## QUARTZ TIME RECORDER Simplex 500 OPERATION MANUAL


S.Simplex

Bescheinigung des Herstellers/Importeurs
Dies Gerät entspricht den Bedingungen der Niederspannungs-Vorschrift 73/23/EEC und dem EMVG nach 89/336/EEC.
This unit complies with the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.
Maschinenl ärminformationsverordnung 3. GSGV, 18.01.1991: Der arbeitsplatzbezogene Schalldruckpegel beträgt 70 dB (A) oder weniger gemäß ISO 7779.
Die zugehörige Steckdose muß nahe beim Gerät angebracht und leicht zugänglich sein.

1. The details of this Operation Manual are subject to change without previous notification.
2. This Operation Manual has been prepared with the utmost care to cover all aspects of the time recorder's use.
If you feel, however, that some explanations are inadequate, unclear, or difficult to understand, please do not hesitate to contact the dealer or the shop from which you have purchased your Time Recorder.
3. Be sure to use your Time Recorder after you have fully understood the hardware and software specifications and limits.
4. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, photocopying, recording or otherwise.
-Replace battery with TOSHIBA, part no. CR 2450 THC only.
Use of another battery may present a risk of fire on explosion.
-Place the time recorder close to the wall outlet so that it is easily accessible to disconnect.

## TABLE OF CONTENTS

1. PRECAUTIONS ..... 1
2. FEATURES ..... 3
3. BEFORE USING THE TIME RECORDER ..... 4
Accessories ..... 4
Features ..... 4
Installing the Ribbon Cassette ..... 5
Wall Mounting ..... 6
Environmental Conditions ..... 6
4. DAILY OPERATIONS ..... 7
5. SETTING ..... 8
Preparation for setting ..... 8
Setting the Pay Period ..... 9
Setting the Date and the Time, $1 / 60$ or $1 / 100$ printing, and the $12 / 24$ HOUR format ..... 12
Setting the Day Advance Time ..... 14
Setting the Daylight Saving Time (D.S.T.) ..... 15
Setting the Time Table Program ..... 18
Setting Number of Seconds for External Time Signal ..... 25
Resetting ..... 26
6. CONNECTING TO AN EXTERNAL TIME SIGNAL ..... 27
7. INSERTING THE Ni-Cd BATTERY ..... 28
8. TROUBLESHOOTING ..... 29
9. SPECIFICATIONS ..... 30
10. TIME CARD SPECIFICATIONS ..... 31

## 1. PRECAUTIONS

This operation manual is prepared for safe and proper use of the unit. Please follow all the instructions to avoid possible danger to yourself or others and damage to the unit.

## Signs

Various warnings and cautions are provided throughout this manual along with signs. Remember each sign and its explanation listed below for your safety and proper operation of the unit.

| Caution | Improper handling may harm the human body or material. |
| :--- | :--- |


|  | Improper handling may cause electric <br> shock DANGER. | "Must-Do" sign. |
| :--- | :--- | :--- | :--- |


| Do not modify the unit. Modifications may cause a fire and/or electric shock. |
| :--- |
| If any anomaly occurs, for example, heat or smoke is generated or an odor is emitted, unplug <br> the unit immediately and contact tour dealer for servicing. There is a danger that further use <br> may cause a fire or electric shock. |
| Do not use any voltage of the power source other than designated. <br> Do not share a single outlet with another plug. These may lead to fire or shock hazards. <br> electric shock. |
| Do not damage, break, or modify the power cord. Do not put a heavy object on, pull, or <br> forcefully bend the cord, either. These may damage the cord, possibly resulting in a high voltage present inside, possibly leading to an <br> electric shock. |

## 2. FEATURES

- The time table program provides the following functions:
- Automatic switching between black and red printing

The two-color printing system makes it possible to easily see an employee's in and out time.

- Automatic activation of an external time signal

The unit can be programmed to externally output a signal when it's time to start or quit, or for breaks.
-Automatic switching among six print columns (Columns 1-6)
The auto-switching function of a column to print records in prevents punching failure or error.

- It has three selectable pay periods : weekly, bi-weekly or monthly.
- The monthly card automatically senses the front or back of the card, therefore assuring no erroneous date printing.
- If the closing date for payroll processing does not fall on the end of a month, the unit can be set to any desired closing date.
- The day advance time function makes it possible to print out on the same line of a time card for the previous working day even when leaving the office after midnight.
- An easy-to-see analog clock is provided on its front for users' convenience.
- User-friendly operation and easy setting enhance users' comfort.


## 3. BEFORE USING THE TIME RECORDER

## Accessories



Operation Manual


Wall mount fittings


Keys


Ribbon cassette

## Features


<Display>


## Installing the Ribbon Cassette



1
Unlock the unit. While holding down the panel, open buttons at both sides of the unit, and lift the panel cover away from you.

Turn the knob on the cassette in the arrow-indicated direction to make the ribbon taut.
To insert the ribbon cassette inside the unit, lift the panel house away from you first. Then thread the ribbon between the ribbon mask and the print head. Slide the latch on the lower side of the cassette into projections on the unit. Then let the cassette snap into place.
When having difficulty inserting the ribbon, insert it while turning the knob.

Make sure that the ribbon is placed between the print head and the ribbon mask as illustrated in the figure at left.

3 Put the panel cover on the hook at the back of the unit. Lower it toward this side to close and lock the unit.


## Wall Mounting

The unit can be mounted on a wall using the supplied mounting fittings. To mount the unit on a wall, take the following steps:

1Install the two larger screws into a wall 3.94 inches ( 10 cm ) apart. Be sure to keep about 0.12 inch ( 3 mm ) of the screw head out of the wall.

The supplied screws are intended for use on a thick wooden wall or wooden column. Do not use them on any other materials. There is a danger that the unit may come off.


Mount the wall mount fittings as shown on the right.


## Environmental Conditions

Avoid placing the unit in environments that are:
$\bullet$ humid or dusty

- exposed to direct sunshine
- subject to frequent or continuous vibrations
- outside the temperature range between $-5^{\circ}$ and $45^{\circ} \mathrm{C}$
- affected by chemicals or ozone


## 4. DAILY OPERATIONS

Once the AC line cord is plugged into the outlet, the unit can be used immediately as basic operation has been pre-set at the factory, including the time and the closing date.

See " 3 BEFORE USING THE TIME RECORDER".

It is easy to operate the unit. Just insert a time card. The card is then automatically pulled in, printed and then ejected.

(1)Do not let any metallic object get into the slot, including paper clips. Do not forcefully push in a card, either. These may cause the unit to malfunction.

If any setting needs to be changed, such as for a closing date or other items, See " 5 . SETTING".

The unit is designed to print in black on the first column when no time table program is set. Usually it is necessary to set the time table program in order to automatically print colors and to change columns to print records in. For a temporary change of a column, however, manual operation is also available: just push the button for any desired column before inserting a time card.

## The button for the column selected lights up.



## 5. SETTING

## Preparation for setting

To prepare for setting:

Unlock the unit. While holding down the panel, open buttons at both sides of the unit and lift the panel cover away from you.


Make settings using the display and control buttons at the panel house.


Be sure to make settings with the power on.

Upon opening the panel cover, the PAY ENDING button lights up and the unit is in the pay ending setting mode.

Make sure to press SET at the completion of each setting. Contents are NOT stored in memory if SET is not pressed.

## Setting the Pay Period

- The closing date is factory-set at the end of a month (31st).
- The PAY ENDING button stays lit up during its setting operation.


## Monthly Closing



1 Remove the panel cover.
Make sure that PAY ENDING stays lit up.

2 The closing date is shown at the left on the display, and the card type at the right.
The card type for monthly closing is "00".

$3 \pm$ or $\square$ to select date desired. Example: If closing date is the 20th every month, set the digits on the left at "20".

Always select the 31st in the case of month-end closing, which is normally factory-set unless you change the setting.

Check the settings on the display and press SET.

## Weekly Closing



| PAY ENDING | DATETIME | DAY ADV.TIME | D.S.T | PROGRAM | EXT.ALARM |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SELECT | $\boldsymbol{\square}$ | $\boldsymbol{\square}$ | $\boldsymbol{+}$ | - | SET |



Remove the panel cover.
Make sure that the PAY ENDING button stays lit up.


Press or or $\Rightarrow$ to cause the digits at the right to flash ("00").

3 Press $\boldsymbol{+}$ or $\square$ to select " 01 ".

4Press $\longleftarrow$ or to cause the digits at the left to flash.
Today's printing line can be set at any line from above on the weekly card, by referring to the example below.
Example: Assume that today is Tuesday, January 9, 2001 and the closing date is Sunday.
As illustrated in the figure on the left, today's printing line is set at the second line from the top since Sunday becomes the closing date if Sunday, Januar 14, 2001 is set at the bottom line.
Press $+$ to set the right-side number of the display at " 02 ".

Check the settings on the display and press SET .

Use Weekly Cards for weekly closing. The day of the week and time are recorded on the card.

## Bi-Weekly Closing



| PAY ENDING | DATE/TIME | DAY ADV.TIME | D.S.T | PROGRAM | EXT.ALARM |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SELECT | $\boldsymbol{\square}$ | $\boldsymbol{\square}$ | $\boldsymbol{+}$ | $\boldsymbol{-}$ | SET |

 number of the display at " 09 ".

Remove the panel cover.
Make sure that the PAY ENDING stays lit up.

2 Press $\boxminus$ or $\square$ to cause the digits at the right to flash " 00 ".

3 Press $\boldsymbol{+}$ or $\square$ to select"02". 4 Press $\longleftarrow$ or $\square$ to cause the digits at the left to flash.
Today's printing line can be set at any line from above on the bi-weekly card by referring to the example below.
Example: Assume that today is Tuesday, January 9, 2001 and the closing date is this Sunday, January 14, 2001. Therefore, today corresponds to the second Tuesday of this pay period. As illustrated in the left figure, today's printing line is set at the ninth line from the top if Sunday, January 14, 2001 is set at the bottom line.

Press $\boldsymbol{+}$ or $\boldsymbol{-}$ to set the right


## Setting the Date and the Time, $1 / 60$ or $1 / 100$ printing, and the 12/24 HOUR format

The DATE/TIME button stays lit up during its setting operation.


1 Press SELECT to illuminate the second button from the left, DATE/TIME .
Date is indicated at the left, and time at the right on the display.
To set the number, the digits must flash.

2 To set date
Press $\leftrightarrows$ or $\square$ to cause digits to flash and press $\boldsymbol{\square}$ or $\square$ to select the desired date.
Example: For October 21, 2001, adjust the digits to "01-10-21".

## To set time

Press $\leftrightarrows$ or $\square$ to cause the digits to flash and press $\boldsymbol{+}$ or $\boldsymbol{\square}$ to select the desired time.
When the hour and minute are entered, the second indication is automatically reset at " 00 ".



4 Setting for $1 / 60$ or $1 / 100$ printing Press $\square$ or $\square$ to cause the digits at the upper left to flash.
Press $\boldsymbol{+}$ or $\square$ to select the printing between $1 / 60$ or $1 / 100$.

5 Check the settings on the display and press SET.

## Setting the Day Advance Time

The day advance time refers to the time when printing shifts to the next line on a time card for the next day. This function, if printed before the set day advance time, enables the time record to print on the same line of the previous working day even if leaving time is after midnight.

- The day advance time is factory-set at 5:00 a.m. (05:00).
- The DAY ADV. TIME button stays lit up during its setting operation.

1 Press SELECT to cause the third button from the left, DAY ADV. TIME, to light up.


| PAY ENDING | DATE/TIME DAY ADV.TIME | D.S.T | PROGRAM | EXT.ALARM |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SELECT | $\boxed{\square}$ | $\square$ | $\boldsymbol{q}$ | $\boxed{ }$ | SET |

 desired time.
Example: If the day advance time is 7:30 a.m., adjust the digits to "07:30".


| PAY ENDING | DATE/TIME DAY ADV.TIME | D.S.T | PROGRAM | EXT.ALARM |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SELECT | $\boldsymbol{\square}$ | $\boldsymbol{\square}$ | $\boldsymbol{+}$ | $\boldsymbol{-}$ | SET |



3 Check the settings on the display and press SET. Now the setting is completed.

## Setting the Daylight Saving Time (D.S.T.)

## Daylight saving time function

## 1 D.S.T. execution time

At 2:00 a.m. on the first day of summer time, the clock automatically gains one hour to show 3:00 a.m. When 3:00 a.m. comes on the last day of the summer time period, it loses one hour and returns to 2:00 a.m.

## 2. Setting D.S.T.

Example:
Start date Sunday, March 25, 2001
End date Sunday, October 28, 2001
If set as the above, the unit remembers the start date as the last Sunday of March and the end date as the last Sunday of October. Once set, the unit automatically updates the settings every year thereafter. No further manual setting is necessary.

- Daylight saving time is not pre-set at the factory (with the indication of month 00 and day 00 ).
- The D.S.T. button stays lit up during its setting operation.

1 Press SELECT to cause the fourth button from the left, D.S.T., to light up.


2 Setting the start date
" 01 " is indicated at the upper left of the display during setting of the start date.
(1) Press $\square$ or $\square$ to cause digits to flash, and then press $\square$ or $\square$ to select the desired time.
Example: If your D.S.T. starts on March 25, 2001, adjust the digits to "01-03-25".


| PAY ENDING | DATE/TIME | DAY ADV.TIME | D.S.T | PROGRAM | EXT.ALARM |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SELECT | $\square$ | $\square$ | $\boxed{ }$ | $\square$ | SET |


(2) Check the settings on the display and press SET. Now the setting is completed.

Setting the end date
When the start date setting is completed, the indication at the upper left automatically shifts to "02". You are now in the end date setting mode.


| PAY ENDING | DATE/TIME | DAY ADV.TIME | D.S.T | PROGRAM | EXT.ALARM |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SELECT | $\boldsymbol{\square}$ | $\square$ | $\boxed{+}$ | $\boxed{-}$ | SET |


(1) Press $\square$ or $\square$ to cause digits to flash, and then press $\square$ or $\square$ to select the desired time.
Example: If D.S.T ends on October 28, 2001, adjust the digits to "01-10-28".

(2) Check the settings on the display and press SET. Now the setting is completed.


## Setting the Time Table Program

The time table program function allows automatic selection of print color (black or red), an external time signal, and automatic selection of a column to print records in. These functions can be set by the day of the week and time period.

- No time table program is factory-set. (The default is: print in black; no external time signal; and print in Column 1.)
- The PROGRAM button stays lit up during its setting operation.

The time table program is explained using the following example.

| Sunday | ance time: <br> :00 12:00 |  |  | $\begin{gathered} \text { Next day } \\ 05: 00 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | Print in red/in Column 5 |  | Print in red/in Column 6 |  |
|  | "P-01" |  | "P-02" |  |
| Day ad | ance time:$5: 00 \quad 09: 00$ |  | 12:00 | $\begin{array}{cc}  & \text { Next day } \\ 30 & 05: 00 \\ \hline \end{array}$ |
|  | Print in black/ in Column 1 | Print in red/ in Column 2 | Print in red/ in Column 3 | Print in black/ in Column 4 |
|  | $\begin{gathered} \uparrow \\ \text { Signal } \end{gathered}$ |  | $\text { "P-04" } \begin{array}{cc} \uparrow \\ & \text { Signal } \end{array}$ |  |

The following is the time table based on the case above.

| Program No. | Day of week | Time | Print color | External time <br> signal | Print column |
| :---: | :---: | :---: | :---: | :---: | :---: |
| P-01 | Sun. | $\underline{05: 00}$ | Red |  | 5 |
| P-02 | Sun. | $12: 00$ | Red |  | 6 |
| P-03 | Mon. - Sat. | $09: 00$ | Red | $\checkmark$ | 2 |
| P-04 | Mon. - Sat. | $12: 00$ | Red |  | 3 |
| P-05 | Mon. - Sat. | $17: 30$ | Black | $\checkmark$ | 4 |

- Times are always printed in black in Column 1 for the time period with no program setting.
- One programmed day begins at the day advance time.

See "Setting Day Advance Time" in this section for details.

- Up to 32 programs can be set (P-01 through P-32).

1 Press SELECT to cause the PROGRAM button light up.



2 To set P-01 (shown in the table above)
(1) Print color

With "P-01" flashing, press $\square$ once. The print color indication flashes at the lower left of the display. " 00 " represents "print in black."
Press $\boldsymbol{+}$ and change the digits to " 01 " to be set at "print in red."
(2)External time signal

Press $\Rightarrow$ once. The external time signal indication flashes. " 00 " represents "disabled (no setting) ."
Leave the digits as they are since no setting is necessary for the P-01 program.

To enable an external time signal, select "01".
(3)Print column

Press $\Rightarrow$ once. The print column indication flashes. "01" represents "Column 1".
Press $\boldsymbol{+}$ and change the digits to "05" to set "print in Column 5".
(4)Time

Press $\square$ the hour indication flashes.
Press $\boldsymbol{\square}$ to change the digits to " 05 " to set "05:00".


Press
again. The minute indication flashes.
Leave the digits as they are since the desired time is 05:00 in this case.
(5)Day of the week

Press $\square$. The bar under "SU" flashes ("-").

The factory setting for a day of the week is all days from Sunday through Saturday. If only Sunday needs to be selected, the bars under Monday through Saturday have to be cancelled.

For the P-01 program, to select Sunday only.
First, press $\square$ to cause the bar under "MO" to flash, and press $\square$ once to erase the bar ("-").
At that time, the bar under "TU" is already flashing automatically.
Press - again to erase the bar ("-").


Take the same steps described above to erase the bars for the remaining days of the week.
After erasing the bar under "SA", press SET .

The P-01 indication stays lit up completing the $\mathrm{P}-01$ program setting.

Make sure the bar under any day of the week stays lit up. If the bar does not stay lit up, the time table program will not operate properly.

To set P-02
After the setting of $\mathrm{P}-01$ is completed, press $\boldsymbol{+}$. The program NO., the indication at the upper left "P-01", flashes. Then press $\boldsymbol{+ t}$ enter "P$02 "$ setting mode.
The program NO. indication "P-02" flashes.

Make settings for $\mathrm{P}-02$ in the same manner as for P-01, as illustrated in the figures at the left.
Press SET.
The P-02 indication now stays lit up, showing completion of the $\mathrm{P}-02$ program setting.

Likewise, to shift to P-03, press $\boldsymbol{+}$ to cause the P-03 indication to appear flashing.


## P-04



4 To set P-03
Make settings as shown in the figure at left, and press SET .

5 To set P-04
Make settings as shown in the figure at left, and press SET .

6 To set P-05
Make settings as shown in the figure at left, and press SET .
Now the setting of the programs in the table are all complete.

## To check program settings

Press SELECT to cause PROGRAM to light up. Make the desired program No. flash. To see program settings, press $\pm$
The $\boldsymbol{\pm}$ button switches among programs in order starting from P-01. Program contents are shown on the display in order starting from Sunday and the line feed time.

## To modify program settings

Press SELECT to cause PROGRAM to light up. Make the desired program No. flash. Press $\longleftarrow, \square, \boldsymbol{+}$, or $\square$ to change the settings in the same manner as in its initial setting.

## To erase program settings

Press SELECT to cause PROGRAM to light up. Make the desired program No. flash. The $\boldsymbol{+}$ button switches among programs in order starting from P-01. Select the desired program No.
To erase it, set the print column indication at " 00 " and press SET.

## Example:

To erase P-04, set the print column indication at " 00 " and press SET as shown in the figure at left.


Follow the same procedure described above to make settings for the desired program.

## Setting Number of Seconds for External Time Signal

This function sets the duration of the external time signal. The setting is enabled only when external time signal is set in the time table program.

- The duration is factory-set at 5 seconds.
- The EXT. ALARM button stays lit up during its setting operation.


Press SELECT to cause EXT. ALARM to light up.
$\mathbf{2}_{\text {Press }} \boldsymbol{\square}$ or $\square$ to adjust the duration in seconds.
Example: To set for 30 seconds, set the second indication at " 30 ".

For the number of seconds, 1 through 30 can be selected

Check the settings on the display and press SET.

## Resetting

To restore all the settings to factory-shipped state, push the reset switch with a pointed object.


Be careful! Resetting will erase all the settings made by users.
For setting, see " 5 Setting".

## 6. CONNECTING TO AN EXTERNAL TIME SIGNAL

Follow the steps below to connect to an external time signal device.


Unscrew the screw fixed on the bottom of the unit to remove the lid.

Insert two wires for an external time signal while pushing the upper part of the terminal board with a screwdriver.

Replace the lid after pulling the wires through the U-shaped cut provided on the lid.

Connection Specifications for External Contact

- Contact output: One circuit, dry contact
- Contact capacity: 5A, 30VDC (Resistive)


## 7. INSTALIING THE Ni-Cd BATTERY טpromall $^{\text {and }}$

Follow the steps below to install a Ni-Cd battery (optional) in case of power failure.


1 Unscrew the screw that holds the lid of the battery compartment in the lower right-hand corner of the back of the unit.

2 Insert the battery connector into the compartment connector to install the battery.

Hook the lid to close, and secure it with the screw.

Use only the originally offered Ni-Cd Battery.

## 9. SPECIFICATIONS

| Clock display | Monthly accuracy $\pm 15 \mathrm{~s}$ (at ordinary temperature) |
| :--- | :--- |
| Calendar | Year up to 2096. Automatically adjusted to leap years, 31-day <br> months and months with thirty or fewer days, and the days of <br> the week. |
| Printing system | Dot matrix in black and red |
| Card mechanism | Automatic pull and eject, automatic judgment of face and back |
| Power failure <br> compensation | Five years of cumulative power failure hours after the date of <br> shipment |
| Print at power <br> failure | Special Ni-Cd battery, 100-time printing or 24 hours (option) |
| Time program <br> for outputting an external time signal, automatic column shift. |  |
| Connection of <br> external time signal | Connection with a time flow device (No direct voltage output!) |

$$
\begin{aligned}
& \text { Temperature: }-5^{\circ} \text { to }+45^{\circ} \mathrm{C} \\
&:+23^{\circ} \text { to }+113^{\circ} \mathrm{F}
\end{aligned}
$$

Operating Humidity: 20 to $80 \%$ RH, no condensation
environment The unit operates normally at temperatures of $5^{\circ} \mathrm{C}$ or below, but the print density, reaction of the liquid crystal display, and the number of prints at power failure are inferior to those at normal temperature operation.

| Dimensions | $\begin{aligned} & 7.87 " \text { (w) x } 10.1^{\prime \prime} \text { (h) x } 5.94 " \text { (d) } \\ & 200 \text { (w) x } 257 \text { (h) x } 151 \text { (d) mm } \end{aligned}$ |
| :---: | :---: |
| Weight | Approx. 5.5 lbs 2.5 kg |
| Power supply | $\begin{aligned} & \text { 120VAC } \\ & \text { 230VAC (220-240VAC) } \end{aligned}$ |
| Power consumption | $\begin{array}{lll} \hline 120 \mathrm{VAC} 50 / 60 \mathrm{~Hz} & 0.2 \mathrm{~A} \\ 230 \mathrm{VAC} 50 / 60 \mathrm{~Hz} & 0.12 \mathrm{~A} \\ 220-240 \mathrm{VAC} 50 / 60 \mathrm{~Hz} & 0.12 \mathrm{~A} \\ \hline \end{array}$ |
| Machine Noise Inf The sound pressur according to ISO 7 | ation Ordinance 3. GSGV, January 18, 1991 : <br> vel at the operator position is equal to or less than $70 \mathrm{~dB}(\mathrm{~A})$ |

Replace battery with TOSHIBA, part No. CR2450THC only.
Use of another battery may present a risk of fire or explosion.

## 10. TIME CARD SPECIFICATIONS

Note : Recommended paper thickness : $0.45 \pm 0.05 \mathrm{~mm}$
Card style may vary.

## (1) Monthly Card


(2) Weekly Card

(3) Bi-Weekly Card

©Simplex

