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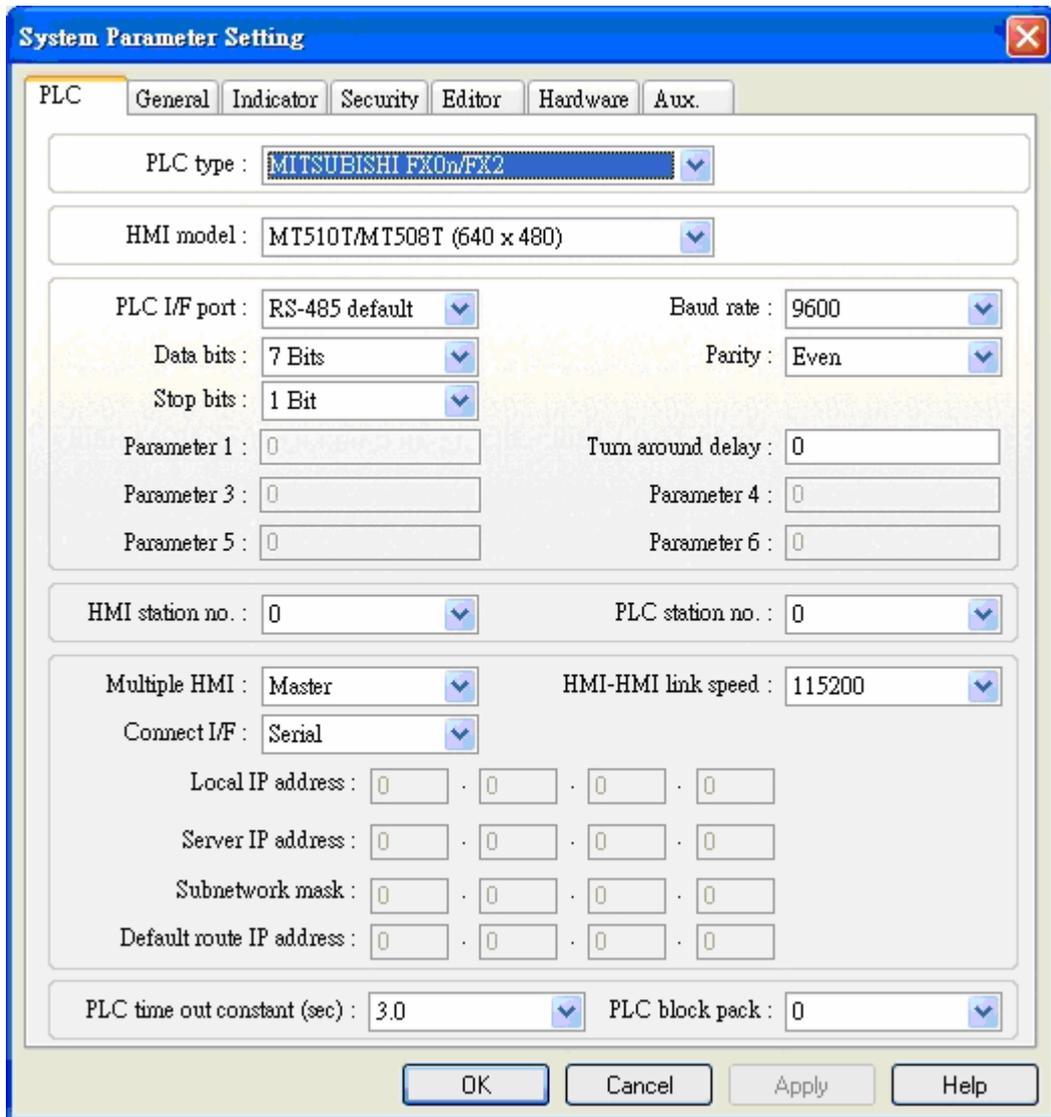
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# Chapter 7. System Parameters

## 1. Filling in the system parameters

Select the [Edit]/[System Parameters... ] menu and the System Parameter Setting dialog appears as below:

<u>E</u> dit	<u>V</u> iew	<u>O</u> ption	<u>D</u> raw	<u>P</u> arts
<u>U</u> ndo				Ctrl+Z
<u>R</u> edo				Ctrl+Y
<hr/>				
<u>C</u> ut				Ctrl+X
<u>C</u> opy				Ctrl+C
Multi. Copy...				
Window Copy...				
<u>P</u> aste				Ctrl+V
<u>D</u> elete				Del
<u>F</u> ind/Replace Addr...				Ctrl+H
<hr/>				
<u>L</u> ayer				▶
<u>N</u> udge				▶
<u>A</u> lign				▶
<u>M</u> ake Same Size				▶
<hr/>				
Flip <u>V</u> ertical				
Flip <u>H</u> orizontal				
Rotate <u>90</u> degree				
<hr/>				
Pinned				
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<u>G</u> roup				
Un <u>G</u> roup				
<hr/>				
Red <u>r</u> aw Window				
Select <u>A</u> ll Objects				
✓ <u>S</u> elect				
Select <u>N</u> ext Object				
<hr/>				
<u>C</u> hange Attribute...				
<u>S</u> ystem Parameters...				



There are seven tabs in the dialog: [PLC], [General],[Indicator],[Security],[Editor],[Hardware] and [Auxiliary]. We introduce them one by one.

## 7.1 The PLC Tab

The screenshot shows the 'System Parameter Setting' dialog box with the 'PLC' tab selected. The dialog has a title bar with a close button (X) and a tabbed interface with the following tabs: 'General', 'Indicator', 'Security', 'Editor', 'Hardware', and 'Aux.'. The 'PLC' tab is active and contains the following settings:

- PLC type: MITSUBISHI FX0n/FX2 (dropdown menu)
- HMI model: MT510T/MT508T (640 x 480) (dropdown menu)
- PLC I/F port: RS-485 default (dropdown menu)
- Baud rate: 9600 (dropdown menu)
- Data bits: 7 Bits (dropdown menu)
- Parity: Even (dropdown menu)
- Stop bits: 1 Bit (dropdown menu)
- Parameter 1: 0 (text input)
- Turn around delay: 0 (text input)
- Parameter 3: 0 (text input)
- Parameter 4: 0 (text input)
- Parameter 5: 0 (text input)
- Parameter 6: 0 (text input)
- HMI station no.: 0 (dropdown menu)
- PLC station no.: 0 (dropdown menu)
- Multiple HMI: Master (dropdown menu)
- HMI-HMI link speed: 115200 (dropdown menu)
- Connect I/F: Serial (dropdown menu)
- Local IP address: 0 . 0 . 0 . 0 (text input)
- Server IP address: 0 . 0 . 0 . 0 (text input)
- Subnetwork mask: 0 . 0 . 0 . 0 (text input)
- Default route IP address: 0 . 0 . 0 . 0 (text input)
- PLC time out constant (sec): 3.0 (dropdown menu)
- PLC block pack: 0 (dropdown menu)

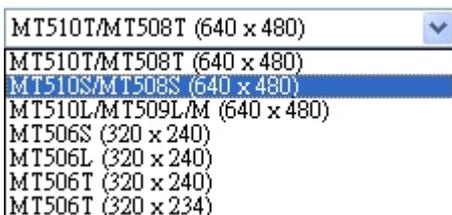
At the bottom of the dialog are four buttons: 'OK', 'Cancel', 'Apply', and 'Help'.

PLC type: Select the type of PLC from available PLC selection menu.



We support most of the PLC models. For special request, customers can contact with us to develop the new drivers.

HMI model: Select the suitable model number from the dropdown.



Serial Port I/F: Select the PLC port's type of hardware communications. RS-232 and RS-485 are available.

Baud rate, Parity, Data bits and Stop bits: Set the communication parameters to match the PLC ports settings.

HMI station No.: This is used when PLCs require the HMI to have a node or station identifier. For example, for AB DH485 or Unitelway driver, many HMIs maybe connect with a PLC and each HMI is given by a station No. Leave it at 0 if just one HMI is used.

PLC station No.: Used when PLCs have a node or station identifier. Set as needed or leave at 0 if not used.

Multiple HMI: Allows more than one HMI to be connected to one PLC. Enable as a Master or a Slave, depending on connection, or Disable as needed.

Disable: Disables the chaining of multiple HMIs to one PLC.

Slave: Select this if this HMI connects to another HMI in the chain.

Master: Select this when the HMI is the unit connected directly to the PLC.

HMI-HMI link speed: This is used only when a serial interface is used for connecting multiple HMIs.

Set connection parameters:

Multiple HMI: Set the HMI directly connecting to MT500 display as the master and set the rest of the displays as slaves.

HMI-HMI link speed: 38400bps and 115200bps are available.

Please consult the appendix II relevant content about Multiple HMI.

PLC time out constant (sec): This setting determines how long the HMI waits for a response from the PLC. If the comm. delay time of PLC is longer than time out constant, "PLC NO Response" message appears on the display. Typically, the PLC time out constant is set at 3.0 (sec).

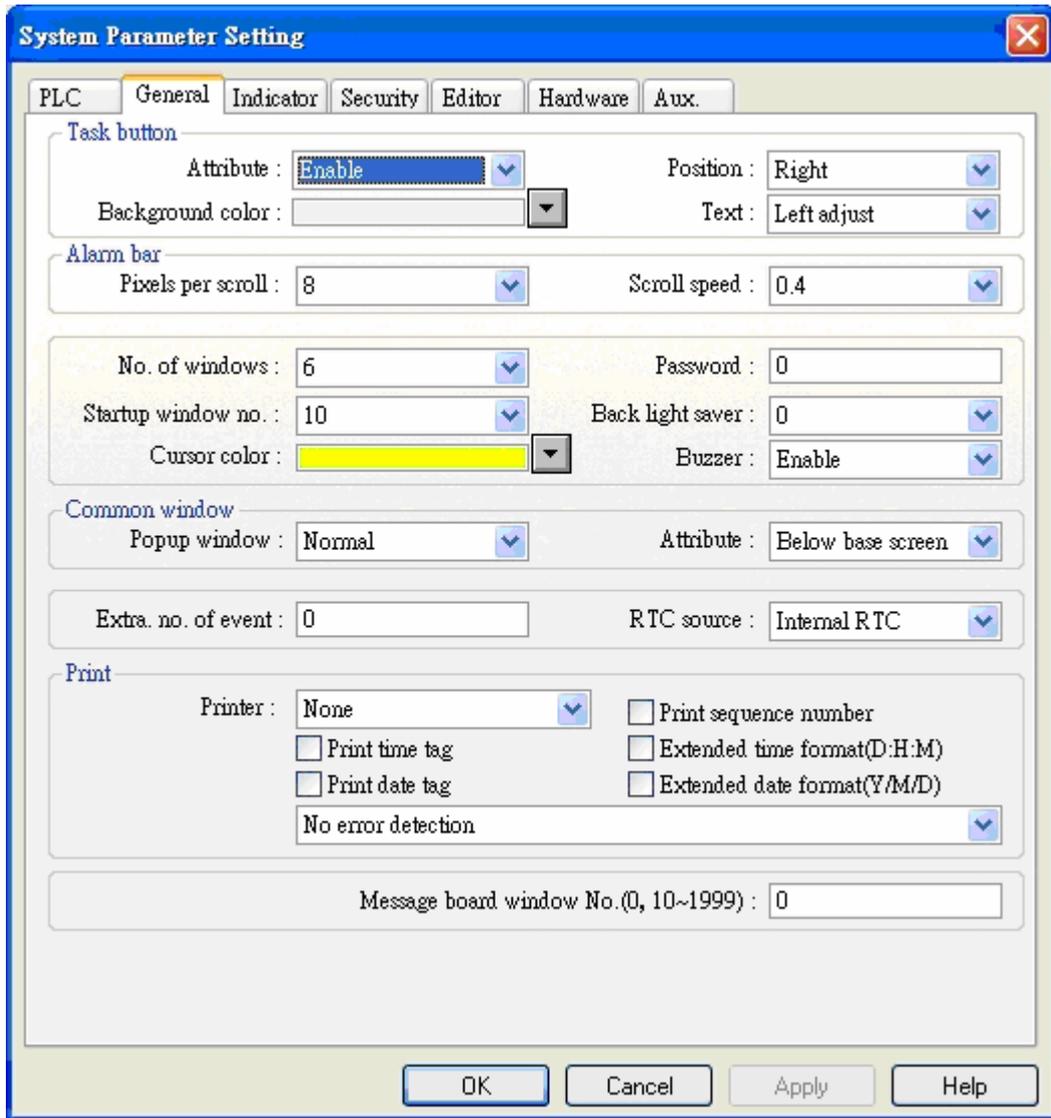
PLC data package:

HMI will collect all PLC data with continuous address and send an order reading to read these data automatically, this has improved communication efficiency and reduced the response time greatly. But if the addresses of these data are discontinuous, then HMI will read these data through the single order, then need reading the order to read these data of a lot of. It can allow two addresses to have intervals, even two data with discontinuous address to set up this parameter, so long as this interval is not greater than this parameter, HMI can still use one to read the order to read these data from PLC.

Give an example as follows:

D20	As left picture shows, will read the data from D20 to D29, when PLC data package is set up as 0, system use 3 read order is it read data to come, is it carry out one read order spend 50 millisecond to suppose respectively, probably 150 millisecond read these data to want flowers in these words, and when PLC data package is set up as 1, it only needs one to read the order, the data that and just read more 7 bytes after ordering to extend to read these data, probably need $50+7*2*2=78$ millisecond comes to read these data. It is obvious, when data are the more, use communication time that continuous PLC address can be economized is the more.
D21	
D22	
D24	
D25	
D27	
D28	
D29	

## 7.2 The General Tab



**Task button:** The Task button is used to pop up the Fast Selection window or display the Task Bar.

**Attribute:** Enables or disables the task button. If disabled, the Fast Selection window and Task Bar are not available at run time.( the default is enable for a new project)

**Position:** The Task buttons can be located on the right or left side of the display.

**Background color:** Select background colors from the drapdown.

**Text:** Determines text alignment within the Task Buttons.

**Alarm Bar:** The Alarm bar Part displays alarm text in the form of newsbar.

**Pixels per scroll:** Select 8, 16, 24 or 32 from the drop-down menu. This specifies how many pixels are scrolled in each increment. The larger the number is, the faster a given message is displayed.

Scroll speed: This setting determines how fast each increment of the scroll is displayed. The larger the number is, the faster the information displays.

No. of windows: This setting is used to specify the maximum number of windows allowed open at any one time. If printing function is used, the maximum number is 5. If the compressed object is used, the maximum number is 4.

Password: It locks the project after it is downloaded so it cannot be uploaded without first entering the password. Password should be enter when upgrading the ROM in BootRomUpdate.

Startup window No.: This is the window displayed when the HMI is powered up.

Back light saver: The HMI turns off back light power if there are no touch operations within the set time (Range: 0 to 30 minutes). A zero setting disables the back light"auto shutoff"function.

Cursor color: Determines the color of the cursor when activate the input of numbers or words.

Buzzer: The buzzer sounds briefly every time the touchscreen is activated by touch. This selection allows the programmer to turn off the buzzer.

Common Window:

Popup window: Determines where an popup window called from the common window is displayed. Typically, The Popup window is displayed on the top layer.

Attribute: Determines the location of the Common window, above or below the base screen.

Extra No. of Event: Normally, 200 events are stored in the Event Log. If more than 200 events are needed, the additional amount is entered here. If 1200 events are need, 1000 is inputted here. Up to 2800 additional logs can be added.

RTC source: Establish the source of the clock when the unusual incident emerges. RTC data can be got from PLC or inside RTC. If choose to get from PLC, is it set up one data transmission component come to transmit from PLC actual RTC datum reach to corresponding LW address cycle to need then (can consult the content of " reserving the register address systematically " relevantly ). If choose inside RTC, must then at CPU board card Recipe card which can be selected for use in installation.

Print: Use these settings to set the Printer protocol. Print time and print sequence number can be printed at the same time.

Printer: Select the printer drivers.

Print Sequence number: Select to print the sequence number of the event along with the event occurrence. The number increases for each new event.

Print time tag: Print the time along with the printed information.

Extended time format (D:H:/M): Change the time format in the time tag to Days/Hours/Minutes.

Error Detection: Neglect the wrong signal (for example lacks the paper ) of the printer or the transmission that has been keeping typing the data all the time until the wrong signal has been removed.

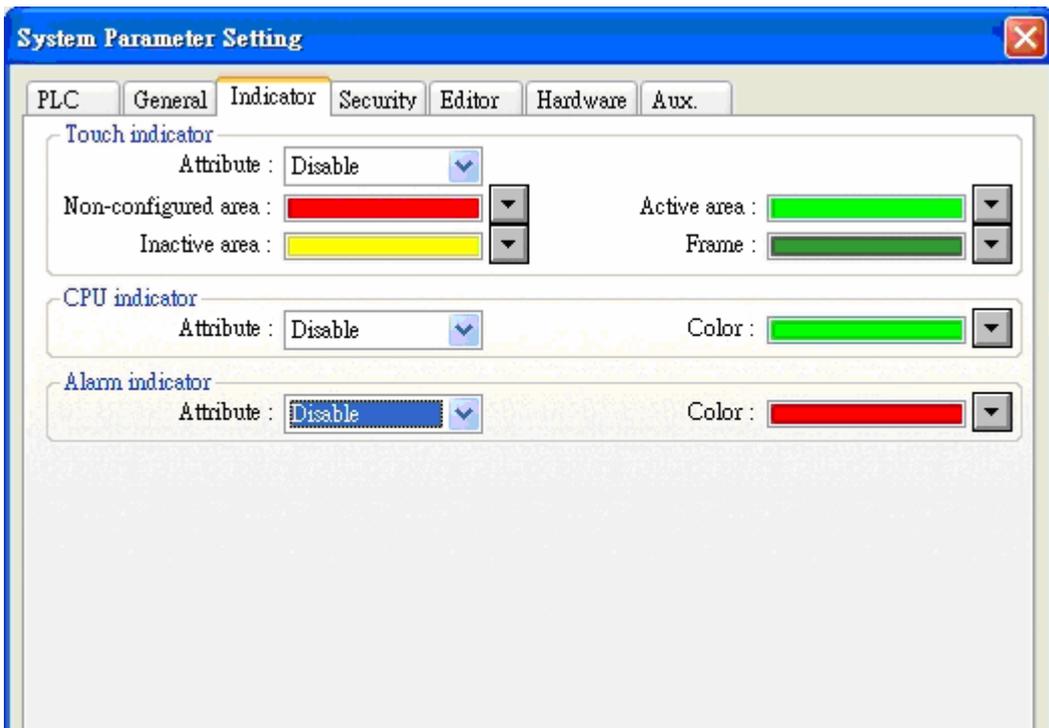
No error detection: Printer errors are ignored.

Message board window No.:

Select the window number to be used as the message board.

Regarding to Message board, please refer to ch.9 [Message board].

## 7.3 The Indicator Tab



**Touch indicator:** The Touch indicator changes color every time a screen touch is touched.

**Attribute:** Enable makes the Touch indicator visible and active. Disable makes the indicator invisible and not active.

**Non-configured area, Active area, and Inactive area:** Set the touch area's color that is displayed in Touch indicator.

**Non-configured area:** Set the color of the Touch indicator when the Non-configured area is selected.

**Active area:** Set the color of the Touch indicator when the Active area is selected.

**Inactive area:** Set the color of the Touch indicator when the Inactive area is selected.

**Frame:** Set the color of the circular outline in the Touch indicator

**CPU indicator:** The CPU indicator is a percentage bar graph that shows system resource usage.

**Attribute:** Enables or disables this feature. If disabled, the CPU indicator is not displayed at run time.

**Color:** Set the color of the displayed CPU indicator.

**Alarm indicator:** The Alarm indicator comes on when there are alarms present. This indicator is a bar graph that increases when the number of alarms increases.

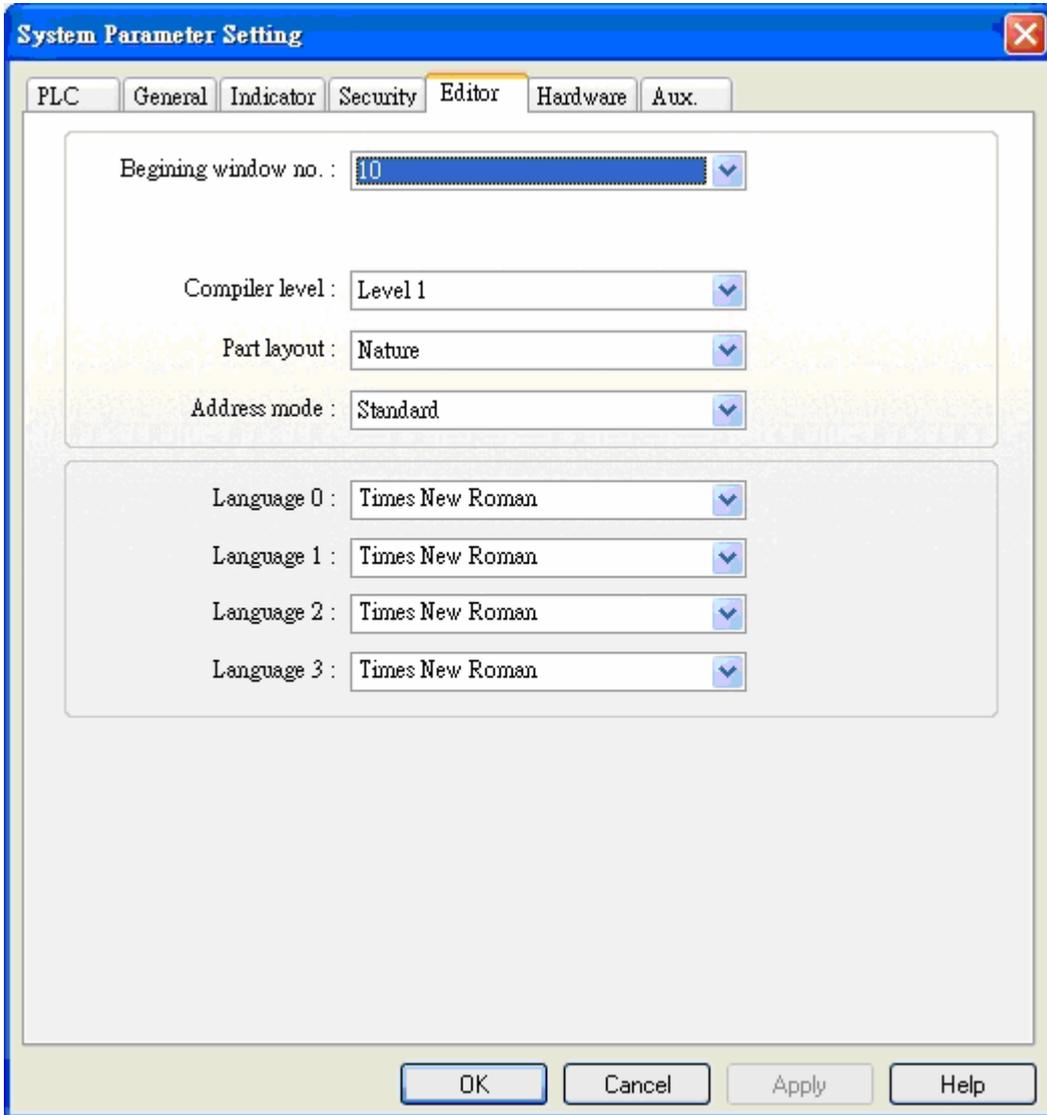
**Attribute:** Enables or disables this feature. If disabled, the CPU indicator is not displayed at run time.

**Color:** Set the color of the displayed CPU indicator.

## 7.4 The Security Tab

Please refer to Ch.10 [Security Level]

## 7.5 The Editor Tab



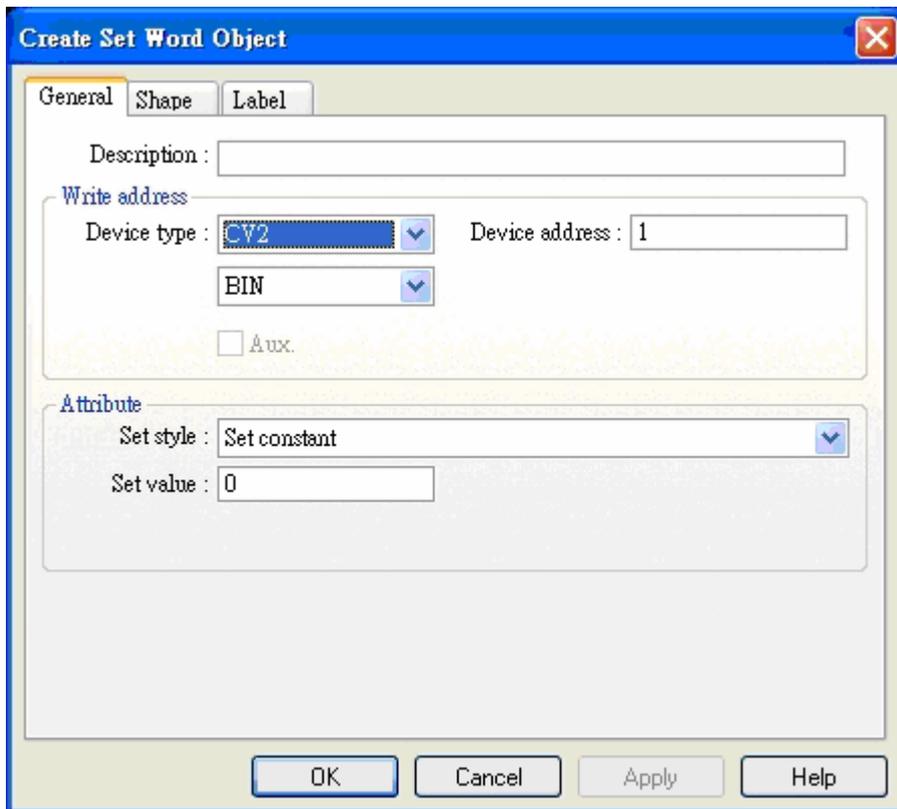
Beginning window No.: Set the window numbering starting at 1 or 10. Internally, EasyBuilder maintains the initial window of 10 but displays all window numbers with an offset so they appear to start with an initial window of 10.

Compiler level: Determine the compile type.

Level 0: Don't check the validity of the device address when compiling.

Level 1: Check the validity of the device address when compiling.

For example: Mitsubishi the CV2 of Fx/2n is displayed in a double word. If a multi-state object uses a word to indicate CV2, showed as below:



When the compile level is at level 0, the compile system ignores the mistake. However, there would be unexpected error when the compiled project is run on the HMI. When the compile level is at level 1, the compile system will detect the mistake. Level 1 is suggested.

#### Part Layout:

Select Control to have the part move to the topmost layer and become visible.

Select Nature to have the part stay in its original layer, still changing state, though partially or invisible.

#### Address Mode:

Standard: Used when a touchscreen is connected to one PLC.

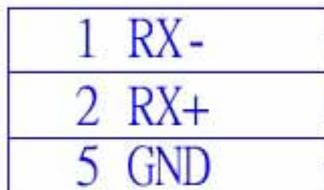
Extended: Used when a touchscreen is connected to more than one PLC.

#### Explanation about Extended Address Mode

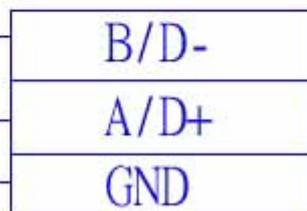
The application of EasyView HMI can only be via RS-232 or RS-485 and a PLC line in the past, joining the function of Extended Address Mode in order to overcome this restriction, users can realize this function via the interface of RS-484 , the following picture shows:

MT500 PLC[RS-485]  
9P D-SUB Male

Serial Port(RS485)  
Station NO. 0



Serial Port(RS485)  
Station NO. 1



As to user, it is essential that PLC that can be controlled more than 2 by a HMI is used in some, detail how to realize this function as follows.

1.Can support PLC of Extended Address Mode to choose

Chosen PLC must RS-485 interface, and Communication protocol must include PLC station No..

2.Choose Extended Address Mode as follows in the systematic parameter



3.Fill in the form of Extended Address Mode as follows in Device Address of object

**Create Bit Lamp Object**

General Shape Label

Description :

Read address

Device type : 1x Device address : 3#03

Aux.

Attribute

Function : Blinking on state 0

Break time : 0

OK Cancel Apply Help

**Create Set Word Object**

General Shape Label

Description :

Write address

Device type : 3x Device address : 4#12

EIN

Aux.

Attribute

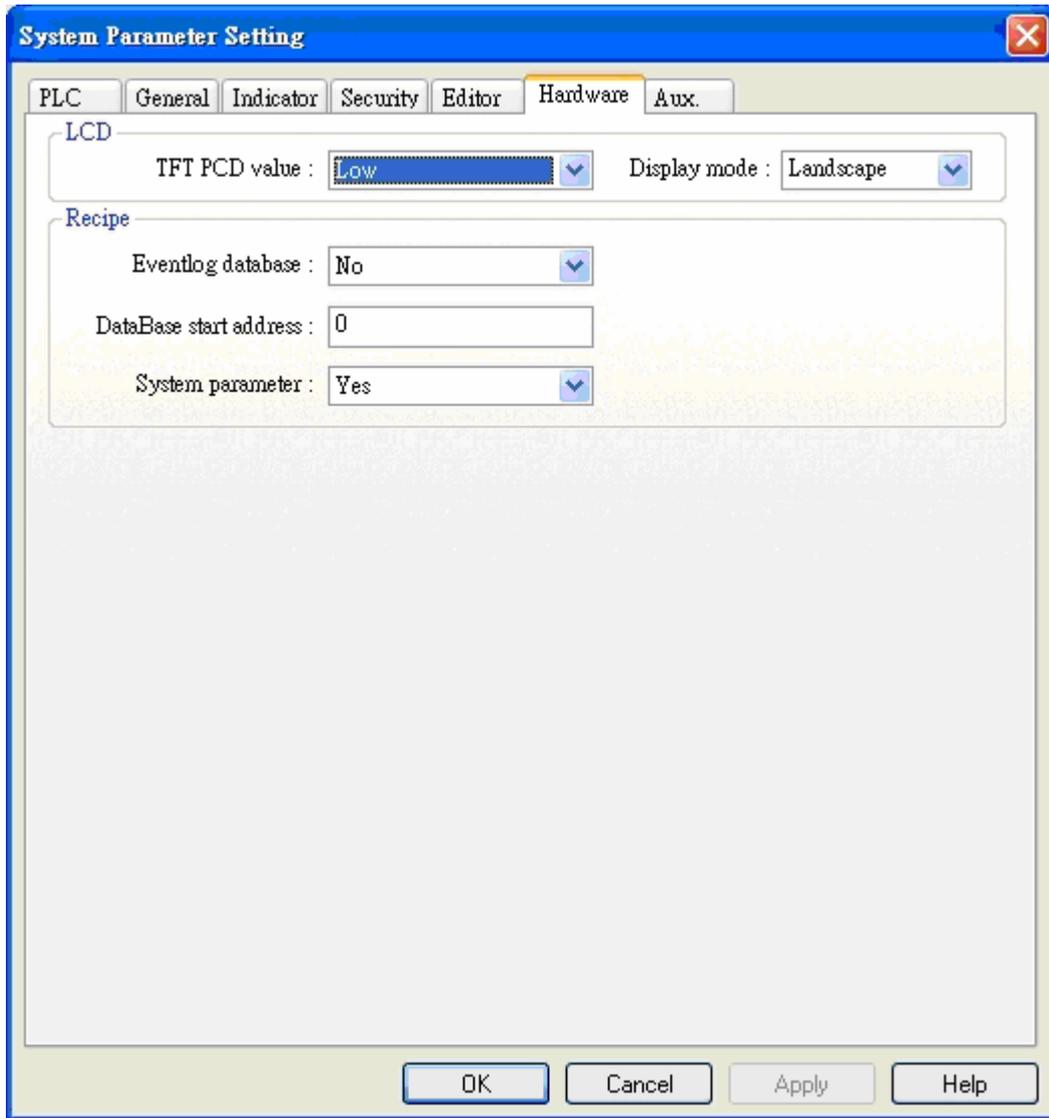
Set style : Add value(JOG+)

Inc. value : 0 Upper limit : 0

OK Cancel Apply Help

Pursue to show it for Extended Address Mode as above: Bit address: 3#03 ; Word address: 4#12  
 Before "#" is station NO., later in order to " appointed station NO. Address "  
 Extended Address Mode, in order to control yard with "#", before "#" is station NO., later it was  
 Standard Address Mode.

## 7.6 The Hardware Tab



**TFT PCD Value:** This setting applies to the MT510T only. It allows the user to change the PCD of the display. The PCD is related to the scan frequency of LCD. Low PCD is suggested.

**System Parameter:**

No: Don't stored the system parameters in the retentive memory

Yes: stored the system parameters in the retentive memory

If "store" function is selected and download the compiled EOB file to the HMI, when activate the display for the first time, the system parameters will be written into the retentive memory. Every time the display is activated later, the system parameters are retrieved directly from the retentive memory. Please refer to Ch.12 for further detail.

**EventLog DataBase:**

No: Disables user to keep EventLog information in retentive memory. When the HMI starts up or shut down, EventLog DataBase information disappears.

Yes: Enables user to keep EventLog information in retentive memory. When the HMI starts up or shut down, EventLog DataBase information doesn't disappear.

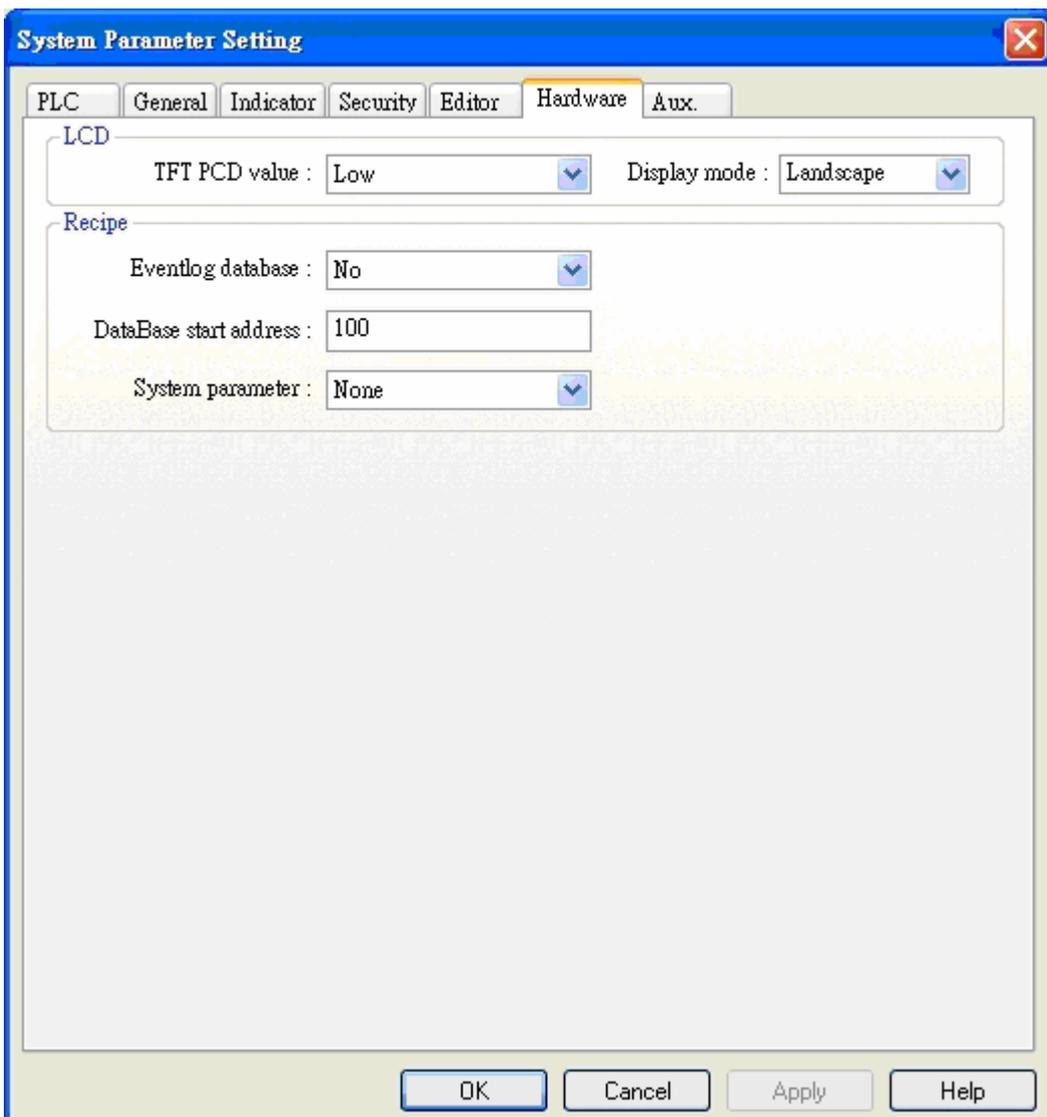
DataBase Start Address: Information is stored in retentive memory starting with the specified address.

#### Memory about Eventlog information

If choose to be stored in Eventlog column of the systematic parameter, systematic to can land time that excite already information store in Recipe Card automatically. As to user, needn't worry about the problem of how to store of Eventlog information, the system will automatically process the course of storing!, the position that appoints the address of ones that lie in systematic parameter in database [DataBase Start Address ], acquiescence is 0.

Store in the information in Recipe Card, including Eventlog manages information and time lands information. In [Eventlog manage information ] is it appoint address as start address store , data size 30 words to store, Eventlog information is thereafter followed closely, each size of Eventlog information is the same, is 20 words, how to calculate that Eventlog information stores the size for example.

In[System Parameter][Hardware], Eventlog database is chosen to be stored, Database start address is 100, the following picture shows:



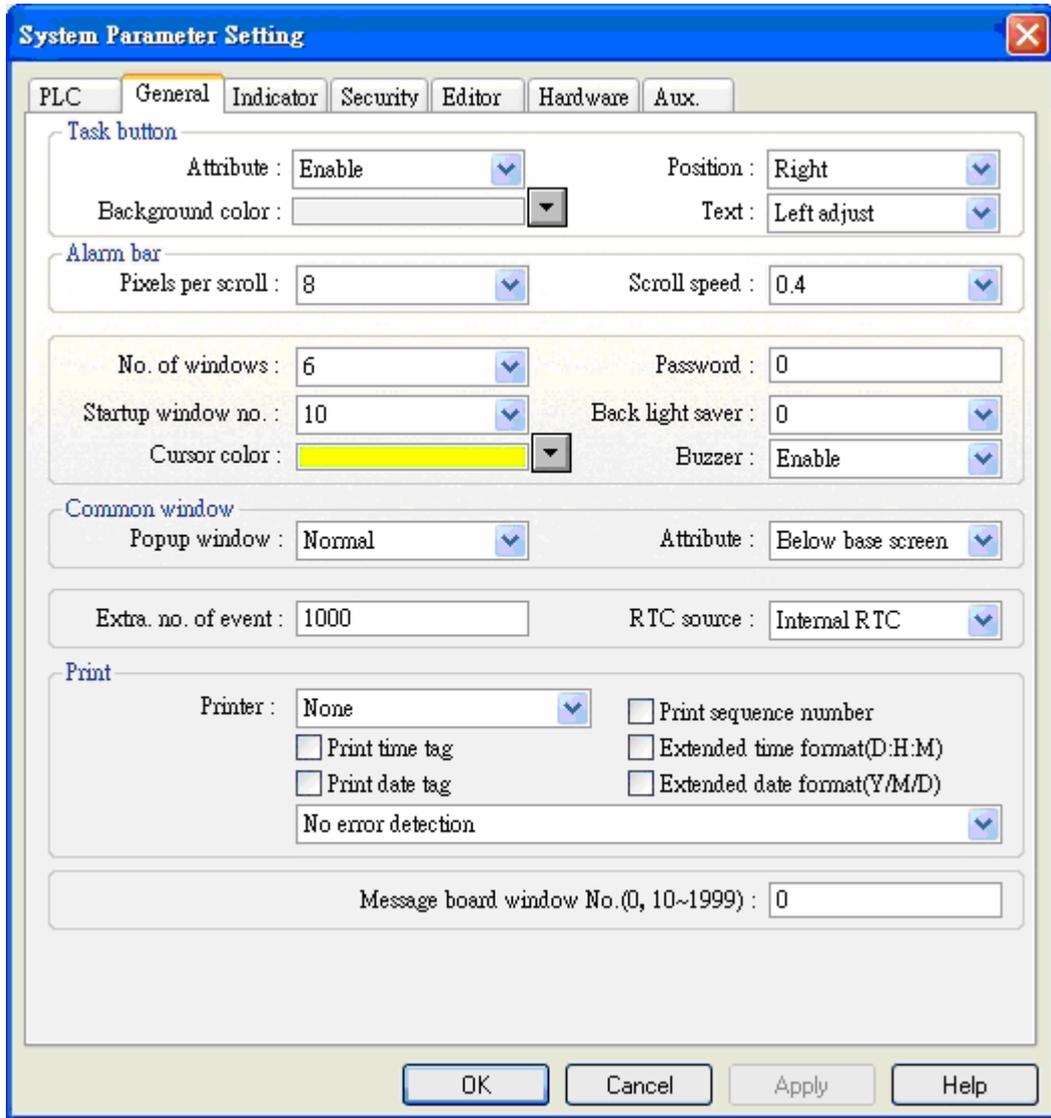
The system will begin to keep a storage area and use and store Eventlog database from RW100 in Recipe Card automatically, can store [Eventlog manages information ] and the following picture of 200 pieces of Eventlog information show:

Recipe Card Address	Data
RW100	Eventlog manages information
RW130	The first Eventlog information
RW150	The secondEventlog information
RW170	The third Eventlog information
.....	.....
.....	.....
RW4090	The 199th Eventlog information
RW4110	The 200th Eventlog information

The size of storage area kept is  $200 * 20 + 30 = 4030$  word, the storage area for can't write area into, any write into movement can't cause anticipated result as to user. [DataBase start address ] the user can set up at will, but should pay attention to the following two points:

- 1.Can't there is conflict of addresses with the project object in the designed storage area.
- 2.Storage area can exceed RW60000, RW60000 the above reserve for system.

How to expand the storage area, can the user see Eventlog information of more clauses and subclauses ? In [systematic parameter ] [generally ] [Extra.no.of event ] in input it 1000,show picture:



Add 200 Eventlogs of systematic acquiescence, there are 1200 Eventlogs altogether, the memory space taken up is expanded to  $1200 * 20 + 30 = 2430$  words.