

ATP SERIES SPECTROMETER



User Manual

Directory

1.Introduction	2
1.1. Purpose of preparation.....	3
2.Product operating environment	3
2.1.Hardware environment.....	3
3.Product driver installation	3
3.1.Drive installation.....	3
3.2.Operational considerations.....	4
4.Supported operating systems	4
5.Main interface	4
6.Menu Bar	5
6.1 Documents.....	5
6.2 Equipment.....	7
6.3 Display settings.....	9
6.4 Help.....	11
7.Toolbar	11
7.1.Single acquisition.....	11
7.2.Continuous acquisition.....	11
7.3.Stop collecting.....	12
7.4.Clearance curve.....	12
7.5.Parameter Settings.....	12
7.6.Algorithm processing.....	13
7.7.Processing mode.....	13
7.8 Peak search.....	13
8.Spectrogram Interface	13
9.Spectral data record keeping	14

1.Introduction

Optosky Spectra V3.1.7 is a program software for spectral data acquisition and analysis.

1.1. Purpose of preparation

this manual is used to guide users to correctly configure and use ATP series of spectrometers.

2. Product operating environment

2.1.Hardware environment

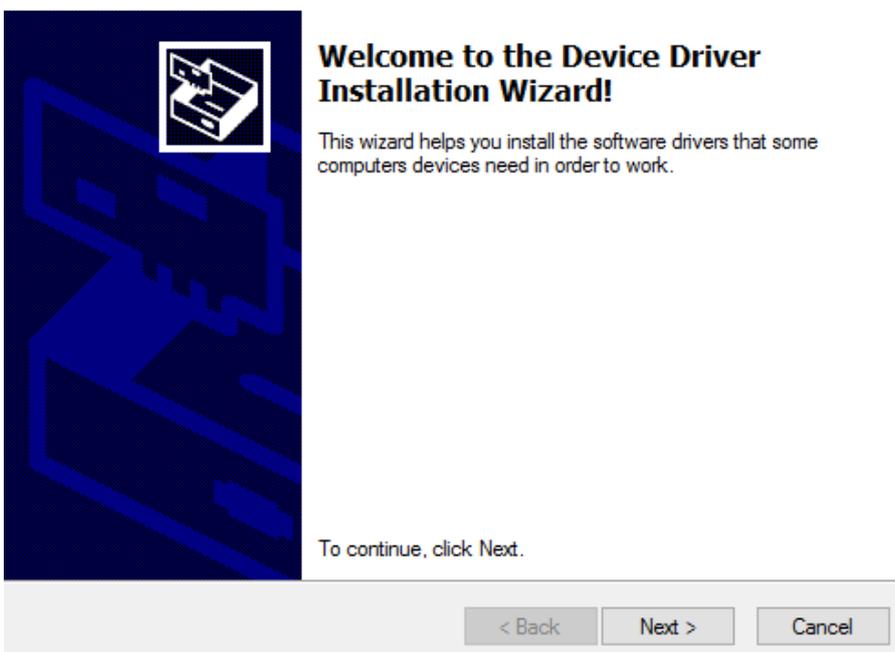
- Operating temperature range $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
- Storage temperature $-20^{\circ}\text{C}\sim 70^{\circ}\text{C}$

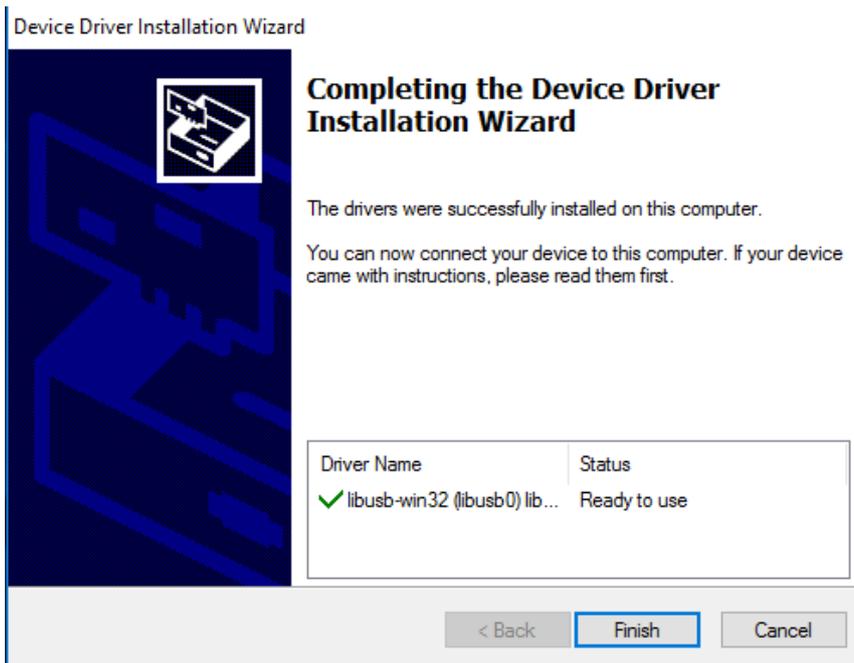
3.Product driver installation

3.1.Driver Installation (Click: Device Driver, install folder first)

- Windows 64-bit system, double-click dpinst_amd64, mouse  dpinst_amd64
- Windows is 32 bit system mouse double click dpinst_x86,  dpinst_x86
- After about 10 s, pop up the following installation interface in sequence and install it in sequence.

Device Driver Installation Wizard





Click Finish to complete the driver installation.

3.2. Operational considerations

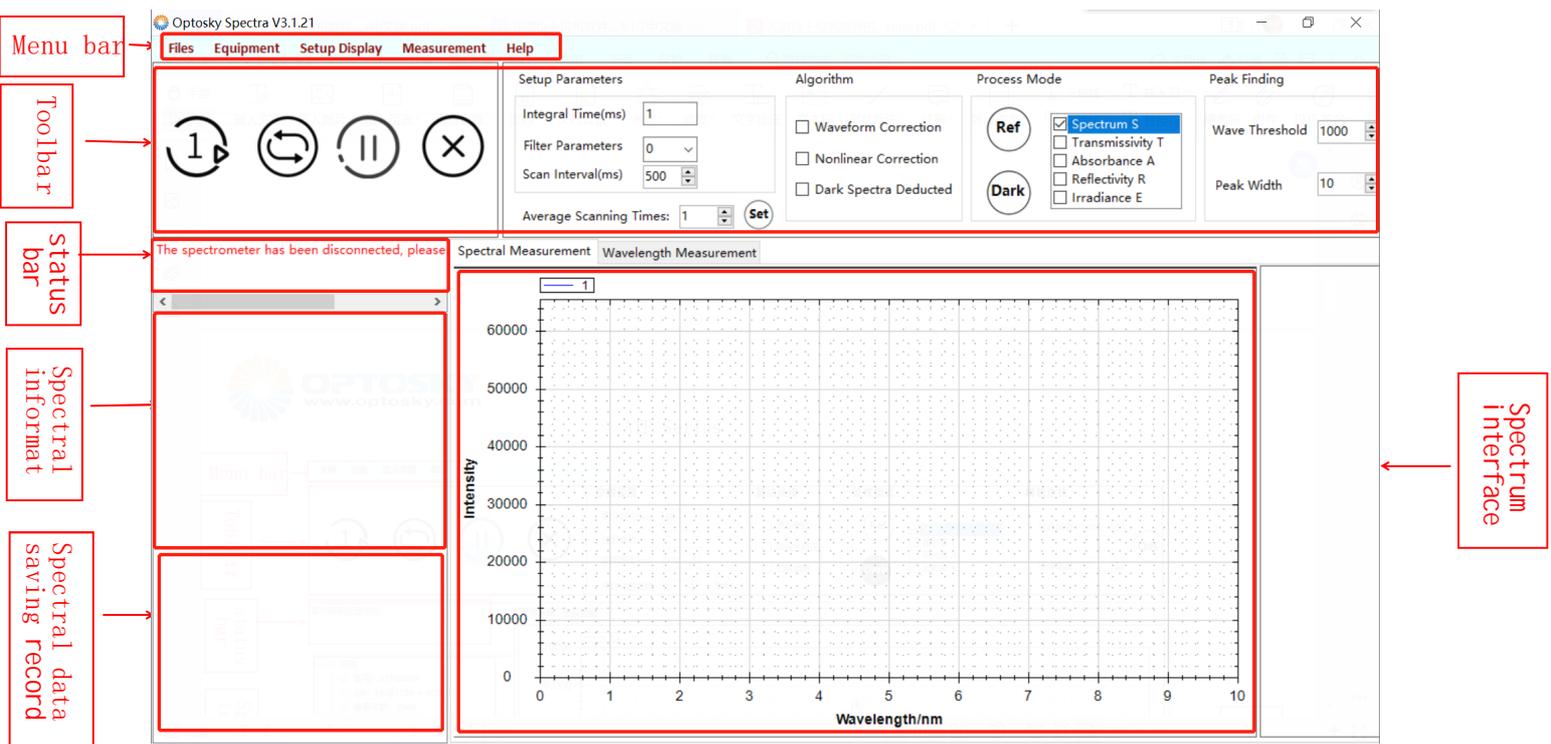
Before the ATP series spectrometer test, the connection between the optical fiber and the light source, the spectrometer and so on should be tightened; during the test process, the optical fiber and other components should not move; after reconnecting the optical fiber, the light intensity value will change.

4. Supported operating systems

- Windows 7(32 or 64)
- Windows 8(32 or 64)
- Windows 10(32 or 64)

5. Main interface

A brief visual overview of the Optosky Spectra V3.1.7 main interface is shown below. It mainly includes menu bar, toolbar, data saving record and spectrum interface. see the corresponding section for more detailed information.



6. Menu Bar

Files Equipment Setup Display Measurement Help

- Below we will give a detailed introduction to each main menu drop-down submenu.

6.1 Documents



6.1.1 Load spectraldata Loaded Spectral Data

Loading spectral data is to import the previously saved spectral data into the software and present it on the spectrum interface. The software imports a single piece of data at a time. You can import the following data format.

- TXT File (*.txt)
- CSV File (*.csv)

Operation steps:

Step 1: Click "Load Spectral Data"

Step 2: Pop up the textbox



Step 3: Introduction or cancellation of spectral data

- Select the data you need to import, click open, and import the spectral data
- Click cancel, cancel spectral data import

6.1.2. Manually Save Spectral Data [Manually Save Spectral Data](#)

- Manual Save Spectral Data refers to the single measurement of data on the spectrum interface.

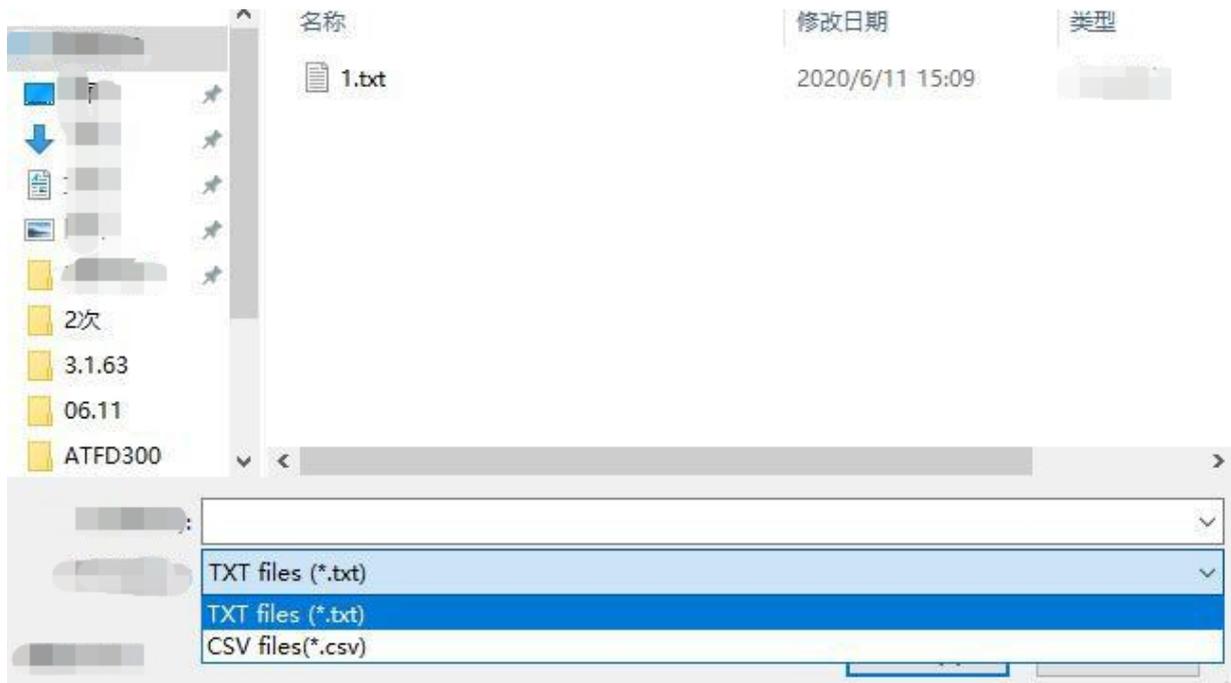
Operation steps:

Step 1: Click "Save Data

Manually" Step 2: Pop up the textbox.



Step 3: enter the file name and save the path and format (txt and csv).



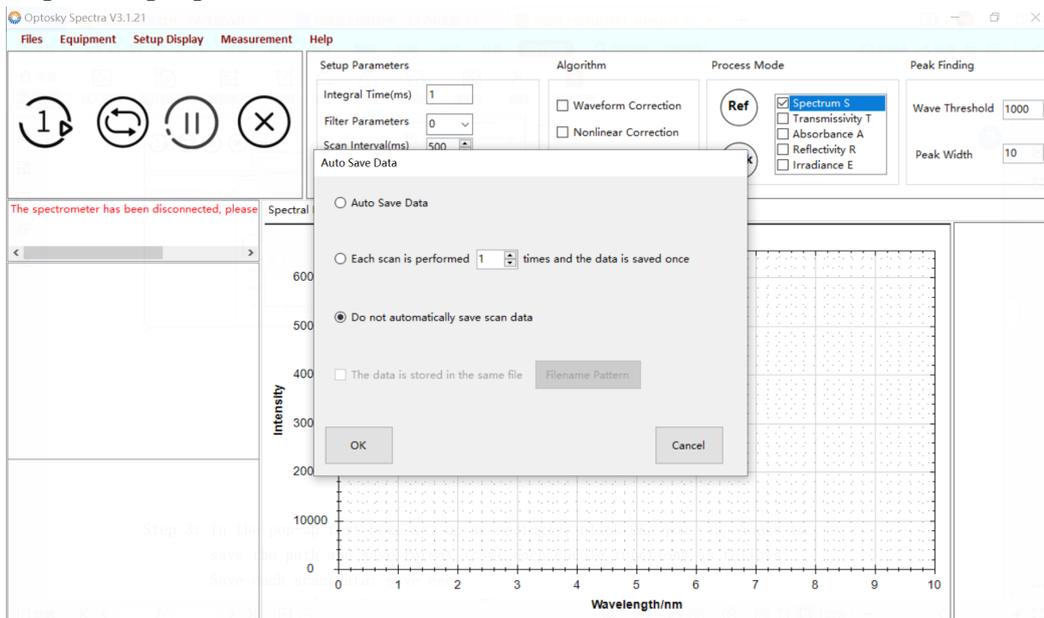
6.1.3 Auto Save Spectral data

Auto Save Spectral Data

Auto Save Spectral Data refers to the data measured multiple times (continuously) on the spectrum interface (all wavelengths on the spectrometer).

Step 1: Click "Save Data Automatic"

Step 2: Pop up the text box



Step 3: In the pop-up text box, set the corresponding settings; click OK, you can select the save path and save format (csv)

The functions of each module are as follows:

Auto Save Data: save the data of each measurement.

Every scan: means that the test is saved multiple times.

Do not automatically save scan data: means do not save test data.

Only one of the above 3 modules can be selected.

The data is stored in the same file (select to save each scan data or each scan module, activate this function): Means that the measured data is saved in a file

Step 4: Click on the continuous acquisition in the toolbar to perform continuous measurement.

Step 5: Click Stop Acquisition in the toolbar, and the continuous measurement will stop.

6.1.4 Exit

Exit means closing software

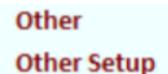
6.2 Equipment



6.2.1 Wavelength correction

Wavelength calibration: The instrument has undergone strict factory inspection when it leaves the factory; under normal circumstances, wavelength calibration is not required. If you need wavelength correction, please contact our company.

6.2.2 Other parameters (spectrometer with refrigeration function only)

A screenshot of two buttons: "Other" and "Other Setup". Both buttons are highlighted with a light blue background.

6.2.3 Device Info

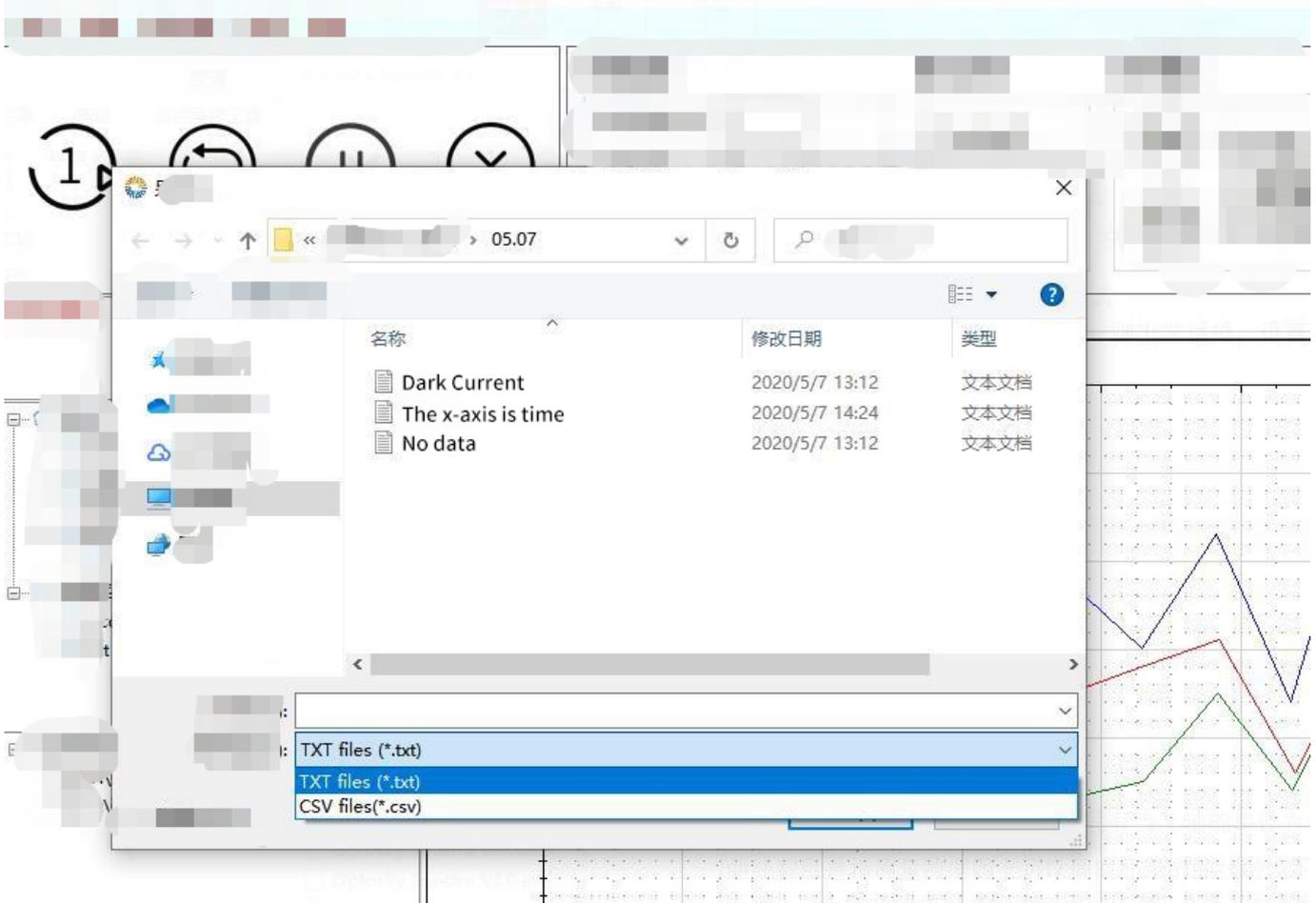
A screenshot of a button labeled "Device Info". The button is highlighted with a light blue background.

Device Info: refers to setting the average scan times of the hardware.

Operation steps:

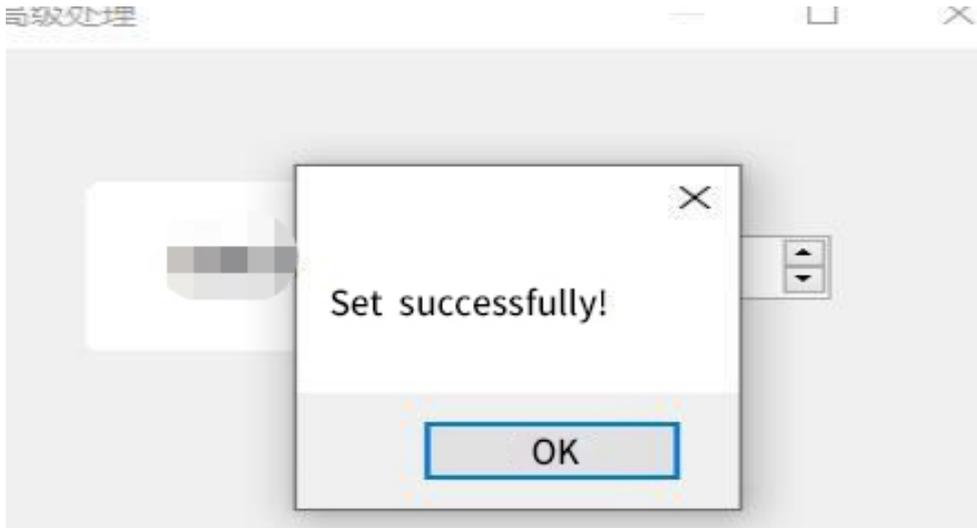
Step 1: Click "Device Info"

Step 2: Pop the text box

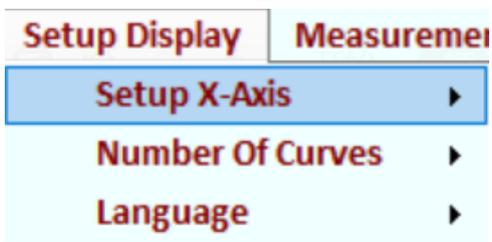


Step 3: Enter the number of scans and click "Set the number of scans"

Step 4: Pop up the text box and click "OK"



6.3 Setuo display



6.3.1 X axis units



Setup X-axis: including pixels, wavelength and time.

Pixels means that the unit of the X axis during measurement is pixels.

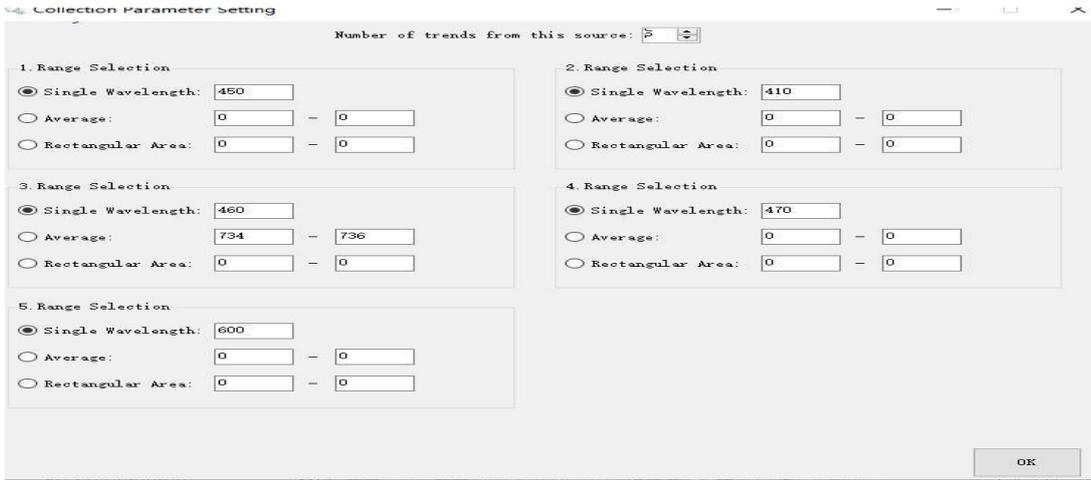
Wavelength means that the unit of X axis is wavelength during measurement.

Time means the unit of X axis during measurement is time.

Operation step:

Step 1: When the X axis is selected as time, the following window will appear.

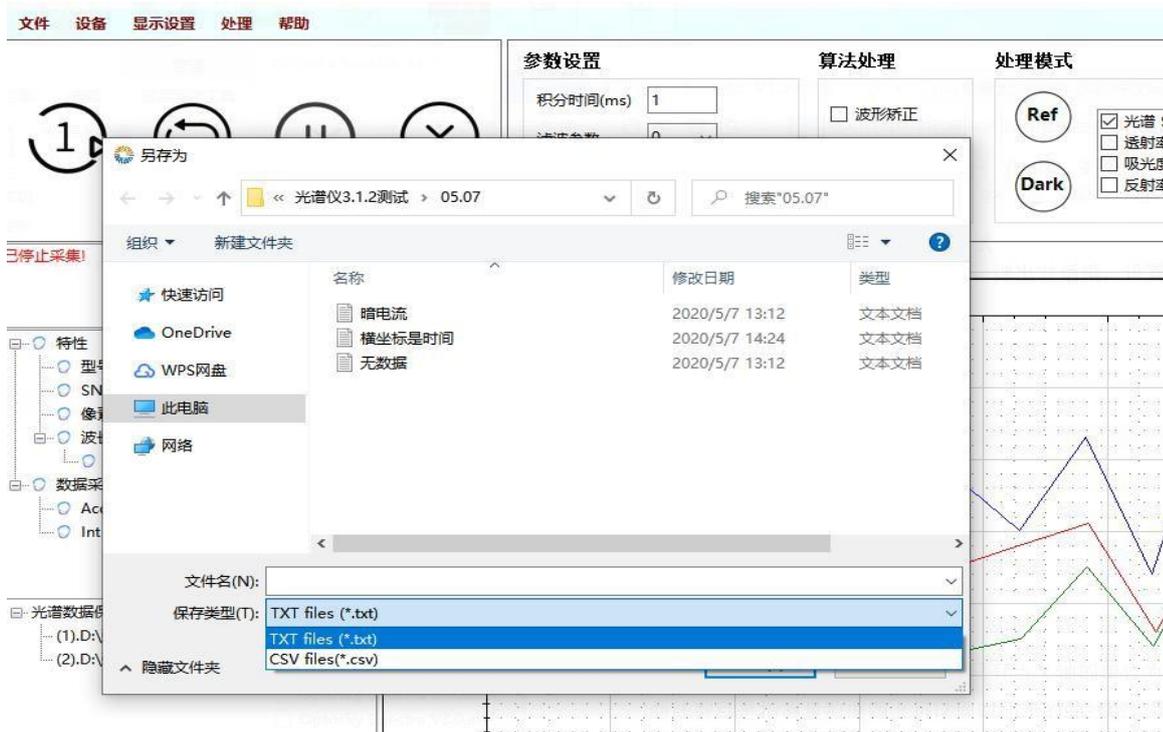
Step 2: A dialog box pops up (up to 10 data can be selected), use the mouse to click the addition and subtraction in the center of the text box, set the number of curves, and enter the wavelength to be detected, click OK.



Step 3: Click the continuous acquisition button to test.

Step 4: Click the stop collection button to stop the test.

Step 5: Click the "manual save" button of the file: a dialog box pops up, set the save path, file name and save type (txt and CSV)

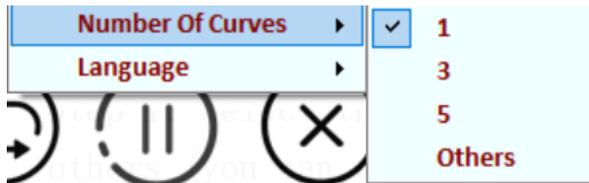


6.3.2 Number Of Curves Number Of Curves (activate this function only) if the unit of the X axis is a pixel or wavelength)

The number of curves refers to the number of curves that can be displayed simultaneously on the measurement data graph, and different curves are distinguished by different colors.

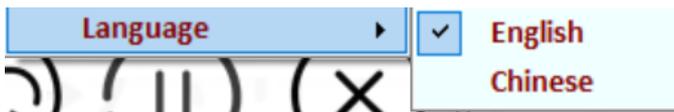
Operation steps:

Step 1: Select the number of curves (including the commonly used 1, 3, 5, and others (you can enter any integer between 1-10, click to set))



Step 2: You can click single acquisition or continuous acquisition. On the measurement data graph, display according to the set number of curves, and update the data cyclically

6.3.3 Language



Language: Choose both English and Chinese

6.4 Help

Help

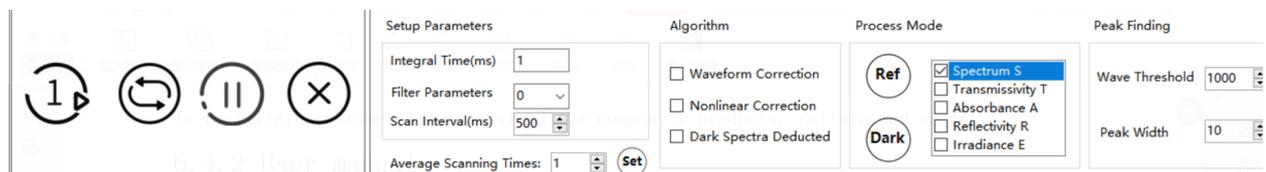
6.4.1 Company Home Page

To facilitate customers to understand the company's products, culture and so on.

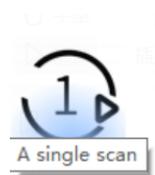
6.4.2 User manual

The user manual is actually a guide manual to help customers use software more easily.

7. Toolbar



7.1 Single acquisitiong



Single acquisition is the behavior of spectrometer to collect single data of measured samples. Click the "click to collect" button, the software will collect a spectrum data from the spectrometer according to the parameter settings set, and display it on the test data graph after spectrum processing.

7.2 Continuous acquisitiong



Continuous acquisition is the behavior of continuous data collection by the spectrometer on the measurement sample.

Click the "Continuous acquisition" button, the software will continuously collect spectrum data from the spectrometer according to the parameter settings set, and display it on the test data graph after spectrum processing

7.3 Stop collecting



Stopping the collection is the behavior of the spectrometer to stop data collection for the measurement sample.

Click the "Stop Collection" button to stop the spectrum data collection.

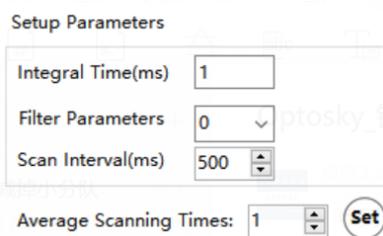
7.4 Clear curve



Clear curve refers to clear the data of the current measurement data graph.

Click the "Clear Curve" button to clear the data of the current measurement data graph

7.5 Setup Parameter



Setup Parameters

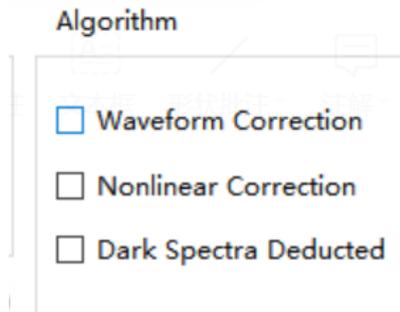
Integral Time(ms)	1
Filter Parameters	0
Scan Interval(ms)	500
Average Scanning Times:	1

Set

Integration time refers to setting the integration time of a single sweep.(Unit: ms)The selection range of filter parameters is 0-6, which respectively indicate the degree of filtering; among them, 0 means that the spectrum is not filtered, and 6 means the degree of filtering is the highest.

The sampling interval refers to the sampling interval for setting continuous acquisition.(Unit: ms)The average number of scans refers to the average number of acquisitions set to perform the spectrum.Set means saving parameter settings

7.6 Algorithm

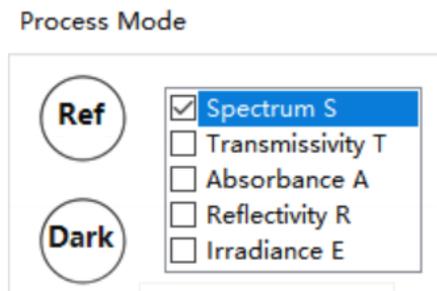


Checking the waveform correction means that the data in the measurement data graph has undergone waveform correction.

Check the non-linear correction, it means the data of the measurement data graph has been non-linear correction.

Check the dark background, it means that the data of the measurement data graph is subtracted from the dark background.

7.7 Processing mode



Dark refers to the test environment background: test the environment background before testing spectrum S, transmittance T, absorbance A, reflectance R)

Ref refers to the test reference strength.

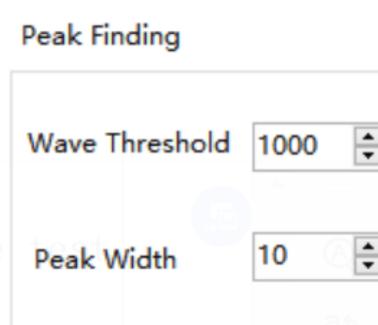
Spectrum S refers to test intensity.

Transmittance T refers to the transmittance of the test sample, and the test reference intensity is required Ref.

Absorbance A refers to the absorbance of the test sample, the reference intensity of the test is required Ref.

Reflectance R refers to the reflectivity of the test sample, the reference intensity of the test is required Ref.

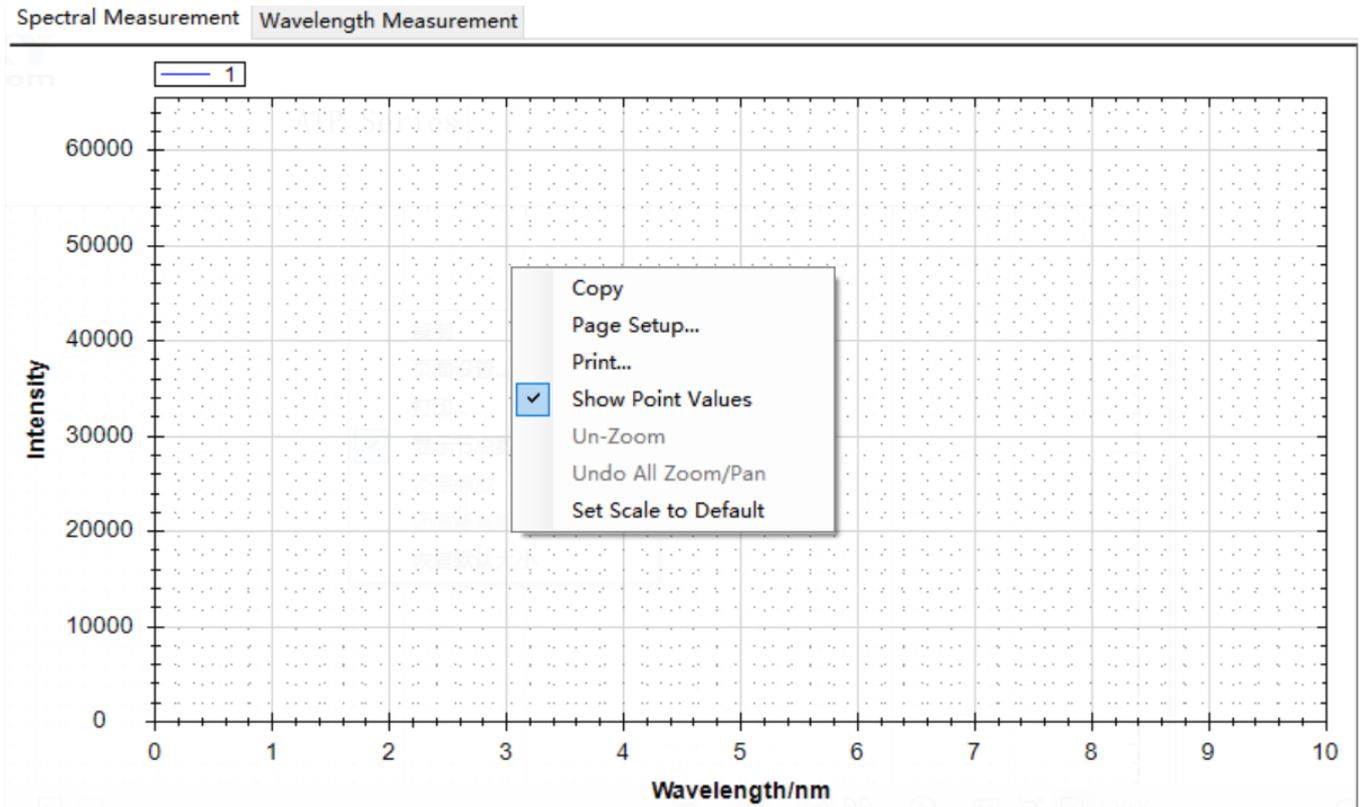
7.8 Peak search



If the spectrum has been displayed on the measurement data map, set the peak threshold and peak width, click the "OK" button, the measurement data map will display the peak according to the peak threshold and peak width set by the user

8. Spectrogram Interface

Mouse on the spectrum interface, mouse right click:



Copy: After clicking the option, you can copy all the currently displayed spectral data images to the clipboard.

Page setup: After clicking the option, you can set the data image printing parameters.

Print: After clicking the option, you can print all the spectral data images currently displayed.

Show Point Values: After checking the option, the value of the node can be displayed.

Un-zoom: After clicking the option, the display range of the window will gradually zoom to the initial range

Undo all zoom/Pan: After clicking the option, the display range of the window is restored to the original range.

Set Scale to Default: After clicking on the option, the image will be enlarged to full size. In addition, press and hold the mouse wheel to move the spectrum left and right; slide the mouse wheel to zoom in or zoom out the spectrum, or press and hold the left button of the mouse to directly select the area to zoom in or out.

9. Spectral data record keeping

Double click the mouse to view the data, you can display the corresponding spectral data map on the spectrum.