Quick Start Guide Market Ready Solution Al Vision



Introduction

The AVNET AI **Technology Platform** Vison is a small embedded computer for pioneers in Al. Following along this brief guide, you'll be ready to try out and experience practical applications of Al vision.



1 12v DC in

- 2 DisplayPort (3x)
- 3 USB 3.0 (4x)
- 4 VGA
- 5 Wireless Antenna
- 6 On/Off button
- 7 Status LED (3x)
- 8 Audio port
- 9 PoE LAN Port (2x)

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Included components



a AVNET AI CUBE

- b 2 x HIKVISION 2MP IP PoE Camera
- c 1 x Wireless Touch Keyboard K400
- d 2 x 3m Ethernet cable
- e 2 x Wireless Antenna
- 1 x 2m power connector cable
- g 1 x 220W 24V AC-DC Industrial Adaptor

not included components: DisplayPort cable, Display



Bolt each of the Wireless Antenna to the mounting fixtures (marked with red) on the rear site of the AI CUBE.





Link the power connector cable with the Industrial Power Adaptor and connect it to the DC-in port of the AI CUBE (marked with red)





Connect each IP Camera via a Ethernet cable to one of the Ethernet ports on the AI CUBE (marked with red)





Connect the DisplayPort of the AI CUBE (marked in red) via a DisplayPort cable with a display



not included components: DisplayPort cable, Display



First Boot

Plug the power connector cable into your power supply.



Wait until this input mask appears on your screen and log-in (User: admin Password: Avnet 123)





Setup Software - Overview



For further explanations, instructions, and individualizations use the Software User Manual located on the desktop of this computer.

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Use Cases

1 counting of humans

- Monitoring of entrances (in + out)
- Control people flow in public + private areas
- Apply your virtual individual counting line

2 monitoring asset surroundings

- virtual individual asset barriers/safe tracks in industrial areas
- Protect employees/citizens to enter unsecure areas
- create up to 3 lines to detect when a person crosses such line(s) and creates an alert once crossed

3 Direction detection

- Identify wrong direction movements
- Monitor people flow directions
- create up to 3 lines which indicate when a person is moving in the opposite direction indicated

recognition of intrusion by humans

- Perimeter/fence monitoring
- Restrict access to secured areas
- monitor up to 3 areas within the channel and set up alerts whenever a person or object enters the zone(s)

⁵ recognition of (abnormal) human behavior

- Identify human behavior like loitering or waiting
- Improve safety and quick response
- set a monitoring zone which monitors a person's movement and triggers an alert based on time spent within the zone

identification of crowds and crowd density

- Monitor occupancy in industrial or public spaces
- Control for crowd density (distancing)
- Individually design the monitored area to your application

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Setup Use Case – Step 1

Activate the preferred use case for your preferred channel via the profile selection. (max. 6 channels can be activated simultaneously)



For further explanations, instructions, and individualizations use the Software User Manual located on the desktop of this computer.

Our out-of-the-box solution offers:

- 2x channels for live video streaming from the included IP cameras
- 6 x channels with embedded demo videos

Each profile can be activated for each channel.

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Setup Use Case – Step 2

Adapt a predefined use case to your individual livestream.

(Exemplary process for the "Direction detection" for IP Camera 01 Livestream)



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Setup Use Case – Step 3

Enter the single channel view or the analytics dashboard to examine the results of your applied use case for your video livestream or a provided demo video stream.



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Hardware Specifications

- · CPU: Intel® Core™ i7-9850HE (4.40 GHz, 6 cores 12 threats, 9M Cache)
- RAM: 2 x 16GB 64bit DDR4 SODIMM | 2x 260-pin SO-DIMM socket for up to 2x 16GB DDR4 SDRAM (DDR4-2666¹); dual channel operation; ¹Depending on SO-DIMM type
- Chipset: Intel® Platform Controller Hubs (PCH) QM370 or CM246
- Connectivity: 802.11ac/abgn | Dual-Band 2T2R Wi-Fi | Bluetooth 5.0 | 2 x Gigabit LAN PoE+ RJ45 (10/100/1000Base-TX Ethernet)
- Video: VPU Mustang-V100-MX8 (Eight Intel® Movidius™ Myriad™ X) | Integrated Intel UHD graphics Gen. 9
- · Audio: HD audio codec (Realtek ALC888) routed to 3x audio jacks and SPDIF on 5-pin header
- Storage: 256 GB SATA SSD 6 Gb/s 2.5"/7mm cased | 4x SATA channels (up to 6Gb/s) | Flash SD Card socket
- Serial: 2x high-speed serial ports from PCH
- USB: 4x USB 3.0 (USB 2.0 compliant) | 4x USB 2.0
- Display Interfaces: DisplayPort/Three DisplayPort connectors | Embedded DisplayPort/One 40-pin eDP connector | LVDS/One 30-pin Jili connector
- Bus Interfaces: One PCI Express x4 interface (on PCI Express x16 socket); also usable as PEG slot | LPC bus on 10-pin header; usable for optional POST code display
- PCI: 2 x PCI Express x16 expansion slot (low profile)
- Power Supply: 400W 16-30V Input DC-DC ATX (Internal) | 220W 24V AC-DC High Reliability Industrial Adaptor (external)
- Ports: 4x USB 3.0 (USB 2.0 compliant) | 3 x DisplayPort | 1 x VGA | 1 x RJ45 for LAN 10/100/1000 Mb/s | 2 x Gigabit LAN PoE+ RJ45 | 4 x PCI Express interface
- IO: isolated IO panel
- Operating Elements: 3 x Control LEDs | Power/reset button | beeper
- Selectable mounting: Optional: 4 x M4 hexagon socket screw & Support rails
- Cooler Fans: 2 x 80mm cooler fans (back)
- Dimensions: 190 mm x 240 mm x 145 m (W/D/H)
- Environment: Operating temperatures: 0°C to +30°C
- Peripherals: 2 x 2 MP IR Fixed Cube Network Camera (H.265+, H.265, H.264+, H.264 , 1920 × 1080@30fps, POE) | Wireless Touch Keyboard



Software Specifications

Operating System

- Windows® 10 IoT Enterprise 2019 LTSC High End (ESD)
- 64-bit

Application

- Gorilla IVAR by Gorilla Technology, Inc
- Version: ivar-1.9.6.2001080202-std-win-x86_64
- Total Channels: 16
- Maximum Analytic Channels: 6
- Analytic Core Channels: Business Intelligence, Human Detection, Behavior Analysis, License Plate, Vehicle Detection

