

IBCU-A16Max-PTH1212



Product Introduction

A16Max is a multifunctional in-vehicle intelligent IBCU (In-Bus Control Unit) terminal composed of storage modules, main modules, communication and power modules, etc. It integrates various functionalities including driving safety services (ADAS, DMS, BSD, AVM), public safety services (CCTV, ANPR), passenger service operations (station display systems, advertising display systems), and operational management services (dispatch reporting, passenger flow statistics).

The product boasts powerful video input capabilities, supporting the hybrid input of 12 channels of analog high-definition and 12 channels of digital IPC data. Additionally, the product features 4G/5G network connectivity, high-speed WIFI6 network, dual-frequency inertial navigation positioning, massive local storage, and rich peripheral interface capabilities.

Equipped with a robust NPU (Neural Processing Unit), the product possesses deep learning algorithm-based processing capabilities, supporting simultaneous intelligent operations. It comprehensively covers driving safety services, realizing advanced driver assistance systems, driver behavior analysis systems, blind spot warning systems, and a 360-degree surround view system.

The product also supports diverse video output capabilities, featuring built-in multi-screen asynchronous display functionality. It can simultaneously integrate seven channels of different video outputs, providing comprehensive coverage for the in-vehicle network dispatch reporting screen system, CCTV monitoring system, passenger information, and multimedia advertising display system.

Product Advantages

- All-in-one versatility, unified management for multiple businesses.
- Supports the input of 12 channels of analog high-definition AHD and 12 channels of digital high-definition IPC.
- Supports HDMI and VGA high-definition output from different sources.
- Supports the input of 6 channels of high-speed CAN-FD.
- Utilizes vehicle-grade connectors for external audio and video interfaces, facilitating installation and maintenance.
- Equipped with an 8-core processor and a powerful neural network inference engine, featuring various intelligent algorithm applications.
- Supports local storage with one 3.5-inch hard drive and one M.2 interface SSD.
- The entire system employs comprehensive vibration reduction technology, combining mechanical damping, electronic anti-vibration, and software anti-vibration.
- Abundant peripheral interfaces.

Specifications

Product Model	
A16Max-PTH1212	
Basic Parameters	
Technical Items	Technical Specifications
RAM	6GB
ROM	32GB
OS	Linux、 Android
3G/4G	TDD-LTE/FDD-LTE/EVDO/TD-SCDMA/WCDMA
5G	Optional
WIFI	802.11b/g/n/ac/ax (Optional)
Positioning	Supports GPS
HDD	1 × 3.5" SATA HDD + 1 × M.2 SSD (Optional) , 2*SSD (Optional) hard disk heating supported
G-Sensor	Built-in 6-axis inertial sensor
Port	
Video Input	12-channel AHD + 12-channel IPC (PON power supply)
Total Capacity	1080p@300fps H.265/H.264 encoding + 1080p@300fps H.265/H.264 decoding
Video Output	Supports 7-channel video heterogeneous output: 1 channel Serdes dispatch screen high-definition display, 1 channel VGA high-definition output, 1 channel HDMI high-definition output, 4 channels passenger information display screen digital output
Audio Input	11-channel analog +12-channel IPC
Audio Output	1 channel Serdes dispatch screen audio, 1 channel HDMI audio
USB	Front Type-A interface USB 3.0, rear aviation head interface USB 2.0
Micro SD	2*Micro SD
WAN	1*1000Mbps, RJ45 interface
LAN	1 * 1000Mbps, RJ45 interface, maximum support for connecting 4 channels of passenger information display screens.
SIM Card	1 * SIM card slot
IO	9 * Sensor in (1 channel dedicated for reverse signal), 2*Sensor output
Power amplifier	2 channel output, maximum support 30W
Serial port	2*RS232、 2*RS485
CAN	6*CAN-FD
SPEED	1 channel pulse speed measurement.
MIC	external loudspeaker
Power Supply	
Power Input	DC 8 ~ 36V
Power output	12V/1A, 5V/0.5A

Power consumption The power consumption of main engine is 20W, and the typical power consumption is 110W

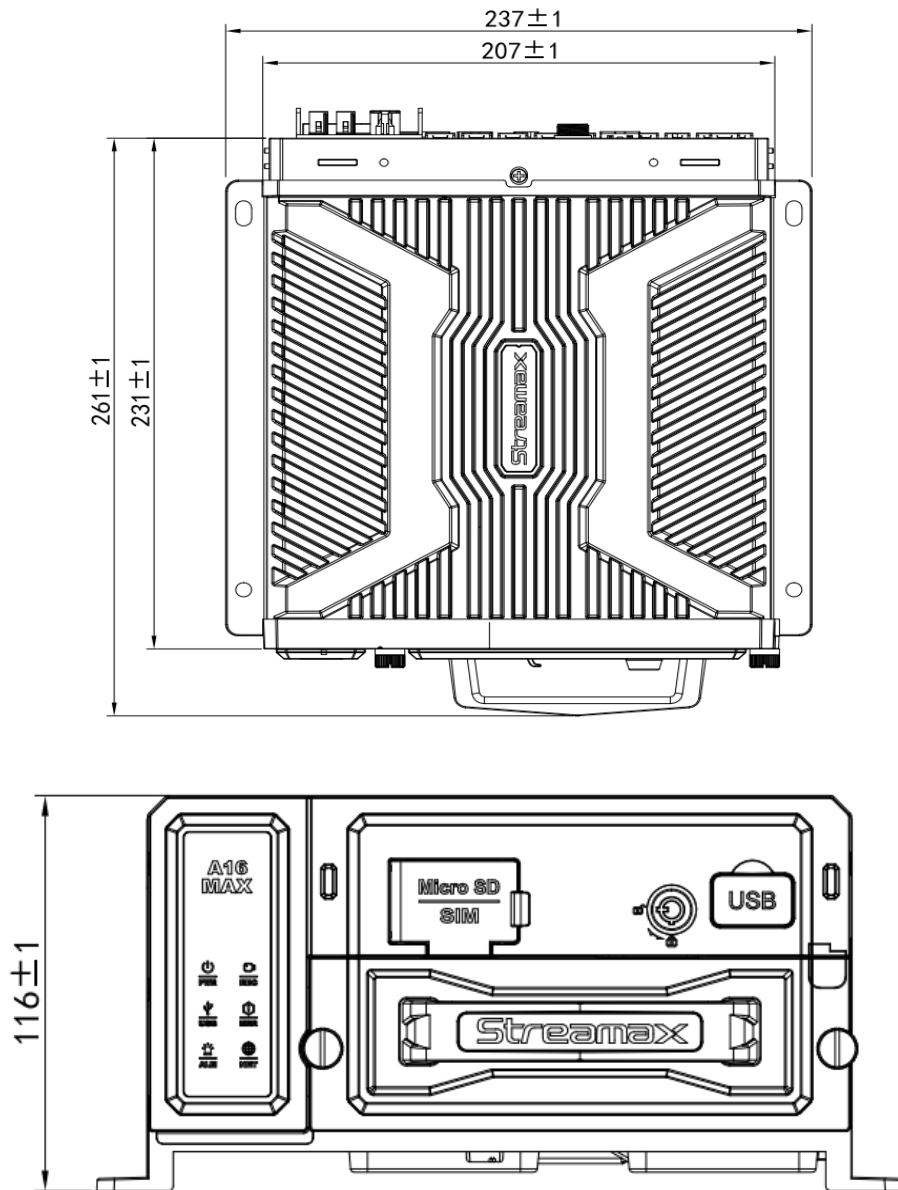
Installation

Size 261*237*116mm
 Weight (NO HDD) 4.7KG

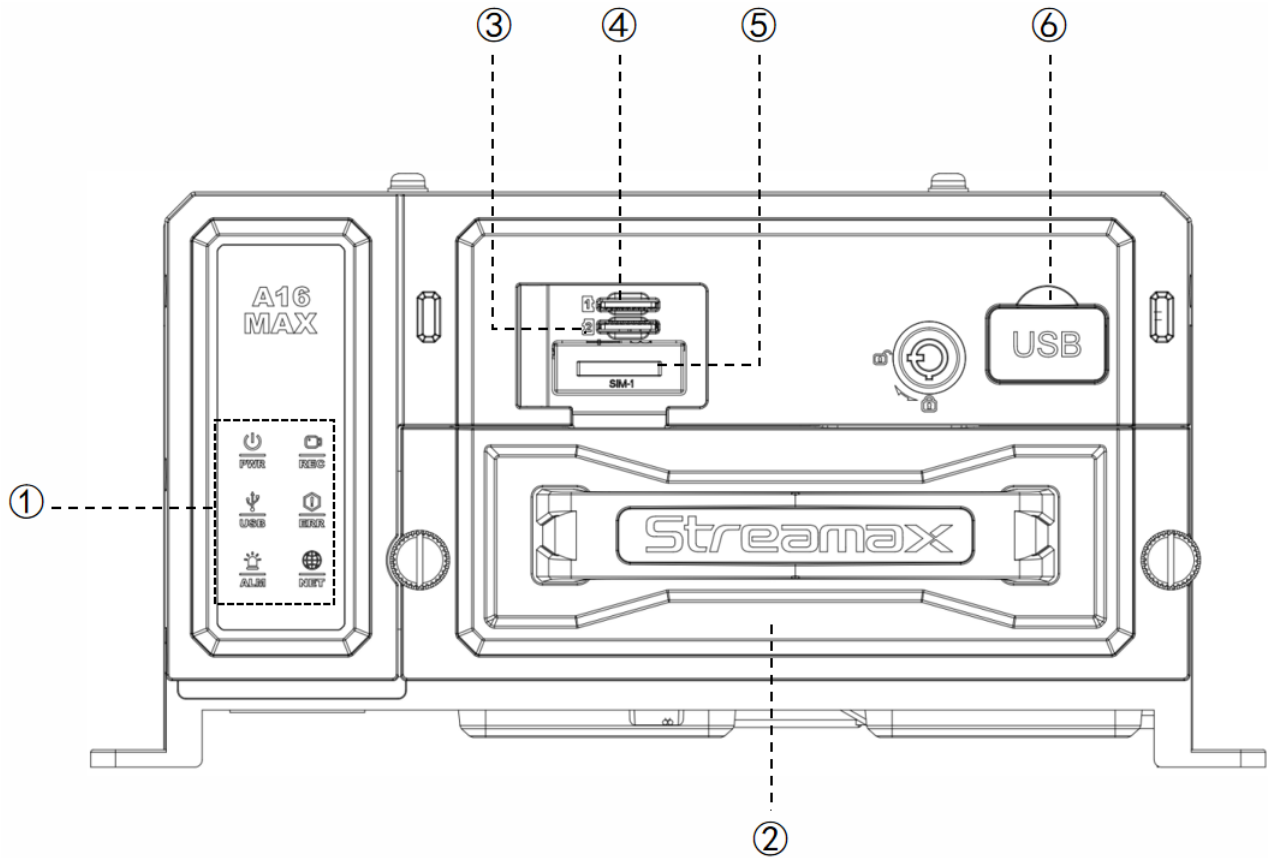
Working Environment

Operating temperature -30°C ~ +55°C (Host with hard disk)
 -30°C ~ +70°C (The host does not come with a hard disk)
 Storage temperature -40°C ~ +85°C

Product dimensions (mm)



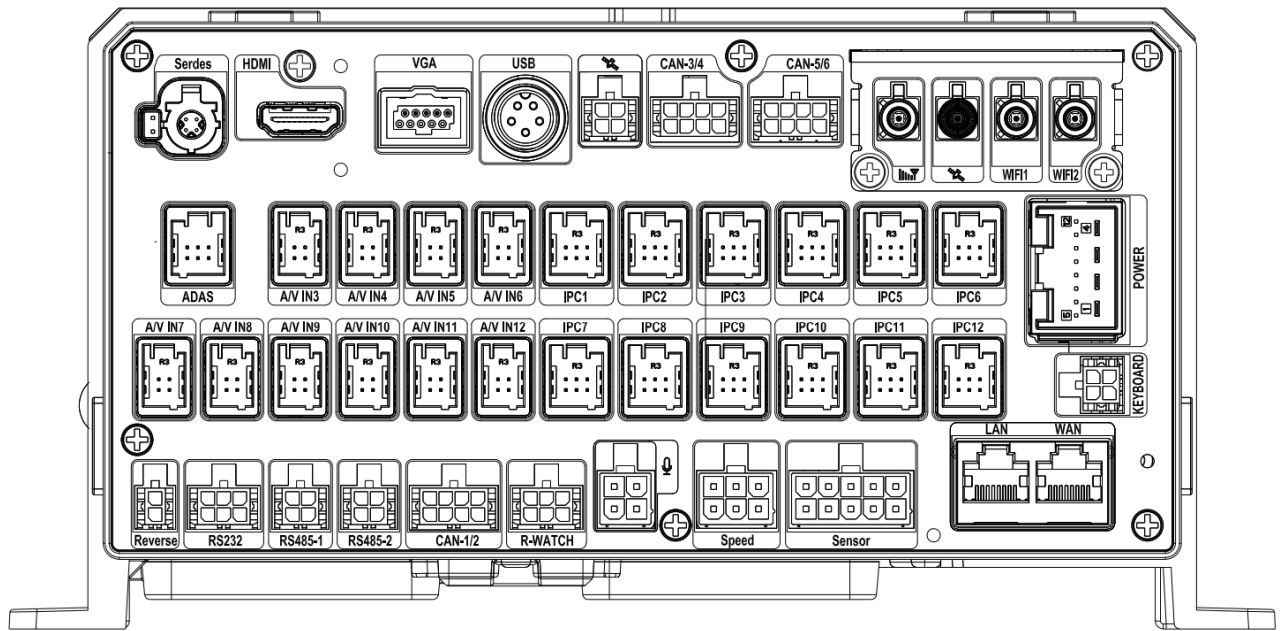
Panel interface






Front Panel Interface

- | | |
|---|---------------------------|
| ① | Indicator Light |
| ② | Hard drive storage module |
| ③ | Micro SD2 |
| ④ | Micro SD1 |
| ⑤ | SIM card interface |
| ⑥ | USB3.0 interface |

Rear Panel



Rear Panel Interface

Serdes	Human-machine interaction screen high-definition interface
HDMI	High-Definition Multimedia Interface (HDMI)
VGA	VGA high definition display output
USB	Disaster Preparedness Memory interface
	External positioning module port
CAN-1/2	CAN1-2 interface
CAN-3/4	CAN3-4 interface
CAN-5/6	CAN5-6 interface
	4G antenna port
	WIFI1 antenna port



WIFI2 antenna port

ADAS

Binocular forward-facing ADAS camera interface.

A/V IN3

Analog audio/video input ports 1
Triple forward-facing ADAS camera telephoto interface

A/V IN4-12

Analog audio/video input ports 4-12

IPC1-12

IPC (PON power supply) audio/video input ports 1-12

POWER

Power Input & Power amplifier output

KEYBOARD

Human-Computer Interaction Screen Keyboard Interface

Reverse

Reverse IO input interface.

RS232

2*RS232 interface

RS485-1/RS485-2

2*RS485 interface

R-WATCH

R-WATCH interface



Loudspeaker interface

Speed

Speed input *1&Sensor out*2

Sensor

IO Input 1-8

LAN

LAN port

WAN

WAN port