seeed studio

INDUSTRIAL PRODUCT DATASHEET

reComputer AI R2140-12 - The World's Most Powerful Raspberry Pi AI Box

The reComputer AI R2140-12, the world's most powerful Raspberry Pi AI box, combines a Raspberry Pi 5 with a 26 TOPS Hailo-8 AI accelerator for real-time edge AI vision processing in surveillance, smart retail, smart transportation,...

SKU	UPDATED	PRICE
114993627	2026-10-30 07:38:54	$522.50(Excl. VAT)



Overview



The reComputer AI R2140-12 is a Raspberry Pi AI box powered by a Raspberry Pi 5 module (4GHz quad-core Arm Cortex-A76, VideoCore VII GPU, up to 16GB RAM) and a Hailo-8 AI accelerator delivering up to 26 TOPS for real-time multi-channel AI vision processing. It features dual HDMI 4Kp60, Ethernet, dual USB 3.0 and USB 2.0 ports, dual M.2 PCIe 3.0 slots, dual-band Wi-Fi and Bluetooth 5.0/BLE, with a compact thermal design for efficient cooling in resource-limited deployments.

Key Features

Note:

The reComputer AI R series features a commercial version with **Raspberry Pi 5** and an industrial version with **Raspberry Pi CM5**, both equipped with a 26 TOPS Hailo-8 acceleration module, and a ready-to-use model zoo and tool chain.

Price Increase Announcement
Date: March 2, 2026
Due to increased demand for modules and SSDs, reComputer' pricing is expected to rise by approximately $20–$80 in the coming weeks. Please confirm your orders and requirements accordingly to help secure availability.

- **Powerful Performance with Raspberry Pi 5 Module:** 4GHz quad-core 64-bit Arm Cortex-A76 & VideoCore VII GPU. Features up to 16GB RAM.
- **AI Vision Processing**: With the Hailo-8 AI accelerator, it delivers up to 26 TOPS, enabling real-time, high-performance AI vision processing across multiple channels.
- **Powerful Cooling Capabilities:** Its compact design and efficient thermal architecture ensure optimal cooling, making it perfect for deployment in resource-limited environments.
- **Extensive Connectivity**: 2 x HDMI 4Kp60, 1 x Ethernet Port, 2 x USB 3.0, 2 x USB 2.0. Dual M.2 Slots with PCIe 3.0 speed for enhanced performance.
- **Wireless Connectivity:** Dual-band Wi-Fi and Bluetooth 5.0/BLE.

GitHub - Seeed-Projects/Tutorial-of-AI-Kit-with-Raspberry-Pi-From-Zero-to-Hero: This repository provides a comprehensive step-by-step guide to building AI projects using the Raspberry Pi AI Kit.

This course is designed to teach you how to harness the power of AI on the Raspberry Pi, with a focus on using an AI kit to perform computer vision tasks. You'll learn how to integrate AI into real-world IoT applications, from object detection and image classification to more complex visual recognition tasks.

We will guide you step-by-step through setting up your Raspberry Pi, using AI frameworks, and deploying these models in various practical scenarios.

Product Gallery















Specification

Basic Information	
CPU & GPU	Raspberry Pi 5, 2.4GHz quad-core 64-bit Arm Cortex-A76 & VideoCore VII GPU
AI Processor	Hailo-8 M.2 Acceleration Module, 26 Tera-Operations Per Second
Memory	16GB RAM
Operating System	Raspbberry Pi OS, Ubuntu

Interfaces	
Ethernet & USB	1x 10/100/1000 Mbps Ethernet; 2x USB 3.0(USB-A), 2x USB 2.0(USB-A)
Camera/Display	2 x micro HDMI ports(4Kp60); 2 × 4-lane MIPI camera/display transceivers
Storage	1 x microSD card slot(with support for high-speed SDR104 mode); 2 x M.2 slot(supports PCIe 3.0 M.2 NVMe SSD/Hailo M.2 Acceleration Module)
Power Button	On/Off included
Wireless Communication	Dual-band 802.11ac Wi-Fi®; Bluetooth 5.0/ BLE
Video Decoder	4Kp60 HEVC decoder

Device Specification	
Ingress Protection	IP40
Operating Temperature	0~45 °C
Heat Dissipation	Heatsink with Fan
Power Supply	5V/5A DC power via USB-C, Power Delivery supported
Reliability	Hardware Watchdog, High Accuracy RTC
Warranty & Lifetime	1-year warranty, Production Lifetime until January 2036
Certification	CE, FCC, Telec, RoHS, REACH
Physical Specifications	95mm * 63mm * 45mm (W x H x D)

Hardware Overview





Applications

- **Surveillance & Security:** Integrated into NVR systems for real-time video analytics, including object detection (e.g., intruders, abandoned items) and anomaly detection, enhancing situational awareness and security efficiency.
- **Smart Retail:** Create innovative Smart Retail solutions using AI-driven features like real-time visual product recognition, personalized shopping experiences, and advanced customer behavior analytics for optimized store operations.
- **Smart Transportation:** Processes traffic and parking data from cameras/sensors at the edge, enabling intelligent traffic flow analysis and smart parking guidance to reduce congestion.
- **Digital Signage & Audience Engagement:** Links to cameras and content servers for dynamic content adaptation based on facial recognition and audience demographics, improving engagement in public spaces or retail environments.
- **Smart Building:** Integrates sensors and IoT devices to monitor and optimize building systems such as lighting, HVAC, and security. Uses AI for energy efficiency, predictive maintenance, and occupant comfort, enhancing building management.

Part List

reComputer AI R2140-12	x1

Compliance & Logistics



HSCODE	8471504090
USHSCODE	8517180050
UPC	
EUHSCODE	8471707000
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- https://www.seeedstudio.com/reComputer-AI-R2140-12-p-6431.html
- Seeed reComputer AI R Series Flyer
- SeeedRasperryPiFlyer
- SeeedreComputerAIRSeriesFlyer-CN
- Seeed Raspberry Pi Flyer-CN

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