

# AHD MOBILE DVR

## Hardware User Manual

### (OPAX-60SD)



OPAX-60SD Modelimiz Wifi, 3G ve Wifi Desteklememektedir.

# Catalogue





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## Chapter 1 Accessories and Interface

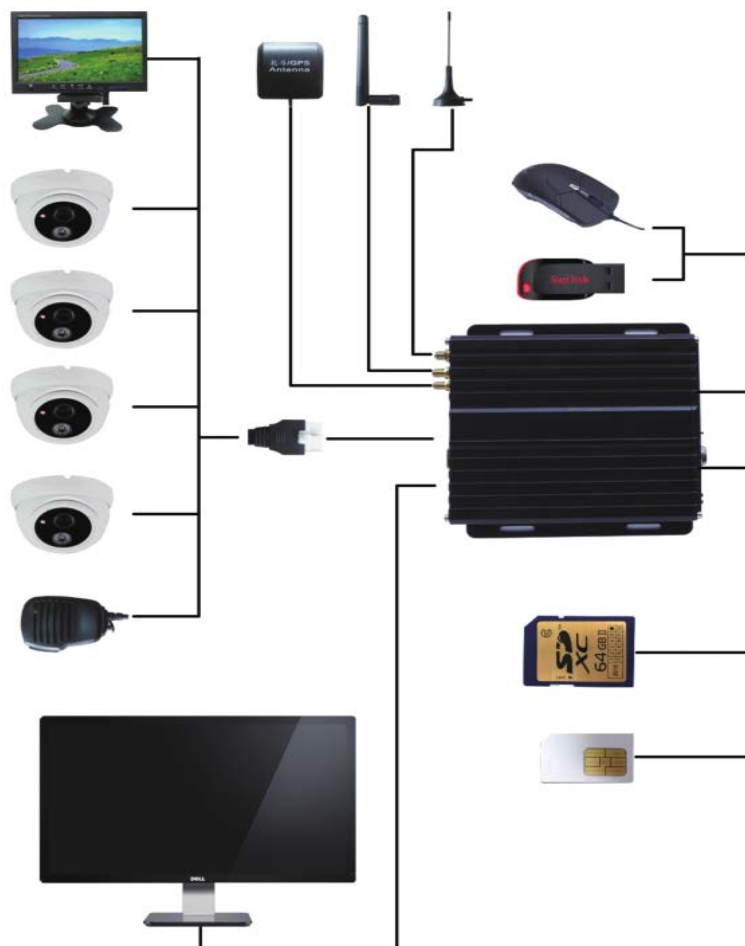
### 1 . MDVR and accessories

Before you use this product please check the accessories in the packing box. If there is anything missing or damaged please contact your seller. The MDVR and accessories are listed as following:

#### List of MDVR and accessories

Description	Picture	Quantity
MDVR		1
Power cable		1
I/O cable		1
AV cable		1

## 2 . System connection



System connection

### 3 . Panel introduction



Figure 1. Front panel

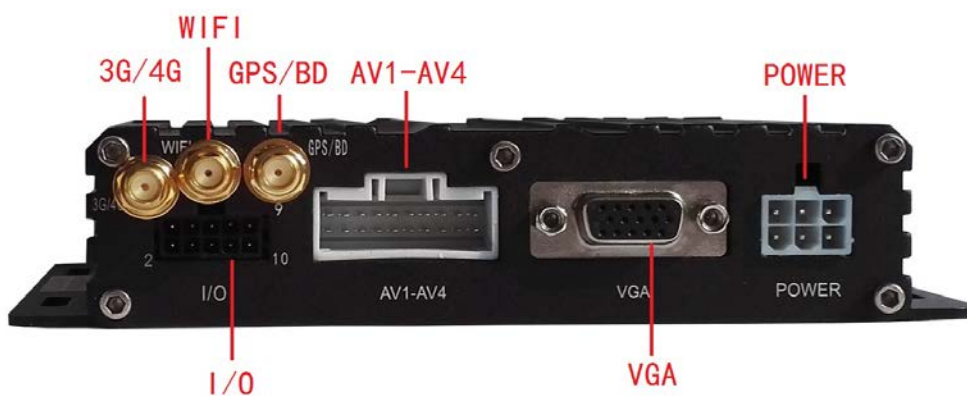


Figure 2. Back panel

### 4 . Interfaces Definition

Here we introduce the definition of the interfaces of Power, I/O, AV Input & Output. See as following:

#### 4.1 Power interface

10-36V	10-36V	ACC
GND	GND	GND

Figure 3. Power interface definition

### 4.2 I/O Interface definition

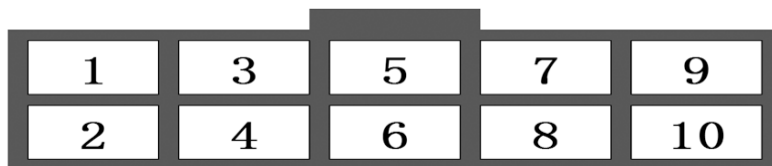



Figure 4. Front view of I/O Interface

#### I/O Interface definition



PIN	Color	Definition	PIN	Color	Definition
1	Blue	Alarm output	2	Black	Ground
3	Purple	Alarm input 2( Positive)	4	Purple	Alarm input 1
5	Purple	Alarm input 4( Positive)	6	Purple	Alarm input 3
7	Red	5V Output	8	White	TXD(TTL Level)
9	Grey	IR Extension	10	Yellow	RXD(TTL Level)

### 4.3 Aviation interface definition



AV-IN Camera Interface



AV-OUT Monitor Interface

## Chapter 2 Installation and Application

### 1 . SD card installation

Please insert the key into the hole of the lock on the front panel, and switch it to be

open status, then pull the cover toward right, you will see the SD card slot.



Figure 5. SD card Installation

Please insert the SD card and SIM card into the slot as per the icon indication, Then close the SD cover and lock it (Please remember to lock it, otherwise, The SD card will not work)



Figure 6. SD card installation

## 2 . Antennas Connection

Please connect the WiFi and GPS antennas as per the picture as followed. We suggest you put the GPS antenna externally at the vehicle's roof to make sure signal connection even when it is weak.



Figure 7. Antennas Connection

### 3 . Power Connection

Please connect the power as per the definition of power interface. Positive pole (RED) connects with power input 10-36V DC, ACC ignition (YELLOW) connects with 5-36V DC.

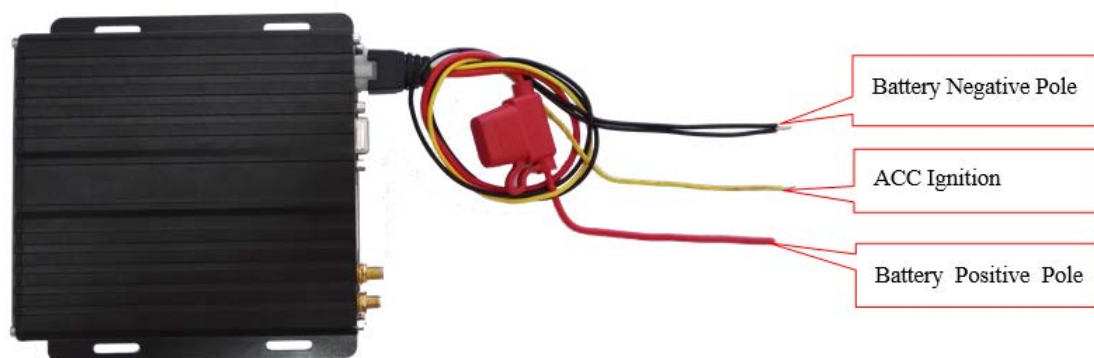


Figure 8. Power Connection

The yellow ignition wire is used to detect the ignition signal. We strongly suggest you connect it with the "RUN" terminal of the ignition switch, or any terminal in the vehicle's switch box which will have power only when the vehicle was ignited (f.g. the FM radio)

**PS: When testing the device, please connect both of the red power wire and the yellow ignition wire with the positive pole of the UPS, otherwise, the device will not boot.**

### 4. Camera Connection

You can connect the camera with the AV input cable directly, or by extension cable (optional). The AV cable in the accessories box has mark on each connector, AV 1-4 are for cameras connection.





Figure 9. Cameras connection

PS: Before you connecting the cameras, please double check the definition of the AV interface, please make sure your cameras are with same aviation interface definition with the DVR.

### 5 . Monitor connection

The device supports VGA and CVBS output. You can switch the output mode to be the one you need by the mouse or remote control.

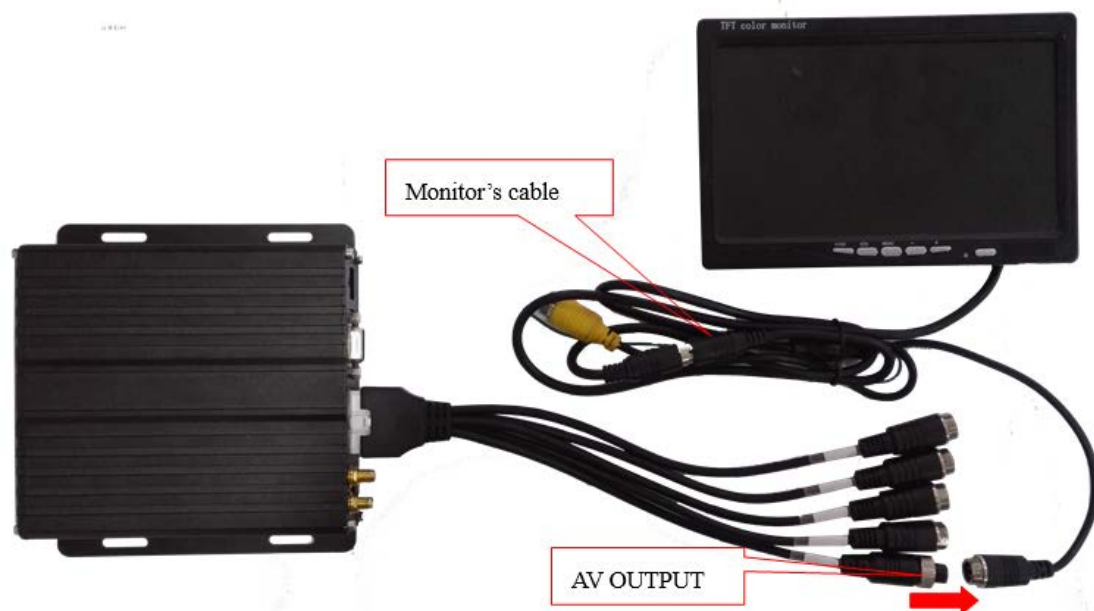


Figure 10. Aviation interface monitor connection

PS: Before you connecting the monitor, please double check the definition of the AV interface, please make sure your monitor is with same aviation interface definition with the DVR.

## 6 . I/O wires connection

When you're going to use it, please connect the wires as the I/O interface definition. You will also find tips of the interface definition in the DVR menu.

### 6.1 IR extension connection

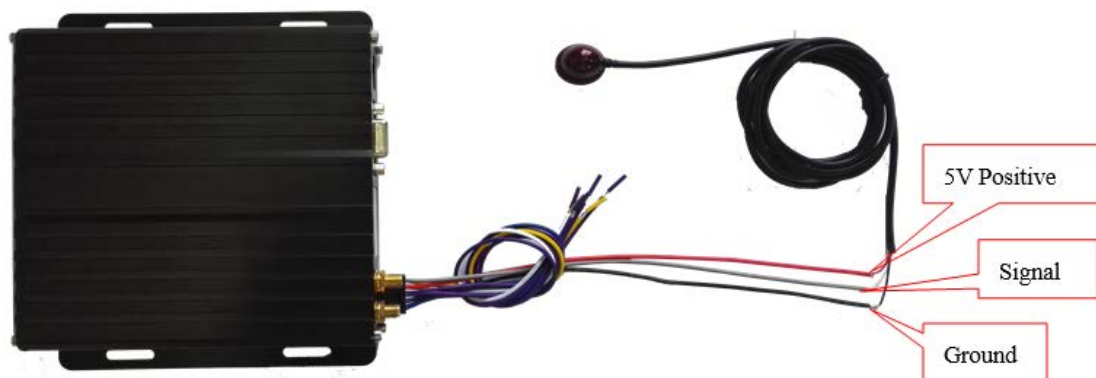


Figure 11. IR extension connection

I/O wires				IR extension cable	
PIN	Definition	Color	↔	Color	Definition
2	Ground	Black	↔	Black	Ground
7	5V Output	Red	↔	Red	5V Power
9	IR Extension	Grey	↔	White	Signal

IR Connection

### 6.2 Alarm input connection

This device provides 4 channels alarm inputs (2 channels Positive trigger, 2 channels negative trigger). You can connect the positive pole of circuit of the reverse light, turn light, door open & close etc with them for applications such as reverse assistant, camera channels switching. You can also connect it with the SOS emergency button for alarm linkage.

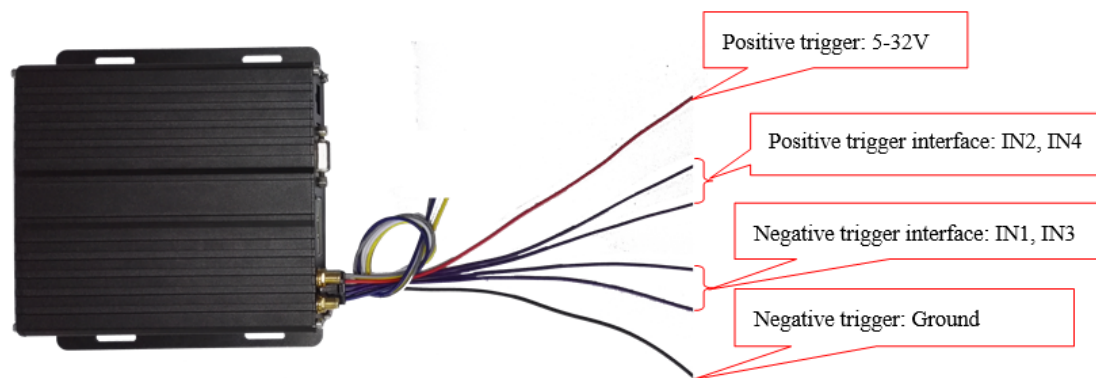


Figure 12. Alarm Input Connection

I/O wires				Alarm Trigger	
PIN	Definition	Color	↔	Color	Alarm trigger
3	Alarm input2	Purple	↔	Red	5-32V
5	Alarm input4	Purple			
4	Alarm input1	Purple	↔	Black	Ground
6	Alarm input3	Purple			

Alarm input Connection

### 6.2.1 Application of Alarm input ( Reverse assistant )

The device comes with Reverse assistant feature, give an example with Alarm Input2, we connect the wire of alarm input 2 with the positive pole of reverse light's power, see as following:

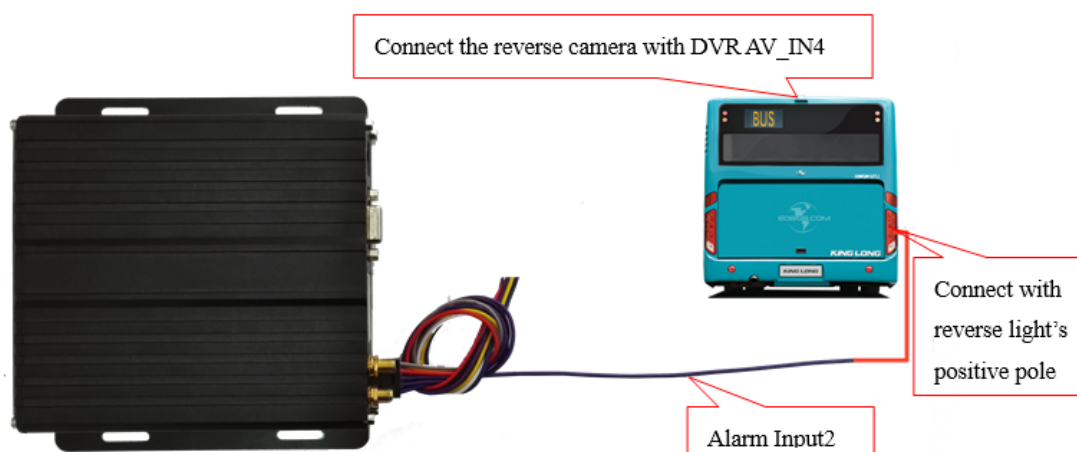


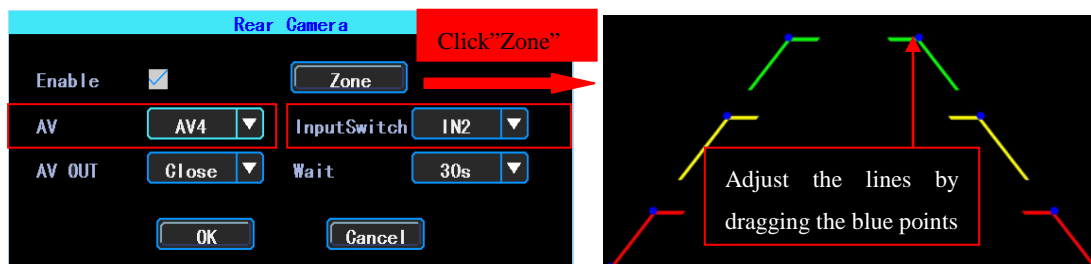
Figure 13. Reverse Assistance Connection

I/O wires				Alarm trigger	
PIN	Definition	Color	↔	Color	Alarm Trigger

3	Alarm input 2	Purple	↔	Red	Positive pole of Reverse light
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Reverse Assistance Connection

Setup it in the DVR menu “Advanced” → “RearCamera”, see as following, click “OK” to save your setting.



AV: Please select the reverse camera’s channel

InputSwitch: Please select the alarm input number which connect with the reverse light’s power

PS: When using reverse assistance, please use IN2, IN4 positive trigger to setup

When you put reverse gear, the DVR will display the reverse camera’s channel only. See as following:

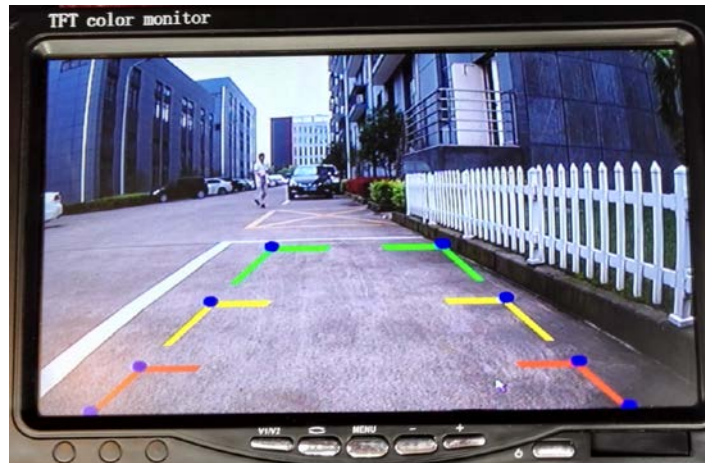


Figure 14. Reverse Assistance

### 6.2.2 Application of Alarm Input (Emergency Alarm)

You can connect an Emergency Button With the alarm input of the device. When you hit the Emergency alarm button, the device will send alarm information to the server platform. That is alarm linkage. (This application requests the DVR connecting with the server in real time, otherwise, the server platform will not receive the alarm information). We give an example with Alarm Input 1, connect the I/O alarm input wire

1 with one terminal of the Emergency button, and connect the other terminal of the Emergency button with ground.

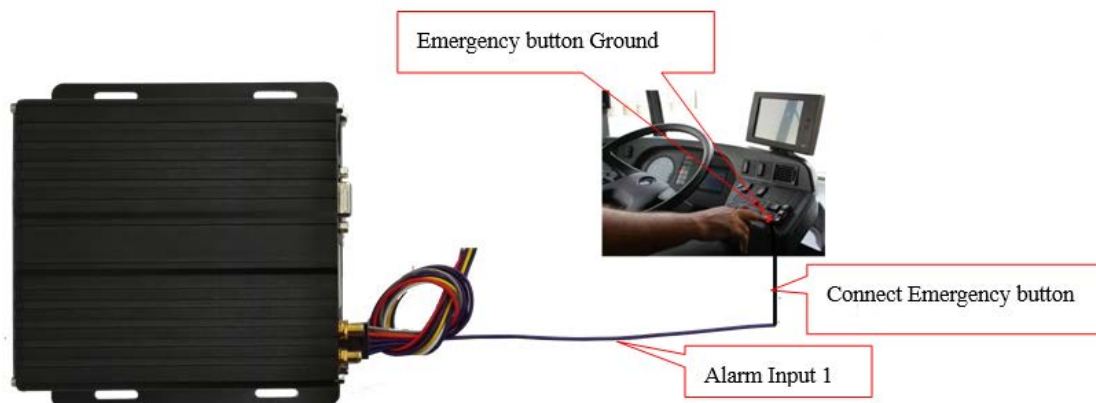


Figure 15. Emergency button connection

PS: (If the connected Alarm input is Positive trigger, the other end of the Emergency button will be 5-32V DC power)

Setup it in the DVR menu “Alarm” → “Input”, select AlarmInput1 in the list to setup the alarm parameter. See as following:

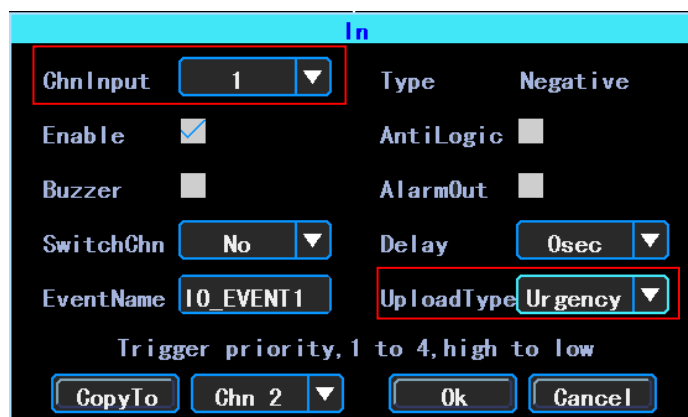


Figure 16. Setup alarm input

ChnInput: This channel is used to connect with the Emergency button.  
 UploadType: When you use the emergency button, please set up it to be “Urgency”, otherwise, set up it to be “No”

### 6.3 Serial ports connection

The device provides a group of serial ports which are used to connect with some user’s peripherals, the interface is LVTTTL (3.3V) level



Figure 17. Serial ports Connection

I/O wires				Peripherals	
PIN	Definition	Color	↔	Color	Definition
2	Ground	Black	↔	Black	Ground
8	TXD(TTL level)	White	↔	Yellow	RXD
10	RXD(TTL level)	Yellow	↔	White	TXD

Serial ports connection