BADAITECH CO., LTD

USER MANUAL OF X960 SERIES

V1.0

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Thank you for preview this User Manual of video& audio surveillance terminal. Please read it carefully before using it so as to understand the performance, purpose and usage of this product. We are very pleased that this manual can provide you with help and convenience.If you have any problems in the process of use or good suggestions for our product, please contact us. 🅢 or ⓦ : +86 13826165708
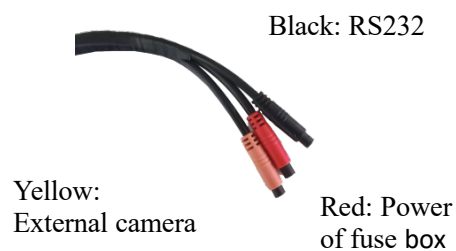
I. Purpose of writing

The purpose of the document is to correctly guide user to understand the product, who can quickly master the features and functions, correctly use and install. At the same timem it's conducive to technical support and maintenance of routine works.

II. Precautions for Use

1. Please horizontally park the vehicle in a place with good GPS/4G signal for installation. The lens angle is consistent with the level of the driving direction, and stick it on the windshield.

2. The device is divided into two versions, fuse box and cigar lighter for power supply. It's matched with voltage adaptor box with 10-36V DC input. Please pay attention to the positive and negative wires when wiring to avoid short circuit.

3. Storage modules on the device do not support working-plug in or out. Do not remove or insert storage modules when the device is powered on.

4. Keep away from heat sources, dust and strong magnetic field during installation.

5. Use industrial-grade TF card with a maximum support of 256GB, and regularly maintain the storage medium to protect or extend the performance life.

6. Non-professionals are not allowed to open the shell to avoid damage and electric shock.

7. Do not move the device or replace components with power on to avoid device damage.

III. Product Introduction

3.1 Product Overview

Black: RS232

Yellow:
External camera

Red: Power
of fuse box

10-36V Power adaptor box with super capacitor

External antenna of GPS/4G

X960A: Internal antenna and super capacitor

X960 series of products is a 4G/Wifi vehicle audio and video all-in-one device, which is designed for all models of vehicles monitoring and remote management with the features of a cost-effective, easy mounting and scalable function.

It is worked with high-speed processor and embedded operating system, combined with the most advanced IT technologies such as H.265 video compression/decompression, 4G network , GPS positioning , AI algorithm and others.

It's mateched with 1080P camera and various suitable cables, and can be expanded to another 1080P or 720P external camera to record D1/720p /1080P video as required, local record and journey record data uploading.

It's also cooperated with the central management platform to achieve alert linkage of central monitoring, cloud management of devices and versions, and playback analysis, especially for the fleet management and Usage-based insurance(UBI) a lot.

3.2 Product Features

1. Flexible Control

➢ Function can be turn On or Off   as yourselves

➢ Function parameters can also be set as yourselves

2. Local and Remote

➢ Perform local/ remote operations such as upgrade, configuration setting, and switch on/off

➢ SMS upgrade

3. Flexible Power Management

➢ Fulse box with ACC signal for On/Off and journey record

➢ Cigar lighter with vibration signal for On/Off and journey record

➢ Intelligent sleep and wake-up as well voltage detection

➢ 10-36V DC input for all models of vehicle

4.Easy Mounting

➢ 3M adhesive front windshield of the vehicle

➢ + / - connection directly as optional

➢ Cigar lighter connection

5. 4G/WIFI

LTE-FDD/HSPA+/WCDMA/GPRS/EDGE/GSM

WIFI connection for data uplo

6.GSENSOR Intelligent Algorithm

➢ Journey start/end record automatically from vibration data or ACC signal

➢ Driver behavior analysis from acceleration, deceleration, cornering, vibration, tilt or crash.

3.3 Main Functions

Category	Description
Video/Audio Record	1. Two channels of video/audio can be recorded simultaneously 2. Automatic loop record 3. Alarm events trigger video 4. Time-lapse record when turn off
Image Capture	1. Manual snapshot by SOS button 2. Alarm events automatically trigger the capture 3. Manual platform remote capture
Driver Behavior Analysis	1.Acceleration 2.Deceleration 3.Vibration 4. Crash, etc
Positioning	1.High-speed processing 2. GPS,GLONASS,BDS 3. Built-in or external antenna
Emergency Events Record	Alarm Events can be automatically uploaded in short video, image and other ways, including overspeed, GSENSOR, SOS, DMS and so on.
JourneyRecord	Record the journey start and end by ACC Signal or vibration signal from GSENSOR.
Playback	Use a PC client or mobile phone app to play back remote playback.
DMS	AI camera and intelligent algorithm.

Notes:
① To realize the synchronization of two channels of video recording, it is necessary to connect another external camera.

(2) To achieve the above function, it is necessary to use the voltage adaptor box of this device to abtain power from the fulse box.

③ Only the Pro version supports the DMS.

3.4 Product Specifications

Main Chip	Allwinner V526/536
Image Sensor	CMOS 2 megapixels
Lens Angle	Built-in lens: 135° wide angle External camera: Optional angle
Lens Aperture	F1.6
Video Resolution	1.Built-in camera 1080P@30fps, 720P@30fps, D1@30fps 2.External cameras 1080P@25fps, 720P@25fps, D1@25fps 3.Level 8 picture quality is optional, level 1 picture quality is the highest.
Video Coding Standard	H.265
Audio Encoding	G711A/AAC
Image Format	JPG
Storage	Industrial grade TF card, 256GB Max.
4G	LTE-FDD/HSPA+/WCDMA/GPRS/EDGE/GSM
WIFI	802.11 b/g/n
Positioning	GPS, GLONASS, BDS
GSENSOR	Built-in
MIC	Built-in
External Camera Signal Format	AHD/CVBS
Operating Voltage	DC5V
Input Voltage	10~36V DC
Average Power Consumption	2.5W
Operating Temperature	-20~ +70℃
Working Humidity	0%-90%
Shell Structure	73.9*45.4*23.5mm

3.5 Button Functions

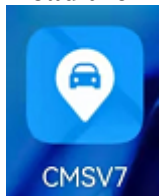| Button	Function	Operation
SOS	Emergency Button	1.Pressing it for 2 seconds. 2.All indicators flash 2-3 seconds when an emergency message to platform when the device is online.
MIC	Audio ON/OFF Button	*AUD* indicator flashes 3-4 times when successful.
WIFI	WIFI Switch Button	1.Short press: *STATE* indicator flash 3-4 times. Switches to AP mode for App connection.If cellphone is not connected more than *5 minutes*, it will be automatically transferred to the platform. 2. Long press 3seconds: GSENSOR calibration finish when all indicators flash.

3.6 Indicators Definition

Indicator light	Function Definition
REC	1.Steady on: video recording, the device is normal 2.Slow blinking: TF card is abnormal, and check the status of the TF card. 3.Off: No video 4.Flash 2 seconds: SOS button in response
AUD	1.Steady on -- audio recording. 2.Off: No recording. 3.Flash 2seconds: MIC button in response
STATE	1.steady on: online and positioning 2.slow blinking: online but without positioning 3.off: without 4.Flash 2seconds: WIFI button in response

IV Operation and Setup
4.1 App
1. Download the App CMSV7 from the mobile app store or scan the below QR code

2. Wifi connection with mobilephone and find the related device(Shown as below 4 pcs of figures)

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--Open Wifi interface of mobilephone --Press **WIFI** button on device --Find the related link, as shown e.g (SSID: ZH520-XXxxxx, password: 123454678)	--Open the App and click **Search**	--Find the related device. Notes: If no device is found, go back to the previous step and press the **WIFI** button again	--Enter video interface amd check the angle

3. Parameter Settings

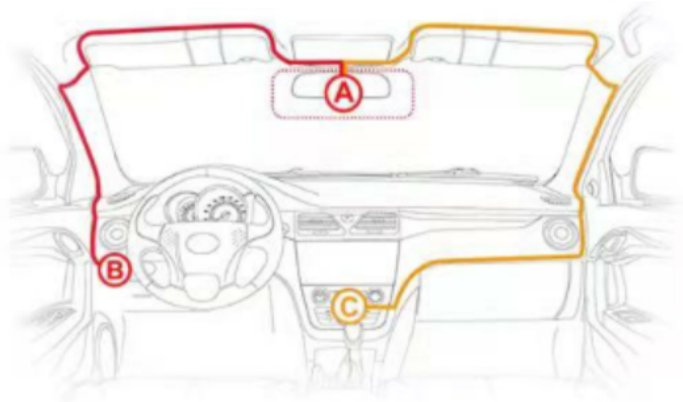| --Click the **Setup** as above, enter the password: 123456, click **Login** .	--Enter the Setting interface

4.2 Webserver

Web login is the same as App login, login link: 192.168.10.10, password: 666666. Please keep the device powered on when you log in.

Note:

Take advantage of our web and mobile services, integrate with your own existing systems.

V. Installation Process

5.1 Wiring Diagram

A: **Device installation position.**   The recommended installation area is shown in the above figure. Please Hide the connecting cable along the upper edge of the front windshield into the gap of the ceiling and connect to the fuse box through pillar A.

B: **Fuse box power supply.** Equipped with professional intelligent voltage adaptor box. If need 24-hour parking monitoring, it needs to be connected to permanent power. When being low voltage, it will automatically power off to protect the battery from power loss.

C:Cigar lighter power supply. Use the same method, please hide the cable through the same route on the passenger side, connect the cigar lighter under the passenger compartment to get power.

Tips: Because of different models, the position of the fuse box will be different. Please refer to the owner's manual for the specific position. The standard length of the power cord and intelligent voltage adaptor of this product is 3 meters. For the power scheme of the fuse box, it is similar to BMW, Mercedes-benz and some models whose fuse box is in the trunk, please contact customer service when purchasing.

5.2 Mounting operation

1. For the first installation, please park the vehicle horizontally where there is GPS and 4G signal. Install TF card and 4G card as correct direction, fix the card slot screw.

2. Connect the power cable of the equipment, and connect the vehicle fuse box or cigar lighter. If you need abtain power from fuse box, please find a professionals to distinguish between positive and negative of vehicles. And please start the vehicle to check whether the equipment is powered on correctly. (Refer to the *Definition of Indicator Light in Section 3.6* of the document)

3. If the indicator light is normal, manually adjust the suggested lens angle of the equipment as the same level(Horizontal and vertical) as the driving direction, and then fix it on the windshield. Long press the WIFI button for 3 seconds, see all the indicators flash for 3 seconds, and then hide the remaining wire along the

edge.

4.If you want to check the installation angle and setting parameters, please log into APP or webserver and confirm whether the installation angle is appropriate.If you need to adjust the angle, press the base of the device with your left hand and rotate it with your right hand to avoid falling off. (Refer to *Section IV* of the document)

5. After adjusting the video angle, please press the WIFI button again for 3 seconds, and release it after seeing all the indicators flash for 3 seconds.

Note: If there is no special angle and appearance setting adjustment, APP or web operation can be omitted.

If your customers have any installation problems, please feel free to contact our service hotline, we will provide 24-hour service. 📞 🄢 🟢 : +86 13826165708/838861871@qq.com

VI. Frequently asked Questions and solutions

6.1 why is the indicator abnormal?

➢ Please check whether the TF card and 4G card are installed in the correct direction, ensure that the card is not damaged, and also check the power cable is normal.

6.2 Why does the device often restart when installed on the vehicle?

➢ The phenomenon of frequent restart: the device goes online and offline repeatedly (**REC/AUD** indicators being unstable). The video recording is broken and discontinuous(**STATE** indicator being unstable).

➢ Causes of frequent restart:

1. The power supply of the vehicle is unstable. Please use tool to measure the input voltage of the device when the problem appears.

2.The storage card may be faulty. Please format or replace it on the premise of retaining the data.

3. Setup problems. Please check the voltage in the **System Information** interface.

6.3 Why is the device always offline?

➢ Check whether the network signal and 4G card are valid.

➢ Log in to the APP or webserver, enter the setting interface, and click **Net** menu to check whether the VPN Settings are correct.

➢ If the server is in maintenance or down, contact platform service personal.

6.4 GSENSOR Reports Fault

➢ No GSENSOR data is reported

Please log in the APP or webserver, enter the **Setting** interface, and click the **Alarm/Accel** menu to check whether the function is enabled.

➢ The data uploaded by GSENSOR is inaccurate or too frequent

1. If the angle of the device was adjusted again, please check whether the device is recalibrated.

2.Please log in the APP or webbrowser, enter the **Setting** interface, and click the **Alarm and Accel** menu to check whether the settings of each parameter are correct.

6.5 Upgrade Description

➢ **Local upgrade**: Copy the upgrade file to the TF card and then insert the TF card into the device, power on and start the device, and the device will be automatically upgraded after the startup is successful. After the upgrade, the device will automatically restart. After that, please check the version number on the **System Info** interface.

➢ **Remote update**: Configure the IP port of the update server and ensure that the TF card exists on the device.

Note: Do not power off the device during the upgrade process. The TF card will be automatically formatted once when inserting into the device for the first time .

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FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different
   from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.