



## 2 Details and Operation of LCD

**Main menu**

(1) **Shot screen:** Pressing VIEW button to switch the monitor display mode. On "C" screen mode, background green color means OK judgment, red means NG, and yellow means while teaching.

(2) **Scale per approx. each 50 pixels:** Use as a guide to adjust the character width.

(3) **Menu display:** The selected item is displayed in yellow.

(4) **Judgment result:**  
**OK:** Date and time are within the upper and lower limits. The strings are identified.  
**NG:** Date and time are out of the upper and lower limits, or the strings are not identified.  
**ER:** Backup error of the calendar timer. (It disappears by resetting **SECOND** in 4.Calendar in the menu.)

(5) **Current bank number (0 to 15)**  
**(6) Displayed date/time items:**  
**1D:** The 1st date **2D:** The 2nd date  
**1T:** The 1st time **2T:** The 2nd time  
**CH:** Number of characters and character string

(7) **Response time** (From synchronizing input to judgment output)  
**(8) Recognized date/time**  
**(9) Upper limit of date/time**  
**(10) Lower limit of date/time**

**UP button**  
Use to select a menu or setting items as well as to increase the setting value.

**DOWN button**  
Use to select a menu or a setting item as well as to decrease the setting value.

**VIEW button**  
Use to select a screen display mode. In switching the string to be monitored, press this button with Up/Down button together. Use also to select a menu or setting items as well as to increase the setting value.

**SET button**  
Use to perform the selected menu or to write the setting value.

**EXIT button**  
Use to switch between the main menu and the teaching menu, cancel the change of setting value, or to return to the menu.

Lock editing all parameters and disable teach-in, editing character string and calendar. (Locked) Press these button on main menu or teaching menu.  
 Press **DOWN** + **SET** simultaneously Press >3sec.  
 Press **UP** + **SET** simultaneously Press >3sec.  
 Pressing **VIEW** to select the monitor display.

**DC screen**  
Displays both of the live screen and the Cut-out screen.

**D screen**  
Displays the live screen.

**2 screen**  
Displays the differential screen.

**C screen**  
Displays the Cut-out screen.

Pressing **UP** or **DOWN** after pressing **VIEW**

**Date 1/2 Display**  
Displays: the 1st/2nd date (lower left), its upper limit (upper right), and the lower limit (lower right).

**Time 1/2 Display**  
Displays: the 1st/2nd time (lower left), its upper limit (upper right), and the lower limit (lower right).

**String Display**  
Displays the recognized number of characters and strings.

\* When no date or time is specified, the string is displayed. The character color shows the identical rate with the dictionary. The character turns to ? when the difference exceeds the CharMrgn setting value.

Identical rate High <<	Pale green	Green	Yellow	Orange	Red	>> Low			
Conversion value of CharMrgn	0	4	8	12	16	20	24	28	32

### Menu Configuration

**Main menu**

**Setup Flow**  
Indicates settings / functions in order for installation.

**Parameter**  
The setting value for inputs and outputs.

**Date/Time**  
Specify tolerance of Date and Time

**ExpertParamtr**  
Setting of Extert Parameter

**View NG Log**  
Displays the screen or the recognized string at the moment that the OK judgment turns to NG.

**Calendar**  
Refers or sets the current date and time. Set to the Western calendar for leap year adjustment.

**Auto Teach**  
Automatic Teaching

**SemiautoTeach**  
Semi Automatic Teaching

**Date Teach**  
Teaching of Date

**String Editor**  
Execute String Editor

**Dictnr Editor**  
Dicstionary Editor

### Operation of Menu, Parameter Reference, Selection Screen

**Menu screen**  
UP: To the previous menu  
DOWN: To the next menu  
SET: To the selected menu

**Parameter reference screen**  
UP: To the previous setting value  
DOWN: To the next setting value  
SET: Cancel and return to previous screen.  
EXIT: Save and return to previous screen.

**Parameter selection screen**  
UP: Change the value to upper  
DOWN: Change the value lower  
SET: Cancel and return to previous screen.  
EXIT: Save and return to previous screen.

### Function Detail of Each Menu

#### View NG Log

Save the screen when the OK judgment changes to NG in turning ON **Save NG** (the setting value in **Parameter**). This screen can be referred.

Screen Number: The latest screen number is 1.  
 Date and time of NG occurrence  
 Recognized string  
 String display mode

You can switch the recognized string display.

The character with smaller difference with the dictionary in the numerical and alphabetical characters.  
 The result compared only with the numerical and symbol dictionary.  
 The result compared only with the alphabetical dictionary.

- Up to 95 NG images can be saved. When exceeding, the oldest data is overwritten.  
 - While viewing NG log, the NG image is not saved even judged as NG. It automatically returns to the main menu when there is no switch operation for approx. 1 minute.

You can register the image into user dictionary. Following is example "9" is recognized as "4".

At the NG image that has character image to be recognized correctly, press "View".

Move the red square to the character by **UP** and **DOWN**

Choose the correct character to recognize by **UP** and **DOWN**

Then, press "SET" to register.

### Calendar

**Calendar modify screen**  
Set the date and time of built-in calendar timer.

UP: To previous date/time  
DOWN: To next date/time  
SET: Return to the reference screen.

UP: The date/time +1  
DOWN: The date/time -1

Set the year as the Western calendar for leap year adjustment.

### String Editor

**String modify screen**  
Set the string to be verified.

UP: To the previous character  
DOWN: To the next character  
SET: Returns to menu.

UP: ASCII code +1  
DOWN: ASCII code -1

Setting string (Up to 22 characters)  
Recognized string

The position specified as "." in orange accepts any character.  
 Insert "." for separator when specify multiple STRG format.

### Dictnr Editor

You can assign the registered character to a character to recognize.

Dictionary number  
The image to recognize  
The character to assign the image

**Dctnr No**  
The number of user dictionary  
Choose the dictionary number to assign character or delete.

**DctnrChr**  
The character to assign the image.  
Choose the character to assign the image to.

**DeletChr**  
When you execute deletion of selected dictionary number, the image will be deleted the image will be deleted and **ExpDctnr** will be decreased.

## 3 Teaching

### Teaching type

**Auto Teach**  
Performs teaching including shutter time, thresholds of characters and backgrounds, and the surface condition of object. Four (4) shootings are given before teaching completes. Automatically recognizes the format of date and time (Except for some formats).

**Semiauto**  
Imports necessary information such as character size, fixing shutter time for recognition. Teaching completes without additional shooting in the condition that the characters have already been shot on the screen. When the date and time formats have already been set with the setting value **Format 1 to 4** in 8.Adj Paramtr, these formats are used in priority.

Before executing Teaching, please setup following parameter in "Setup Flow" because they won't be set automatically by teaching.  
**Language, Orientn, Wide, Light, Shading, Surface, Trapezid, ShtrLmt, Synchron, DataFrmt,**

### Teaching menu

Select **Auto Teach** or **Semiauto**.

Internal process proceeds to 1 to 17. **Semiauto** starts from 4.

Upon completion, **Completed** is displayed.

### Ending messages

**Completed**  
Successfully completed.

**String not found**  
No character was detected. The setting value returns to the original one. For correct display, adjust the setting values of **Adj Paramtr (Shutter, ShtrLmt, Surface, Threshld)** before performing **Semiauto**.

**Format not found**  
The format of date and time was not found. The settings for the shutter time or the character size are saved. Specify **Format 1 to 4** in 9.Date/Time before performing **Semiauto**.

**Date overflow**  
The recognized date exceeds 5000 days from today. The wrong date might have been recognized. The setting such as the shutter time or the character size are saved. Specify **Format1 to 4, DateFrmt, and YearOfst** in 9.Date/Time before performing **Semiauto**.

**Date underflow**  
The recognized date exceeds 999 days before today. The wrong date might have been recognized. The setting such as the shutter time or the character size are saved.

### Setting value available only in 6.Auto Teach

<b>Format 1 to 4</b>	<b>String format</b> Searches the format of date and time among the recognized strings. Does not search <b>H:M, 2YM, STRG</b> , etc. The setting value is overwritten.
<b>LightPwr</b>	<b>Built-in light power</b> Select <b>HIGH</b> when <b>Synchron</b> is other than <b>CONT</b> , and the required shutter time exceeds the upper limit ( <b>ShtrLmt</b> ).
<b>Luster</b>	<b>Luster cancel</b> Saturates the object surface with much luster by lighting to control the luster interference.
<b>Shutter</b>	<b>Shutter time</b> Calculates and sets the optimal shutter time.
<b>Surface</b>	<b>Object surface</b> Rewrites the setting to <b>WHIT</b> only when the surface is obviously white.
<b>Threshld</b>	<b>Characters/Background threshold</b> Calculates and sets the optimal threshold.
<b>DotCheck</b>	<b>Dot Check</b> Rewrites the setting to <b>ON</b> . If any format was not found, rewrites the setting to <b>OFF</b> and searches again.

### Setting value set in Semiauto and Auto Teach

<b>Bold</b>	<b>Bold display</b> Displays the size -2 to +8 in order in bold and sets the value with minimum difference from the dictionary.
<b>Format 1 to 4</b>	<b>String format</b> Checks for the format with preset value. Finds optimal formats from the start to rewrite when the setting value of <b>Format 1</b> is ---.
<b>Rotate</b>	<b>Rotation search angle</b> Rewrites the setting value added 1 to the rotating angle in teaching. Perform teaching when it rotates most. **1
<b>Slant</b>	<b>Range of character slant correction</b> Rewrites the setting value to half of the slant angle in teaching. Perform teaching when it slants most. **1
<b>SlantOfs</b>	<b>Offset angle of character slant correction</b> Rewrites the setting value to the slant angle in teaching. Perform teaching when it slants most. **1
<b>1-Date+, 2-Date+</b>	<b>Date additional value</b> Saves the number of days subtracting the current date from the recognized date.
<b>1-Date-, 2-Date-</b>	<b>Date tolerance</b> Rewrites the date tolerance to 3 when the day unsaved with <b>4YM</b> (only the original tolerance is 0 when <b>Semiauto</b> ). However, overwrites the date tolerance to 0 when the recognized date is today (without <b>Semiauto</b> ). Rewrites the date tolerance to 0 when the day saved with <b>4YMD</b> and the original tolerance is 3 in <b>AutoTeach</b> .
<b>1-Time+, 2-Time+</b>	<b>Time additional value</b> Saves the number of minutes subtracting the current time from the recognized time.
<b>CharHght</b>	<b>Character height</b> Saves the 72 % value of typical character height. Does not cut-out characters whose height is equal to this height or less. The low characters such as "-" or "." are separated into blocks with the height maintained. **2
<b>CharNarw</b>	<b>Minimum character narrowness</b> Saves the eighth value of typical character width. Does not cut-out characters whose width is less than the above-mentioned width. **2
<b>CharWidth</b>	<b>Character width</b> Saves the 90 % value of typical character width. Separates narrow width characters such as "1" or "." into blocks, maintaining the width. As for characters with double width or more, separates them into two. **2
<b>String to be compared</b>	When <b>STRG</b> is set in any of <b>Format 1 to 4</b> , saves the existing characters. Maximum characters to save can be modified with the setting value <b>Max Strg</b> , and the maximum rows to save can be modified with the setting value <b>StrgLine</b> .

\*\*1 Does not rewrite setting value when performing 7.Semiauto when the setting value of **FixRISit** is **ON** or **C+RS**.  
 \*\*2 Same as \*\*1, when the setting value of **FixRISit** is **CHAR** or **C+RS**.



