Version: V20241200

Configuration
User Manual

Applicable Software Release Date: December 5, 2024

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1 Introduction

Configuration is a multi-channel analyzer (abbreviated as MCA) drive software. When using our company's digital MCA and spectrum acquisition and analysis software, Configuration needs to be installed correctly. Only after installing Configuration can the MCA communicate with the host computer and find and add the multi-channel device in the host computer software.

2 Installation

Find the setup.exe program in the installation package directory, double-click and run it. As shown in Fig.1, click the ‘Configuration’ button to pop up the Configuration installation page as shown in Fig.2. This page allows you to change the installation path (it is best to choose a path where adding/modifying files does not require administrator privileges; if Configuration is already installed on the PC, it will prompt that the installation path cannot be changed). Click the Start Installation button, and on the installation page that pops up as shown in Fig.3a, click the Next button to proceed with the installation. If the software is already installed, it will automatically uninstall the current version, and after the uninstallation is complete, the installation page shown in Figure 3 will pop up again. Click ‘Language’ in the top right corner of Fig.1 to switch between Chinese and English display.

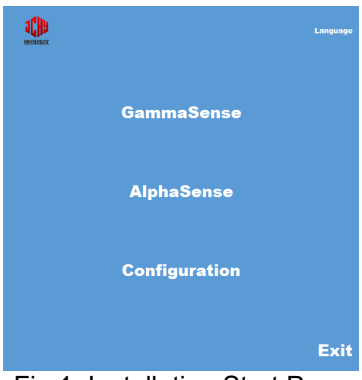
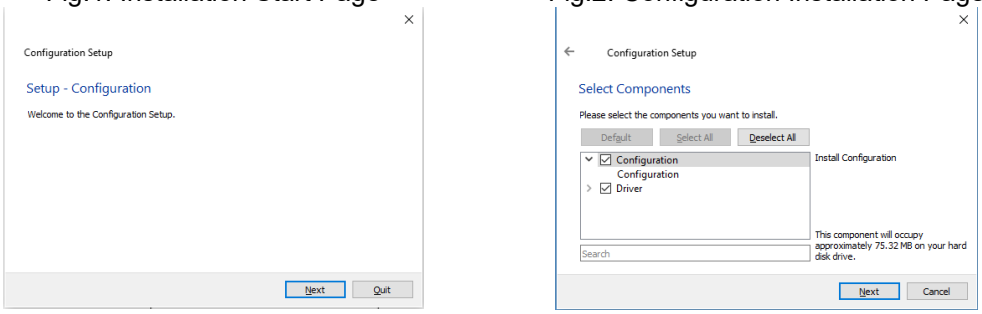


Fig.1: Installation Start Page

Fig.2: Configuration Installation Page



a. b.

Fig.3: Configuration Installation Wizard Page

After the installation is complete, the interface shown in Fig.4 will automatically open, and a shortcut named ‘Configuration’ will be generated on the computer desktop. If the device type column on this page displays COM or USB or TCP or Arm, it indicates that the serial port, RS-232/422/485 communication driver, USB 2.0 high-speed communication driver, network communication, or embedded system driver has been successfully installed.

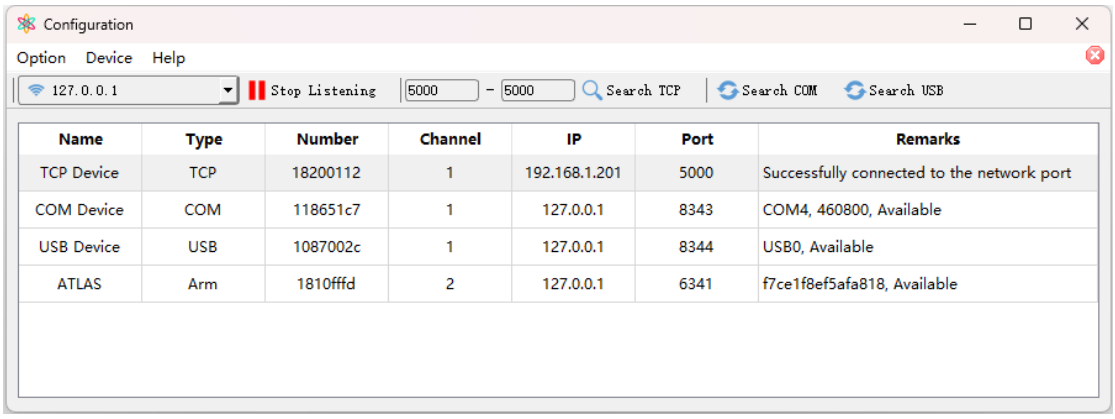


Fig.4: Configuration Interface

Taking USB serial port, RS-232/422/485 communication as an example, after the installation is complete, open the Device Manager, and you can see the device shown in Fig.5. When you plug or unplug the communication cable, the device will disappear, indicating that the serial driver has been successfully installed.

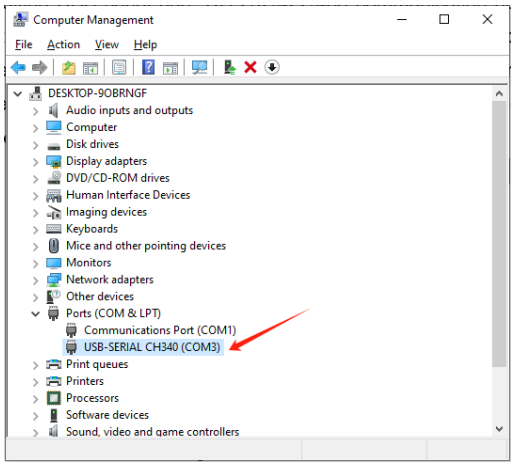


Fig.5: USB Serial MCA Device

Or, taking the use of USB 2.0 high-speed communication as an example. After the driver installation is complete, the device shown in Fig.6. When plugging and unplugging the MCA USB cables, the device will disappear, indicating that the USB 2.0 high-speed communication driver has been successfully installed.

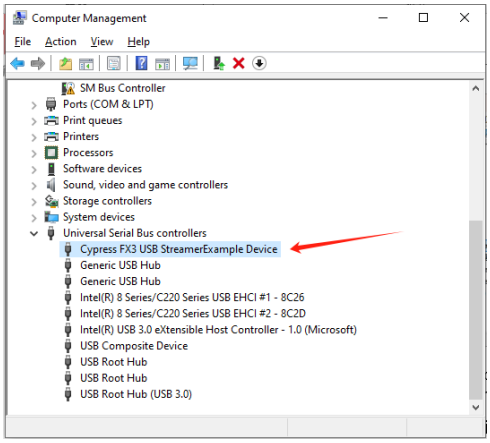


Fig.6: USB 2.0 MCA Device Installation Success Example

Once the driver is installed, if using serial communication or USB 2.0 high-speed communication, it can be used plug-and-play without any other settings. If using Ethernet communication, you need to configure the host computer's IP address to ensure that the host computer's IP address and the MCA device's IP address are in the same IP segment. IP settings are detailed in Section 3.2.4.

3 Menu Bar

The menu bar is shown in Fig.7 below:

Fig.7: Menu Bar

3.1 Option

The Option Menu is shown in Fig.8 below:

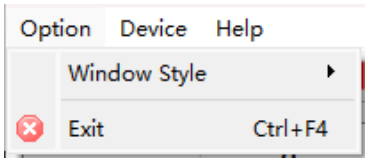


Fig.8: Options Menu

3.1.1 Window Style

The Window Style offers 3 options as shown in Fig.9, allowing you to choose the window display style as Windows Vista, Windows, or Fusion.

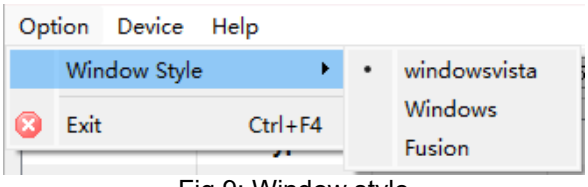


Fig.9: Window style

3.1.2 Exit

Clicking the ‘Exit’ option will completely exit the software, including the communication function with the spectrum analysis software.

Note: Clicking the  button in the upper right corner of the software only closes the software window interface; the communication with the spectrum analysis software continues. Clicking the  button in the upper right corner is functionally the same as clicking the 'Exit' option.

3.2 Device

The device menu is shown in Fig.10 below:

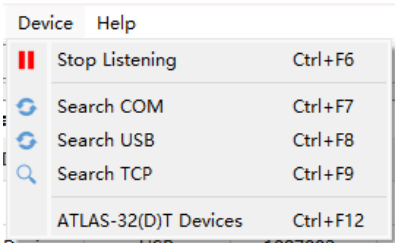


Fig.10: Device Menu

3.2.1 Start/Stop Listening

Used for switching the listening IP address. When switching the listening IP address is required, first click Stop Listening, then select the IP to switch in the dropdown box for IP addresses in the toolbar, and finally click Start Listening to complete the switch of the listening IP.

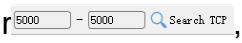
3.2.2 Search COM

Search for the serial port devices connected to this PC (devices using serial communication) and refresh the display list.

3.2.3 Search USB

Search for USB devices connected to this PC (devices using USB communication) and refresh the display list.

3.2.4 Search TCP

Search for TCP devices within the local network or connected via Ethernet cable based on the port number range entered in the toolbar 

, and refresh the list.

Note:

If the PC needs to connect to MCA devices directly via Ethernet/WiFi, it must configure the IP address of the corresponding network card on the PC according to the IP address of the MCA devices, so that the IP address of the PC and the IP address of the MCA are within the same IP segment. If the IP address of the MCA is 192.168.1.201, configure the corresponding Ethernet

IPv4 address of the PC to be within the 192.168.1.XXX segment, as shown in Fig.11 below.

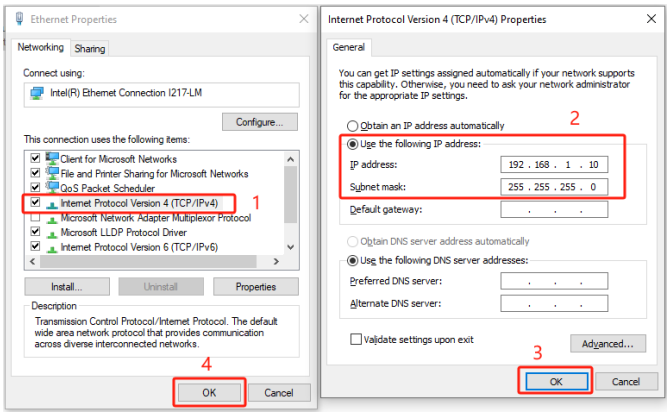


Fig.11: IP Address Configuration Example

If the IP address of the MCA device is 192.168.1.201, and the MCA is connected to the PC through a local network (such as a network switch or router), it is necessary to ensure that the local network IP address is within the 192.168.1.XXX segment and that there is no device with the IP address 192.168.1.201 within the local network. In this case, the PC can obtain the IPv4 address automatically without separate settings. Alternatively, apply for a fixed IP address within the local network and set this IP address to the corresponding Ethernet IPv4 of the PC.

3.2.5 ATLAS-32(D) Devices

This option is only applicable to the ATLAS digital MCA device. Clicking this option will search ATLAS MCA, and display ATLAS on the list of main windows, if ATLAS is connected to the PC.

3.3 Help

Help menu as shown in Fig.12:

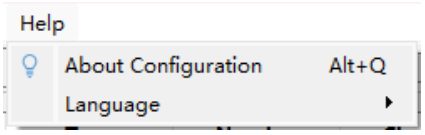


Fig.12: Help Menu

3.3.1 About Configuration

As shown in Fig.13, it displays the software version, release date, and other information.

Fig.13: About the Configuration Interface

The above image is just an example, different software versions may have different versions and release date.

3.3.2 Language

The language menu, as shown in Fig.14, allows switching between Chinese and English. When the language is switched, a prompt to restart the software will appear to update the language display, as shown in Fig.15.

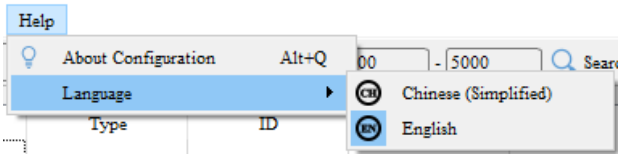


Fig.14: Language Menu

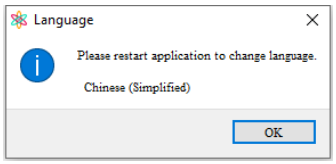


Fig.15: Prompt to restart after switching language.

4 Toolbar

Toolbar as shown in Fig.16:

Fig.16: Toolbar

① IP Address Dropdown Box: Includes local IP (127.0.0.1), allowing only the local spectrum analysis software to connect; LAN IP, allowing only the corresponding LAN PC to connect; "All," allowing all PCs listed in the dropdown menu to connect.

② Start/Stop Listening: See Menu Bar > Device > Start/Stop Listening;

③ TCP device port number range input box: the range for searching the port number of TCP device. The range should not be too broad as it may affect the search speed. For example, if the known port number is 5000, simply enter 5000 in the input box.

④ Search TCP: See Menu Bar > Device > Search TCP;

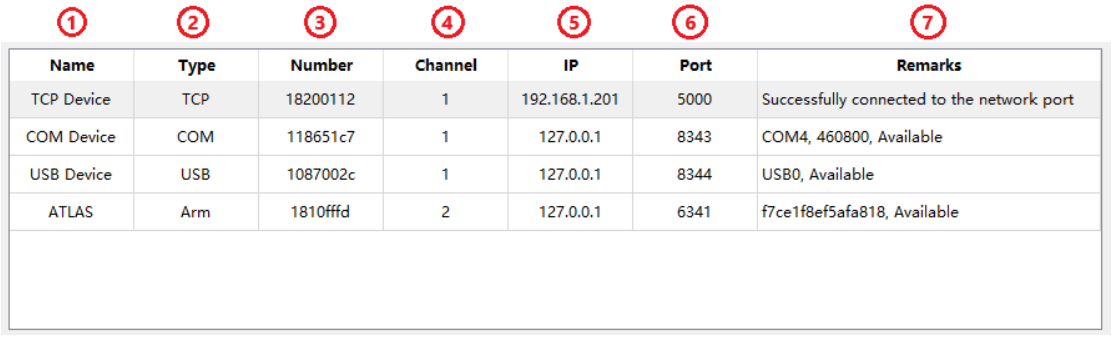
⑤ Search COM: See Menu Bar > Device > Search COM;

⑥ Search USB: See Menu Bar > Device > Search USB;

5 Main Window

5.1 Introduction to the Main Window

The main window is shown in Fig.17 below:



Name	Type	Number	Channel	IP	Port	Remarks
TCP Device	TCP	18200112	1	192.168.1.201	5000	Successfully connected to the network port
COM Device	COM	118651c7	1	127.0.0.1	8343	COM4, 460800, Available
USB Device	USB	1087002c	1	127.0.0.1	8344	USB0, Available
ATLAS	Arm	1810fffd	2	127.0.0.1	6341	f7ce1f8ef5afa818, Available

Fig.17: Main Window

① Name: Displays the custom name of the device. You can modify the device name by double-clicking the row (or right-clicking the row, as shown in Figure 20, and selecting "Modify Name" from the pop-up menu) to open the Modify Name window. After entering the device name (the name cannot contain the "|" character), press Enter to complete the modification of the device name, as shown in Figure 21.

② Device Type: COM stands for serial communication devices (referred to as serial devices or COM devices), USB for USB communication devices (referred to as USB devices), TCP for network communication devices (referred to as network devices or TCP devices), and Arm for multi-channel devices with embedded systems, which can be either USB or network communication.

③ Number: The unique identifier of the device；

④ Channel: The number of channels included in the device;

⑤ IP: The IP address that the spectrum analysis software uses to connect to the device;

⑥ Port: The port number that the spectrum analysis software uses to connect to the device;

⑦ Remarks: For serial devices, display the serial port number, baud rate, and device availability; for USB devices, display the USB number and device availability; for network port devices, display device availability.

5.2 Right-click Menu

The typical right-click menu in the device list of the main window (right-click menu for serial devices) is shown in Fig.18.

Note: Other MCA devices may vary.

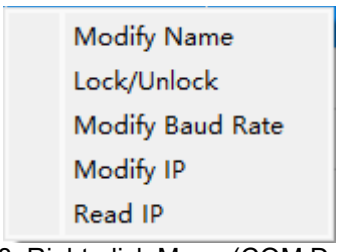


Fig.18: Right-click Menu (COM Device)

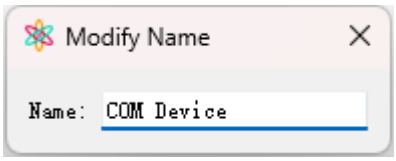


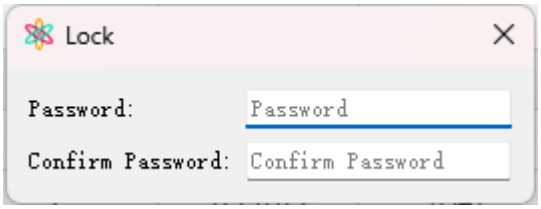
Fig.19: Modify Name Window

Description of the Functionality of the Right-click Menu Options in Fig.18:

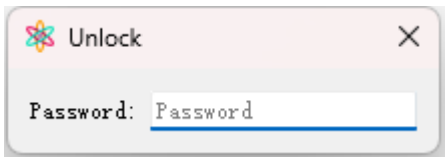
- Modify Name: Click to modify the device name, and a window to modify the device name will pop up, as shown in Fig.19. After filling in the name (the name cannot contain the "|" character), press Enter to complete the modification of the name.

  Note: For the latest hardware MCA devices from our company, the name will be written into the MCA; for older versions of MCA, the modified name is only stored in the local software.

- Lock/Unlock: You can lock (enter the lock password) or unlock (enter the unlock password) the device. The password supports only numeric characters and can be up to 8 digits long, as shown in Fig.20. When the device is in a locked state, if the spectrum analysis software has already connected to the device, there is no impact. If not connected, you will need to enter the password to connect to the device in subsequent attempts.



a. Lock



b. Unlock

Fig.20: Lock/Unlock Window

- Modify Baud Rate: Available only for serial devices. Clicking this button will pop up the Modify Device Baud Rate window, as shown in Fig.21. By selecting a baud rate from the drop-down box, the device communication baud rate can be adjusted.

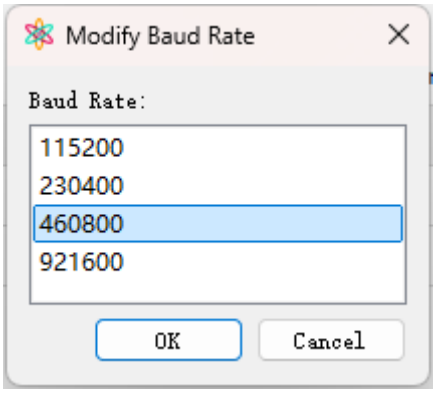


Fig.21: Modify Baud Rate Window

- Modify IP: Available only for TCP devices, used to modify the IP address of the connected TCP device. As shown in Fig.22, after filling in the IP address (note that the IP address must be filled in according to the format), press Enter to modify the IP.

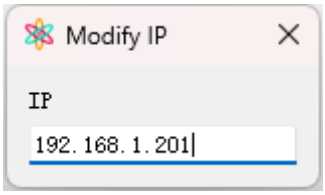


Fig.22: Modify IP Window

- Read IP: Read the device IP address, available only for TCP devices.

Fig.23: Read IP Window

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