X3N-H0404 Specification

Revision History

Date	Revision Version	Description	Author
April 9, 2021	V 1.1	Added the description of the frequency bands supported by 4G and Wi-Fi.	Wang Xiaoyong
April 14, 2021	V 1.2	Added the description of AI functions.	Wei Yiwen

Overview

Streamax X3N-H0404 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 is characterized by good anti-vibration performance, prevention of electromagnetic interference, radiation protection, simple design, flexible and easy installation, hard disk storage, SD card backup design, and high reliability, providing comprehensive functions. 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, hard disk heating & hard disk power-off protection technologies
- ☒ Connection with storage units such as a fireproof box for disaster recovery backup

Active Safety Features

Streamax X3N-H0404 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

Yawning	Fatigue	Smoking	Phone Call

Distraction	Lens Covered

ADAS Features

LDW	HMW	FCW	PCW

1. Expected release date July 10th 2021
2. Expected release date July 10th 2021

Optional Active Safety Features

ADAS Features


1

1.   Expected release date July 30th 2021

Specifications

| Product Model	
	X3N-H0404
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 + 4-channel IPC
Output	2 channels (CVBS + VGA)
Total Resources	**PAL** 　4 × 1080p @ 11 FPS (AHD)+4 × 1080p @ 30 FPS (IPC) Or 4 × 720p @ 25 FPS (AHD) + 4 × 1080p @ 30 FPS (IPC) **NTSC** 　4 × 1080p @ 11 FPS (AHD)+4 × 1080p @ 30 FPS (IPC) Or 4 × 720p @ 30 FPS (AHD) + 4 × 1080p @ 30 FPS (IPC)
Video Signal Standards	Level：1 Vpp；impedance：75 ohm NTSC/PAL (optional)
Audio	
Input	8 channels (4-channel AHD + 4-channel IPC)
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	
Video Compression Format	H.264/H.265
Audio Compression Format	ADPCM，G.711U
Image Resolution	**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)，WHD 1(928 × 240)， 　　　WCIF (464 × 240)，D1 (704 × 480)， 　　　HD1 (704 × 240)，CIF (352 × 240)； **Digital** 　　　1080P (1920 × 1080)，720P (1280 × 720)；
Image Quality	Levels 1－8 adjustable (preferably Level 1)
Recording Mode	Startup/Scheduled/Alarm event recording

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Alarm Prerecording	0 — 60 min
Alarm Recording Delay	0 — 30 min
Playback	
Playback Channel	Local 1/4-channel playback and web-based 1/4/8-channel playback
Search Mode	By date/time, channel, or event
Network	
3G/4G	Supported **For North America** LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5 **For Europe and Asia** LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 **For Latin America** LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8
WIFI	802.11a/b/g/n/ac
Ethernet	RJ45 × 1(10/100M)
Positioning	
GPS	Positioning, speed detection, and time synchronization GPS L1 1575.42 MHz BD B1 1561.098MH GALILEO E1B/C1 GLONASS L1OF 1602MHz SBAS: WAAS, EGNOS, MSAS, GAGAN
Sensor	
G-Sensor	Built-in 6-axis inertial sensor
Storage	
HDD/SSD	1 × 2.5" SATA HDD or SSD, Thickness: 7/9.5/15 mm; hard disk heating: supported
SD	Hot-swapping 32/64/128/256 GB SDXC
Port	
USB	1 × USB2.0 (Type A)+ 1 × USB2.0 (Type B)
SD	1 × SD card slot
SIM	1 × SIM card slot
Serial Port	2 × RS232, 2 × RS485(1 × R-WATCH)
CAN	1 × CAN
IO	8-channel input and 2-channel output
Pulse Speed Detection	1 channel
Control Panel	CP4
Intercom	1 × MIC port (CP4)
Power Supply	
Input	DC 8 — 36 V
Output	5 V@500 mA & 12 V@500 mA

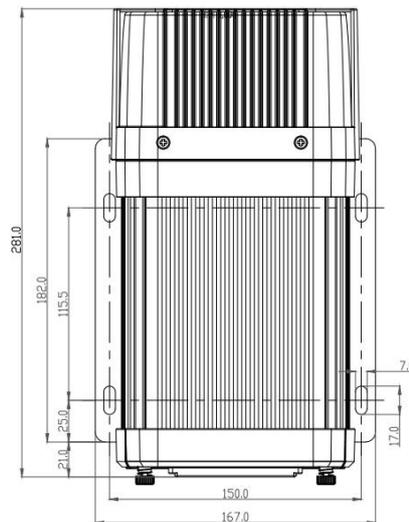|	
Maximum Typical Power Consumption	50 W
Standby Power Consumption	≈ 0 W
Physical Characteristics	
Dimensions (mm)	281 × 167 × 92.8 (with the bracket and rear shield)
Weight (kg)	2.4 kg (without hard disks)
Environment	
Operating Temperature	-40°C to +70°C (heated, without hard disks)
Operating Humidity	8% to 95% (non-condensing)

Dimensions (mm)
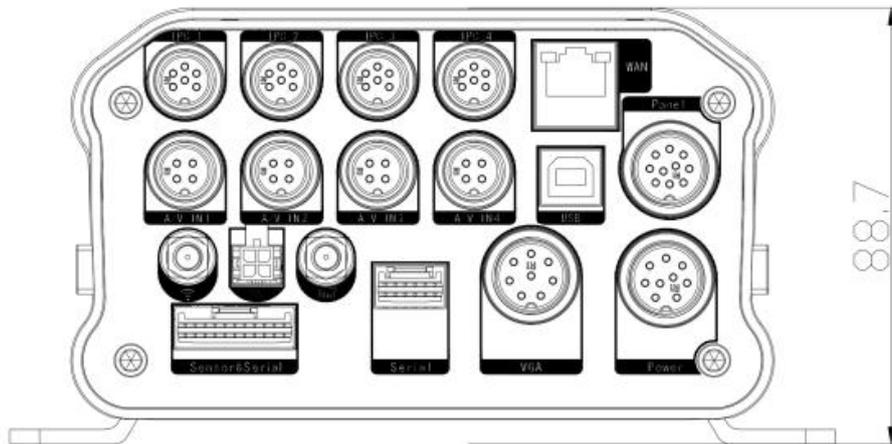
Front View
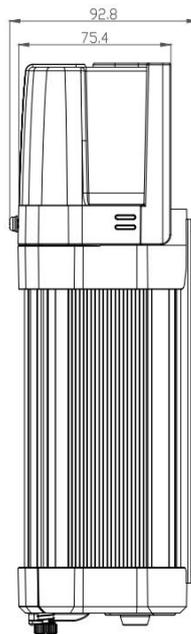
Left View

Top View

Panel Ports

Front panel:
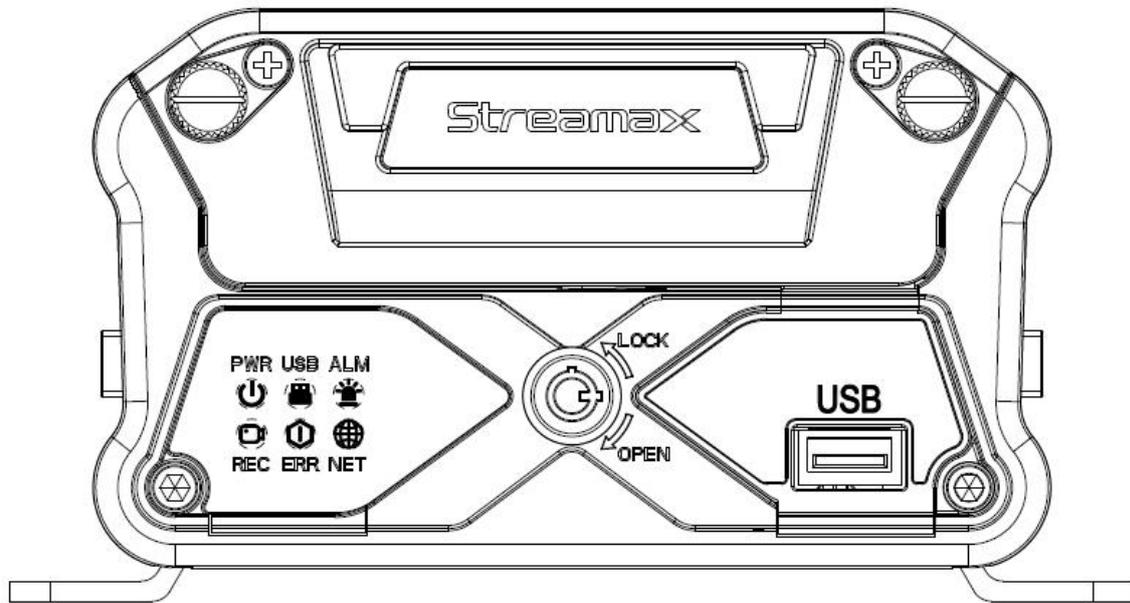
Rear panel:
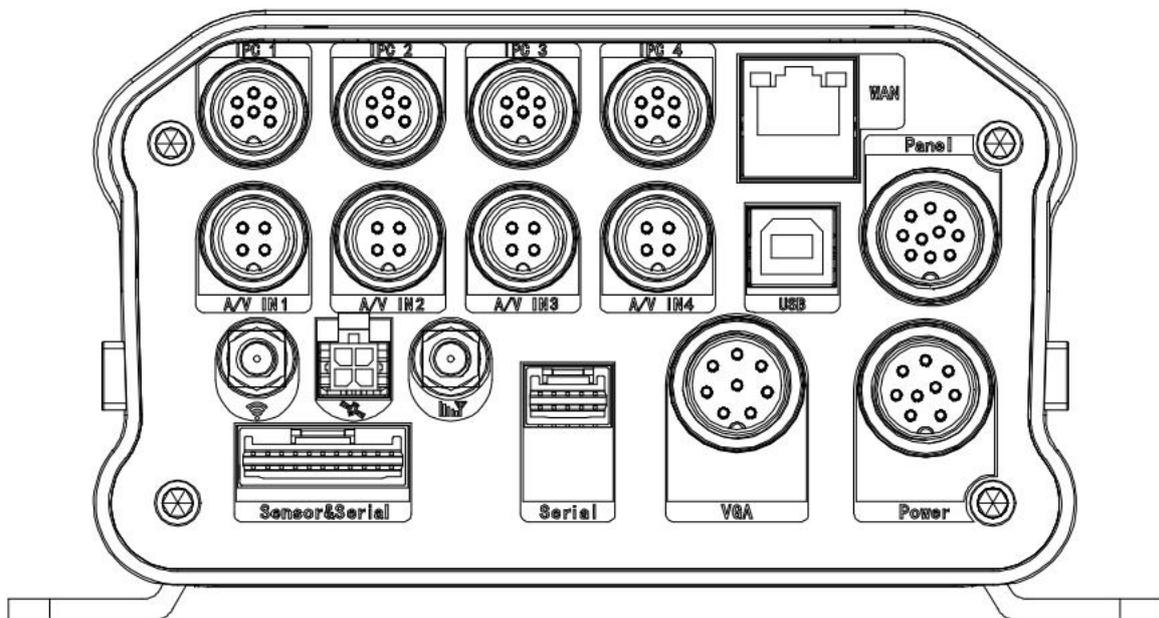
No.	Silk Screen	Description
1	A/V IN1~4	Analog audio/video input ports 1 to 4
2	IPC1~4	IPC audio/video input ports 1 to 4
3	VGA	VGA video port
4	WAN	100 Mbit/s network port
5	USB	USB 2.0 port (Type B)

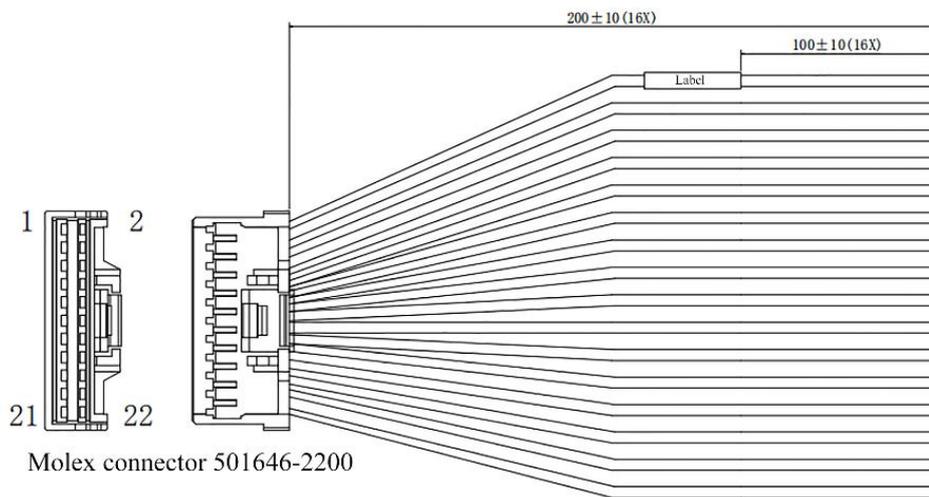| 6	⏺Ⲩ	3G/4G antenna connector
7	🛰	GPS/BD antenna connector
8	📶	Wi-Fi antenna connector
9	Sensor&Serial	IO port & serial port
10	Serial	Serial port
11	Panel	Control panel (CP4) port
12	Power	8–36 V DC power input

Installation

Typical Wiring Diagram
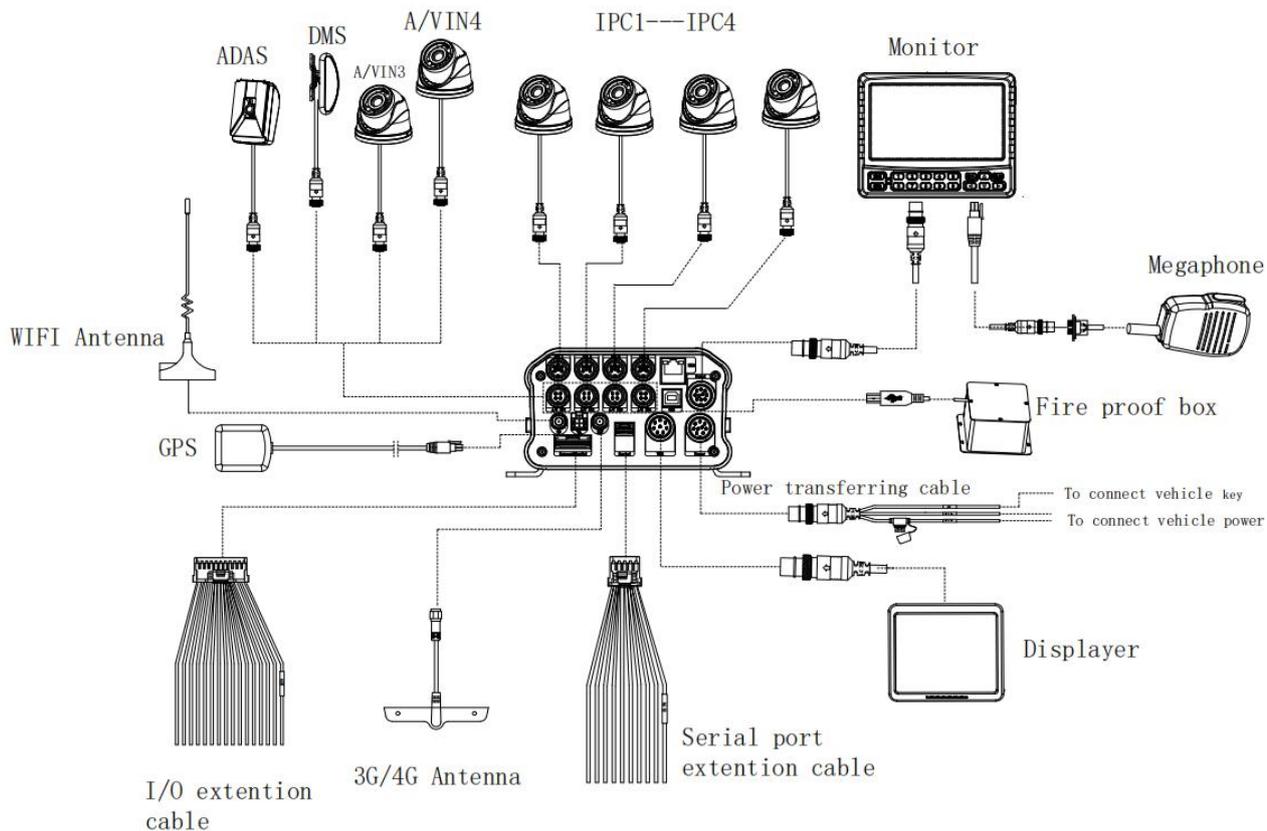
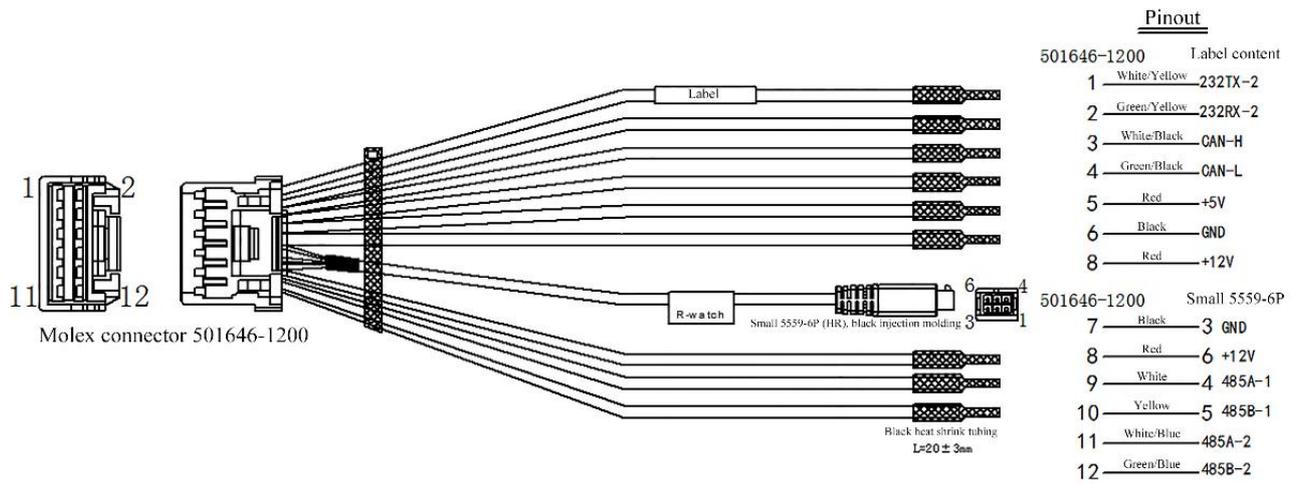## Definition of External Cable Connector Pinouts

Alarm and serial cable connector pinout

Pinout		
501646-2200		Label content
1	Red	SENSOR IN1
3	Gray	SENSOR IN2
5	Light green	SENSOR IN3
7	Light blue	SENSOR IN4
9	Gray	SENSOR IN5
11	Orange	SENSOR IN6
13	Blue/Black	SENSOR IN7
15	Blue/White	SENSOR IN8
17	Blue	SPEED IN
12	Red/White	SENSOR OUT1
14	Red/Yellow	SENSOR OUT2
19	Black	GND
21	Red	+5V
18	Black	GND
10	Green	232RX-1
8	White	232TX-1

Serial cable connector pinout

Molex connector 501646-1200

	Pinout	
501646-1200		**Label content**
1	White/Yellow	232TX-2
2	Green/Yellow	232RX-2
3	White/Black	CAN-H
4	Green/Black	CAN-L
5	Red	+5V
6	Black	GND
8	Red	+12V

Label

R-watch

Small 5559-6P (HR), black injection molding

	Small 5559-6P		
501646-1200			
7	Black	3	GND
8	Red	6	+12V
9	White	4	485A-1
10	Yellow	5	485B-1
11	White/Blue		485A-2
12	Green/Blue		485B-2

Black heat shrink tubing
L=20±3mm

Power cable connector pinout

C view

YL16-9 aviation female connector

DC IN+   Red
DC IN-   Black
ACC   Yellow

Pin definitions

1 2	Red (DC IN+)	UL1015 16AWG
3	Yellow (ACC)	UL1007 18AWG
6 7	Black (DC IN-)	UL1015 16AWG