X1N-H0401
Specification

Revision History

Date	Revision Version	Description	Author
April 9, 2021	V 1.0	Added the description of the frequency bands supported by 4G and Wi-Fi.	Wang Xiaoyong
April 14, 2021	V 1.1	Added the description of AI functions.	Wei Yiwen
December 15, 2021	V 1.2	Modified the description of AI functions	Lyons Liu
March 14, 2022	V 1.3	Added description of AI capability and video resource configuration, and some text optimizations (supporting X1N, Version xx).	Zhou Hao / Wang Xiaoyong

Overview

Streamax X1N-H0401 is a cost-effective device specially developed for mobile video surveillance and remote video surveillance, 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/BD 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, intelligent vehicle dispatching management, and playback analysis based on the central database.

It supports extended AI intelligent algorithms, provides the Advanced Driver Assistance System (ADAS) alarm, Blind Spot Detection (BSD), and Driver Status Monitor (DSM), and effectively assists drivers in improving driving safety and reducing pedestrian and vehicle accidents.

Highlights

- Embedded Linux operating system
- Extended AI intelligent algorithms
- 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

Active Safety Features

Streamax XIN-H0401 is equipped with two AI algorithms, the DMS algorithm to detect risky driving behaviors and the ADAS algorithm to assist drivers in driving safety. The ADAS algorithm can be replaced with BSD as needed. Detected events will trigger an audio and visual notification by R-watch to alert the driver in real time, event recordings will be uploaded to the cloud simultaneously.

DMS Features

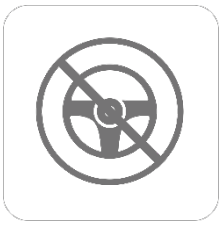
Lens Covered

Fatigue

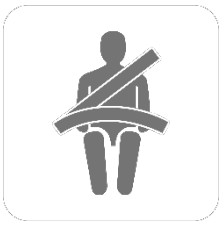
Phone Call

Smoking

Distraction



No Driver Detected



Safety Belt Not Fastened

Yawning

ADAS Features

LDW

HMW

FCW

Optional Active Safety Features

BSD Features

Left Blind Spot Detection

Right Blind Spot Detection

Front Blind Spot Detection

Specifications

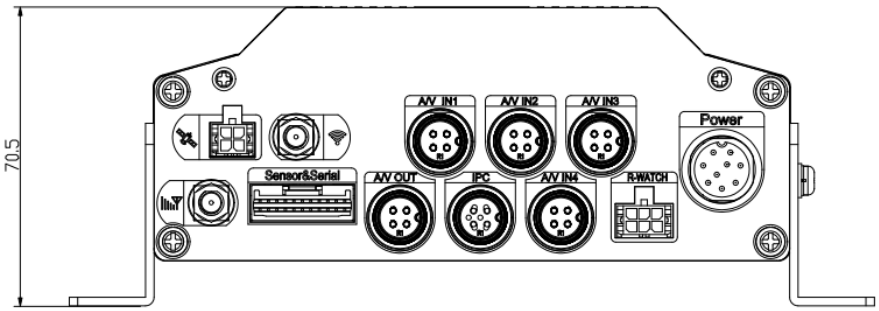
Product Model	
	X1N-H0401
Function Overview	
	Preview, video recording, playback, network transmission, and positioning
System	
Operating System	Linux 4.9
Control Mode	CP4, mouse, EasyCheck, network (3G/4G/Wi-Fi)
Video	
Input	4-channel AHD (1080p) + 1-channel IPC (1080p)
Output	1-channel (CVBS)
Total Resources (equipped with 2-channel AI)	PAL: 1*1080P@25fps（ADAS）+1*720P@25fps（DMS）+2*720P@15fps（AHD）+ 1*1080P@15fps（IPC） Or 4*720@25fps（AHD）+1*1080P@15fps（IPC） NTSC: 1*1080P@30fps（ADAS）+1*720P@30fps（DMS）+2*720P@15fps（AHD）+ 1*1080P@15fps（IPC） Or 4*720@30fps（AHD）+1*1080P@15fps（IPC）
Total Resources (not using self-equipped AI or using 1-channel AI)	PAL： 4*1080P@15fps（AHD）+1*1080P@25fps（IPC） Or 4*720@25fps（AHD）+1*1080P@25fps（IPC） NTSC： 4*1080P@15fps（AHD）+1*1080P@30fps（IPC） Or 4*720@30fps（AHD）+1*1080P@30fps（IPC）
Video Signal Standards	Level: 1 Vpp; impedance: 75 ohm NTSC/PAL (optional)
Audio	
Input	5 channels (1-channel IPC audio)
Output	1 channel
Audio Signal Standards	Level: 2 Vpp; input impedance: 4.7 kilohm
Display	
Screen Split	1/4/9-screen display
Screen Display	Positioning information, alarms, license plate numbers, driving speed, time, etc.
Operating Interface	GUI
Recording	
Audio Compression Format	ADPCM, G.711U
Video Compression Format	H.264/H.265
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	
Playback Channel	1-channel local playback
Search Mode	By date/time, channel, or event
Network	

2G/3G/4G(Optional)	Supported **For North America EC25-AF** LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5 **For Europe and Asia EC25-EC** LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 **For Latin America EC25-AU** LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8
WIFI(Optional)	802.11a/b/g/n/ac
IPC Ethernet	6-pin aviation plug (1 × 100M, PON power supply)
Positioning	
GPS(Optional)	Positioning, speed detection, and time synchronization GPS L1 1575.42 MHz BDS B1 1561.098MH GALILEO E1B/C1 GLONASS L1OF 1602MHz SBAS: WAAS, EGNOS, MSAS, GAGAN
Sensor	
G-Sensor	Built-in 6-axis inertial sensor
Storage	
Hard Disk	1 × 2.5-inch SATA hard disk
Port	
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
Power Supply	
Input	DC 8 - 36 V
Output	5V@500 mA
Maximum Typical Power Consumption	35 W(5 Channels with IR on connected, CP4 connected，5V_OUT connected)
Standby Power Consumption	0.7 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 90% (non-condensing)

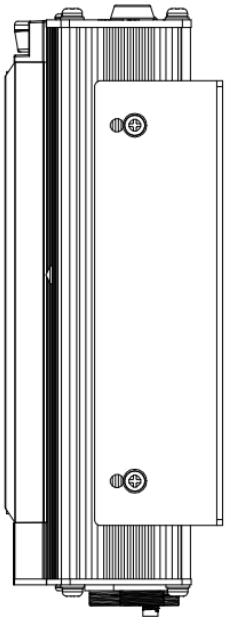
AI Capability and Video Resource Configuration of X1N

Solution Configuration	AI Portfolio	Channel Resources				
		Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
X1N-GMH0401	ADAS+DMS	ADAS 1080P, 30fps, image quality 3	DMS 720P, 30fps, image quality 3	AHD 720P, 15fps, image quality 3	AHD 720P, 15fps, image quality 3	IPC 720P, 30fps, image quality 1
	DMS	Ordinary monitoring 720P, 30fps, image quality 3	DMS 720P, 30fps, image quality 3	AHD 720P, 30fps, image quality 3	AHD 720P, 30fps, image quality 3	IPC 720P, 30fps, image quality 1
	ADAS	ADAS 1080P, 30fps, image quality 3	Ordinary monitoring 720P, 30fps, image quality 3	AHD 720P, 15fps, image quality 3	AHD 720P, 15fps, image quality 3	IPC 720P, 30fps, image quality
	ADAS + Top View BSD (either left/right/front)	ADAS 1080P, 30fps, image quality 3	BSD 720P, 30fps, image quality 3	AHD 720P, 15fps, image quality 3	AHD 720P, 15fps, image quality 3	IPC 720P, 30fps, image quality 1
	DMS + Top View BSD (either left/right/front)	BSD 720P, 30fps, image quality 3	DMS 720P, 30fps, image quality 3	AHD 720P, 15fps, image quality 3	AHD 720P, 15fps, image quality 3	IPC 720P, 30fps, image quality 1
	2* Top View BSD (any two of left/right/front)	BSD 720P, 30fps, image quality 3	BSD 720P, 30fps, image quality 3	AHD 720P, 15fps, image quality 3	AHD 720P, 15fps, image quality 3	IPC 720P, 30fps, image quality 1
	1*side-mounted BSD (either left or right)	BSD 1080P, 30fps, image quality 3	AHD 720P, 30fps, image quality 3	AHD 720P, 15fps, image quality 3	AHD 720P, 15fps, image quality 3	IPC 720P, 30fps, image quality 1
X1N-GMH0401+ADKIT (If ADAS and DMS algorithms are involved, they shall be processed in ADKIT)	ADAS+DMS	AHD 1080P, 25fps, image quality 1	AHD 1080P, 25fps, image quality 1	AHD 1080P, 25fps, image quality 1	ADAS 1080P, 25fps, image quality 1	DMS 960P, 25fps, image quality 1

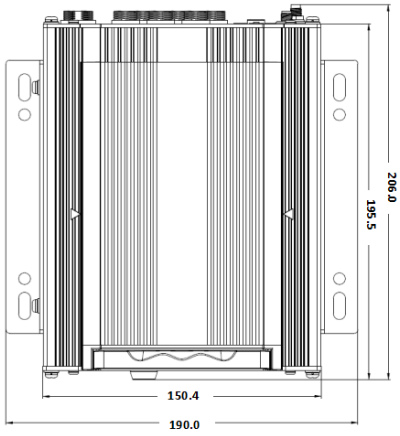
Dimensions (mm)



Front View



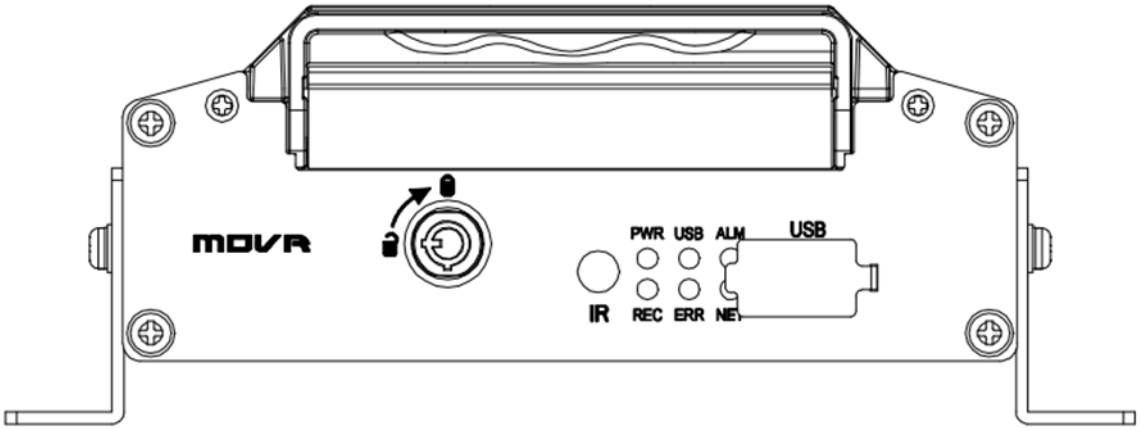
Left View



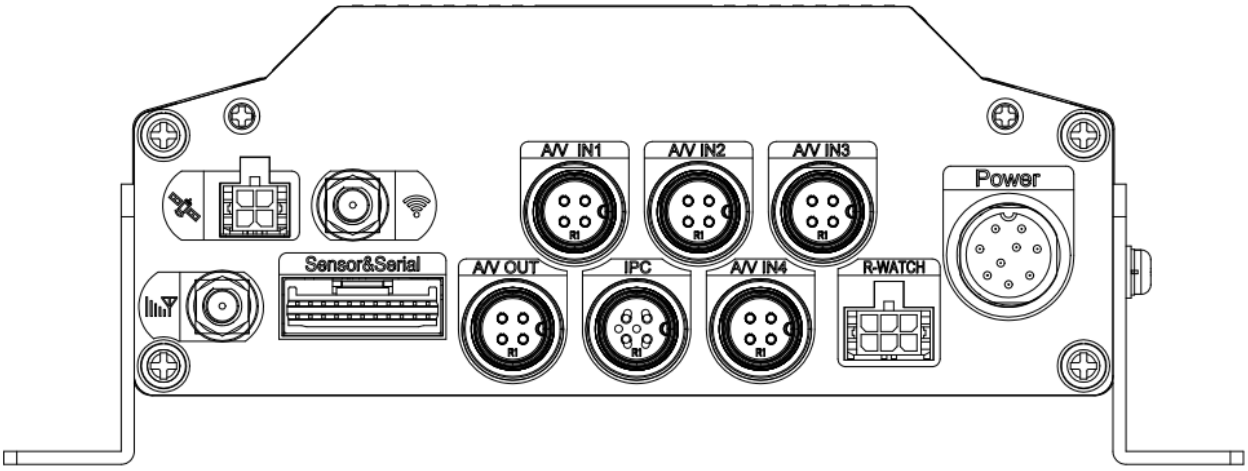
Top View

Panel Ports

Front panel:



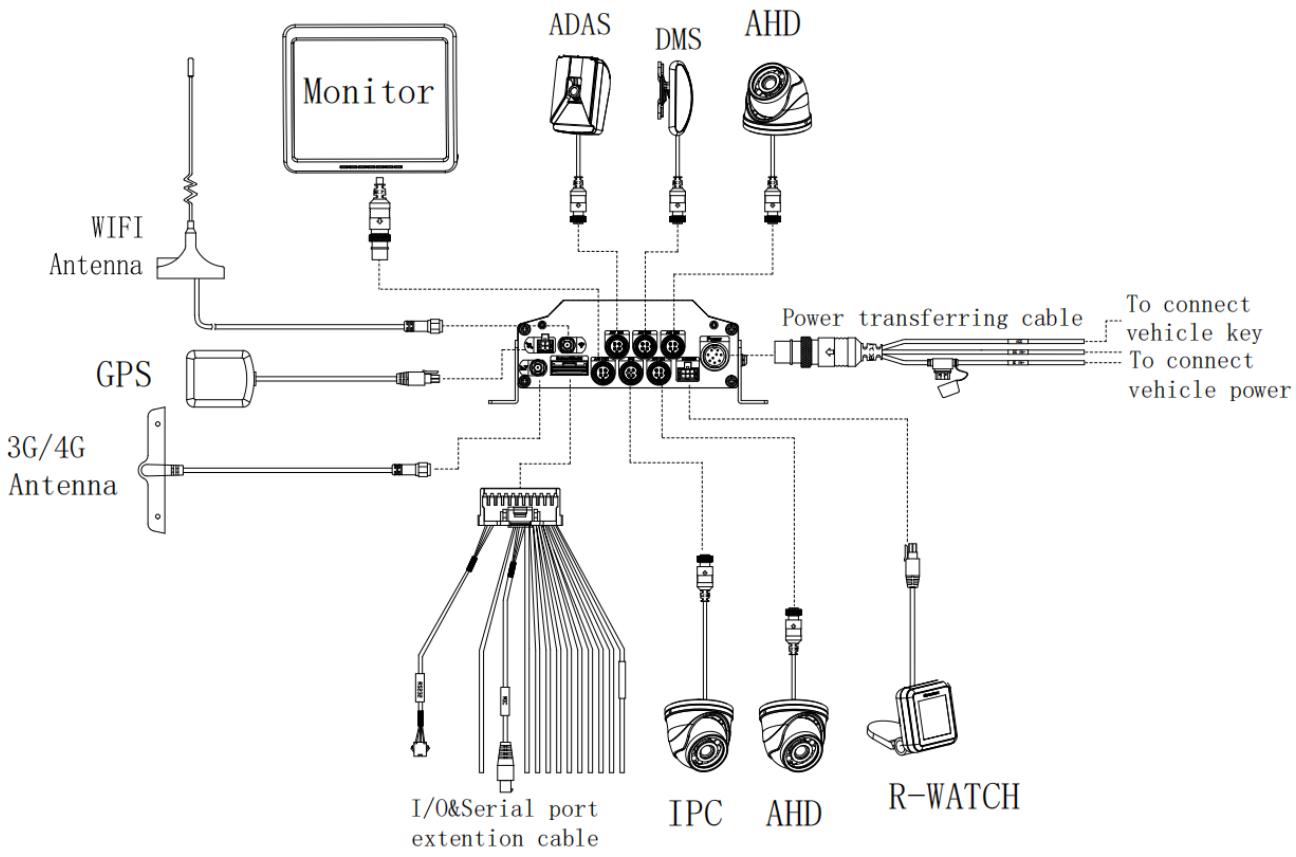
Rear panel:



No.	Silk Screen	Description
1	Power	8–36 V DC power input
2	Sensor&Serial	Serial port and IO port
3	A/V IN 1~4	Analog audio/video input ports 1 to 4
4	A/V OUT	Analog audio/video output port
5	IPC	PON-powered IPC port
6	R-WATCH	R-WATCH port
7		GPS/BD antenna connector
8		3G/4G antenna connector
9		Wi-Fi antenna connector

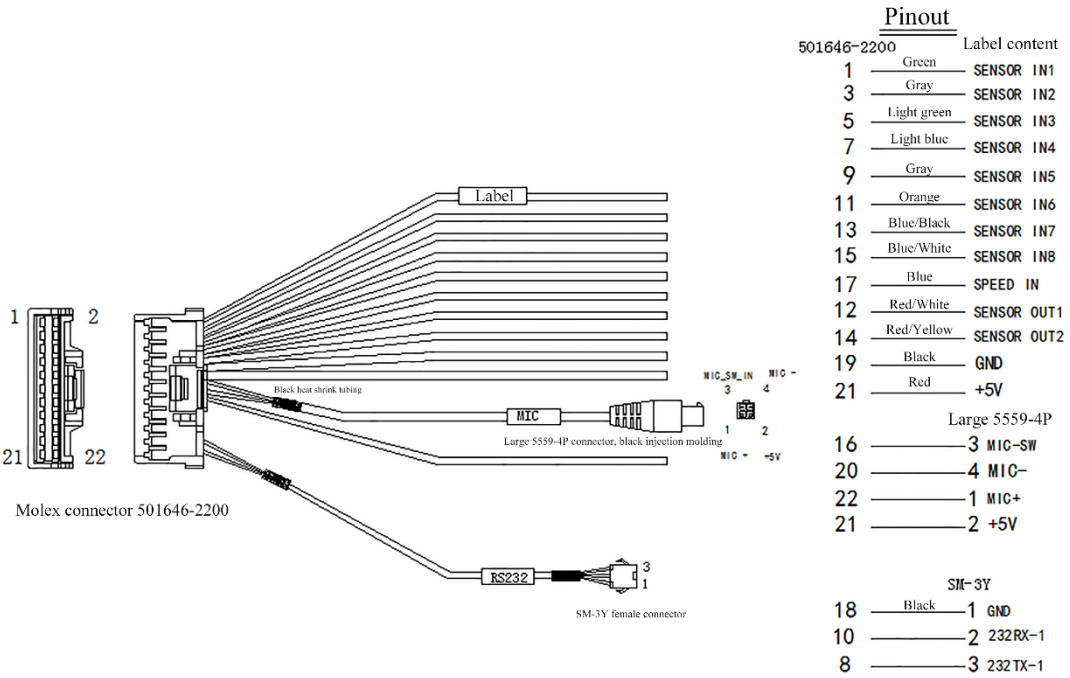
Installation

Typical Wiring Diagram

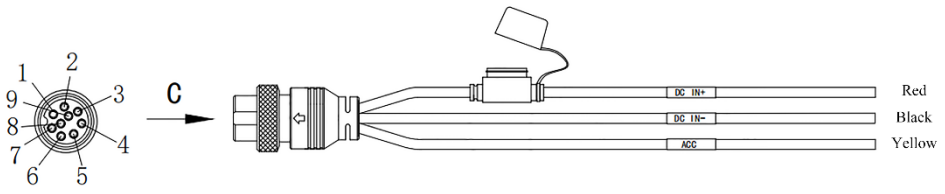


External Cable Connector Pinouts

(1) Alarm cable connector pinout



(2) Power cable connector pinout



C view

YL16-9 aviation female connector

Pin definitions