

Introduction

The On-Board Unit (OBU) stands as a pivotal component within the domain of Intelligent Transportation Systems (ITS), playing a crucial role in modernizing and optimizing public transport management. The OBU, acts as a sophisticated communication and control hub, enabling seamless integration with the Intelligent Transportation Management System (ITMS) and the central Communication Control Center (CCC). This advanced device serves as the technological backbone for an efficient and interconnected public transportation network, ensuring real-time vehicle tracking, monitoring, and enhanced passenger information services. Boasting an array of cutting-edge features, such as GSM, GPS, Wi-Fi, and Bluetooth connectivity, along with integrated sensors, the OBU empowers transportation authorities and operators with comprehensive insights and control over their fleet while delivering a seamless experience for commuters at bus terminals through GSM communication with the CCC-powered Passenger Information System (PIS).

Uses

- Real-time tracking for efficient fleet management.
- Passenger Information System for commuters' convenience.
- Emergency alerts and rapid response capabilities.
- Traffic analysis to reduce congestion.
- Route optimization for improved travel efficiency.
- Environmental impact assessment for sustainable transport.
- Seamless integration with Intelligent Transportation Systems.

Features

- Communication interfaces: GSM, Wi-Fi, Bluetooth for data exchange.
- Intelligent sensors:
- Fleet management and optimization.
- Passenger Information System with real-time updates.
- Emergency alerts and collision detection.
- Integration with ITMS and CCC for seamless connectivity.
- Enhanced security and encryption.
- Power-efficient design for prolonged usage.
- Rugged build to withstand harsh conditions.



Technical Specifications

Item	Parameter	Specification
System	Operating System	Linux 3.0.8
	Processor	32 Bit
	CPU	ARM Cortex A7@ Max 1.1 GHz
	Flash	8 GB
	RAM	1 GB
Video	Control Mode	IR remote control, control panel, network
	Input	4 channels AHD (1080P) +4 channels PC (1080P)
	Output	1 channel
	Total Resource	PAL:4*1080P@25FPS(AHD)+4*1080P@30FPS(IPC) NTSC:4*1080P@30FPS(AHD)+4*1080P@30FPS(IPC)
	Video Signal Standard	Electrical level: 1Vpp; Impedance: 75ΩNTSC/PAL Optional
Audio	Input	8 channels
	Output	1 channel
	Audio Signal Standard	Electrical level: 2Vpp; Input impedance: 4.7Ω
Recording	Video/Audio Compression	H.264/H.265/ADPCM
	Image Resolution	PAL: 1080P(1920X1080)720P(1280X720) WHD1(960X288),HD1(704x288) WCIF(480X288),CIF(352x288) NTSC:1080P(1920X1080) 720P(1280X720)WHD1(960X240),HD1(704x240) WCIF(480X240),CIF(352x240)
	Image Quality	8 Levels adjustable
	Recording Mode	Schedule/Alarm (sensor trigger, speed, acceleration, video loss, temperature)
	Pre-recording	0-60minutes
	Post-recording	0-30minutes
	Mirror recording	Yes
	Hard Disk	2.5" SATA HDD up-to 2TB supported
Interface	USB	USB2.0x2
	SD	SDx1 (64/128 GB)
	SIM Card	Supports SIM slot *1
	Sensor	8 digital inputs, 2 digital outputs
	Serial Port	RS485*2
	CAN	Supports CAN2.0 port*2/ OBD2 / Pulse
	Ethernet	6 PIN DIN to RJ45 Transfer Cable (@IPC Port)
	Speed	1 channel pulse speed detection
	Audio Amplifier	In built two channel amplifier minimum 10 Watts RMS each suitable for 4 ~8 Ohm impedance with input for external microphone (amplified audio output)
	Intercommunication	Intercommunication inside/outside vehicle (Two-way Communication)
	Panel	Control panel BDC, 7" Touch screen with 800*480 Resolution
Network	3G/4G	EVDO/WCDMA/TDD/FDD3G Modules: GSM/GPRS SMT quad band and UMTS (3G) Connected to antenna through RG174 cable SMA Connector
	WIFI	Compliant to IEEE 802.11b/g/n WLANs, Connected to antenna through RG174 cable SMA Connector



	Ethernet	100Mbps
Locating	GPS	Location tracking, speed detection and time synci. Rating: 22 tracking/66 acquisition minimumii. Tracking sensitivity:-165 dBmiii. Navigation sensitivity; -148 dBmiv. Update rate I Hz (configurable to 10 Hz)v. Time to first fix cold acquisition 35 secondsvi. Hot acquisition 1 secondvii. Navigation accuracy 3M horizontal Connected to antenna through RG174 cable SMA
	Playback Channel	1 channel by local playback, 1 channel by software playback, 4/8 channels playback
Playback	Search Mode	Date/time, channel, event
	Input	DC 8-36V
Power	Output	1A@12V,1A@5V
	Consumption	Impact current: input 13.5V@7.8A Working current: input 13.5V@1.6A input 27V@0.7A Standby current: 100 mA
	Display Split	1/4/9
Display	OSD	GPS information, alarm, temperature, acceleration, voltage, device information, software version, MCU version, network information
	Operation Interface	Semi-transparent GUI
	Operating Temperature	-25°C- +80°C
Operating Temp	Operating Relative Humidity	5%-95%