places	 Places exposed to direct sunlight or close to a heat source
Dusty or vibrating places	Places exposed to rain water

Power Source

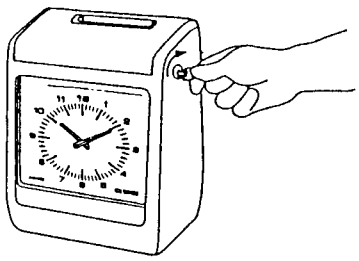
- Check the AC power commercially available in your district.
  (100VAC, 120VAC, 220VAC, or 240VAC)
- Select such places where supply voltages are stable.
- The power source should be independent of other equipment.
- The unit contains a lithium battery inside that keeps the inner clock running.
  (For 3 years of accumulated power failure time.)

How to Remove Front Cover

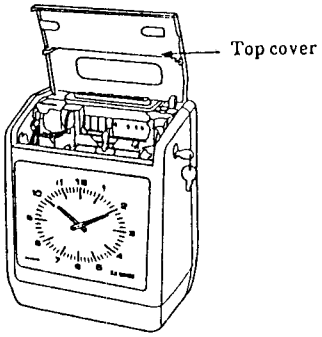
The front cover should be removed when connecting the battery (full power reserve), connecting wire to bell, and when mounting the unit on a wall.

☆ Before removing the front cover, be sure to disconnect the power cord from the AC receptacle.

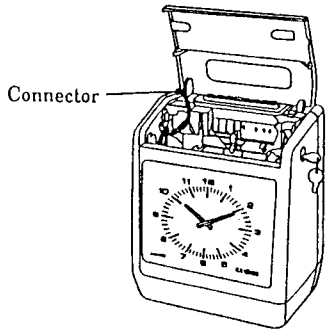
1. Turn the key in the arrow direction.



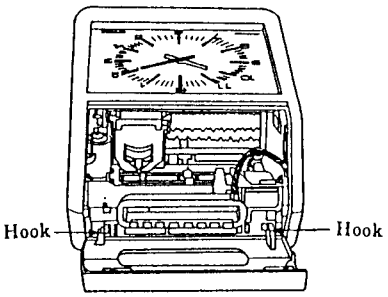
2. Open the top cover.



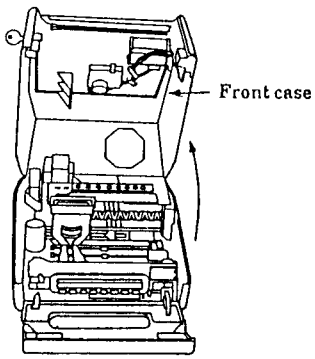
3. Disconnect the connector as shown below:



4. Place the machine flat on a table with the clock face up.



5. Force open the upper right and left hooks and lift the front case to remove it.

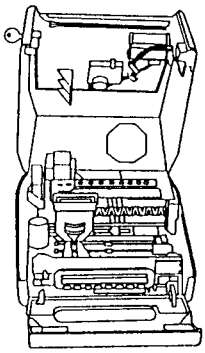


- Before closing the front case, reconnect the connector removed in the Procedure 3.

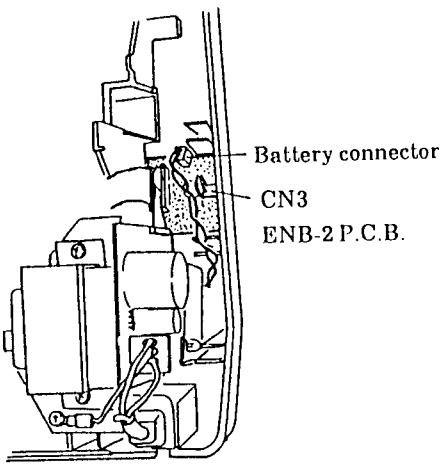
When removing the front cover, be sure to place the machine on a flat surface (unless hung on a wall). If the front case is removed without lying it down, the rear case may fall off.

Connection of Battery (Full Power Reserve)

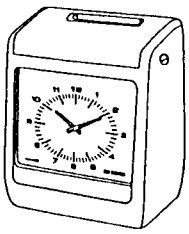
1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface, then remove the connector and the front cover from the unit.



2. Insert a battery connector in place. Make sure that the insertion direction is correct.



3. Set the front cover on the unit, insert the connector in the unit, then close the top cover.

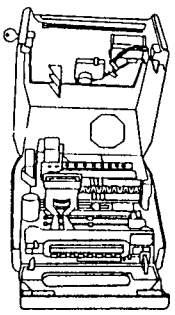


A lithium battery is also included in the unit to keep the inner clock running even without AC power, so when you insert the power cable in the AC receptacle set time keeps running.

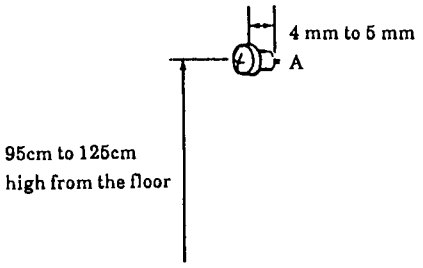
[Note] Use care to insert the battery connector in the correct direction. If it is inserted in the wrong direction, the unit may be damaged.

How to Install on Wall

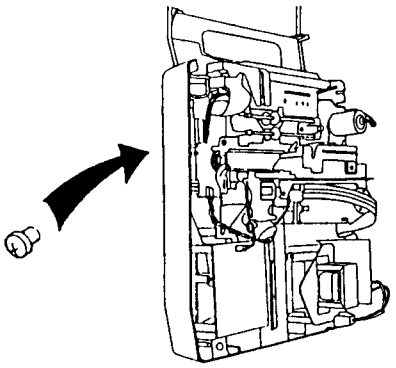
1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface, then remove the connector and the front cover from the unit.



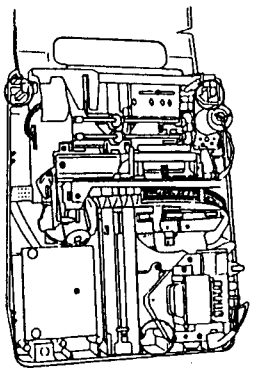
2. Fix a 5.1mm screw at the "A" position shown below on the wall and leave a space of 4 or 5mm between the wall and the screw head.



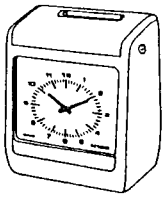
3. Hang the unit on the screw so that the screw enters the upper part of the potbellied hole on the back of the unit.



4. Secure the unit with screws in three other holes. After knocking out the holes on the back plate.



5. Attach the front cover on the unit, insert the connector in the unit and close the top cover.

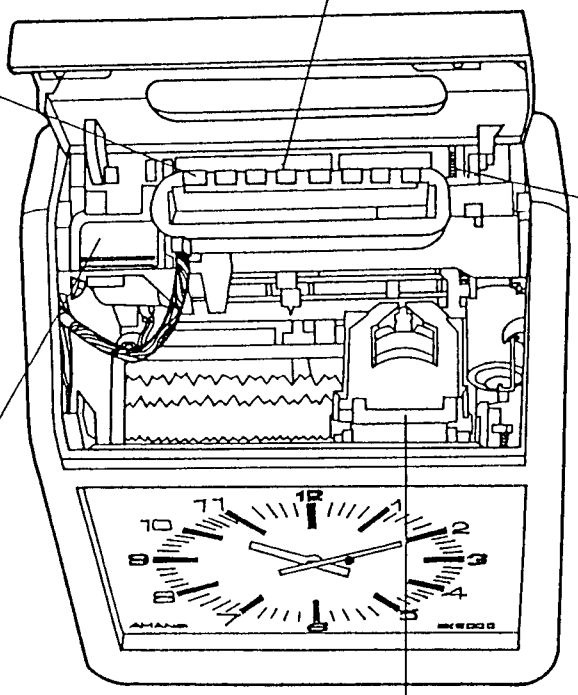


Note:	Concerning Installing Method and Wall Material When the unit is installed on a wall made of soft material, such as gypsum board, plywood, etc., the screw will become loose and the unit may drop from the wall during operation. So, attach a mounting plate between the studs, and attach the unit on the plate. (Prepare an appropriate plate before installation.)

Name and Function of Parts

IN/OUT or Day of Week Indicator :
This button is generally used for printing in the lighted print column.
When the top cover is open (in the setting mode), setting can correspond to setting index.

Setting Index :
Used at the time of setting and turns around as dial is rotated. (See Page 24.)



Dial :
Used to turn setting index.

Display :
Displays an item selected by the item button.

Ribbon Cartridge holder :
Press the holder at the time of replacing a cartridge ribbon, and the rear section of cartridge goes up and the ribbon cartridge can be removed.

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Default Values

Items	Set points	Default values
Day time change	Hour : 00 to 23 Minute : 00 to 59	03:00
	1: Day time change 2: Morning/Afternoon time change (2-vertical space-a-day card)	1
	Hour : 00 to 23 Minute : 00 to 59	1: 03:00 2: 12:00
Pay period ending date, empty column	(Monthly pay): 01 to 31 Blank line 01 to 32	31 01
	(Weekly pay): MONDAY (1) to SUNDAY (7)	5
	Current week: 1, 2 Bi-weekly pay only is set	1
Start/End of Daylight Savings Time	Change-over method 0: No function 1: For setting month and date 2: For setting month and day of the week	0
	Month: 01 to 12, Day: 01 to 31	--
	Week: 1 to 5 Day of the week: Monday to Sunday To set day of which week	-
Time signal duration	Time signal duration in seconds: 00 to 59 (sec.) <EX9300, EX9600> No time signal is output for 00 (sec.)	05
Imprint	Manual selection of IN/OUT print column <EX9600 (Across the card type only)> 0: Manual selection available 1: Manual selection is not available	0
	Double printing prevention <EX9600 (Across the card type only)> 0 : Ineffective 1 : Effective	0
	Imprint of day of the week 0 : Date 1 : English 2 : Spanish 3 : French 4 : German 5 : Italian 6 : Japanese 7 : Day No. 8 : No printing	0: Monthly pay 1: Weekly pay
	Imprint of hours 1: 24 hours (0 - 23 hours) (0 is not printed at the ten's place of hour.) 2: 12 hours (AM/PM hours) 3: 24 hours (0 - 23 hours) (0 is printed at the ten's place of hour.)	1

Items		Set points	Default values
Imprint		Imprint of minutes 1 : Minutes 2: 1/100 hour A 3: 1/100 hour B 4: 1/10 hour	1
Weekly program I	2-color printing	<EX9100, EX9300, EX9600> R : Start of printing in red B : Start of printing in black	R
	Time signal	<EX9300, EX9600> 0 : No time signal is out put 1 : Time signal is out put to Circuit 1 2: Time signal is out put to Circuit 2 (extension) 3: Time signal is out put to Circuits 1 and 2 (extension)	1
	Melody	To select melody <EX9300, EX9600> 0: No melody 1: Green Sleeves (32 sec.) 2: Home on the Range (35 sec.) 3: Westminster (15 sec.) 4: Two Minuet (10 sec.)	1
Weekly program II	Print position	<EX9600 (Fully automatic type only)> 00 to 22 According to each card type 00: No print position is shifted	00
	Restricted zone	Time zone for double print prevention. <EX9600 (Across the card type only)> 01: Starting time of double print prevention 02: Ending time of double print prevention Be sure to set the starting and ending times of double print prevention at the same time.	01

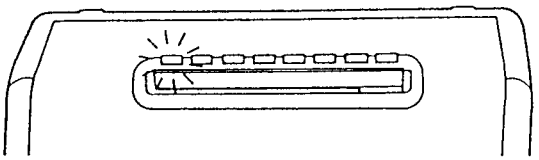
* When setting a weekly program, pay attention to the following:

  When setting multiple function at the same time, set the function at one program No.

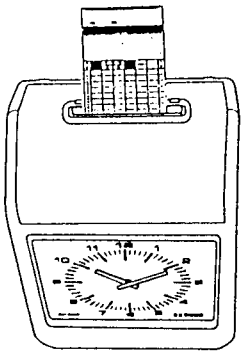
  Do not set the functions at each program No. (See Page 37.)

HOW TO OPERATE

- For EX9000, EX9100, EX9300 press appropriate IN/OUT button and insert the time card. By pushing the time card down, the printing is done on the time card in the column where the button is lit.
- For EX9600, fully automatic across the card type, IN/OUT printing position is determined automatically according to the set program. However, by pressing the appropriate button a manual override can be performed. After printing, the position of printing returns to its original position automatically.



- Since card is automatically pulled in, do not push it in or pull it out.

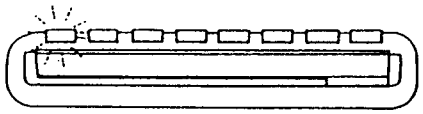


During Power Failure

When power supply is interrupted, everything except the inner clock stops. When the power supply is restored, everything returns to normal. → The lithium battery will keep the inner clock and programmed data for three years of accumulated power failure time.
(When a full power reserve is not equipped, the duration is three years.)

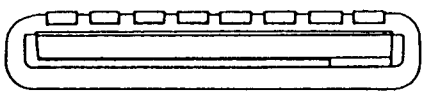
At the time of power failure

If a full power reserve functions,



IN/OUT indicator light blinks.

If a full power reserve is not equipped,



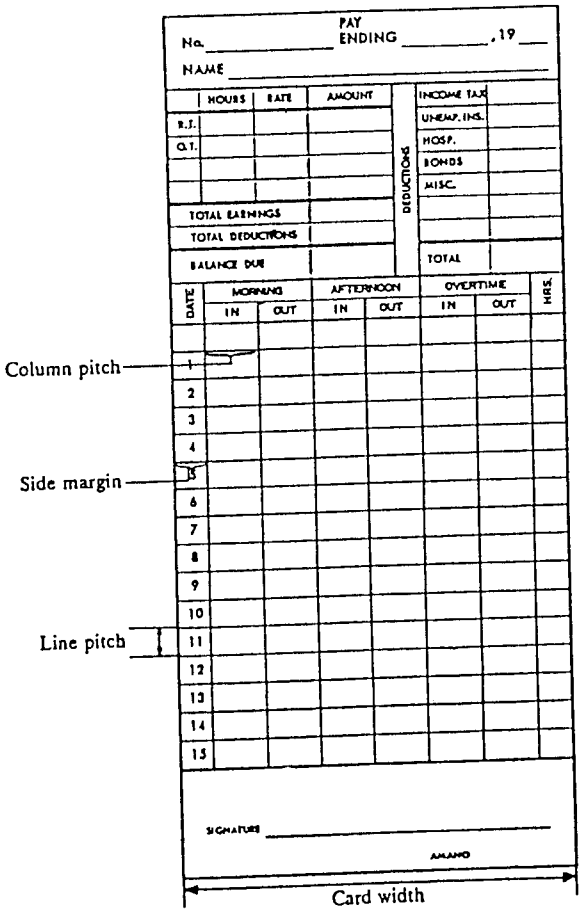
IN/OUT indicator light goes out.

Full Power Reserve
Can maintain clock motion, 2-color selection, shift of print column, time signal or melody for 72 hours, or 200 printings within 72 hours when the battery is fully charged.

TIME CARDS

Time Card

For across the card type, card format can be changed by setting the inner dip switch. A sample time card is shown below.



To change time card format, inform the dealer from whom you have purchased this unit.

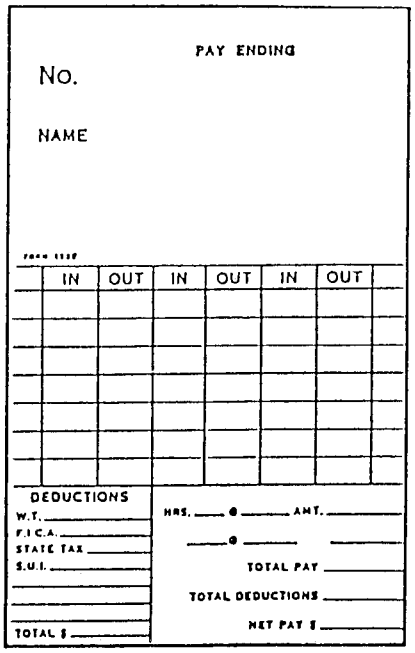
For adjustment of card width, side margin, thickness and slot depth, see Pages 18 to 19.

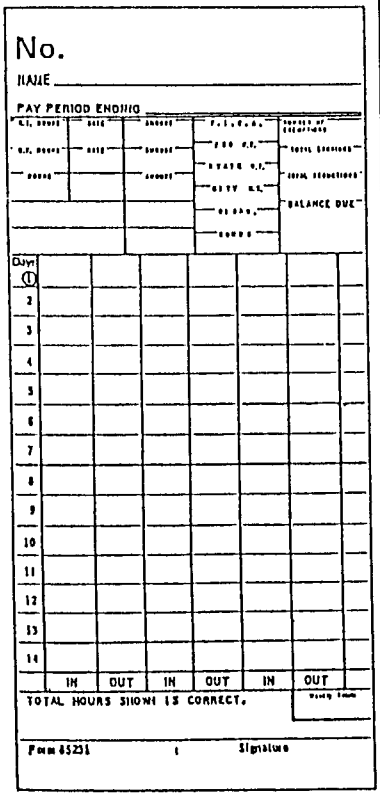
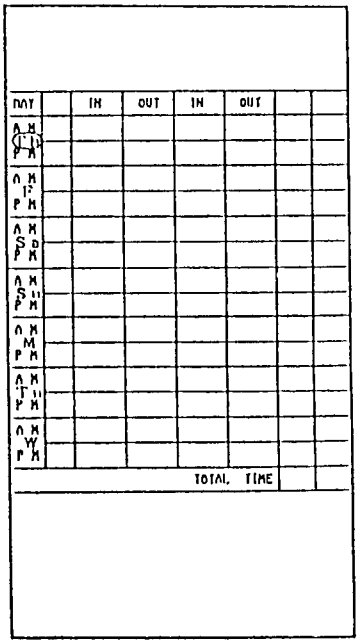
Vertical spacing change can be done by replacing the sensor belt.

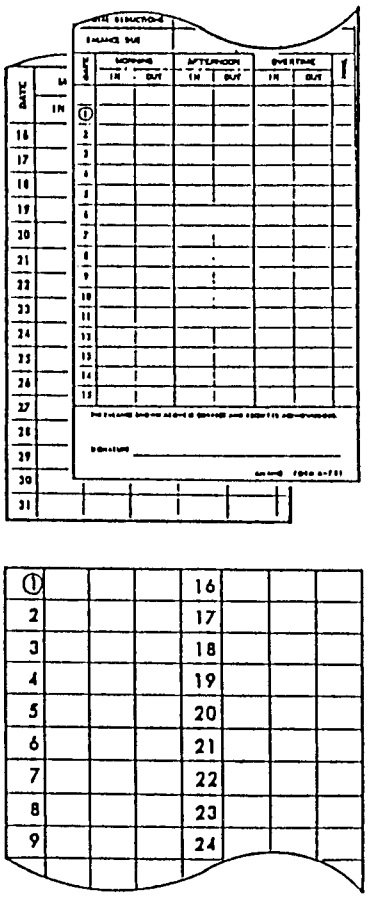
Other adjustments are set by dip switch.

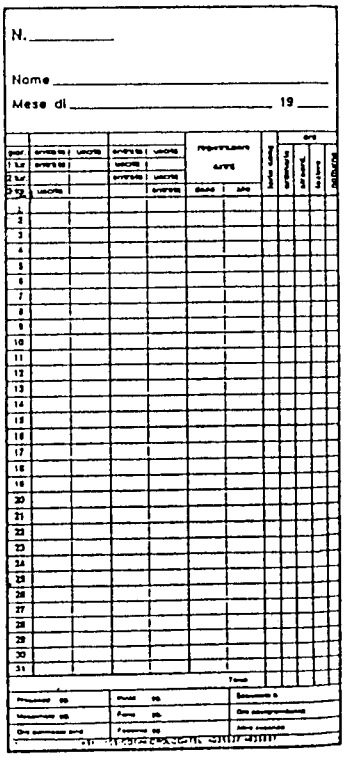
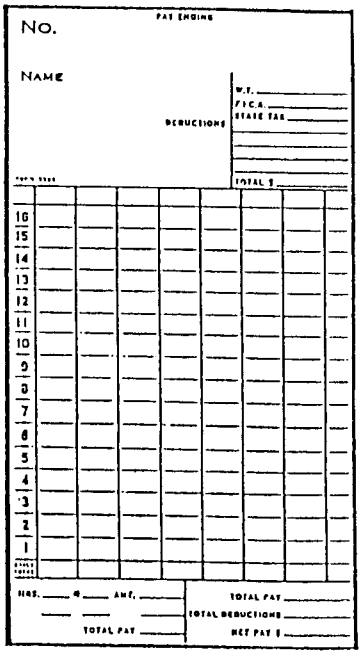
time card

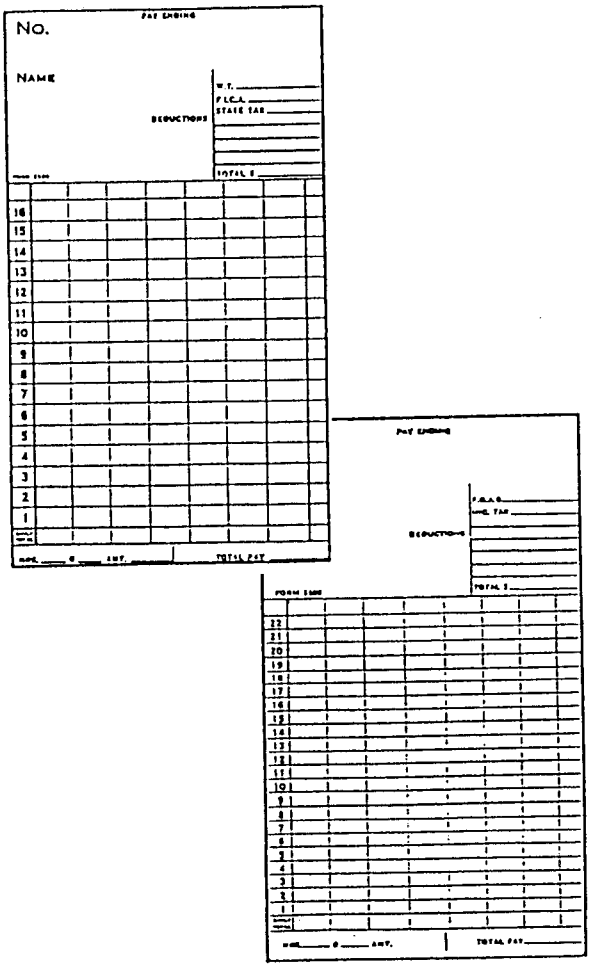
Types of Time Cards

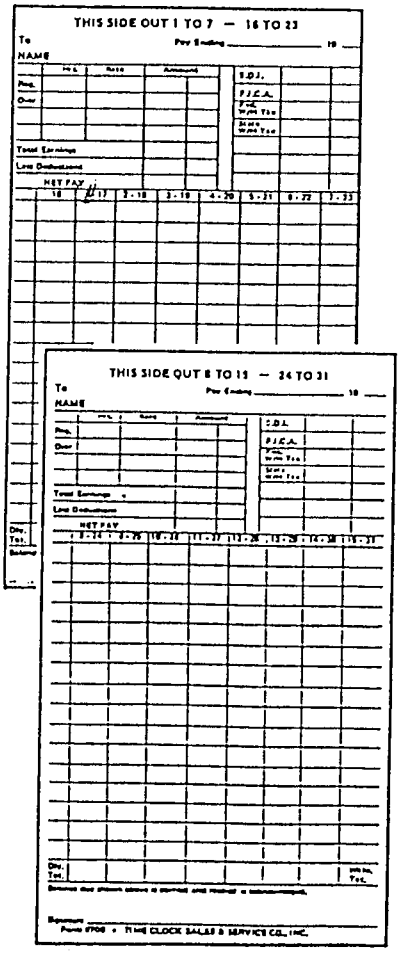
Card type No.	1	2
Card type	7 lifts across the card weekly	
Card width	82.5 mm (3.25 in) to 86 mm (3.38 in)	
Number of columns	6 columns	
Number of lines	7 lifts	
Column pitch	12 mm (0.47 in)	
Line pitch	6 mm (0.24 in)	7 mm (0.28 in)
Side margin	6.5 mm (0.26 in)	
Applicable models	EX9000, EX9100, EX9300, EX9600	
Sample		

Card type No.	3	4
Card type	14 lifts across the card bi-weekly	14 lifts across the card weekly ND1
Card width	86 mm (3.38 in)	82.5 mm (3.25 in)
Number of columns	6 columns	4 columns
Number of lines	14 lifts	7×2 lifts
Column pitch	12 mm (0.47 in)	
Line pitch	6 mm (0.24 in)	6 mm (0.24 in)×2
Side margin	5 mm (0.20 in) (1st week)/ 7.5 mm (0.30 in) (2nd week)	16 mm (0.63 in)
Applicable models	EX9000, EX9100, EX9300, EX9600	
Sample		

Card type No.	5	6
Card type	Monthly pay, 15/16 lifts, 2 sides Amano standard card	Monthly pay, 15/16 lifts, 1 sides
Card width	86 mm (3.38 in)	
Number of columns	6 columns	3×2 columns
Number of lines	16 lifts	
Column pitch	12 mm (0.47 in)	
Line pitch	6 mm (0.24 in)	
Side margin	7 mm (0.28 in) (Front)/ 7 mm (0.28 in) (Back)	7 mm (0.28 in) (Left)/ 43 mm (1.69 in) (Right)
Applicable models	EX9000, EX9100, EX9300, EX9600	
Sample		

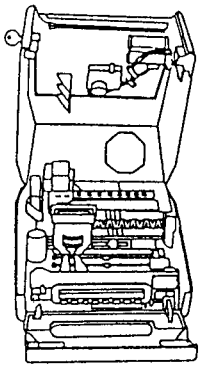
Card type No.	7	8
Card type	Monthly pay, 31 lifts	TAB card 16 lifts down/up the card, weekly
Card width	104 mm (4.09 in)	82.55 mm (3.25 in)
Number of columns	6 columns	7 columns
Number of lines	31 lifts	16 lifts
Column pitch	12 mm (0.47 in)	10.55 mm (0.42 in)
Line pitch	4.53 mm (0.18 in)	6 mm (0.24 in)
Side margin	8 mm (0.32 in)	4 mm (0.16 in)
Applicable models	EX9600	
Sample		

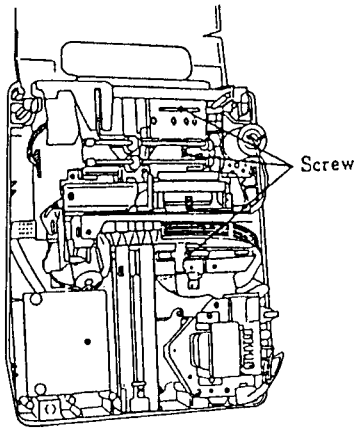
Card type No.	9	10	11
Card type	TAB card 22 lifts down/up the card, weekly	16 lifts down/up the card, weekly	22 lifts down/up the card, weekly
Card width	82.55 mm (3.25 in)	98 mm (3.86 in) to 106 mm (4.17 in)	
Number of columns	7 columns		
Number of lines	22 lifts	16 lifts	22 lifts
Column pitch	10.55 mm (0.42 in)	12 mm (0.47 in)	
Line pitch	4.35 mm (0.17 in)	6 mm (0.24 in)	4.35 mm (0.17 in)
Side margin	4 mm (0.16 in)	7 mm (0.28 in)	
Applicable models	EX9600		
Sample			

Card type No.	12	13
Card type	16 lifts down/up the card, monthly	22 lifts down/up the card, monthly
Card width	98 mm (3.86 in) to 106 mm (4.17 in)	
Number of columns	8 columns	
Number of lines	16 lifts	22 lifts
Column pitch	12 mm (0.47 in)	10.7 mm (0.42 in)
Line pitch	6 mm (0.24 in)	4.35 mm (0.17 in)
Side margin	8 mm (0.31 in) (Front)/ 8 mm (0.31 in) (Back)	7 mm (0.27 in) (Front)/ 7 mm (0.27 in) (Back)
Applicable models	EX9600	
Sample		

Adjustment of Card Width

1. Disconnect the power cord from AC receptacle, place the machine on a flat surface and remove the connector and the front cover.
2. Loosen the three screws indicated in the figure shown below with a Phillips type screwdriver and adjust the slot width for card to be used. The width can be adjusted in the range 82.5 - 106 mm.

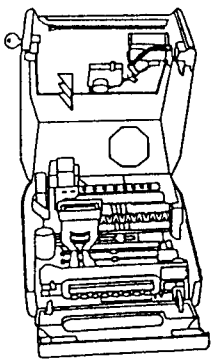


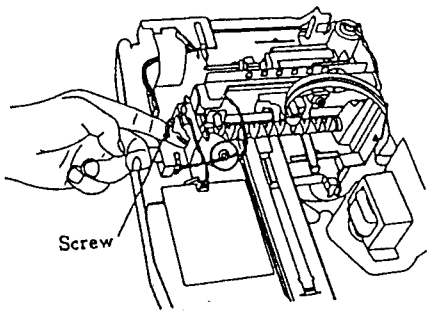


3. To check the card width setting, insert a card and turn the white gear located behind the motor to draw the card into the unit.

Adjustment of Side Margin

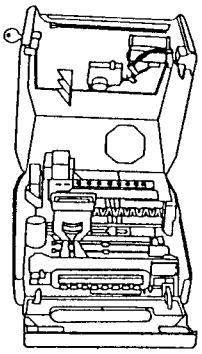
1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface and remove the connector and the front cover.
2. After having removed the case, hold the section indicated by hand from below, loosen it with a Phillips type screwdriver and adjust the side margin. (Scales are indicated.)
   The adjusting range is 3 - 15 mm.



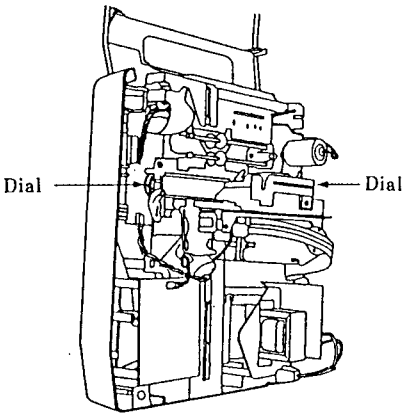


Adjustment of Card Thickness

1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface and remove the connector and the front cover.

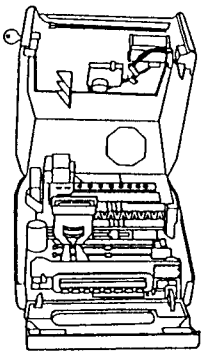


2. After removing the case, turn both the right and left dials to adjust the back and forth width of the slot. (Scales are indicated.) The adjusting is from 0.188 - 0.9 mm.
The original width is set at 0.37 mm.

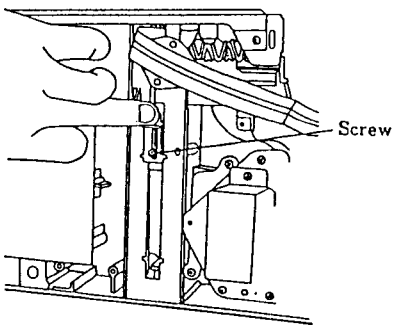


Adjustment of Time Card Bottom Margin

1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface and remove the connector and the front cover.



2. After having removed the case, loosen the section indicated in the figure below with a Phillips type screwdriver and adjust the depth. (Scales are indicated.)
The adjusting range is 17 - 31mm.

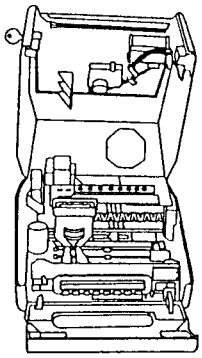


ENGLISH

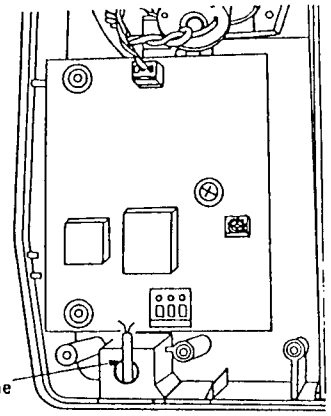
TIME SIGNAL AND MELODY

Wiring of Time Signal

1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface and remove the connector and the front cover.

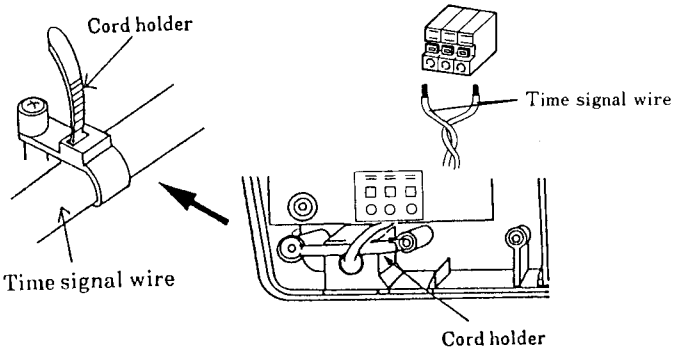


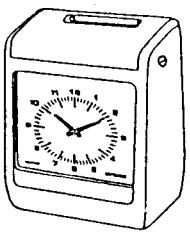
2. Pass the time signal wire through the hole on the left side of the rear cover.



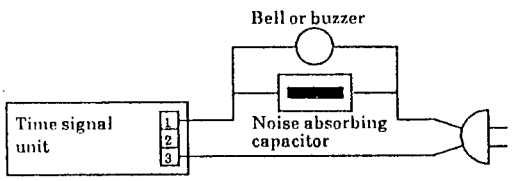
3. Press the protrusion of the time signal terminal and insert the time signal wire in Nos. 1 and 3. Then, fix them with the cord holder. For two time signal cricuits or master-slave function (option B), insert time signal wires in terminal receptacles No. 1, 2, 4, and 5.

4. Attach the front case to the unit, insert the connector and close the top cover.





■ Wiring Diagram of Time Signal

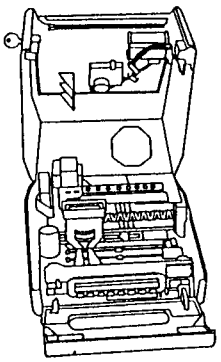


■ Specification for Signal wiring
For connection to a class 2 circuit only.

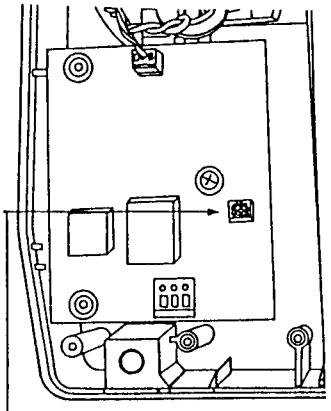
A noise absorbing capacitor is included in the time signal unit. (For example, S-1205)

Adjustment of Melody Volume

1. Disconnect the power cord from the AC receptacle, place the machine on a flat surface and remove the connector and the front cover.



2. Insert the Phillips-type screwdriver in the position shown in the figure and turn it to adjust the melody volume.



To increase the volume,
turn the screwdriver clockwise.

lriver in the
ıd turn it to

ENGLISH

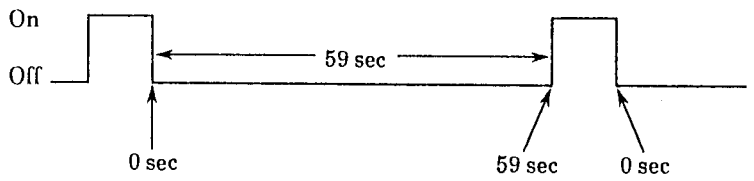
MASTER-SLAVE FUNCTION

The master-slave function of the EX9000 series synchronizes the seconds every minute to all wire connected EX9000 series.

When it receives a pulse from the master clock during the interval between :00 - :29 seconds, the slave clock's internal display returns to :00.

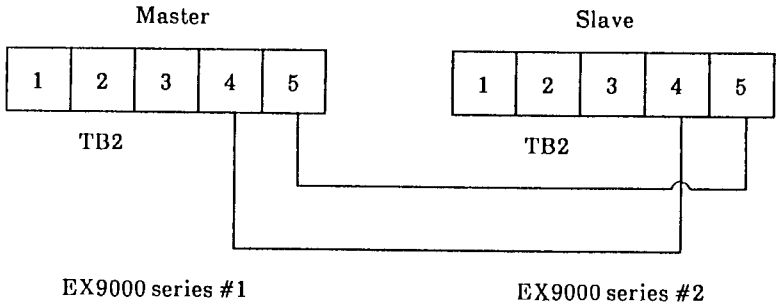
A pulse during the interval between :30 - :59 seconds advances the internal clock one minute, and the second display begins at :00. The EX9000 series does not have hourly connection of minutes.

EX9000 series Master output



Typical Connection (see Wiring of Time Signal)

Make sure the master clock has been set to the correct current time. After setting the slave clock :01 - :29 ahead of current time, connect the wires to the master clock.

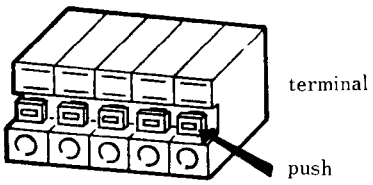


Jumpers and Connection

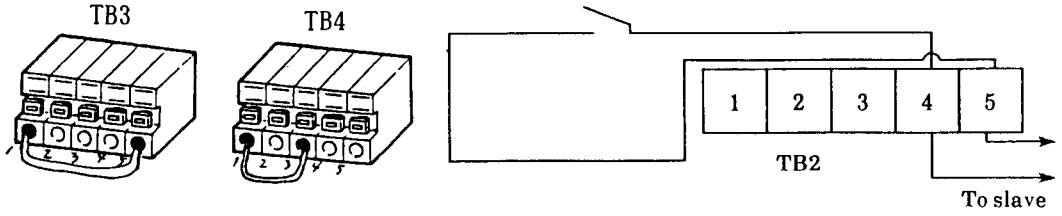
EX9000 series (extention) can select the master or slave clock by jumper connections in the ENE P.C.B. Master/slave and two-time signal functions have their own software in the ENM P.C.B. If the jumper connections are the same, functions are different.

For connection to a class 2 circuit only.

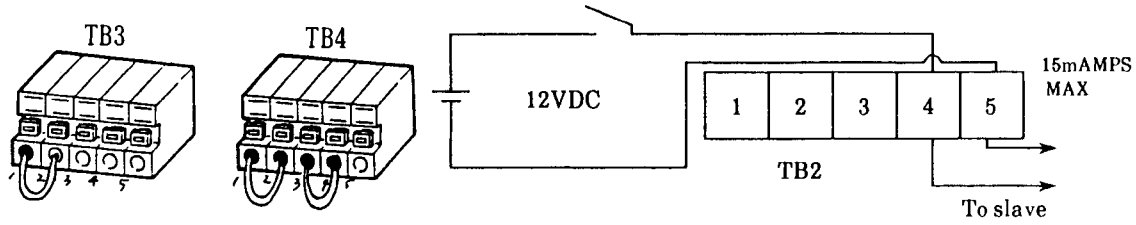
Disconnect AC power before connecting



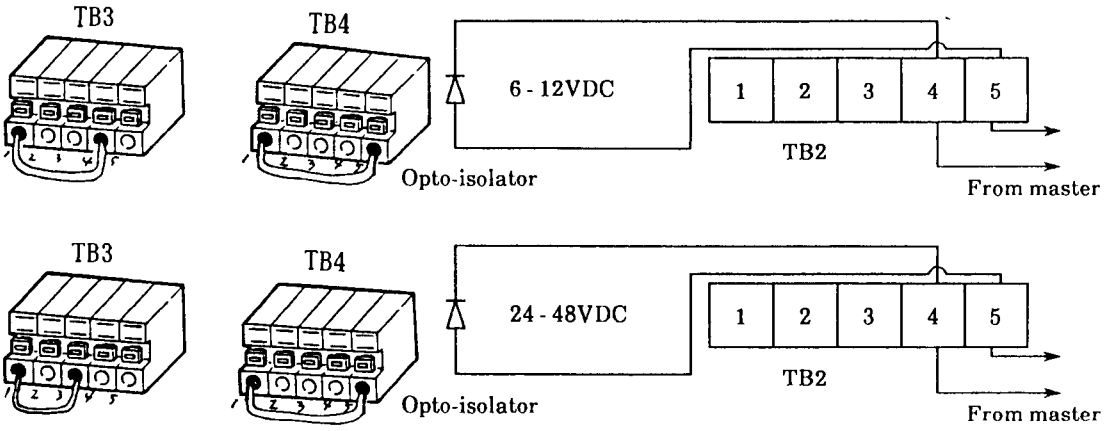
1. Master Dry Contact.



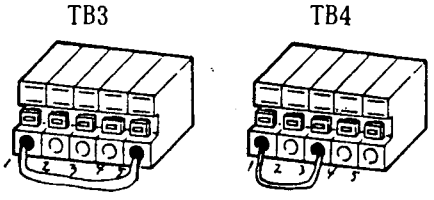
2. Master 12V Pulse



3. Slave Pulse



4. Two Time Signal Circuits



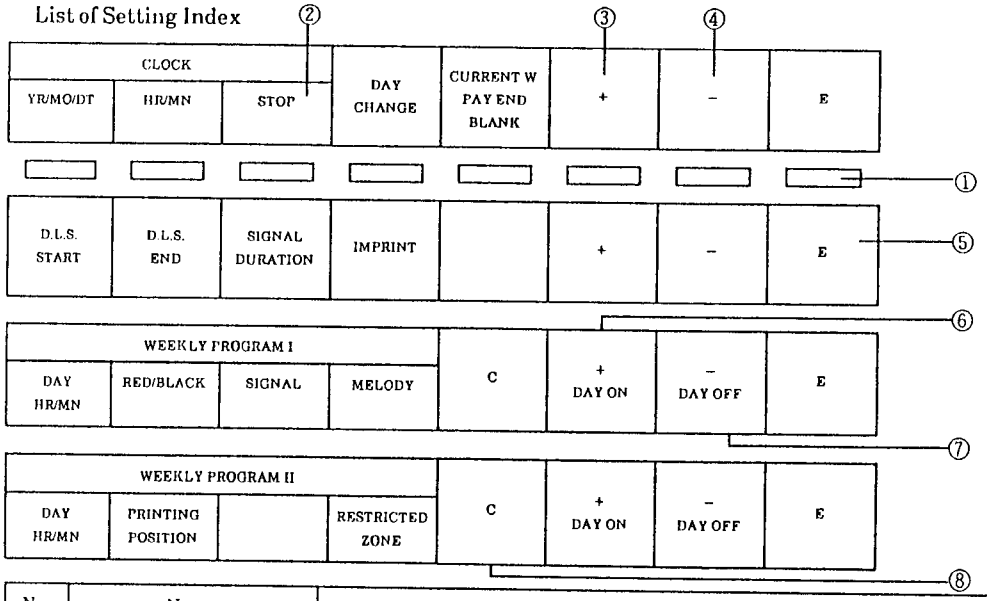
SETTING METHOD

ENGLISH

Setting

- For program setting, open the top cover, and the setting mode starts. Turn the dial and select the appropriate setting index, press the item button, and start each setting.
- Set all hours on the military hours (0 - 23) system.

List of Setting Index



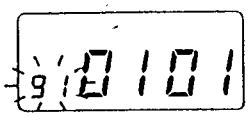
No.	Name	Function
①	Item Button	Press the item button, and each item can be set.
②	STOP Button	The clock stops while the button is pressed, and starts running when the button is released.
③	+ Button	Press the button once, and the value increases by 1. If you hold the button, down the value increases automatically.
④	– Button	Press the button once, and the value decreases by 1. If you hold the button, down the value decreases automatically.
⑤	E Button	Press the button to register any value changed by pressing the + or – button.
⑥	+ DAY ON Button	When this button is pressed while setting a weekly program, the blinking day turns on and becomes effective.
⑦	– DAY OFF Button	When the button is pressed while setting a weekly program, the blinking day turns off and becomes ineffective.
⑧	C Button	Press the button for more than 2 seconds, and the contents of a weekly program number are erased. (When this button is pressed for less than 2 seconds, only the screen is erased, and the contents remain set.)

- When an item is changed during setting, items registered by E button are effective. (Weekly programs are excluded.)
- Start and end of Daylight Savings Time and Restricted Zone should be set at the same time. Also, such setting may not extend beyond the day time change.
- Precaution for setting weekly program:
  When setting multiple functions at the same time, set the functions at one program no.
  (See page 37.)

Setting of Date

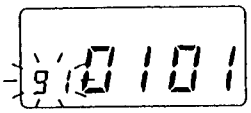
Example : Set "August 11, 1991" on the time recorder.

1. Press the YR/MO/DT button, and the default date is indicated.

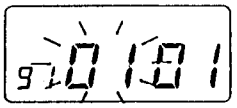


CLOCK			DAY CHANGE	CURRENT W. PAY END BLANK	+	−	E
YR/MO/DT	HR/MN	STOP					

2. Set "91" for the year by using the + or − button.
   00 to 90 represent those of 2000s, while 91 to 99 represent those of 1900s.



3. Press the E button.



4. Set "08" for the month by using the + or − button.

5. Press the E button.

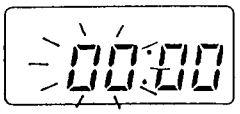
6. Set "11" for the day by using the + or − button.

7. Press the E button.

Setting of Time

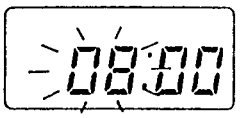
Example : Set "8:48 a.m." on the time recorder.

1. Press the HR/MN button, and the default value of time is indicated.

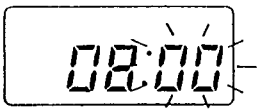


CLOCK			DAY CHANGE	CURRENT W. PAY END BLANK	+	−	E
YR/MO/DT	HR/MN	STOP					

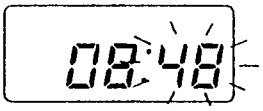
2. Set "08" for the hour by using the + or − button.
   Note : Set hours on the military hours (0 - 23 hours) system.



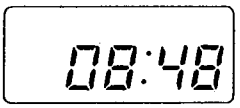
3. Press the E button.



4. Set "48" for the minute by using the + or − button.



5. Press the E button.
   The clock starts running immediately after the button has been pressed.



* STOP Button

When the clock is running ahead of time, press the STOP button and wait until the right time.

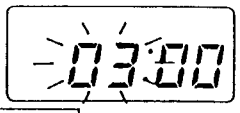
The clock stops while the button is pressed and starts running immediately after the button has been released.

Day Time Change

Programmed time to start a new day line or column

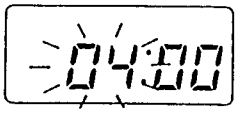
Example : Set the day time change to 4:30.

1. Press the DAY CHANGE button, and the default value appears. (03:00)

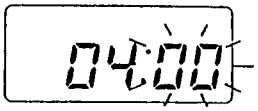


CLOCK			DAY CHANGE	CURRENT W. PAY END BLANK	+	−	E
YR/MO/DT	HR/MN	STOP					

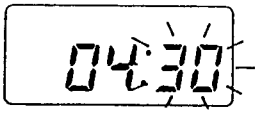
2. Set "04" for the hour by using the + or − button.



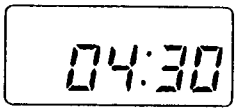
3. Press the E button.



4. Set "30" for the minute by using the + or − button.



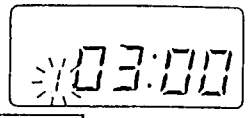
5. Press the E button.



Morning/Afternoon Vertical Space Time Change
(For 2-row-a-day Cards)

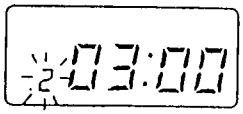
Example : Set the morning/afternoon time change to 14:30.

1. Press the DAY CHANGE button, and the default values appear.
   1 : Division 1 (Vertical space time change) 03 : 00
   2 : Division 2 (Morning/Afternoon time change) 12 : 00

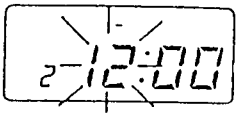


CLOCK			DAY CHANGE	CURRENT W. PAY END BLANK	+	−	E
YR/MO/DT	HR/MN	STOP					

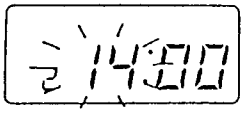
2. Set "2" for the division by using the + and − buttons.



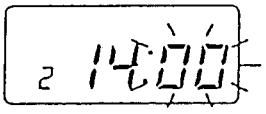
3. Press the E button.
   (The default value for the Division 2 appears.)



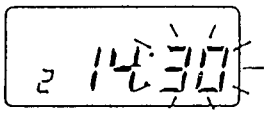
4. Set "14" for the hour by using the + and − buttons.



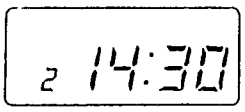
5. Press the E button.



6. Set "30" for the minute by using the + and − buttons.



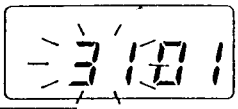
7. Press the E button.



Setting of Pay Period Ending Date and Blank Row (For Monthly Pay)

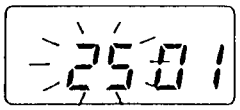
Example : Set the pay period ending date to the 25th day of the month and a blank row at the 17th row.

1. Press the CURRENT W. PAY END BLANK button, and the default value appears. (The 31st day [For period ending at the end of the month], the top row is blank.)

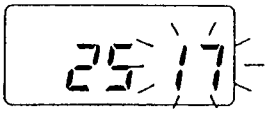


CLOCK			DAY CHANGE	CURRENT W PAY END BLANK	+	−	E
YR/MO/DT	HR/MN	STOP					

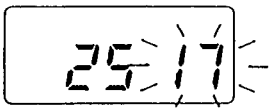
2. Set "25" for the pay period ending date by using the + and − buttons.



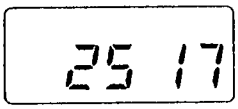
3. Press the E button, and the blank row turns to "17."



4. Set the blank row by using the + and − buttons.

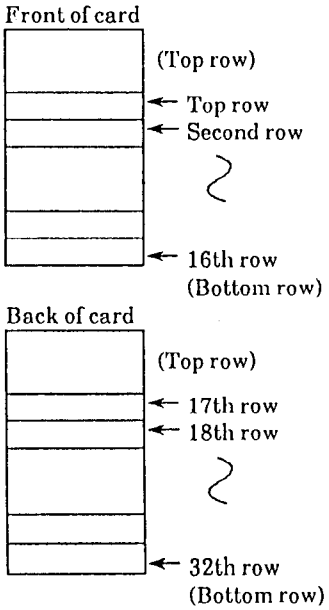


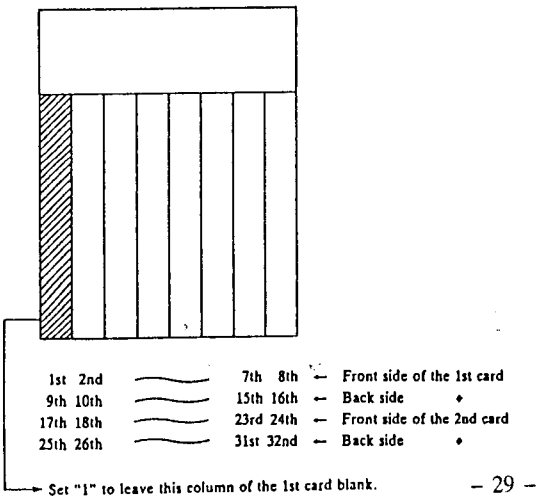
5. Press the E button.



* Blank Row
The top row of the time card is number 01, the lowest row on the back is number 32, and a blank row can be set by designating a number on the card.

* When a pay period ending date is set to the 20th or 25th day, the blank row automatically turns to "17." When a pay period ending date is set to any other date, the initial value "1" remains unchanged.



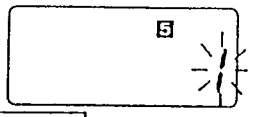


Setting of Pay Period Ending Day of the Week and Current Week (For Weekly and Bi-weekly Pay)

ENGLISH

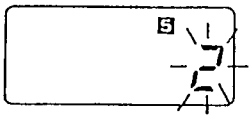
Example : Set the pay period ending day of the week to Saturday (bi-weekly pay) and the current week to the second week.

1. Press the CURRENT W. PAY END BLANK button, and the default values appear. (The pay period ending day of the week is Friday, and the current week is the first one.)

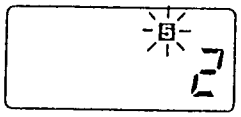


CLOCK			DAY CHANGE	CURRENT W. PAY END BLANK	+	−	E
YR/MO/DT	HR/MN	STOP					

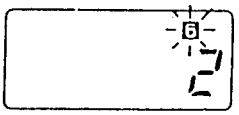
2. Set "2" for the current week by using the + and − buttons.
   * Only for bi-weekly pay period.



3. Press the E button.



4. Set "6" for the day of the week by using + and − buttons.
   ① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
   ⑤ : Friday ⑥ : Saturday ⑦ : Sunday



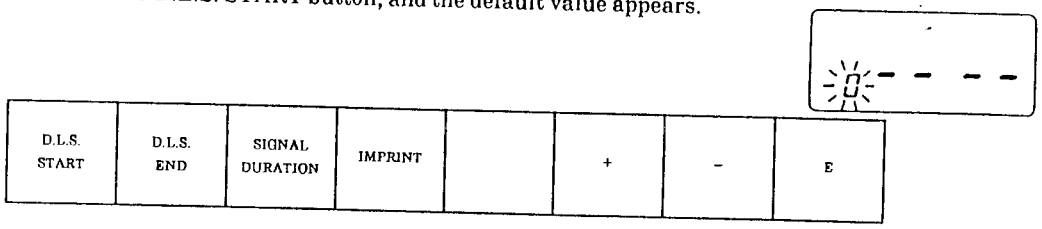
5. Press "E" button.

* When the card specification is set to weekly pay, the current week is not shown on the display.

Setting of Daylight Savings Time (Month and Date)

Example : Set the starting date of Daylight Savings Time to July 5.

1. Press the D.L.S. START button, and the default value appears.



0 : No function
1 : Setting of month and date
2 : Setting of month and day of the week

2. Select "1" as the setting method of Daylight Savings Time by using the + and – buttons.

3. Press the E button.

4. Set "07" for the month by using + and – buttons.

5. Press the E button.

6. Set "05" for the date by using the + and – buttons.

7. Press the E button.

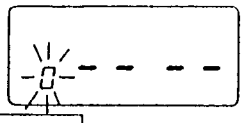
8. Set the ending date of Daylight Savings Time in the same way.

- Set both the starting and ending dates of Daylight Savings Time. When only one of them is set, Daylight Savings Time is not set.
- When the starting date and the ending date are set to the same date, both dates are erased.
- The change-over time for Daylight Savings Time is 2:00 a.m.

Setting of Daylight Savings Time (Month and Day of Which Week)

Example : Set the starting date of Daylight Savings Time to the second Monday of July.

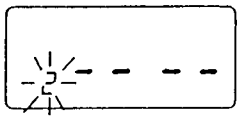
1. Press the D.L.S. START button, and the default value appears.



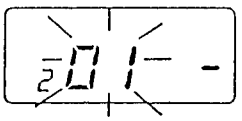
D.L.S. START	D.L.S. END	SIGNAL DURATION	IMPRINT		+	−	E

0 : No function
1 : Setting of month and date
2 : Setting of month and day of the week

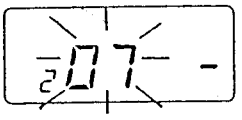
2. Select "2" as the setting method of Daylight Savings Time by using the + and − buttons.



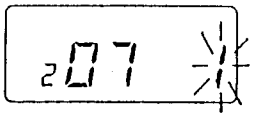
3. Press the E button.



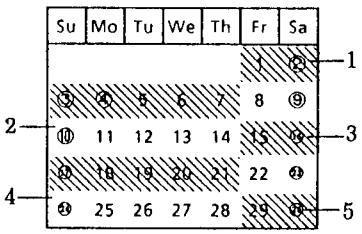
4. Set "07" for the month by using + and − buttons.

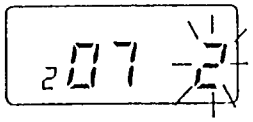


5. Press the E button.

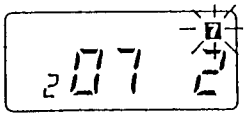


6. Set "02" for the week by using + and − buttons.
   1: 1st week 4: 4th week
   2: 2nd week 5: 5th week
   3: 3rd week

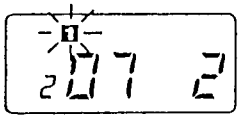




7. Press the E button.



8. Set "1" for the day of the week by using + and − buttons.
   ① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
   ⑤ : Friday ⑥ : Saturday ⑦ : Sunday



9. Press the E button.

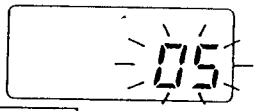
10. Set the ending date of Daylight Savings Time in the same way.

- Set both the starting and ending dates of Daylight Savings Time. When only one of them is set, Daylight Savings Time is not set.
- When the starting date and the ending date are set to the same date, both dates are erased.
- The change-over time for Daylight Savings Time is 2:00 a.m.

Setting of Time Signal Duration <EX9300, EX9600>

Example : Set the time signal duration to 10 seconds.

1. Press the SIGNAL DURATION button, and the default value appears (for 5 seconds).



D.L.S. START	D.L.S. END	SIGNAL DURATION	IMPRINT		+	−	E

2. Set "10" for the time signal duration by using the + and − buttons. (The setting range is 00 - 59 seconds. No time signal is output at 00 seconds.)

3. Press the E button.

* The melody duration cannot be changed.

* Even in the case of 2-circuit output of time signal [Extension], the time signal duration is set to the same length.

Setting of Imprint

Example : Set the print column manual selection available, the double printing prevention to effective, indication of day of the week to English, hour indication to 12 hours (AM/PM hours) and minute indication to the 1/100 hourB.

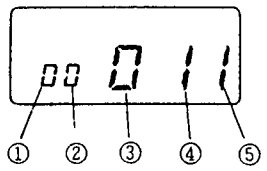
① Print column manual override <EX9600> *1 Across the card type only
0: Manual selection available 1: Manual selection is not available

② Double printing prevention <EX9600> *2 Across the card type only
0: Ineffective 1: Effective

③ Indication of day of the week
0: Date 1: English 2: Spanish
3: French 4: German 5: Italian
6: Japanese 7: Day No. 8: No indication

④ Print format
1: 24 hours (0 - 23 hours)
(0 is not printed at the ten's place of hour.)
2: 12 hours (AM/PM hours)
3: 24 hours (0 - 23 hours)
(0 is printed at the ten's place of hour.)

⑤ Minute indication
1: Minutes 2: 1/100 Hour A
3: 1/100 Hours B 4: 1/10 Hour



Note:

*1 Print column manual override <EX9600>

When set available a printing column other than the preset column may be selected manually.

*2 Double printing prevention <EX9600>

With the double print prevention set to: 1 effective and the print column manual override set to:

0 - Available: A column must be selected manually before inserting the card during the double print zone.

1 - Not Available: Cards will be locked out during the double print zone.

* Be cautious that setting the printing column manual selection to impossible and the double printing prevention to effective will make the unit unprintable during working hours.

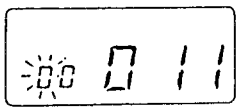
* In the case of EX9000, EX9100, EX9300 and EX9600 (when across monthly pay and across weekly pay are set), start setting from Procedure 6 below:

1. To set manual printing column override, press the IMPRINT button, and the default value 00 appears (small figure).

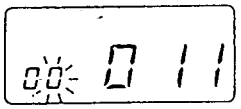
D.L.S. START	D.L.S. END	SIGNAL DURATION	IMPRINT		+	−	E

(When the card type is weekly pay, the initial value is "1.")

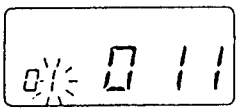
2. Set the "print column manual selection" available (0) by use of + and – buttons.
<EX9600>



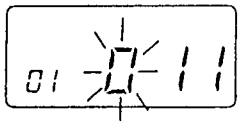
3. Press E button.



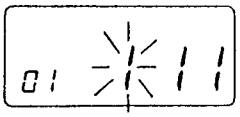
4. Set "1" for the double printing prevention (effective) by using the + and – buttons. <EX9600>



5. Press the E button.

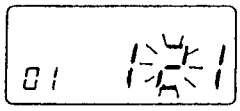


6. Set "1" (English) for the indication of day of the week by using the + and – buttons.
<The following procedures are applicable to all models.>

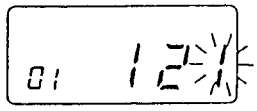


7. Press the E button.

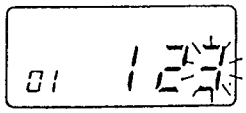
8. Set "2" (AM/PM hours) for the print format by using the + and – buttons.



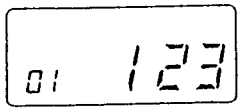
9. Press the E button.



10. Set "3" (1/100 hours B) for minute indication by using the + and – buttons.



11. Press the E button.



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

Weekly Programming

EX9000 series time recorders include the following functions.

- 2-color Printing <EX9100, EX9300 and EX9600>
- Time Signal, Melody <EX9300, EX9600>
- Print Position <EX9600>
- RESTRICTED ZONE <EX9600>

When setting a weekly program, pay attention to the following:
When setting multiple function at the same time, set the function at one program No. Do not set the functions at each program No.

EXAMPLE

Start printing in black at 17:00, Monday - Friday
Time signal to sound at 17:00, Monday - Friday
Weekly program No. 1
Set day of the week, Monday - Friday
Set time of day, 17:00
Set 2-color printing, Black
Set time signal.

Setting List

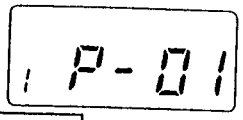
PROGRAM NO.	DAY	DAY HR/MN	WEEKLY PROGRAM I			WEEKLY PROGRAM II		
			RED/ BLACK		SIGNAL	MELODY	PRINTING POSITION	RESTRICTED ZONE
01	(MO)(TU)(WE)(TH)(FR)SA SU	17:00	R	(B)	○			01 ¦ 02
02	MO TU WE TH FR SA SU	:	R	B				01 ¦ 02
03	MO TU WE TH FR SA SU	:	R	B				01 ¦ 02

Setting of 2-color Printing <EX9100, EX9300, EX9600>

ENGLISH

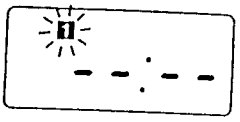
Example : Start 2-color printing at 8:31 a.m. from Monday to Friday.

1. Select WEEKLY PROGRAM I from the setting indexes, and a program no. appears.

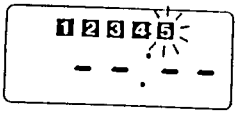


WEEKLY PROGRAM I							
DAY HR/MN	RED/BLACK	SIGNAL	MELODY	C	+ DAY ON	− DAY OFF	E

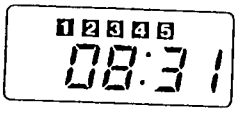
2. Press the DAY HR/MN button.



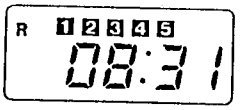
3. Day of the week is set as follows:
   ① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
   ⑤ : Friday ⑥ : Saturday ⑦ : Sunday
   When setting a day of the week where the LED goes on and off, press the DAY ON (+) button. When cancelling, press the DAY OFF (−) button.



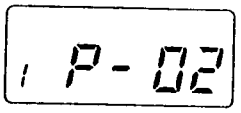
4. To set the time when 2-color printing starts, follow the procedures mentioned in the paragraph "Setting of Time" page 26.



5. Press the RED/BLACK button.
   R : Start of printing in red
   B : Start of printing in black
   Use the + and − buttons to select "R", "B" on the display, then press the E button.



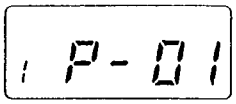
6. Check if the above setting is correct, and press the E button again to register the setting.
   (The next program step no. is indicated.)



Setting of Time Signal <EX9300, EX9600>

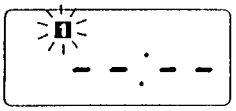
Example : Set the time so that a time signal goes on at 8:30 from Monday to Saturday.

1. Select WEEKLY PROGRAM I from the setting indexes, and a program no. appears.

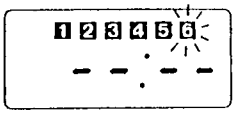


WEEKLY PROGRAM I				C	+ DAY ON	− DAY OFF	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY				

2. Press the DAY HR/MN button.



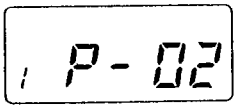
3. Day of the week is set as follows:
   ① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
   ⑤ : Friday ⑥ : Saturday ⑦ : Sunday
   When setting a day of the week where the LED goes on and off, press the DAY ON (+) button. When cancelling, press the DAY OFF (−) button.



4. To set the time when the time signal goes on, follow the procedures mentioned in the paragraph "Setting of Time" page 26.

5. Press the SIGNAL button.
   0: No signal goes on.
   1 : The signal goes on in Circuit 1.
   2 : The signal goes on in Circuit 2. [Extension]
   3 : The signal goes on in both Circuits 1 and 2. [Extension]
   Use the + and − buttons to select the content to be indicated on the display, then press the E button.

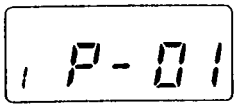
6. Check if the above setting is correct, and press the E button again to register the setting.
   (The next program step no. is indicated.)



Setting of Melody <EX9300, EX9600>

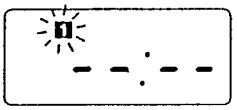
Example: Set so that "Home on the Range" will sound at noon from Monday to Saturday.

1. Select WEEKLY PROGRAM I from the setting indexes, and a program no. appears.

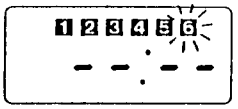


WEEKLY PROGRAM I				C	+ DAY ON	− DAY OFF	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY				

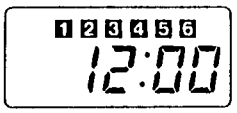
2. Press the DAY HR/MN button.



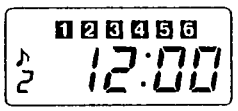
3. Day of the week is set as follows:
   ① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
   ⑤ : Friday ⑥ : Saturday ⑦ : Sunday
   When setting a day of the week where the LED goes on and off, press the DAY ON (+) button. When cancelling, press the DAY OFF (−) button.



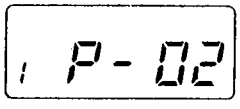
4. To set the time when the melody sounds, follow the procedure mentioned in the paragraph "Setting of Time" page 26 .



5. Press the MELODY button.
   0: No song sounds.
   1 : Green Sleeves
   2 : Home on the Range
   3 : Westminster
   4: Two Minuet
   Use the + and - buttons to select the desired song to be indicated on the display and press the E button.



6. Check if the above setting is correct, and press the E button again to register the setting.
   (The next program step no. is indicated.)



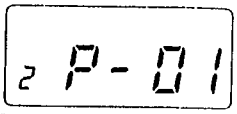
Setting of Print Position <EX9600>

A) Across the card type-print positions 1 - 8 are available to shift print columns across the card during the day.

B) Up or down the card type-print positions 1 - 16 or 1 - 22 are available to shift print lines up or down the card during the day.

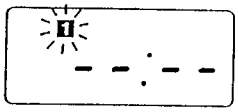
Example : Shift the print position to the Column 4 at 18:00 from Monday to Sunday.

1. Select WEEKLY PROGRAM II from the setting indexes, and a program no. appears.※

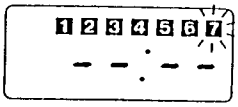


WEEKLY PROGRAM II				C	+ DAY ON	− DAY OFF	E
DAY HR/HM	PRINTING POSITION		RESTRICTED ZONE				

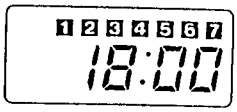
2. Press the DAY HR/MN button.



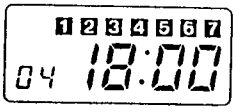
3. Day of the week is set as follows:
① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
⑤ : Friday ⑥ : Saturday ⑦ : Sunday
When setting a day of the week where the LED goes on and off, press the DAY ON (+) button. When cancelling, press the DAY OFF (−) button.



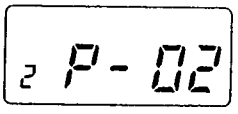
4. To set the time when a print column is shifted, follow the procedures mentioned in the paragraph "Setting of Time" page 26.



5. Press the PRINTING POSITION button to set the position of the column to be shifted on the display. (00 to the MAX column of each card type)
Use the + and − buttons to position the print column, then press the E button. If the print column shifting is set to "00", the column stays the same without regard to the programming.



6. Check if the above setting is correct, and press the E button again to register the setting.
(The next program step no. is indicated.)



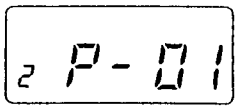
※Note: Weekly program I and II use the same program nos. If the days and time to be set are different than weekly program I . Use the next unused program no. available to add programs. Use the + button to advance the program no.

ENGLISH

Setting of RESTRICTED ZONE
<EX9600 (Across the card type only)>

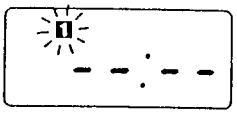
Example: Make the Double Printing Prevention effective between 8:31 and 17:00 from Monday to Friday.

1. Select WEEKLY PROGRAM II from the setting indexes, and a program no. appears. Use the + button to advance to an unused program no.

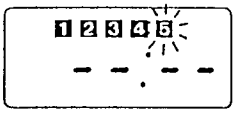


WEEKLY PROGRAM II				C	+	−	E
DAY HR/MN	PRINTING POSITION		RESTRICTED ZONE		DAY ON	DAY OFF	

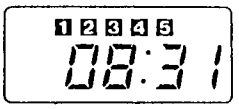
2. Press the DAY HR/MN button.



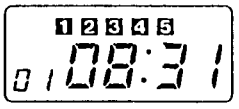
3. Day of the week is set as follows:
   ① : Monday ② : Tuesday ③ : Wednesday ④ : Thursday
   ⑤ : Friday ⑥ : Saturday ⑦ : Sunday
   When setting a day of the week where the LED goes on and off, press the DAY ON (+) button. When cancelling, press the DAY OFF (−) button.



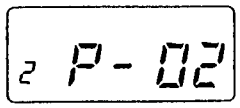
4. To set the time zone during which the double print prevention remains effective, follow the procedures mentioned in the paragraph "Setting of Time" page 26.



5. Press the RESTRICTED ZONE button.
   01 : Start of double print prevention
   02 : End of double print prevention
   Use the + and − buttons to indicate 01 or 02 on the display and press the E button.



6. Check if the above setting is correct, and press the E button again to register the setting.
   (The next program step no. is indicated.)



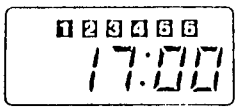
7. Register the ending time (17:00) of double stamping prevention in the same way.

* Be sure to set the starting and ending times of double printing prevention at the same time. These times cannot be set when extending beyond the day time change.

Example of Main Settings

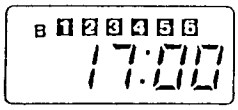
Example : Start printing in black and sound melody at 17:00 from Monday to Saturday.

1. Select the WEEKLY PROGRAM I, set a day of the week and a time, and press the E button.

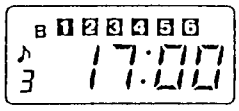


WEEKLY PROGRAM I				C	+ DAY ON	− DAY OFF	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY				

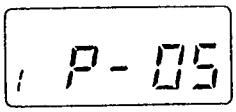
2. Press the RED/BLACK button, and indicate "B" on the display by using the + and − buttons, then press the E button.



3. Press the MELODY button, and indicate "3" on the display with the + and - buttons, then press the E button.



4. Check if the above settings are correct, and press the E button again to register the setting.
(The next program step no. appears.)



If the E button is pressed for 2 seconds at this stage, the weekly program is copied.
For details, see page 44.

* If you have made a mistake during the setting procedures, press the C button. The function of the C button depends on the length of the time that the C button is pressed.
  When the C button has been pressed for less than 2 seconds, P-05 appears on the display (and the program contents remain).
  When the C button has been pressed for more than 2 seconds, the contents of the relevant program are completely erased.
* When setting a weekly program, pay attention to the following:
  When setting multiple function at the same time, set the function at one program no. Do not set the functions at each program no. (See Page 37.)

Example of Main Setting (Copying of Weekly Program)

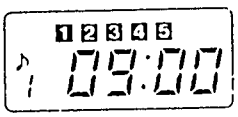
ENGLISH

Copying of Weekly Program:

The set day of the week and time can be copied to the next program no. by holding down the E button for 2 seconds. When the next programs have already been set, then they are copied to the next available program not set.

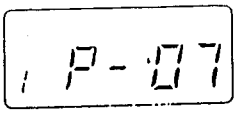
Example : Sound melody at 9:00 and 12:00 from Monday to Friday.

1. Set a weekly program to sound a time signal at 9:00 in the WEEKLY PROGRAM I.

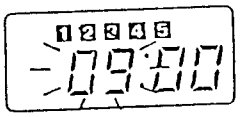


WEEKLY PROGRAM I				C	+	−	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY		DAY ON	DAY OFF	

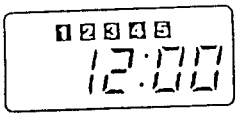
2. Press the E button for 2 seconds, and the number of programs, in which the weekly program is copied, appears on the display. (When program step no. 7 is empty.)



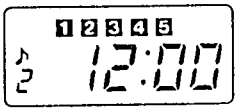
3. Release the E button. And, you will set the time.



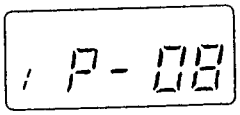
4. Change the time (to 12:00) and press the E button.



5. Set the song the same way as mentioned in the paragraph "Setting of Melody" page 40, then press the E button.



6. Check if the setting is correct, then press the E button again to register the setting.
(The next program step no. appears.)

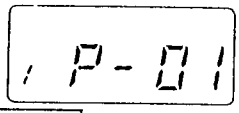


MODIFICATION OF SET DETAILS OF WEEKLY PROGRAM

Modification (or Confirmation) of Weekly Program

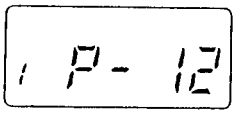
Example : When modifying (confirming) 2-color printing and melody.

1. Open the top cover and select the WEEKLY PROGRAM I from the setting indexes.

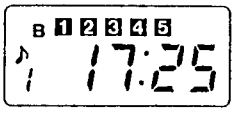


WEEKLY PROGRAM I				C	+ DAY ON	− DAY OFF	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY				

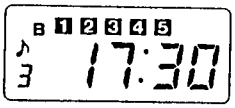
2. Select a program no. to be modified (or confirmed) by using the + and − buttons.
   Example : program no. 12



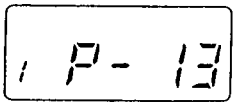
3. Press the E button, and the data of the program to be modified (or confirmed) appear on the display.
   Modification is made so that the printing is switched to black printing and the melody (Green Sleeves) sounds at 17:25 from Monday to Friday.



4. When modifying the data, press the button of an item to be modified, change it by using the + and − buttons, then press the E button to register.
   Modification is made so that the printing is switched to black printing and the melody (Westminster) sounds at 17:30 from Monday to Friday.

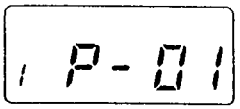


5. After completion of modification, press the E button, and the next program step no. appears on the display. When nothing has been modified in the procedure 4, press the + button, and the next program step no. appears on the display.
   (Press the − button to indicate the previous program no.)



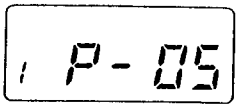
Additional Setting

1. Open the top cover and select the WEEKLY PROGRAM I from the setting indexes.

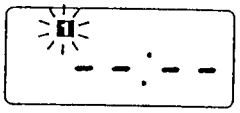


WEEKLY PROGRAM I				C	+ DAY ON	− DAY OFF	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY				

2. Press the E button for 2 seconds, and an empty program step no. appears on the display.



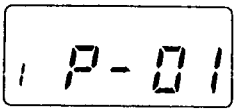
3. To set an additional item, see the WEEKLY PROGRAM from page 37.



Cancellation of Set Data

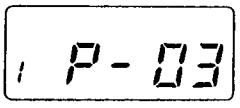
(Only one program no. can be cancelled at a time.)

1. Open the top cover and select the WEEKLY PROGRAM I from the setting indexes.

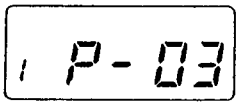


WEEKLY PROGRAM I				C	+ DAY ON	− DAY OFF	E
DAY HR/MN	RED/BLACK	SIGNAL	MELODY				

2. Select the program step no. to be canceled by using the + and − buttons. (Programs can be canceled even after having displayed the contents by pressing the E button.)
   Example : Cancel Program no. 3.

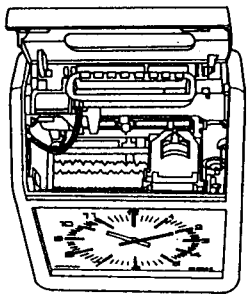


3. Press the C button for 2 seconds (All items go on and off during this time.), and you will hear "Pip!" Now, the cancellation has ended.

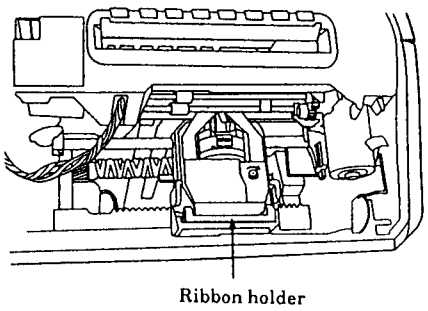


Change of Ribbon Cartridge

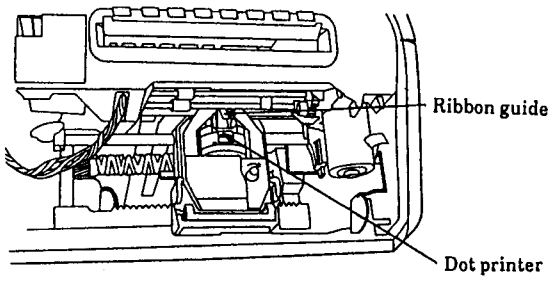
1. Open the top cover, and the dot printer head moves to the place where you can change the ribbon.



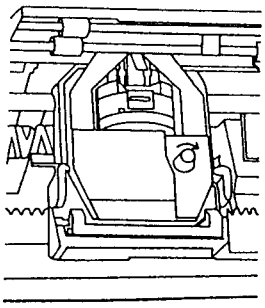
2. To remove the ribbon, pull the ribbon holder at the end of the ribbon cartridge towards you, and the ribbon pops up. Lift the ribbon up to remove it.



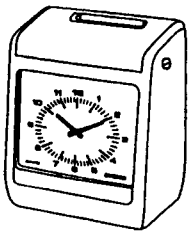
3. Set a new ribbon cartridge between the ribbon guide and the dot printer head.



4. Turn the knob clockwise, and the ribbon becomes tight.



5. Close the top cover.



ENGLISH

Specific Situations

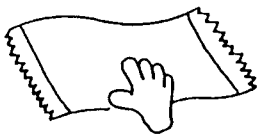
When the error sound goes "Pip, pip, ..." and the IN/OUT indicator lamp goes out, a trouble has occurred inside the unit. Disconnect the power cord plug for a short while and re-inserting back to the AC receptacle. In case the unit will not return to normal, contact your local dealer from whom you have bought the unit.

If the clock stops, or will not print check the error code displayed.

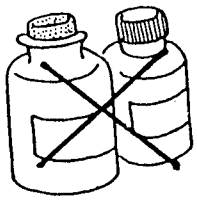
Error code	Meaning of error	Measures
Err 1	Error of analog clock	Contact the dealer from whom you have bought the unit.
Err 2	Column home position error	
Err 3	Column timing pulse error	
Err 4	Abnormal surface/back sensor level	
Err 5	Error of column division sensor	
Err 6	· Malfunction due to external noise · Abnormal set details of weekly program	Set the weekly program again. If it cannot be restored, contact the dealer from whom you have bought the unit.

Daily Maintenance

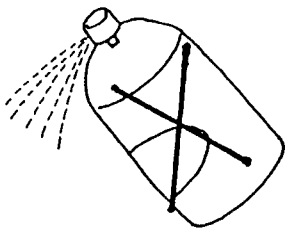
Cleaning of case when it becomes dirty:



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



- Do not use benzine, volatile thinner, or other chemicals for cleaning, because the case may be damaged or discolored.



- Do not spray insecticide over the case, because the case may be damaged.

Wipe the window glass with a dry soft cloth. Note that the surface is specially finished.

APPENDIX

Index of Items for Setting

- When setting a program, open the top cover and the setting mode appears. Turn the setting index to select items and press item buttons for setting.
- Set all hours and minutes on the military time (0 - 23 hours) system

Items for setting and their explanations are as follows:

Items		Explanation	Page
Date		To set year, month and day.	25
Time		To set hour and minute.	26
Day time change (1-row-a-day card)		To set the time for changing column/vertical space for a new day.	27
Morning/Afternoon vertical space time change (2-row-a-day card)		To set the time for changing to second row on a 2-row-a-day card.	28
Pay period ending date, blank row (monthly pay)		To set pay period ending date and blank row in time card.	29
Pay period ending day of the week, current week (weekly pay)		To set pay period ending day of the week and current week (in the case of bi-weekly pay card).	30
Daylight Savings Time (date)		To set Daylight Savings Time to a designated date.	31
Daylight Savings Time (month and day of which week)		To set Daylight Savings Time to a designated month and day of which week.	32
Time signal duration		To set the length of time signal. (sec.)	33
Imprint		To set formats for daily printing (day of the week, 12-hour system or military hours (0 - 23 hours) system and minute indication system)	34
Weekly program I	2-color printing	To set items changed to 2-color printing.	38
	Time signal	To set data for sounding time signal.	39
	Melody	To set the song of the melody.	40
Weekly program II	Print position	To set column no. for shifting column.	41
	RESTRICTED ZONE	To set the time zone of double print prevention.	42

* When setting a weekly program, pay attention to the following:

When setting multiple function at the same time, set the function at the program no.

(See page 37.)

Weekly Program Setting List

Example of Entry

PROGRAM NO.	DAY	DAY HR/MN	WEEKLY PROGRAM I				WEEKLY PROGRAM II		
			RED/ BLACK		SIGNAL	MELODY	PRINTING POSITION	RESTRICTED ZONE	
01	(MO)(TU)(WE)(TH)(FR)SA SU	9:01	(R)	B	X	X		01	02
02	(MO)(TU)(WE)(TH)(FR)SA SU	17:30	R	(B)	X	X		01	02

Setting List

PROGRAM NO.	DAY	DAY HR/MN	WEEKLY PROGRAM I				WEEKLY PROGRAM II		
			RED/ BLACK		SIGNAL	MELODY	PRINTING POSITION	RESTRICTED ZONE	
01	MO TU WE TH FR SA SU	:	R	B				01	02
02	MO TU WE TH FR SA SU	:	R	B				01	02
03	MO TU WE TH FR SA SU	:	R	B				01	02
04	MO TU WE TH FR SA SU	:	R	B				01	02
05	MO TU WE TH FR SA SU	:	R	B				01	02
06	MO TU WE TH FR SA SU	:	R	B				01	02
07	MO TU WE TH FR SA SU	:	R	B				01	02
08	MO TU WE TH FR SA SU	:	R	B				01	02
09	MO TU WE TH FR SA SU	:	R	B				01	02
10	MO TU WE TH FR SA SU	:	R	B				01	02
11	MO TU WE TH FR SA SU	:	R	B				01	02
12	MO TU WE TH FR SA SU	:	R	B				01	02
13	MO TU WE TH FR SA SU	:	R	B				01	02
14	MO TU WE TH FR SA SU	:	R	B				01	02
15	MO TU WE TH FR SA SU	:	R	B				01	02
16	MO TU WE TH FR SA SU	:	R	B				01	02
17	MO TU WE TH FR SA SU	:	R	B				01	02
18	MO TU WE TH FR SA SU	:	R	B				01	02
19	MO TU WE TH FR SA SU	:	R	B				01	02
20	MO TU WE TH FR SA SU	:	R	B				01	02
21	MO TU WE TH FR SA SU	:	R	B				01	02
22	MO TU WE TH FR SA SU	:	R	B				01	02
23	MO TU WE TH FR SA SU	:	R	B				01	02
24	MO TU WE TH FR SA SU	:	R	B				01	02
25	MO TU WE TH FR SA SU	:	R	B				01	02

PROGRAM NO.	DAY	DAY HR/MN	WEEKLY PROGRAM I				WEEKLY PROGRAM II		
			RED/ BLACK		SIGNAL	MELODY	PRINTING POSITION	RESTRICTED ZONE	
26	MO TU WE TH FR SA SU	:	R	B				01	02
27	MO TU WE TH FR SA SU	:	R	B				01	02
28	MO TU WE TH FR SA SU	:	R	B				01	02
29	MO TU WE TH FR SA SU	:	R	B				01	02
30	MO TU WE TH FR SA SU	:	R	B				01	02
31	MO TU WE TH FR SA SU	:	R	B				01	02
32	MO TU WE TH FR SA SU	:	R	B				01	02
33	MO TU WE TH FR SA SU	:	R	B				01	02
34	MO TU WE TH FR SA SU	:	R	B				01	02
35	MO TU WE TH FR SA SU	:	R	B				01	02
36	MO TU WE TH FR SA SU	:	R	B				01	02
37	MO TU WE TH FR SA SU	:	R	B				01	02
38	MO TU WE TH FR SA SU	:	R	B				01	02
39	MO TU WE TH FR SA SU	:	R	B				01	02
40	MO TU WE TH FR SA SU	:	R	B				01	02
41	MO TU WE TH FR SA SU	:	R	B				01	02
42	MO TU WE TH FR SA SU	:	R	B				01	02
43	MO TU WE TH FR SA SU	:	R	B				01	02
44	MO TU WE TH FR SA SU	:	R	B				01	02
45	MO TU WE TH FR SA SU	:	R	B				01	02
46	MO TU WE TH FR SA SU	:	R	B				01	02
47	MO TU WE TH FR SA SU	:	R	B				01	02
48	MO TU WE TH FR SA SU	:	R	B				01	02
49	MO TU WE TH FR SA SU	:	R	B				01	02
50	MO TU WE TH FR SA SU	:	R	B				01	02

* A maximum of 50 weekly programs can be set.
* 2-color printing R : Starting time for changing printing red
  B : Time for changing printing black
* Melody 1 : Green Sleeves 2 : Home on the Range
  3 : Westminster 4 : Two Minuet
* RESTRICTED ZONE 01 : Start time of double printing prevention
  02 : End time of double printing prevention

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