UnitV2-M12

SKU:U078-M12

Description

UnitV2-M12 is a high-efficiency AI recognition module launched by M5Stack, featuring the Sigmstar SSD202D (integrated **dual-core Cortex-A7 1.2GHz processor**) as the control core, integrated **128MB-DDR3 memory**, **512MB NAND Flash**, and a 1080P camera. It is equipped with **1x standard focal length (FOV:85°)** + **1x wide-angle fisheye lens (FOV:150°)** two M12 universal specification lenses, supporting manual focus. It comes with an embedded Linux operating system, integrated with rich software and hardware resources and development tools, aiming to provide users with an out-of-the-box, simple and efficient AI development experience.

Features

- Sigmstar SSD202D
- Dual-core Cortex-A7 1.2GHz processor
- 128MB DDR3
- 512MB NAND Flash
- GC2053 1080P Colored Sensor
- Equipped with dual lenses: standard focal length (FOV:85°) + wide-angle fisheye lens (FOV:150°)
- Built-in microphone
- Wi-Fi 2.4GHz
- Development methods:
  - Comes with 12 common AI image functions: QR code, face detection, line tracking, motion detection, shape matching, image streaming, classification, color tracking, face recognition, object tracking, shape detection, custom object recognition
  - Supports web online preview, UIFlow (used as serial port JSON format call)
  - Linux environment (OpenCV, SSH, JupyterNotebook)

Includes

- 1 x UnitV2-M12
- 1 x 16GB microSD card
- 1 x USB Type-C cable (50cm)
- 1 x Stand

- 1 x Clip
- 1 x Standard focal length lens (FOV:85°)
- 1 x Wide-angle fisheye lens (FOV:150°)

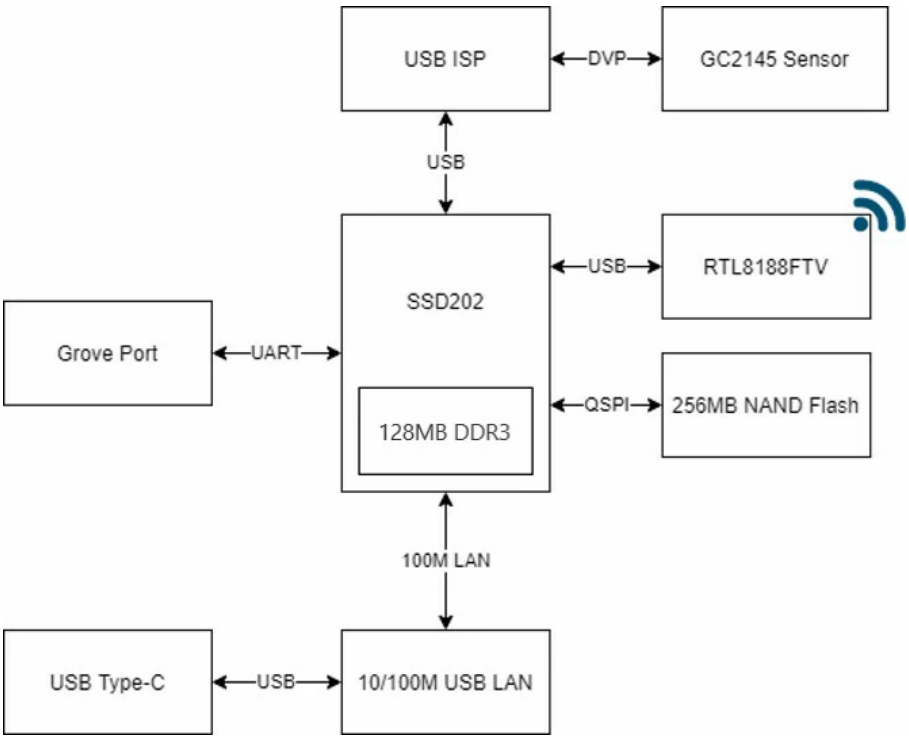
Applications

- AI recognition function development
- Industrial visual recognition and classification
- Machine vision learning

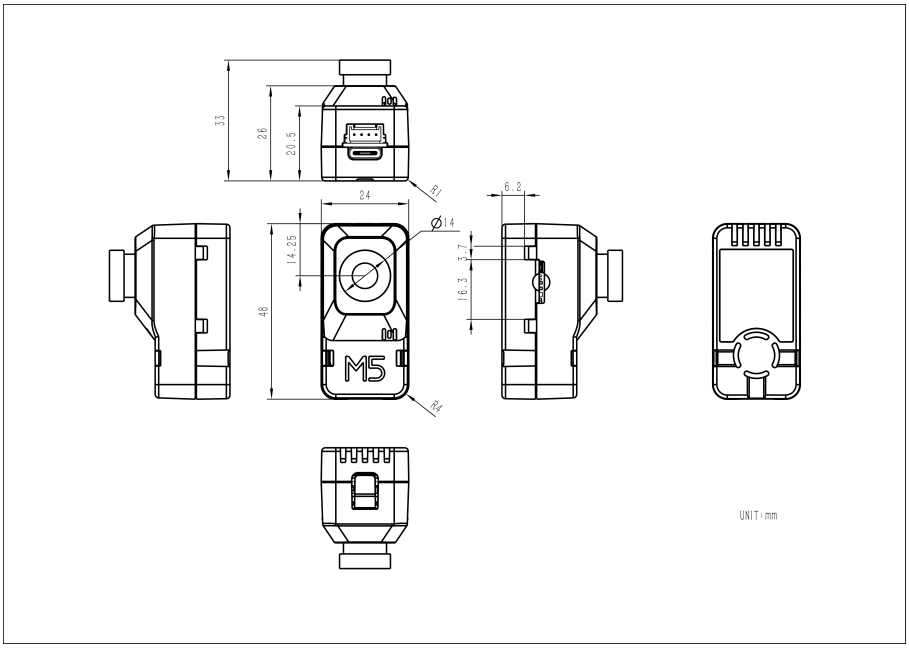
Specifications

Specification	Parameters
Sigmstar SSD202D	Dual Cortex-A7 1.2GHz Processor
Flash	512MB NAND
RAM	128MB-DDR3
Camera	GC2053 1080P Colored Sensor
Lens	1x standard focal length (FOV:85°) + 1x wide-angle fisheye lens (FOV:150°)
Input voltage	5V @ 500mA
Hardware peripherals	Type-C x1, UART x1, TFCard x1, Button x1, Microphone x1, built-in active cooling fan x1
Indicator lights	Red, White
Wi-Fi	150Mbps 2.4GHz 802.11 b/g/n
Ethernet card	SR9900
Product size (with lens)	48 x 24 x 32mm
Package size	122 x 37 x 44mm

Schematics



Model Size



Softwares

Quick Start

- UnitV2 integrates the basic AI recognition service developed by M5Stack, with built-in multiple recognition functions (such as face recognition, object tracking, etc.), which can quickly help users build AI recognition applications.
- All functions! Plug and play! UnitV2 has a built-in wired network card. When you connect it to a PC via the Type-C interface, it will automatically establish a network connection with UnitV2. It can also be connected and debugged via Wi-Fi, offering high flexibility.
- UART serial output, all recognition content is automatically output in **JSON** format via the serial port, making it easy to call.
- Built-in recognition function usage tutorial
- V-Training online AI model training service
- Jupyter Notebook development tutorial/Example
- SSH connection & WIFI configuration
- Firmware update tutorial

SDK

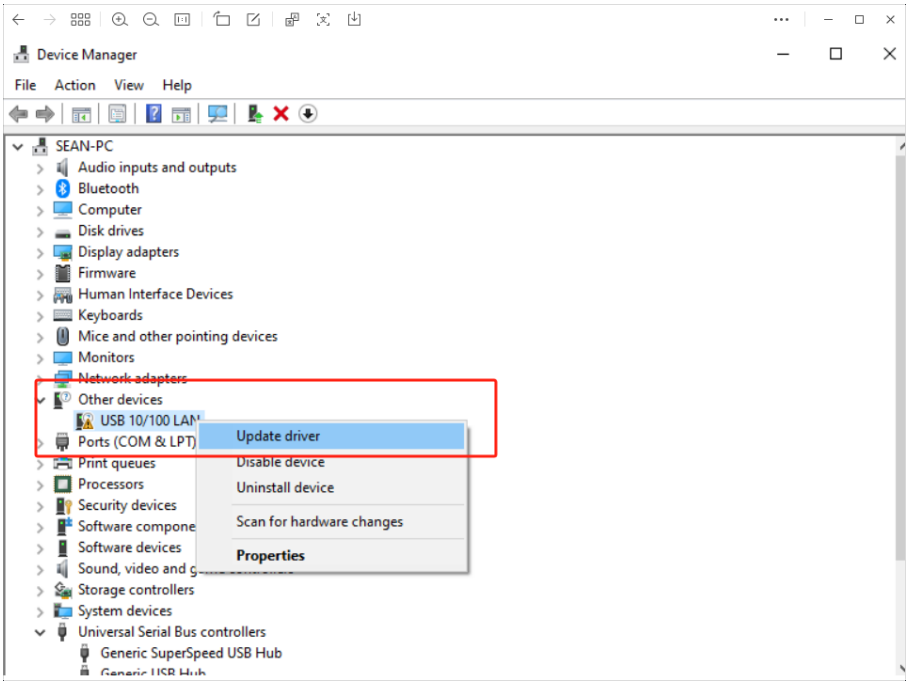
- UnitV2Framework

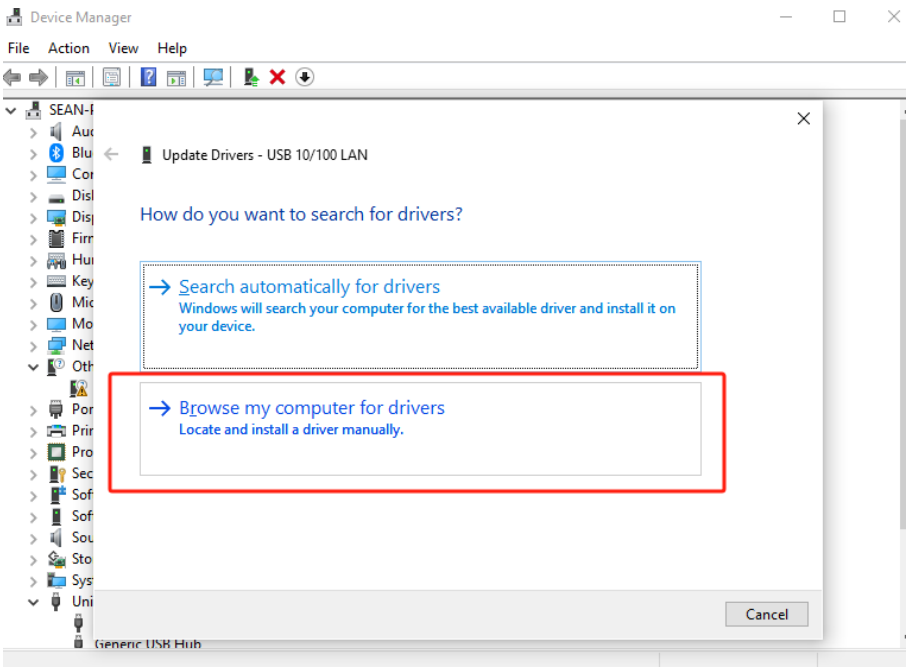
USB Driver

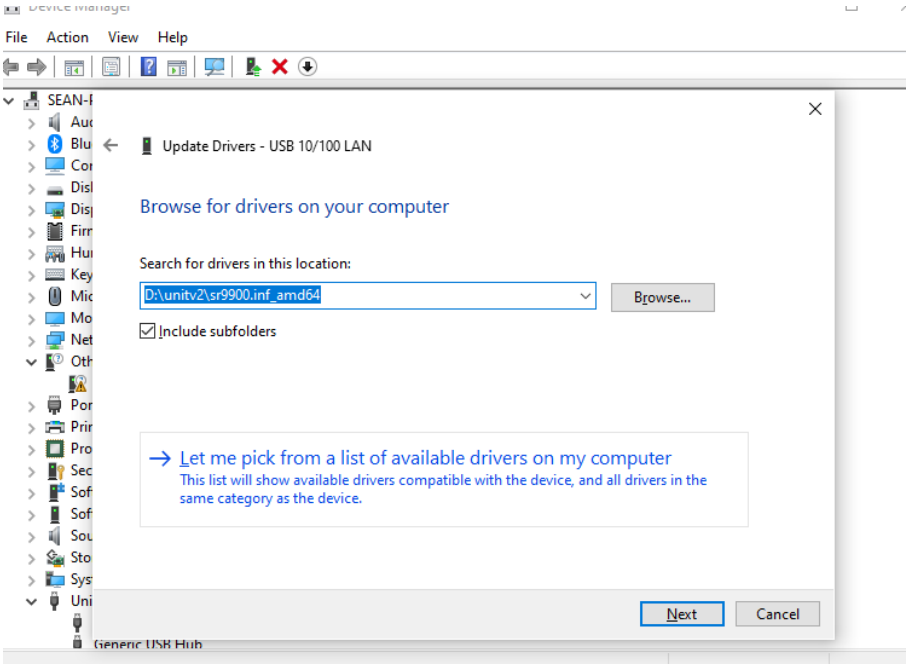
Driver Name	Download Link
SR9900_Windows	Download
SR9900_MacOS	Download

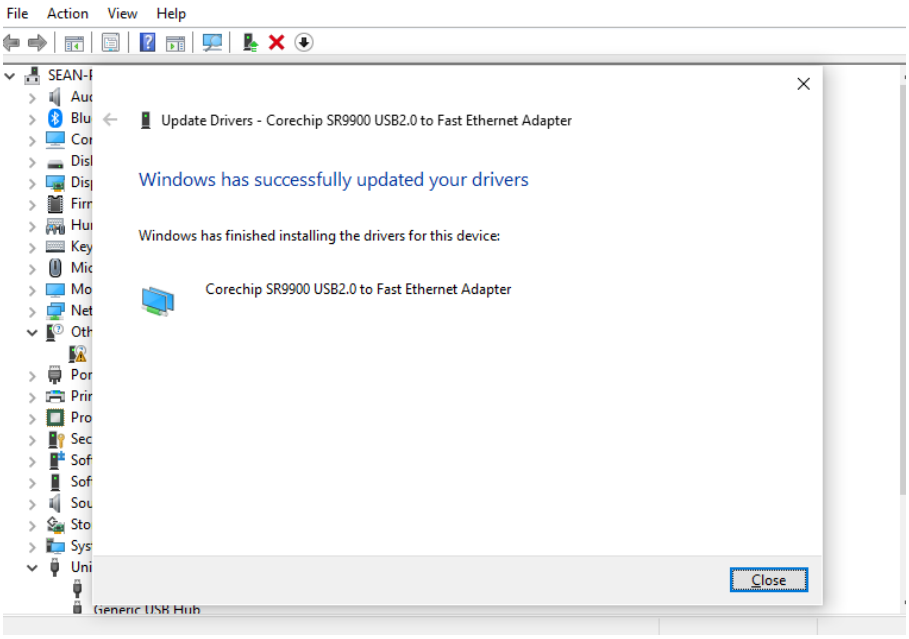
For Windows10

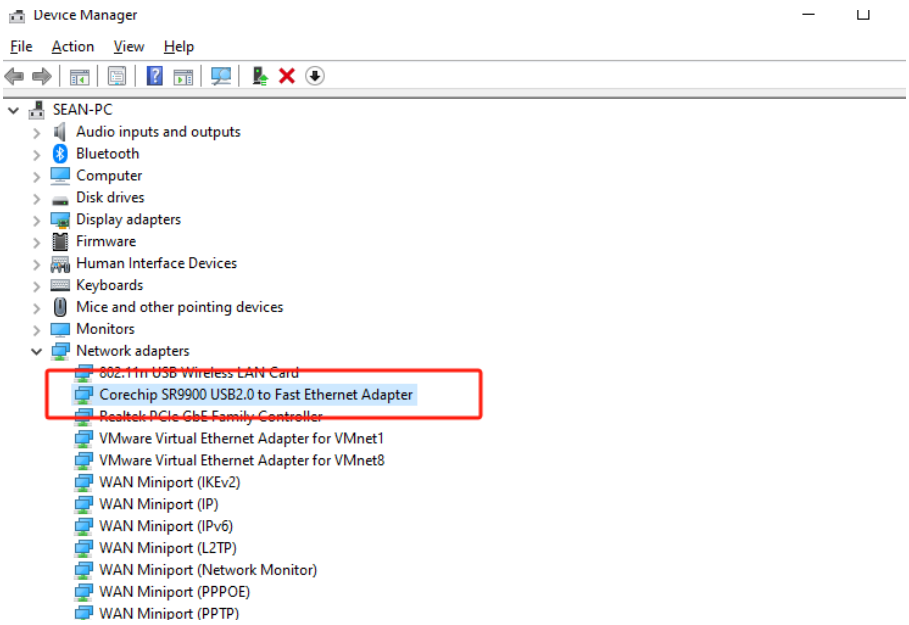
- Extract the driver package to the desktop path -> Go to the device manager and select the currently unrecognized device (named **USB 10/100 LAN** or with **SR9900** characters) -> Right-click and select custom update -> Select the path where the package was extracted -> Click confirm and wait for the update to complete.


Device Manager
File Action View Help
SEAN-PC
Audio inputs and outputs
Bluetooth
Computer
Disk drives
Display adapters
Firmware
Human Interface Devices
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Other devices
USB 10/100 LAN
Ports (COM & LPT)
Print queues
Processors
Security devices
Software devices
Storage controllers
System devices
Universal Serial Bus controllers
Generic SuperSpeed USB Hub
Update driver
Disable device
Uninstall device
Scan for hardware changes
Properties


Device Manager
File Action View Help
Update Drivers - USB 10/100 LAN
How do you want to search for drivers?
Search automatically for drivers
Windows will search your computer for the best available driver and install it on your device.
Browse my computer for drivers
Locate and install a driver manually.
Cancel


File Action View Help
Update Drivers - USB 10/100 LAN
Browse for drivers on your computer
Search for drivers in this location:
D:\unitv2\sr9900.inf_amd64
Browse...
Include subfolders
Let me pick from a list of available drivers on my computer
This list will show available drivers compatible with the device, and all drivers in the same category as the device.
Next
Cancel


File Action View Help
Update Drivers - Corechip SR9900 USB2.0 to Fast Ethernet Adapter
Windows has successfully updated your drivers
Windows has finished installing the drivers for this device:
Corechip SR9900 USB2.0 to Fast Ethernet Adapter
Close



For MacOS

- Extract the driver package -> Double-click to open the SR9900_v1.x.pkg file -> Follow the prompts to click next to install. (The package contains a detailed version of the driver installation tutorial pdf)
- After installation, if the network card cannot be enabled normally, you can open the terminal and use the following command to re-enable the network card.

```
sudo ifconfig en10 down
sudo ifconfig en10 up
```

Other

Object Detection using M5Stack UnitV2 and Edge Impulse

Using M5Stack's latest Linux AI smart camera UnitV2, build a simulated industrial application scenario for defective product screening.

Video

UnitV2 Built-in Functions Unboxing and Usage

UnitV2_video_en.mp4

UnitV2 Application Scenarios

UnitV2_video_release.mp4

Product Comparison

Specification	UNIT-V2	UNIT-V2 M12	UNIT-V2 USB
Lens Configuration	Standard focal length (FOV 68°)	Standard focal length (FOV 85°) + wide-angle focal length (FOV:150°)	No lens, USB-A universal interface, can connect various UVC cameras
CMOS	GC2145	GC2053	/

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

M5Stack:

U078-M12