

Part 1 Scanner Introduction & Attentions

- Multiplexer appearance and keys



- **Diag. accessories:** total 10pcs of adaptors plus 1pcs of USB to R232 communication cable (have to purchase additional)
 - ※ Stand-alone upgrade shall add other brands diagnostic cable

Main test cable



SYM

KYMCO



SUZUKI-I



PGO



HARTFORD



SUZUKI-II



YAMAHA



AEON-1



Power cable



USB to R232 cable(OPT)



● **Buttons descriptions**

▲▼ Up down Arrow Keys: choose test items

◀▶ Left right arrow keys: choose test items, form feed

YES Enter, perform

NO ESC, Return



Attentions

Use restrictions

1. The displays screen and illustrations (such as key markings) in this manual are for illustrative purpose only, and may differ somewhat from the actual items they represent.
2. The contents of this manual are subject to change without notice.
3. In no event shall **Shenzhen Zeus Technology Co., LTD** be liable to anyone for special, collateral, incidental, or consequential damages in connection with or arising out of the purchase or use of these materials.
4. Shall **Shenzhen Zeus Technology Co., LTD** not be liable for any claim of any kind whatsoever against the use of these materials by any other party.
5. Avoid use and storage in areas subjected to temperature extremes. Very low temperatures can cause slow display response, total failure of the display. Also avoid leaving the scanner in direct sunlight, near anywhere else it might be exposed to very high temperatures. Heat can cause discoloration or deformation of the scanner's case, and damage to internal circuitry.
6. Never attempt to disassemble the scanner or tamper with the connection settings without permission.
7. Never press the keys of the scanner with a ballpoint pen or other pointed object.
8. Use a soft, dry cloth to clean the exterior of the scanner. If the scanner becomes very dirty, wipe it off with a cloth moistened in a weak solution of water and a mild neutral household detergent. Wring out all excess moisture before wiping the scanner. Never

use thinner, benzene or other volatile agents to clean the scanner. Doing so can remove printed markings and can damage the case.

9. Working conditions:

Temperature: 0~60°C ; Humidity: relative humidity below 80%.

10. Don't connect to diagnostic test sync when examine the ignition system sparking voltage Test, or high-pressure disturbance may result in equipment damage.

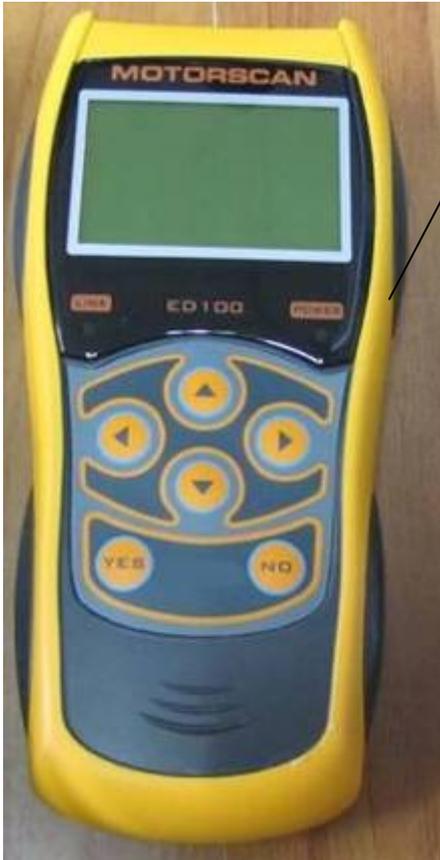
Checking when use

1. Check whether the ignition is on and the engine is running.
2. Check the whether the multiplexer's power light is on (red light), when testing the system whether the signal light is flash.
3. Check the diagnostic cable and interface whether is bad contact or short-circuit.
4. Check whether the software version is applicable to the vehicle types

Part 2 Connection Specifications

1、 Scanner accessories and adaptors positions

- Testing accessories



Multiplexer



Main test cable



3pin diagnostic adaptor

- Connection methods:



connect the main test cable





connect the diagnostic cable



Connect to the car diagnostic cable



Power cable



main test cable

※Please connect the power cable to the main test cable when diagnosis new YAMAHA models.

● Diagnostic adaptor positions:

1. SYM

Models	Position
Dayanhan RS21 150	In the FRONT TRUNK
R1 125	On the top of Fuel-tank cap, inside the Philip's head screw cover
Hanjiang FI 125	On the top of Fuel-tank cap, inside the Philip's head screw cover
RV180	Inside the right rearview mirror dredge-up with a small coverage
FIGHTER 125/150	On the center of front trunk, inside the Philip's head screw cover
RX110	On the top left of front trunk, inside the Philip's head screw cover
RV250	Under seating washer, inside the battery box

※Models not listed please refer to the original repair manual

2. KYMCO

Models	Position
Common Scooter	Under seating washer, inside the battery box
XCITING 250/500	below the passenger right pedal
VENOX 250	Right side cover, bellow battery box

※Models not listed please refer to the original repair manual

3. YAMAHA

Models	Position
VINO 50	Pedal, in the battery box (Green cable)
RSZ100	Below Seating washer, in the battery box (Green cable)
MAJESTY 125	Inside left handlebar, on the smal lift protecting cover
CYGNUS X 125	Next to trunk, inside battery box (white adaptor)
NEW CYGNUS X 125	Below Seating washer, in the battery box (white adaptor)
NEW CYGNUS X 125	Pedal, in the battery box (Green cable)
GTR 125	Below Seating washer, in the battery

	box (white adaptor)
BWS 125	Pedal, in the battery box (Green cable)

※Models not listed please refer to the original repair manual

4. PGO

Models	Position
Common Scooter	Under seating washer, inside the battery box

※Models not listed please refer to the original repair manual

5. SUZUKI

Models	Position
X-STAR 125	Under seating washer, inside the battery box
ADDRESS 125	Pedal, in the battery box (white adaptor)

Part 3 Operation Descriptions

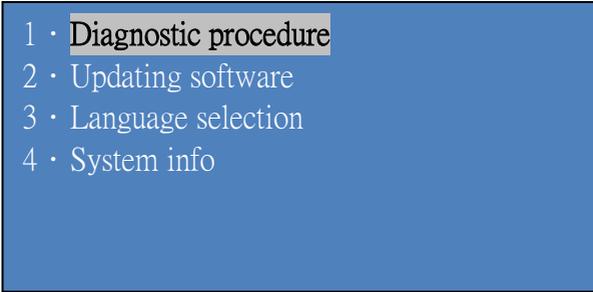
(Take SYM RV250 as sample)

1. Connection

Connect 25pin connector to connection socket, (connect DB9 side to 3pin adaptor' s DB9, another side is power cable don' t need to be connected.)

2. Perform function options

Start the scanner and enter, it will come out options as below

- 
- 1 · Diagnostic procedure
 - 2 · Updating software
 - 3 · Language selection
 - 4 · System info

Perform : 1.Diagnostic procedure : Enter maintenance diagnostic procedure.

Perform : 2. Updating software : have to connect the main test cable to computer's COM PORT, then connect to the power, and do software upgrade. (pls contact the service department for detailed update information) .

Perform : 3. Language selection: at present support Traditional Chinese and Vietnamese switch.

Perform : 4. System info : can read out scanner's S/N no. etc. information.

3.Diagnostic procedure

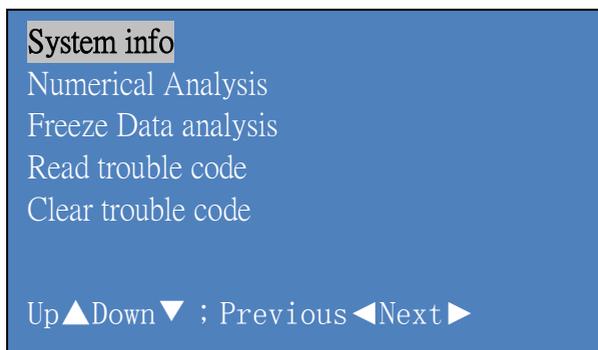
● Use ▲ 、 ▼ keys to select 1.Diagnostics, press YES to

enter, it will come out Models selection as below



- Select SYM with▲、▼keys, press YES to enter SYM main function list.

Page 1



Page 2



◆ System info

Enter this option will display system ecu information, as below is RV250 detailed ECU information.

Page 1

```
Scanner I D:00020000
          00020
Software version:002
Diagnosis version No. : 03
Model : SYM LAA071211

Up▲Down▼ ; Previous◀Next▶
```

Page 2

```
Name : RV250 HMC    003

Up▲Down▼ ; Previous◀Next▶
```

◆ Numerical Analysis

System Info

Numerical Analysis

Freeze Data analysis

Read trouble code

Clear trouble code

Up▲Down▼ ; Previous◀Next▶

Select Numerical Analysis to enter Numerical Analysis

Engine RPM	0	RPM
Trouble code No.	9	
Battery Voltage	12.0	V
Petrol Pump Status	OFF	
Intake Mainfold Pressure	128	KPa

Up▲Down▼ ; Previous◀Next▶

Engine RPM	0	RPM
Throttle Position	0	%
Throttle Position	0.00	V
Engine Temperature	N/A	°C
O2 Voltage	4990	Mv

Up▲Down▼ ; Previous◀Next▶

Engine RPM	0	RPM
O2 Heater	OFF	
Engine Water Temperature	72	°C
Atmospheric Pressure	101.0	kPa
Intake Air Temperature	51	°C

Up▲Down▼ ; Previous◀Next▶

Engine RPM	0	RPM
Secondary Air	ON	
Injection Time	0.0	ms
Ignition Angle	-1	°
Step Motor	STABLE	

Up▲Down▼ ; Previous◀Next▶

Engine RPM	0	RPM
Crankshaft	CW	
Test Terminals	OPEN	
Idling target	1800	RPM
ISC Steps	115	

Up▲Down▼ ; Previous◀Next▶

Engine RPM	0	RPM
Learned Steps	0	

Up▲Down▼ ; Previous◀Next▶

Numerical analysis is the numeric figures of the working status for motor engine, through this analysis we can know whether motor works normally. For the convenience of users, by this scanner you can compare the current working value with standard value to confirm whether it's normal, for example:

Engine RPM	0	RPM
Throttle Position	0	%
Throttle Position	0.00	V
Engine Temperature	N/A	°C
O2 Voltage	4990	mV

Up▲Down▼ ; Previous◀Next▶

Select Throttle Position, click YES to enter option as below:

Standard Value and Description
Waveform

Up▲Down▼ ; Previous◀Next▶

Select Standard Value and Description will display:

Standard Value : Idle speed withn 1.5%
Description: Sensor is 3PIN ,
Middle Y/B line is 5V, the white coffee line
under the Voltage input

Previous ◀ ; Next ▶ <NO> Return

is Signal Output (Full closed = 0.56V
Wide open = 3.69V
Upper G/R line is GND a)
Working Voltage value = 5.0V
 $\pm 0.1V$ b)

Previous ◀ ; Next ▶ <NO> Return

Throttle full-closed (throttle not rotated)
→ Volt value = $0.6 \pm 0.2V.C$)
Throttle (rotate the throttle to wide-open) →
Volt value = 3.77V
 $\pm 0.1V$)

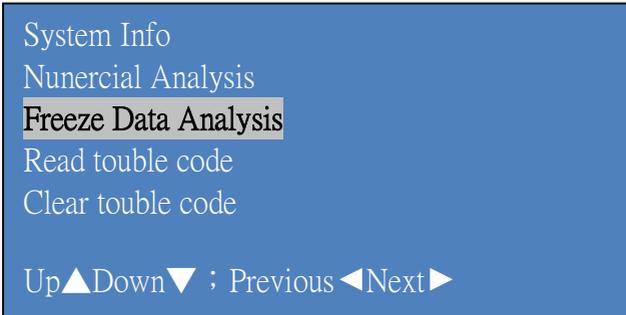
Previous ◀ ; Next ▶ <NO> Return

According to the standard value description, and compare with the current data to analyse whether the motor works normally. Select Waveform option, it will display current wave to help analysis.

◆ Freeze Data Analysis

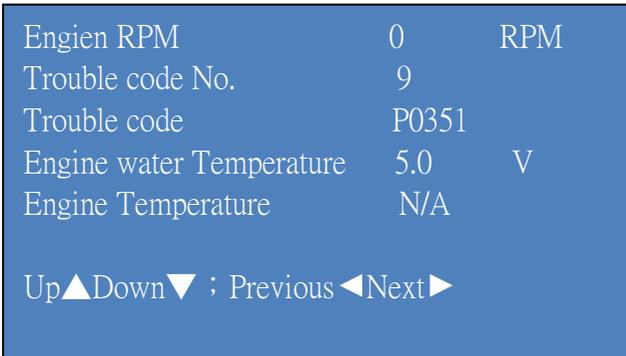
In the function list select Freeze Data Analysis will display (The data shows here is the relevant data when the motor comes fault):

Function List



System Info
Nunercial Analysis
Freeze Data Analysis
Read trouble code
Clear trouble code
Up▲Down▼ ; Previous◀Next▶

Freeze Data Analysis option (Page 1)



Engien RPM	0	RPM
Trouble code No.	9	
Trouble code	P0351	
Engine water Temperature	5.0	V
Engine Temperature	N/A	

Up▲Down▼ ; Previous◀Next▶

Freeze Data Analysis option (Page 2)

Engien RPM	0	RPM
Throttle Position	0.0	%
Throttle Position	5.00	V
Engien Temperature	5.0	V
02 Voltage	4990	mV
Up▲Down▼ ; Previous◀Next▶		

Freeze Data Analysis option (Page 3)

Engien RPM	0	RPM
Battery Voltage	12.3	V
Up▲Down▼ ; Previous◀Next▶		

◆ **Read trouble code**

In the function list select Read trouble code displays:

Function List

System Info
Nunercial Analysis
Freeze Data Analysis
Read trouble code
Clear trouble code
Up▲Down▼ ; Previous◀Next▶

Read trouble code option

Current trouble code

Freeze trouble code

ALL

Up▲Down▼ ; Previous◀Next▶

Select current trouble code to enter display trouble code, select the trouble code by up/down keys

P0351

P0230

P0135

P0120

P0105

Up▲Down▼ ; Previous◀Next▶

Select the trouble code, press YES and enter trouble code description display

Ignition circuit malfunction

Action steps: 1. make sure if ignition circuit resistance conform to specification ?

($3\pm 0.3\Omega$, 20°C)

2. Make sure connector or cable

Up▲Down▼ ; Previous◀Next▶

if circuit-open? ECU PIN18
& B/Y line 3. Make sure ignition coil power
supply if normal (12~
15V) ? R/Y line (12V Power Relay)
4. follow the new component replacement

Up▲Down▼ ; Previous◀Next▶

flow to make sure if ignition coil
fault

Up▲Down▼ ; Previous◀Next▶

Operation of reading freeze trouble code and all the trouble is the same as reading current trouble code, Some motors have options for past trouble code or history trouble code, the reading operation is the same too.

◆ Clear Trouble code

Function list

System Info
Numerical analysis
Freeze Data Analysis
Read trouble code
Clear trouble code

Up▲Down▼ ; Previous◀Next▶

In the function list select Clear trouble code will display:

Swift Ignition ON, Engine
stop running
YES Perform

Note! Before clear trouble code pls stop engine running and swift ignition ON.

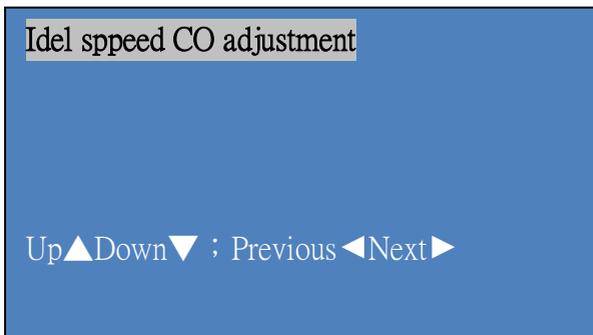
Press YES, clear trouble code successfully display

Clear trouble code completed
< YES> Return

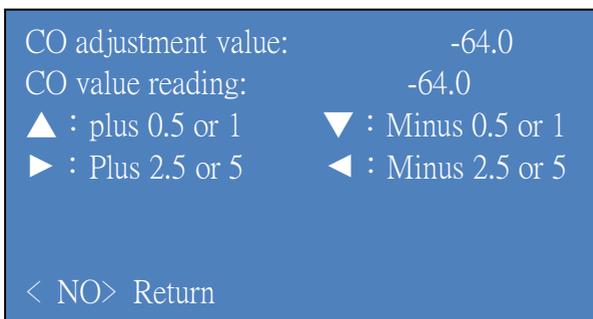
◆ **Idle speed CO adjustment**

Return to the Page 2 of main function list then select Idle speed CO adjustment.

Main function list



Idle speed Co adjustment options

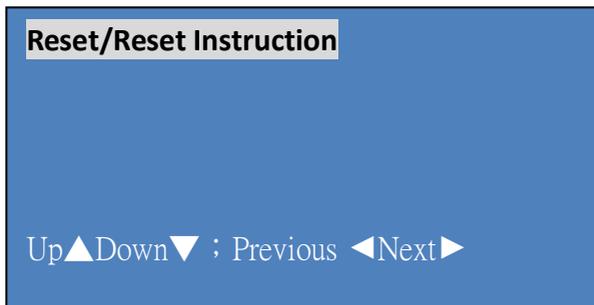


General motors's enter main menu includes the above, because the different models, some motors may have different menu.

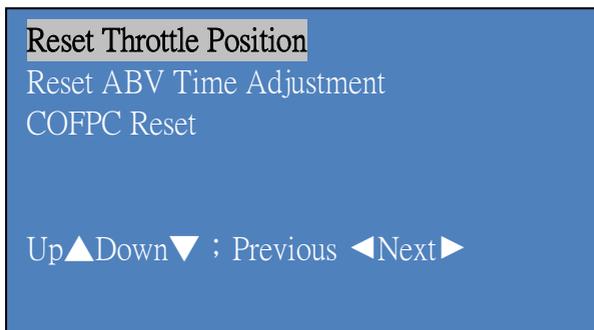
◆ **Reset/Reset Instruction(SYM R1 — 125)**

The last selection is the “Reset/Reset Instruction” After entered into

Main menu of Model R1— 125:



Select Reset/Reset selection:



Press YES to reset throttle position, the presentation would be displayed:



Press YES:

Please switch key-off and then switch-on
YES→

Up▲Down▼ ; Previous ◀Next▶

According to the presentation, switch off the Key and then switch on, select Yes,it will display as below:

The action has been finished, enter into numerical value
Analyse and confirm if the ACCEL ON value is 100%, if the ACCEL OFF value is 100%
YES Return
Up▲Down▼ ; Previous ◀Next▶

Select Reset ABV time adjustment, it will display:

Reset Throttle Position
Reset ABV Time Adjustment
COFPC Reset

Up▲Down▼ ; Previous ◀Next▶

Setting has been finished
YES Return

The Operation of COFPC Reset and ABV reset are the same:

ACCEL Reset has been finished,ABV Reset
has been finished,please restart the engine of
Vehicle
YES Return

Reset has been finished。

YAMAHA Operation guide: (Take BWS125 as sample)

Function list

Select the Simple Model from the function list:

Simple model

Diagnostic Model

Special Adjustment

Up▲Down▼ ; Previous ◀Next▶

Press YES,then it displays:(Please switch off the Key according to the presentation)

Please switch off the Key
YES—>

Press YES, it will show:

Waiting the Key-on...
If no connection Within 15 seconds,
please try to make key-on again

when the connection is successful, the page will go to:

```
Engine Speed          0 RPM
Engine Temp.          20 °C
Trouble code          28

Up▲Down▼ ; Previous ◀Next▶
```

Select the desired observation Fault code from the recurrent list, then press YES

```
Enginee Speed         0 RPM
Engine Temp.          20 °C
Fault code          28

Up▲Down▼ ; Previous ◀Next▶
```

Display results

```
28.
Engine Temp.Sensor becomes abnormal

< NO > Return
```

S

Simple Model
Diagnostic Model
Special Adjustment

Up▲Down▼ ; Previous ◀Next▶

Press YES: (Pls Switch Key off according to the instruction)

Please Switch key off
YES—>

Press YES:

Plas wait key-on...
If no connection Within 15 seconds,
please try to make key-on again
(No Engine on)

DO1

Throttle Angle 0.0 °

◀▶ Function Shift

⟨NO⟩ Return

DO3

Intake-Air Pressure 0.0 kPa

◀▶ Function Shift

⟨NO⟩ Return

DO5

Intake-Air Pressure 20 °C

◀▶ Function Shift

⟨NO⟩ Return

DO7

Vehicle Speed Ripple 0

◀▶ Function Shift

⟨ NO ⟩ Return

DO7

Vehicle Speed Ripple 0

◀▶ Function Shift

⟨ NO ⟩ Return

DO9

Battery Monitoring Voltage 14 V

◀▶ Function Shift

⟨ NO ⟩ Return

D30、D36、D52、D54 action test, press YES

D30

Ignition coil 0

< YES > Fuel Injector action ON / OFF 5
times

◀▶ Function Shift

< NO > Return

Review the stored trouble code:

D61

Inspect record trouble code 12

◀▶ Function Shift

< NO > Return

Press YES to clear the trouble code

D62

Clear trouble code 12

< YES > Clear the trouble code

◀▶ Function Shift

< NO > Return

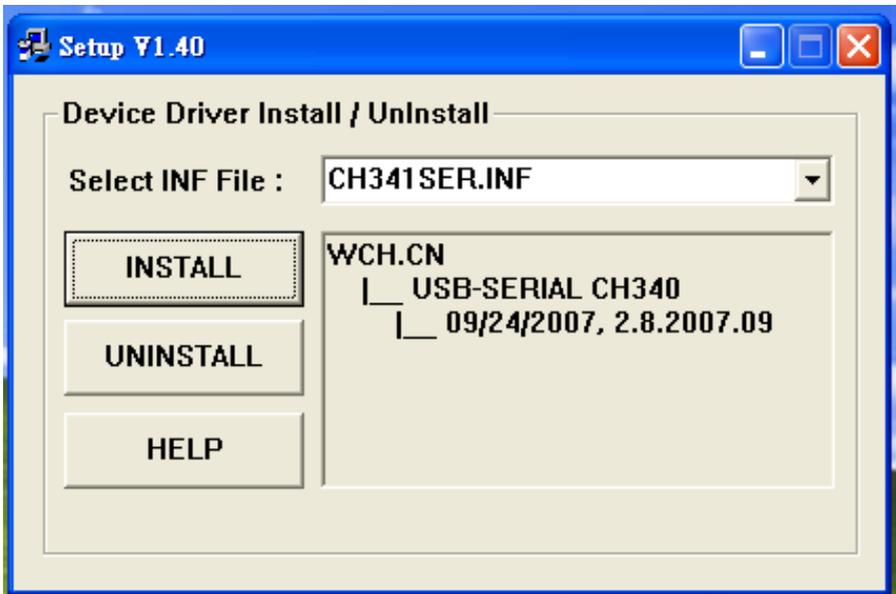
PART 4 Appendix

Install USB to R232 communication cable (Have to purchase additional) driver

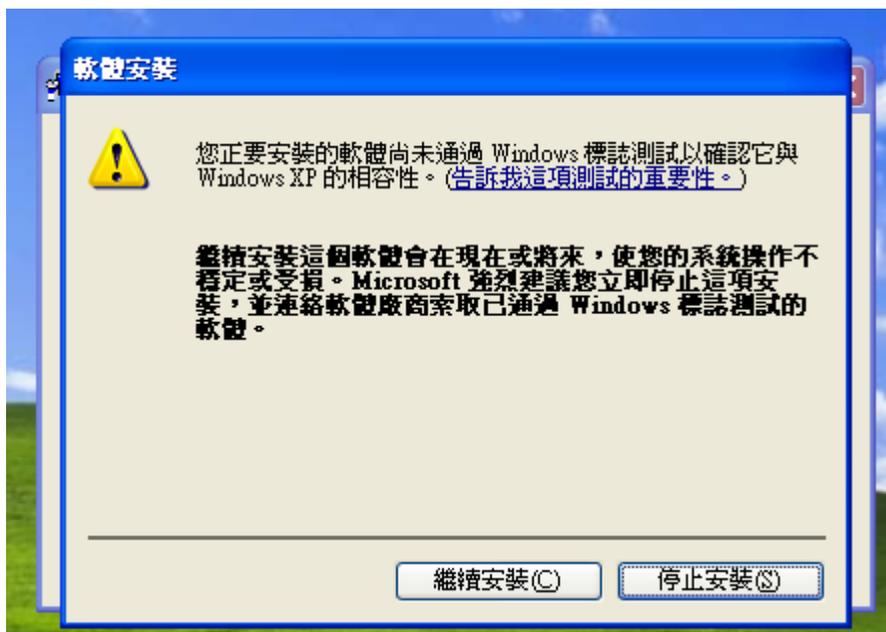
1、 Double click the driver Icon as photo



When there is Device driverinstall/uninstall dialog box,click INSTALL



2、 If there is warning like photo as below, select continue install



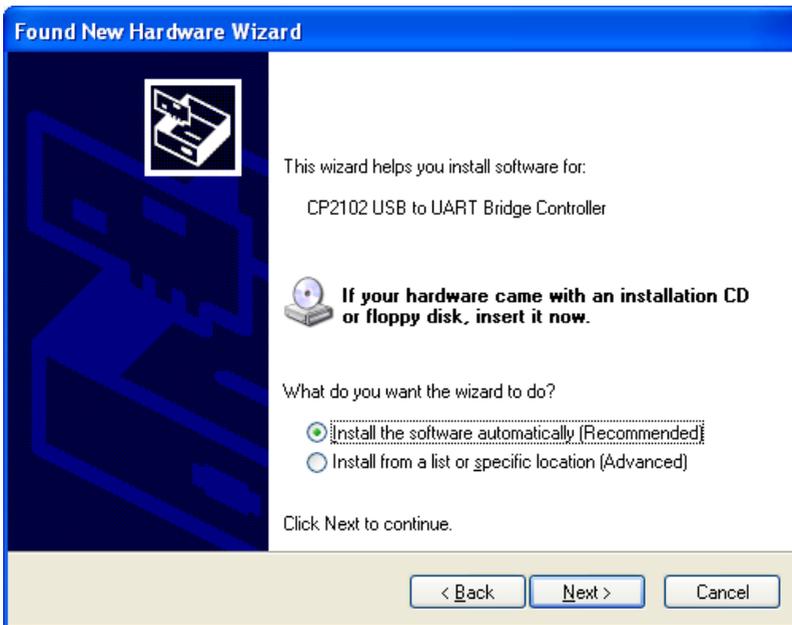
3、Click OK after installation finishing



- 4、 Connect the USB to R232 cable to computer with the USB port, then it will automatically come out Welcome to search for new hardware wizard screen, when asking whether connect to windows update to search for software, select NO, not this time, click Next to continue.



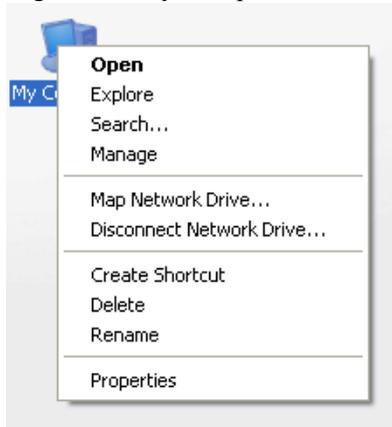
Select Install the software automatically, click Next to continue



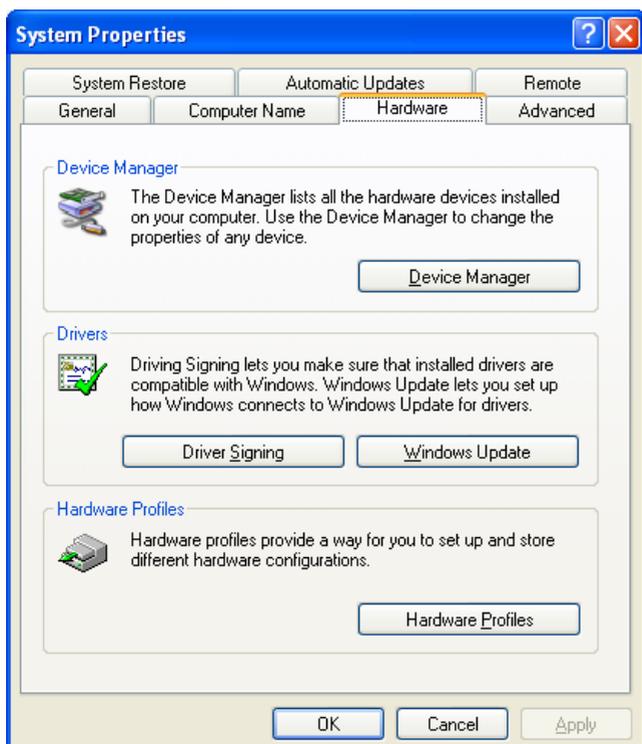
5、 Completing the Found New Hardware Wizard, click Finish.

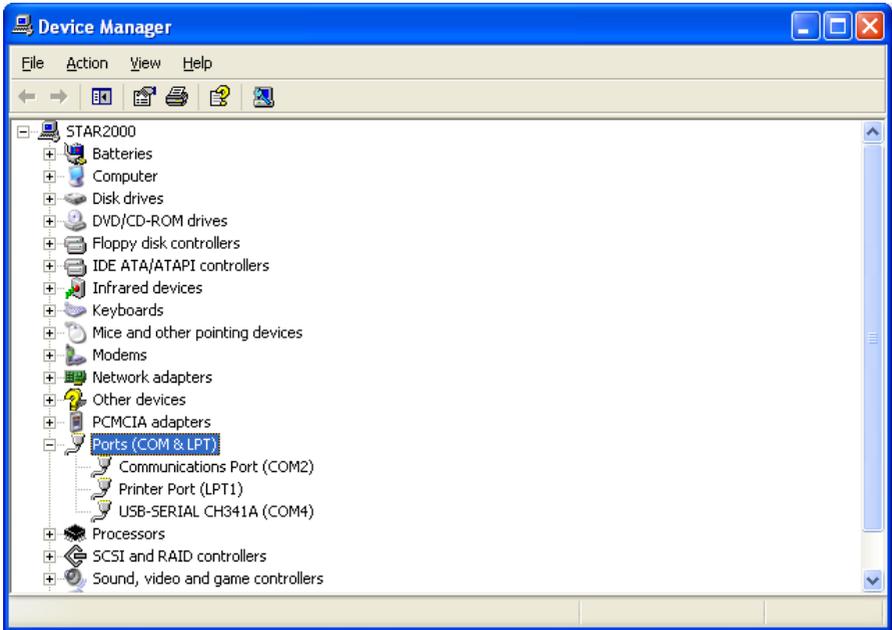


6、 Confirm USB to R232 cable driver has been well installed.
Right click My Computer, select Properties,



When come out System Properties, select Hardware, Click Device Manager





In the Device Manager screen click +Ports (COM & LTP), if there is COM items in the drop-down menu, it's said the driver installation is ok, like the screen shows as below,

