X1N-H0401

Specifications

Introduction

X1N-H0401 is a cost-effective device specially developed for mobile video surveillance and remote video monitoring, featuring high functional scalability. It is equipped with a high-speed processor and an embedded operating system, integrating state-of-the-art H.265 video compression/decompression technologies, 3G/4G network technologies, GPS/BDS positioning technologies, and Wi-Fi technology in the IT industry. It supports recordings in formats of 1080p, 720p, WD1, WHD1, WCIF, D1, HD1, and CIF. Moreover, it allows recording vehicle driving information and uploading videos remotely. It can also be used with the center software to support alarm linkage by providing central remote video surveillance, vehicle management, and playback analysis based on the central database.

Strengths

- Embedded Linux operating system
- AHD with AI function extension
- H.265/H.264 encoding and decoding to improve the memory space utilization
- 2.5-inch hard disk storage, hard disk heating & hard disk power-off protection technologies
- Good anti-vibration performance, simple design, and flexible & easy installation
- Comprehensive functions and high reliability

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The product supports extended AI functions, implementing the Advanced Driver Assistance System (ADAS) alarm, Blind Spot Detection (BSD), and Driver Status Monitor (DSM), and effectively assists drivers to improve traffic safety and reduce pedestrian-motor vehicle accidents.

Specifications

Model		
	X1N-H0401	
Function Overview		
	Preview, video recording, playback, network transmission, and positioning	
System		
	Operating System	Linux 4.9
	Control Mode	CP4, mouse, EasyCheck, and network (3G/4G/Wi-Fi)
Video		
	Input	4-channel AHD (1080p) + 1-channel IPC (1080p)
	Output	1-channel CVBS
	Total Resource	AHD: 4 × 720p @ 25 FPS (PAL) or 4 × 1080p @ 10 FPS (PAL) or 4 × 720p @ 30 FPS (NTSC) or 4 × 1080p @ 12 FPS (NTSC) IPC: 1 × 1080p @ 30 FPS
Audio		

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	Input	4-channel AHD + 1-channel IPC
	Output	1-channel CP4
	Audio Signal Standard	Level: 2 Vpp; input impedance: 4.7 kilohm
Display		
	Display Split	1/4/9-screen display
	Screen Display	Positioning information, alarms, license plate numbers, driving speed, time, etc.
	Operating Interface	GUI
Recording		
	Audio/Video Compression Format	Video H.264/H.265 Audio ADPCM,G.711U,G.711A
	Image Resolution	AHD: PAL: 1080p (1920 × 1080), 720p (1280 × 720), WD1 (928 × 576), WHD1 (928 × 288), WCIF (464 × 288), D1 (704 × 576), HD1 (704 × 288), CIF (352 × 288); NTSC: 1080p (1920 × 1080), 720p (1280 × 720), WD1 (928 × 480), WHD1 (928 × 240), WCIF (464 × 240), D1 (704 × 480), HD1 (704 × 240), CIF (352 × 240); IPC: 1080p(1920 × 1080), 720p (1280 × 720);
	Image Quality	Levels 1–8 adjustable (preferably Level 1)
	Recording Mode	Startup/Manual/Scheduled/Alarm event recording
	Alarm Prerecording	0-60 min
	Alarm Recording Delay	0-30 min
Playback		

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	Playback Channel	1-channel local playback
	Search Mode	By date/time, channel, or event
Network		
	3G/4G	EVDO/TD-SCDMA/WCDMA/TDD-LTE/FDD-LTE (optional)
	WIFI	W217 module. Supported protocol: 802.11a/b/g/n/ac Supported frequency band: 2.4/5.0 GHz
	IPC Ethernet	1 × 6-pin aviation plug (100 Mbit/s, PON-powered)
Positioning		
	GPS/BD	Positioning, speed detection, and time synchronization
Sensor		
	G-Sensor	Built-in 6-axis inertial sensor
Storage		
	HDD/SSD	1 × 2.5" SATA HDD or SSD, 7 mm/9.5 mm/15 mm thick, supporting hard disk heating
Port		
	SIM	1 × SIM card slot
	USB	1 × USB2.0
	Serial Port	1 × RS232 , 1 × RS485(R-WATCH)
	IO	8-channel input and 2-channel output
	Speed	1-channel pulse speed detection
	Control Panel	CP4 (accessories optional)
	Intercom	1 × MIC port
	CAN	Not supported
Power Supply		
	Input	DC 8-36V

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	Output	5 V @ 500 mA
	Maximum Typical Power Consumption	35 W
	Standby Power Consumption	≈ 0 W
Physical Characteristics		
	Dimensions (mm)	206.0 × 190.0 × 70.5
	Weight (with hard disks) (kg)	1.2
Environment		
	Operating Temperature	–40°C to +70°C (heated, without hard disks)
	Operating Humidity	8% to 95% (non-condensing)
AI		
	MDVR AI	Streamax AHD camera CA29M (DSM) and CA20S3.0 (ADAS)

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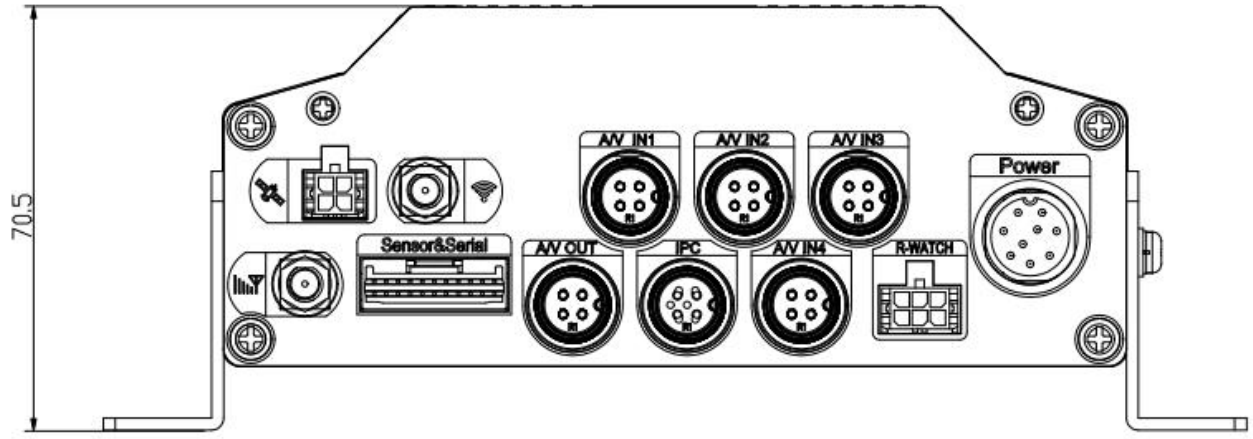
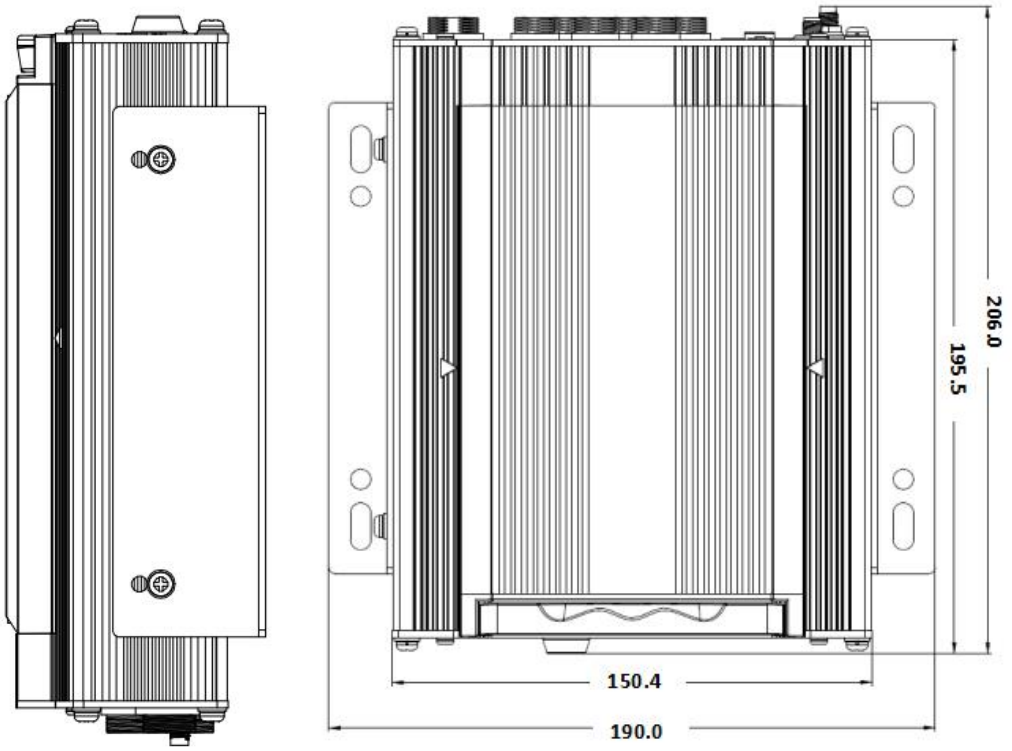
Dimensions

(unit: mm)





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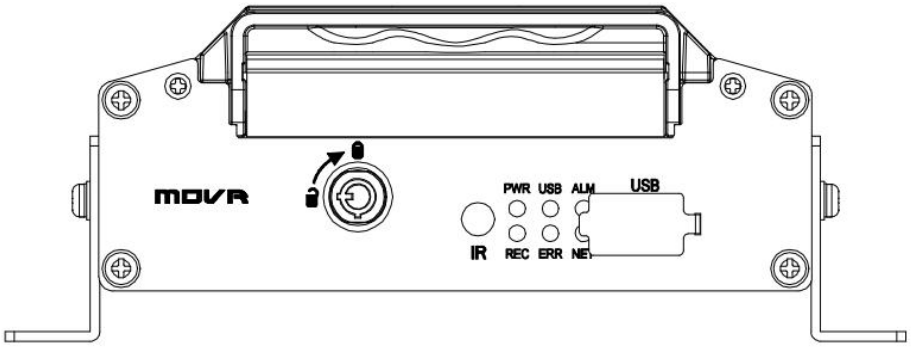
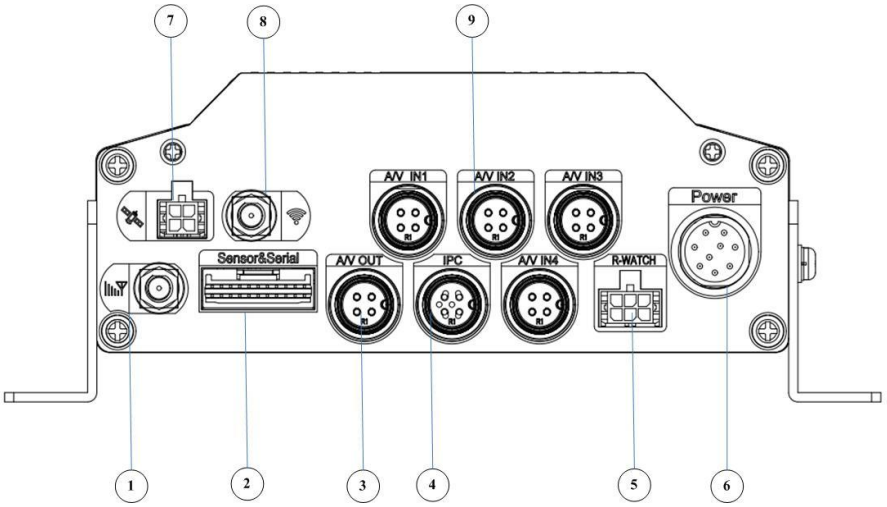
Panel Ports

Front panel



Rear panel:



S/N	Silk Screen	Description
1		3G/4G antenna connector
2	Sensor&Serial	Serial port and IO port
3	A/V OUT	Analog audio/video output port
4	IPC	PON-powered IPC port
5	R-WATCH	R-WATCH port
6	Power	8–36 V DC power input
7		GPS/BDS antenna connector
8		Wi-Fi antenna connector
9	A/V IN 1~4	Analog audio/video input ports 1 to 4

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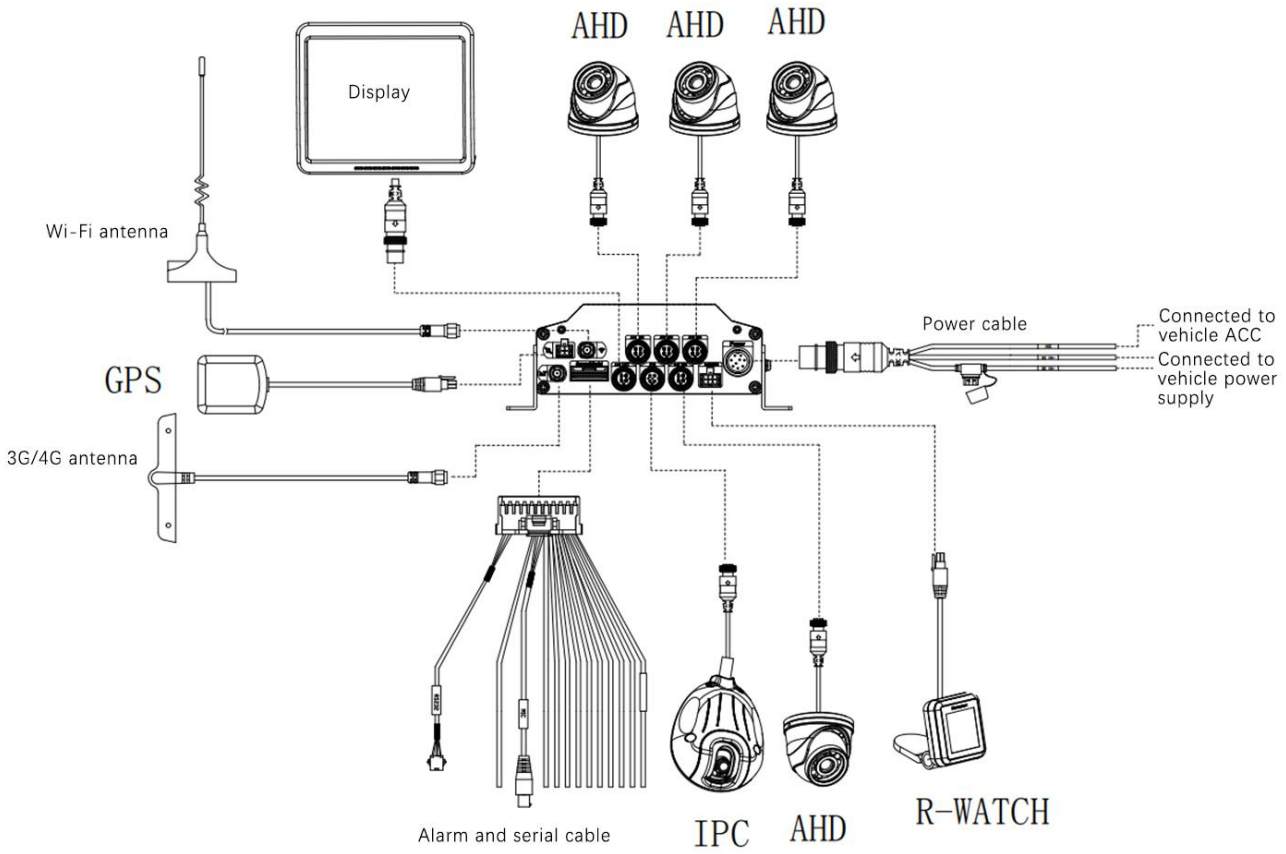
Installation

Typical Wiring Diagram



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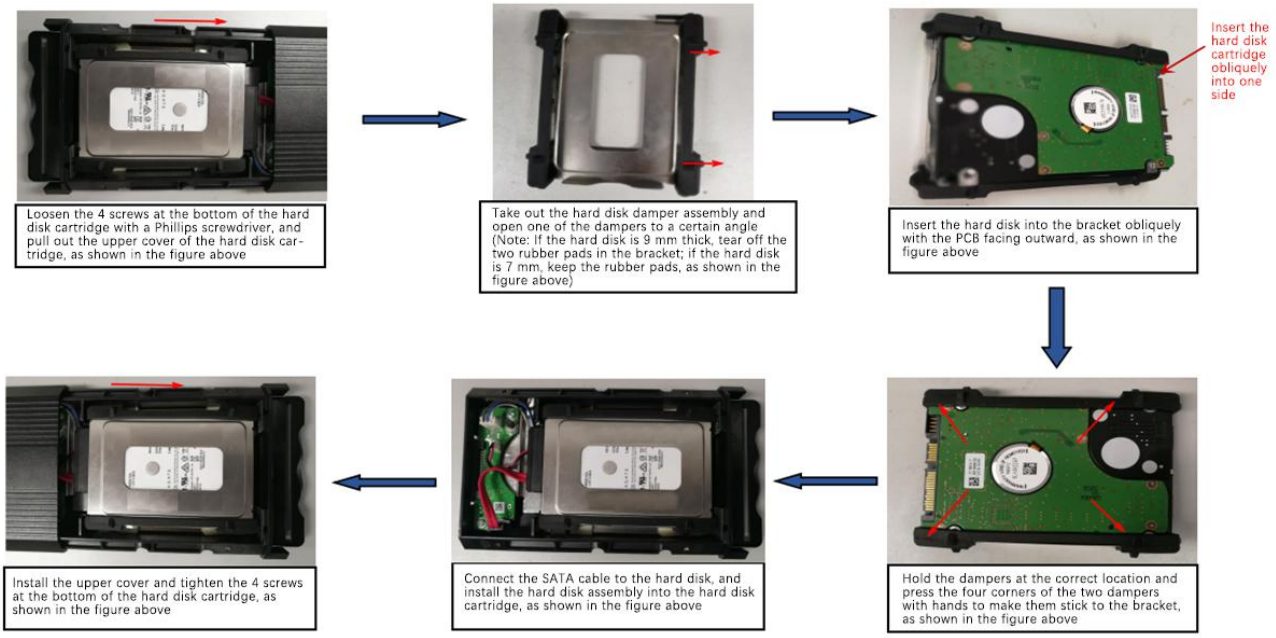
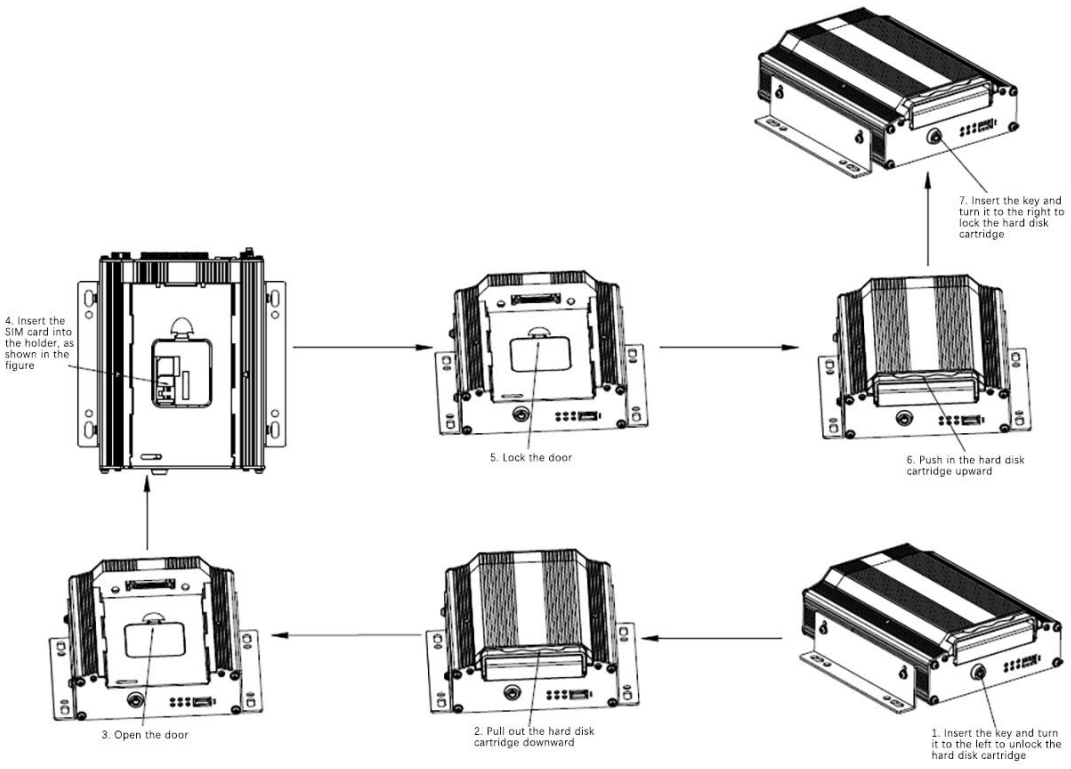
Hard Disk Installation



SIM Card Insertion



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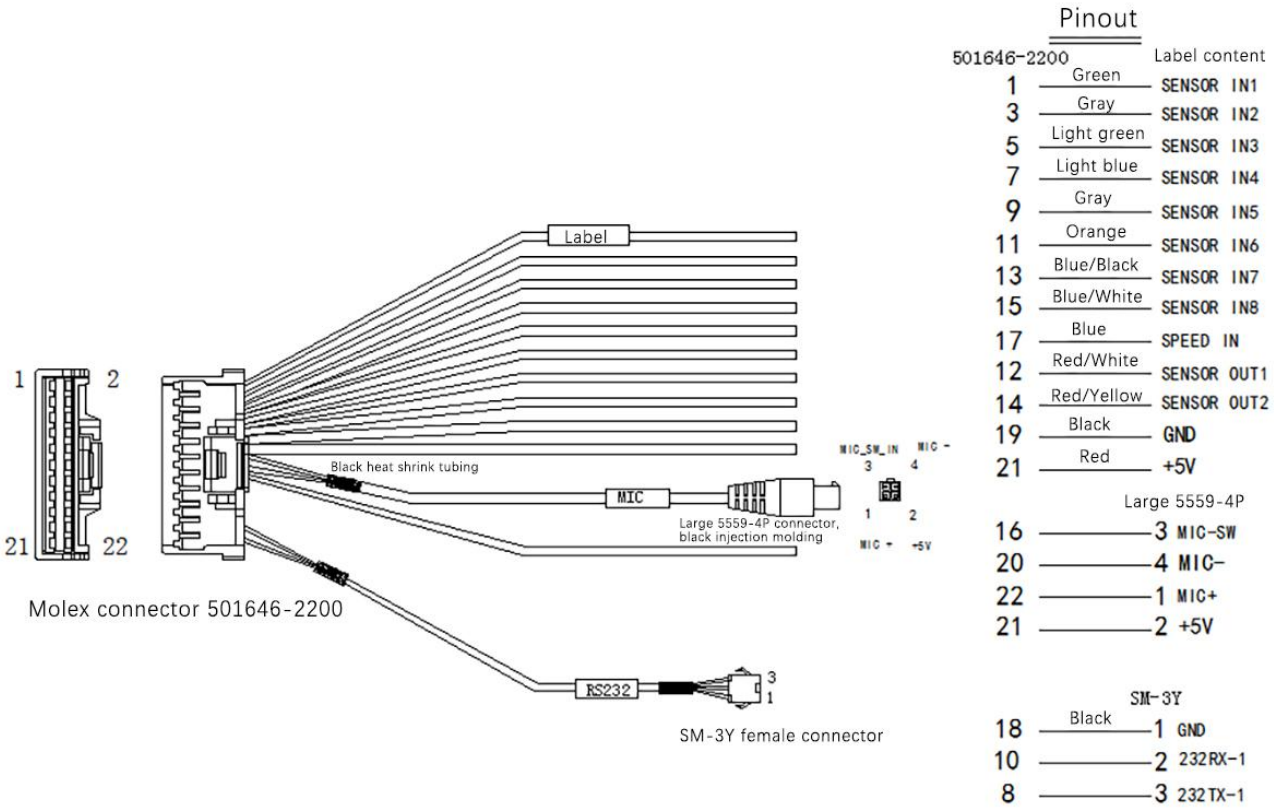
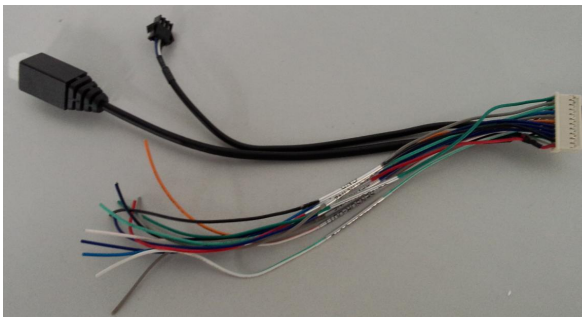
External Cable Connector Pinouts

Alarm cable connector pinout





Pictures of alarm and serial port cables

A/V OUT patch cable

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MDVR Fails to Start

- ✧ Check the input power supply of the device by checking whether the power cable is correctly connected, whether the ground cable is connected to the battery, and whether the fuse in the power cable is intact.
- ✧ Check whether the ACC signal cable of the power supply device has a voltage (greater than 7 V).
- ✧ Check whether the key on the device is switched off.

MDVR Keeps Restarting

- ✧ Check whether the voltage is too low to start the device, causing the device to randomly restart.
- ✧ Hard disk/SD card failures may cause device startup failure. Remove the storage unit and turn on the device again to determine whether the storage unit is faulty.

Video Recording Does Not Work

- ✧ Check whether a storage unit is installed and in good contact and whether the storage unit can read data normally when connecting to a computer.
- ✧ The storage unit is not formatted. After the storage unit is inserted into our device, it needs to be formatted to perform normal data storage.
- ✧ Check whether there is a video signal input from the camera to the MDVR and whether there is a video image shown on the live view screen.

Video Files Have No Sound

- ✧ Check whether there is an external pickup connected or whether the camera features audio acquisition.
- ✧ Access the video channel settings and check whether the audio option is enabled.

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- ✧ The channel that realizes the sound recording function must have video input and can perform video recording normally.

GPS Abnormality

- ✧ Check whether the GPS antenna is correctly installed and whether there is a GPS silk screen on the GPS antenna pedestal on the back of the MDVR.
- ✧ Check whether the antenna receiver is blocked. The antenna receiver must not be covered, or else signal reception failure may occur as a result.
- ✧ The impacts caused by surrounding environments such as tree shelters, tunnels, driving near tall buildings and overpasses, thunderstorm weather, etc. may cause GPS signal loss or GPS to receive the wrong signal.

Device Cannot Be Shut Down in the Ignition Startup & Shutdown Mode

- ✧ Check whether the ACC signal cable connection is correct and whether there is no voltage on the ACC yellow line after the key is switched off.
- ✧ If the Timing Video Record is enabled and the current time has not exceeded the limit set in the recording time task table, the device cannot be shut down.

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