

|STV| Series driver debugging software instructions

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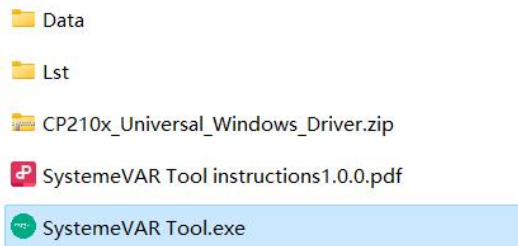
1 the software introduction and description

1.1 the Software introduction

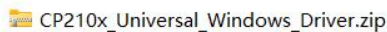
The running environment of this software is a Windows 7 or higher system. It is suitable for STV series inverters, used to debug inverters, easy to modify parameters, and oscilloscope function to check the bus voltage, output current and other parameters.

1.2 the Software function description

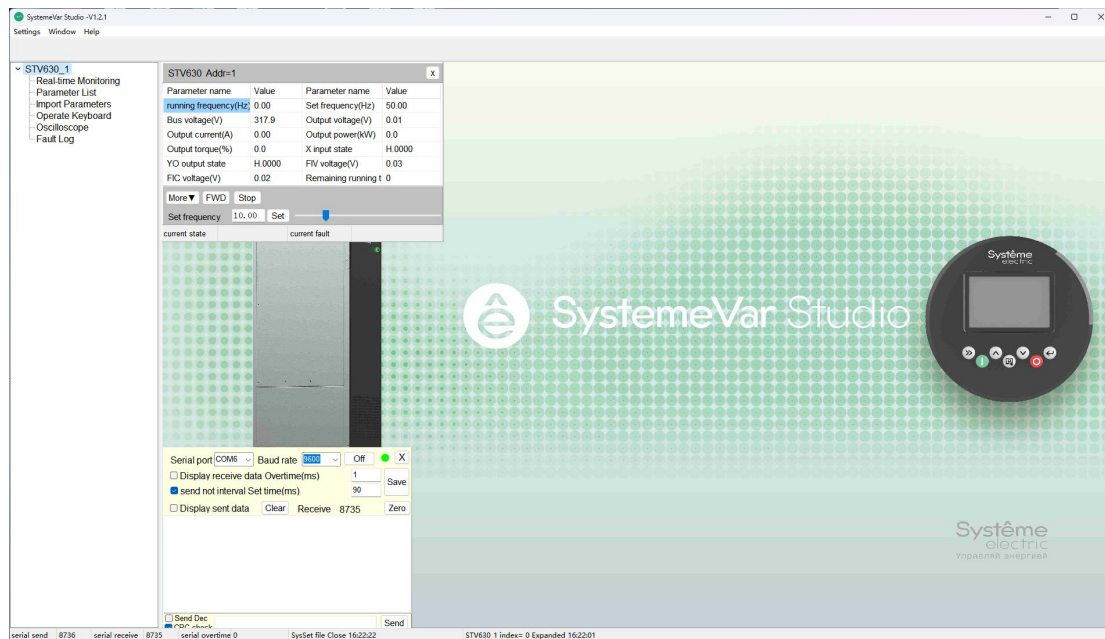
Open the folder where the software is located in [SystemeVAR Tool], which contains two folders and [SystemeVAR Tool.exe] software. The Data folder stores data, and the Lst folder stores configuration files and images used in the program.



- 1) Before running the debugging software, it is necessary to first install the serial driver. The installation package for the serial driver is in the current folder.



- 2) After the serial driver is successfully installed and connection completed, open the [SystemeVAR Tool.exe] software main interface as follows:

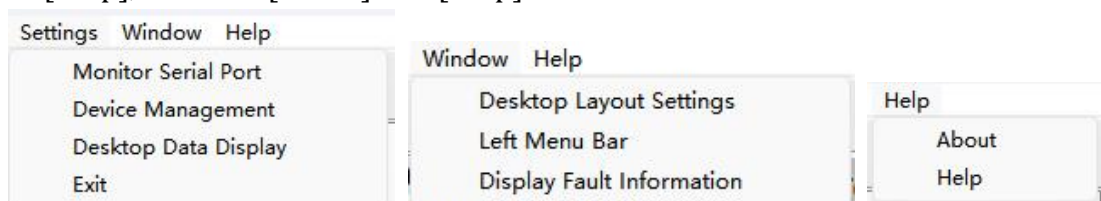


3) Top navigation bar function preview:

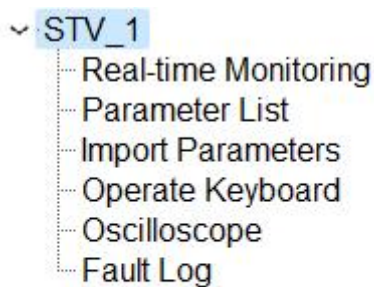
In [Edit], there are [serial port setup], [device management], [Desktop display label], and [Exit].

In [Window], there are [Layout], [display Left frame], [fault Information].

In [Help], there are [About] and [Help].



Preview on the left navigation bar, the left navigation bar can perform real-time monitoring, view parameter list, import parameters, operate keyboard, oscilloscope, and fault record. The function is as follows:



2 Detailed description of each function

2.1 Device connection

Please use a cable to connect the serial port tool to the device. Connect the A end to RS+ and the B end to RS-.



2.2 Edit

2.2.1 When using the software for the first time, you need to open the [serial port setup] and modify the serial port number. If you do not know the serial port number, you can view it in [My Computer] -> [Device Manager] -> [Port (COM and LPT)]. After confirming the port, modify it in the software and click [Open]. If the button is displayed as [Off], you need to click twice.

Use the lower left display to determine if the connection is successful. When the connection is successful, the serial send and serial receive are increasing. The connection is fail if serial overtime is increasing.

serial send	24324	serial receive	24323	serial overtime	0
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2.2.2 Select a matching device type

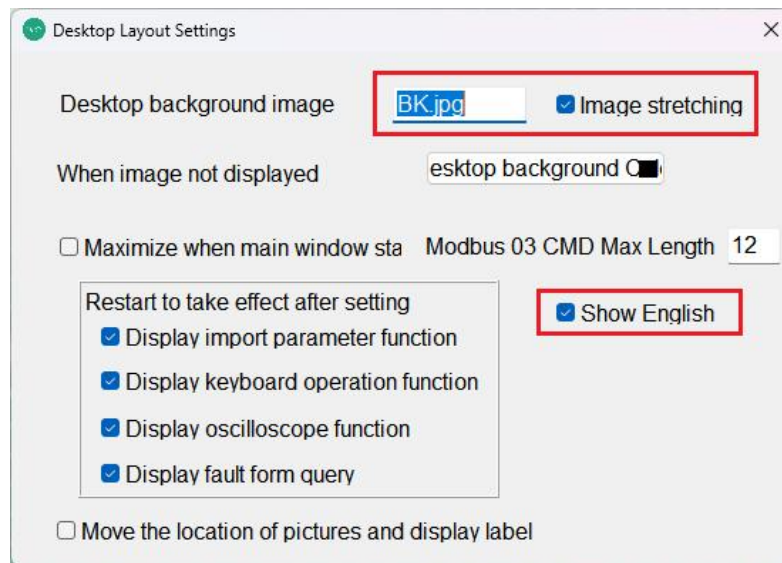
Switch the device type in [Edit] -> [device management]. You can also modify the device name here. After the modification is completed, click the [Modify] button to save. After modifying the device type, you need to restart the software.

After completing the above settings and modifications, you can use the software to view the parameters, compare the actual values with the default values, and modify the parameter values.

2.3 Window

2.3.1 Modify layout

Click [Window] -> [Layout], you can place the background image you want to switch in the folder Lst, and fill in the name of the picture in the layout window. You can also modify the desktop background color and switch between Chinese and English. After editing, click Save. After saving, you need to restart the software to implement the modification.



2.3.2 Click [Window] -> [display Left frame] to hide/show the left navigation bar.

2.3.3 Click [Window] -> [fault information] to check whether the inverter is currently faulty. If it is faulty, display the fault information.

2.4 Help

2.4.1 If there are any problems during the use, you can click [Help] -> [About] to call the software service.



2.4.2 Click [Help] -> [Help] to view the applicable environment and usage of the software.



2.5 Left menu bar function

2.5.1 Real-time Monitoring

It is shown below:

STV630 Addr=1 X			
Parameter name	Value	Parameter name	Value
running frequency(Hz)	0.00	Set frequency(Hz)	50.00
Bus voltage(V)	322.3	Output voltage(V)	0.01
Output current(A)	0.00	Output power(kW)	0.0
Output torque(%)	0.0	X input state	H.0000
YO output state	H.0000	FIV voltage(V)	0.03
FIC voltage(V)	0.02	Remaining running t	0
<div> More ▼ FWD Stop </div> <div> Set frequency <input type="text" value="10.00"/> Set <input type="range"/> </div> <div> current state current fault </div>			

You can modify the displayed real-time parameters, double-click the parameter name, and set the parameters that the user needs to display. As shown

in the figure below, refer to the manual to change the title name, receive address, and decimal places displayed.

update monitor parameter

title name

read modbus address

display dot

2.5.2 Parameter List

You can select the parameter group, or click the left and right buttons to view the parameters of the adjacent parameter group. red indicates that the current value of the parameter does not match the default value.

Update parameter STV630 device type:STV630E Address=1								
<<< F8 Auxiliary Functions >>>		Find		OutputData				
F.Code	ParametName	Value	Unit	Default	Max	Min	Property	ParametType
F8.10	Jump frequency 2	0.00	Hz	0.00	max frequency	0.00	write	
F8.11	Frequency jump amplitude	0.00	Hz	0.00	max frequency	0.00	write	
F8.12	Forward/Reverse rotation dead-zone time	0.0	s	0.0	3000.0	0.0	write	
F8.13	Reverse control	0		0	1	0	write	
F8.14	Running mode when set frequency lower the	0		0	2	0	write	
F8.15	Droop control	0.00	Hz	0.00	10.00	0.00	write	
F8.16	Accumulative power-on time threshold settir	0	h	0	65000	0	write	
F8.17	Accumulative running time threshold setting	0	h	0	65000	0	write	
F8.18	Startup protection	0		0	1	0	write	
F8.19	Frequency detection value (FDT1)	50.00	Hz	50.00	max frequency	0.00	write	
F8.20	Frequency detection hysteresis (FDT1)	5.0	%	5.0	100.0	0.0	write	
F8.21	Detection range of frequency reached	0.0	%	0.0	100.0	0.0	write	
F8.22	Jump frequency during accelJump frequency	0		0	1	0	write	
F8.25	Frequency switchover point between accel	0.00	Hz	0.00	max frequency	0.00	write	
F8.26	Frequency switchover point between deceler	0.00	Hz	0.00	max frequency	0.00	write	
F8.27	Terminal JOG preferred	0		0	1	0	write	
F8.28	Frequency detection value (FDT2)	50.00	Hz	50.00	max frequency	0.00	write	
F8.29	Frequency detection hysteresis (FDT2)	5.0	%	5.0	100.0	0.0	write	
F8.30	Any frequency reaching detection value 1	50.00	Hz	50.00	max frequency	0.00	write	
F8.31	Any frequency reaching detection amplitude	0.0	%	0.0	100.0	0.0	write	
F8.32	Any frequency reaching detection value 2	50.00	Hz	50.00	max frequency	0.00	write	
F8.33	Any frequency reaching detection amplitude	0.0	%	0.0	max frequency	0.0	write	
F8.34	Zero current detection level	5.0	%	5.0	300.0	0.0	write	
F8.35	Zero current detection delay time	0.10	s	0.10	600.00	0.01	write	
F8.36	Output over-current threshold	200.0	%	200.0	300.0	0.1	write	
F8.37	Output over-current detection delay time	0.00	s	0.00	600.00	0.00	write	

The parameter value can be modified by clicking on the current value of the parameter. The modification takes effect after closing the window for modifying the parameters.

Operation panel STV630 device type:STV630E Address=1

F.Code **F8.10** <<< >>>

param value ★ 0.00 Hz modifiable

Max: 0.00 Min: max freq edit database

0.00Hz~maximum frequency

Jump frequency 2 default : 0.00

Click [edit database] to modify the parameters of the parameters and modify the default values, units, maximum values, and minimum values. Click [Refresh] after modification.

update database record

F.Code **F8.10** short name Jump frequency 2

Address 63498 ☐ HEX unit Hz property

default 0.00 dot places 2 ☒ modified

Max: max frequency ☐ study param ☐ Shutdown cha

Min: 0.00 ☐ model depende ☐ only read

☐ factory correc ☐ only write

detailDesc: delete update add

0.00Hz~maximum frequency

2.5.3 Import parameters

When you need to modify multiple parameters at the same time, you can organize the parameters into a txt file. Place the file in the Data folder, click [open file], and select the file you want to import. After importing, click [execute].

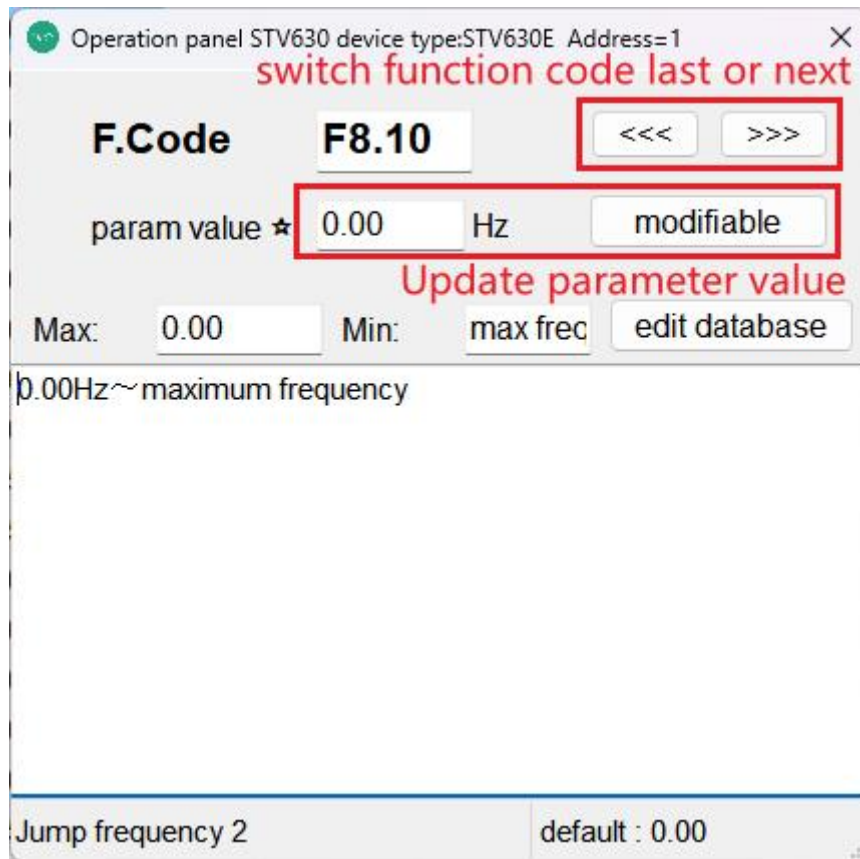
Batch modification parameters: STV630 device type:STV630E Address=1 paramet_230505_171732.txt

Interval(ms) 200 execute open file ▼

Address	Name	Comn	write	Value	Default	State▼	Max	Min
42240	PWM switchover frequency upper limit	06	8.00	8.00	12.00	read	15.00	0.00
42245	Voltage over modulation coefficient	06	105	105	5		100	0
42246	Under voltage threshold setting	06	350.0	350.0	90.0		600.0	100.0
42248	Dead zone time adjustment	06	0	0	150	read	200	100
42249	Over voltage threshold setting	06	820.0	820.0	830.0		2500.0	200.0
42504	FI curve 5 minimum input	06	-10.00	-10.00	0.00	read	C6.10	-0.00
42506	FI curve 5 inflexion 1 input	06	-3.00	-3.00	3.00		C6.12	-C6.08
42508	FI curve 5 inflexion 2 input	06	3.00	3.00	6.00		C6.14	C6.10
61456	Carrier frequency adjustment with temperature	06	0	0	1	read	1	0
61457	Acceleration time 1	06	20.0	20.0	10.0		6500.0	0.0
61458	Deceleration time 1	06	20.0	20.0	10.0		6500.0	0.0
61697	Rated motor power	06	11.0	11.0	5.5	read	1000.0	0.1
61699	Rated motor current	06	25.00	25.00	13.00		655.35	0.01
61702	Stator resistance (asynchronous motor)	06	0.410	0.410	0.804		65.535	0.001
61703	Rotor resistance (asynchronous motor)	06	0.220	0.220	0.708		65.535	0.001
61704	Leakage inductive reactance(asynchronous motor)	06	2.60	2.60	4.75		655.35	0.01
61705	Mutual inductive reactance(asynchronous motor)	06	77.6	77.6	121.4		6553.5	0.1
61706	No-load current (synchronous motor)	06	8.90	8.90	5.18		F1.03	00.01
61723	Encoder pulses per revolution	06	1024	1024	2500	read	65535	1
61959	Time constant of speed loop filter	06	0.015	0.015	0.000	read	0.100	0.000
61964	Torque upper limit digital setting in speed control m	06	150.0	150.0	0.0		200.0	0.0
62209	Torque boost	06	2.0	2.0	3.0	read	30.0	0.0

2.5.4 Operate Keyboard

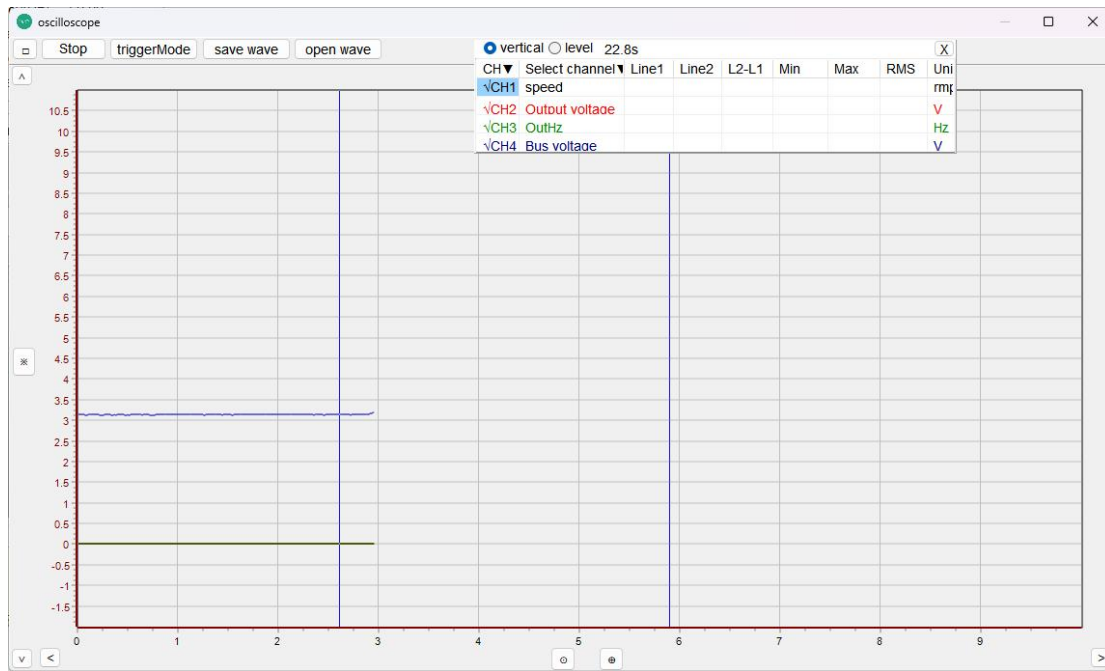
Simulate keyboard operation, select or fill in the function code, fill in the value to be modified in the parameter value box, click the [Modify Parameter] button, the modification is completed, and the modification will take effect after the window is closed.



2.5.5 Oscilloscope

Click CH1, CH2, CH3, and CH4 to select the channel for recording. Modify the unit length of the x axis as required. After setting, click [Start], and the parameter changes will start to be displayed in the coordinate axis. Select the curve by frame to enlarge the curve. Select [Cursor] to draw two vertical scales in the picture or switch to horizontal scales. The scale difference is displayed on each channel. Click [Stop] to record again. In the recording state, you cannot switch the recording channel.

When selecting the trigger mode, first according to the requirements, CH1 must be CH1, CH2 must be FIV2, CH3 must be FIV3, and CH4 must be speed. Modify the settings according to requirements. The trigger value cannot be 0. After modification is complete, click [Start Trigger].



2.5.6 Fault Log

You can view the fault log, read the current fault of the drive, and clear all faults.

The fault query window displays a table with the following columns: NO, deviceName, fault inf, State Time, display, Run Hz, Current, Voltage, E. The table is currently empty.

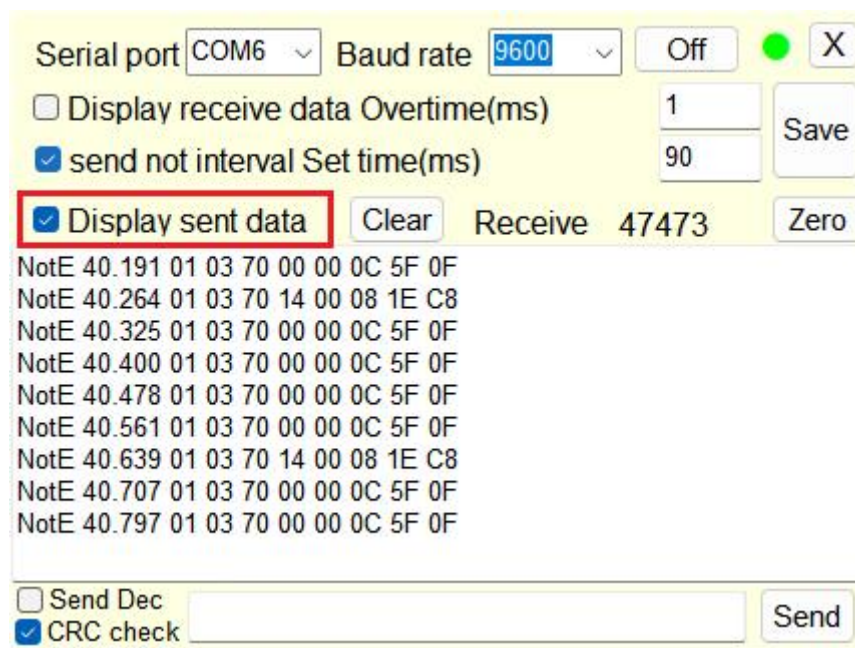
3 Troubleshooting

If the debugging software fails, reconnect the serial cable to the computer. If it still does not work properly, open [Monitor Serial Port] in [Settings].



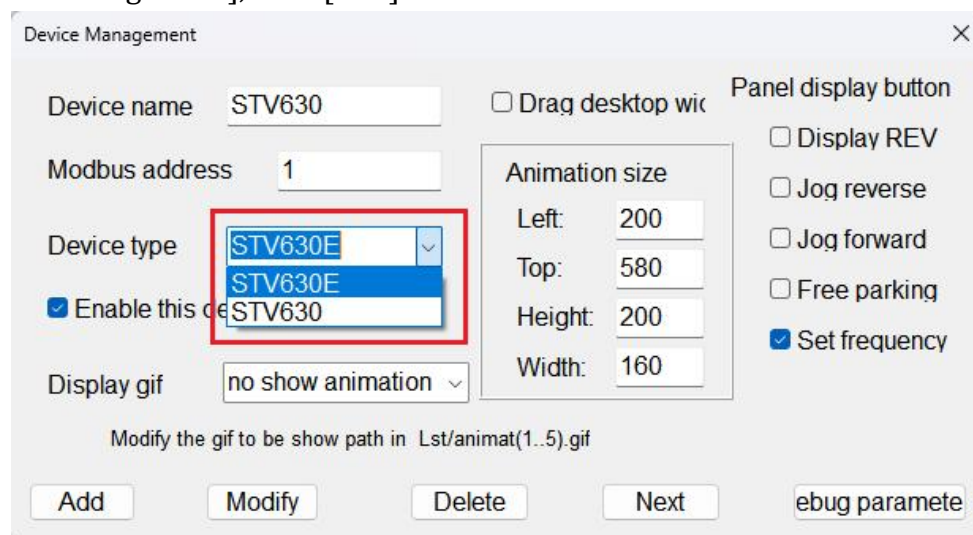
Check the display serial port to send data, view the data sent and received,

and find out the solution to the problem.



4 Connect new devices

To connect to a new series, you need to switch the device type in [Edit] -> [device management], click [Add] then restart the software.



5 Others

If you can't solve the problem, please contact the supplier or manufacturer for processing, or call the software service phone in [Help]->[About]. Thank you!