

4CH SD AI MDVR (MR9504ED)



Features:

- Single chip design, integrated ADAS, DSM, BSD
- Support Operate and Maintain by Maintenance Tool
- H.265 video encoding, high compression ratio, high image quality, save more storage spaces and save more bandwidth when transmitting data
- Support 4CH 1080P/720P AHD
- Support AHD/TVI/CVI/IPC/ Analog video inputs
- Built-in G-sensor, monitoring of vehicle driving behavior
- Support reversing image ranging assistance
- Support image horizontal and vertical mirror adjustment
- Support independent voice intercom

Power supply:

- Professional vehicle power supply 8-36V DC wide voltage
- Low voltage, short circuit, reverse connection and other protection
- Support intelligent power management identification, low power automatic shutdown, flameout low power consumption

Data storage:

- Built-in super capacitor prevents data loss and disk damage
- A special file management adopted to encrypt data to effectively protect data security
- Support SD (single/dual) card storage, maximum 2*512G

Wireless module:

- Built-in GPS/BD/GLONASS module, high sensitivity, fast positioning
- Built-in 4G module, support LTE/HSPA/WCDMA
- WIFI module (optional), support 802.11b/g/n, frequency 2.4ghz

Active safety early warning system:

- Built-in ADAS (Advanced Driver Assistance Systems), (include: Headway Monitoring Warning, Forward Collision Warning, Lane Departure Warning, etc.,)
- Built-in DSM (Driver Status Monitor), (include: fatigue, distraction, smoking, phone calls, infrared blocking sunglasses, abnormal driver, occlusion, driver comparison and other alarms)
- Built-in BSD (Blind Spot Detection), (support 3 grades alarm)

Intense driving assistance

- Support speedup, slowdown, sharp turn alarm and upload platform
- Support rollover, collision alarm and upload platform

Parameters:

Type	Parameters	Performance indicators
system	System	Embedded Linux operating system
	Language	Chinese/English Etc...
	Interface	Graphical menu operation interface, mouse operation
Audio and video	Video input	4 CH 1080P AHD/TVI/CVI/CVBS
	Video output	VGA+CVBS
	Audio input	4 CH
	Audio output	2 channel analog output (2W)
	Video formats	PAL/NTSC
	Video compression	H.264/H.265
	Video resolution	1080P/720P/960H/D1/CIF
	Video quality	Grades 1 to 6
	Audio formats	G711A G711U G726

Video and playback	Storage	Proprietary file system, SD card
	Video query	Search by channel, video type and alarm type
	Video playback	Local 4 CH
	Local backup	Supports SD cards and USB drives
Physical interface	Upgrade mode	Manual upgrade, automatic upgrade, remote upgrade
	Upgrade way	USB , SD card, network
	Audio/Video input	4ch M12 aviation interface
	Audio/Video output	1ch VGA video output, 1ch M12 aviation AV output
	Alarm input	4ch inputs (4 Positive/Negative trigger)
	Alarm output	2ch outputs,could drive relay(< 150mA)
	The speed pulse	1
	RS232	2
	TTS interface	4PIN MIC/SPK
	TTL	NA
	RS485	1
Other interface	LED light	PWR/RUN/SD/ALM
	IPC	6 Pin M-12 aviation interface
	SD card	2 SD card slot,support max 2*512 GB storage
	Disk lock	1
The wireless interface	GNSS	GPS/BD/GLONASS
	Wifi	Optional WIFI module, 2.4GHz
	3G/4G	4G module,support all 4G frequency band
Active safety interface	ADAS interface	1 CH ADAS, 1080P/720P
	The DSM interface	1 CH DSM, 1080P/720P
	BSD interface	1 CH BSD, 1080P/720P
other	The power input	DC: 9 v ~ 36 v
	Storage capacity	1080P 622MB/H/CH H.265

		1080P 1.2G/H/CH H.264
	Typical power consumption	Power consumption: AVG 4.8W (excluding peripherals) Static power consumption: 12V2.4mA
	load capacity	Camera+Monitor: 12V@1.5mA IPC: 12V@750mA main unit power consumption : 12V@mA
	Power output	5V@500mA
	Length* Width* Height	142mm*153mm*33mm

Active security warning system alarm strategy:

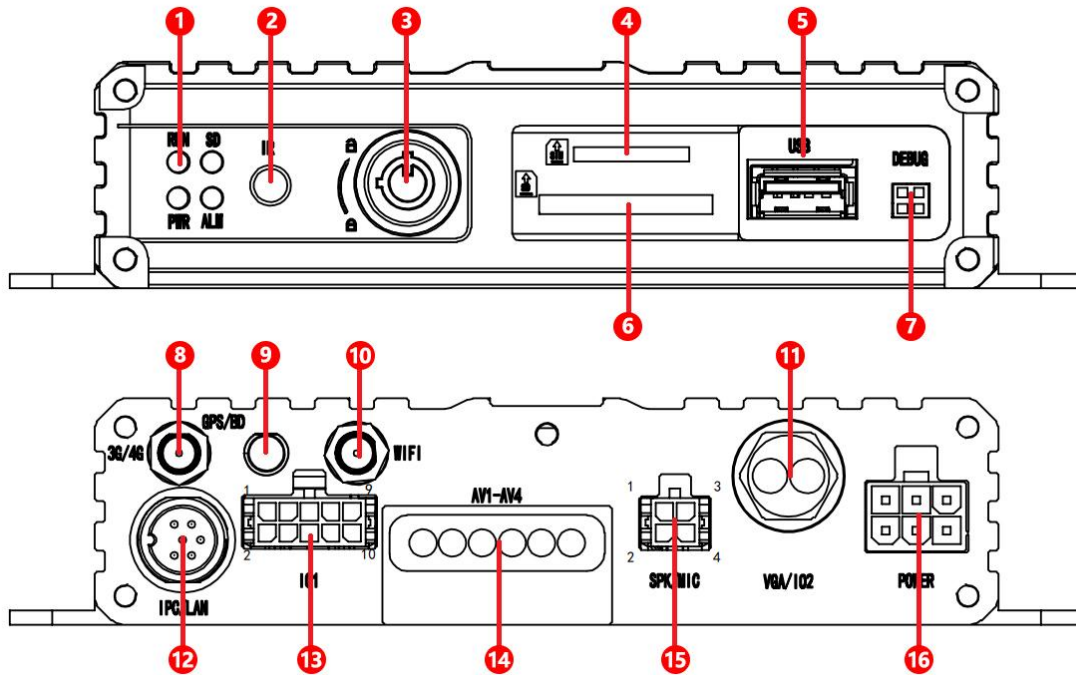
- Built-in ADAS (LDW, HMW, FCW)
- Built-in DSM (fatigue, distraction, smoking, phone calls, infrared blocking sunglasses, abnormal driver, occlusion, driver comparison and other alarms)
- Built-in BSD (support 3 grades alarm)

Alarm Description				
NUM	Types	Alarm	Definition	Voice
1	DSM	Yawn	Yawn more than 3-4s	Please take a rest
2		Close eyes	Drivers squint and close their eyes for more than 3-4s	Please take a rest
3		Phone call	Drivers hold cell phones to their ears or make calls on speakerphone for more than 3-4s	No call please
4		Smoking	The driver lights a cigarette and smokes for more than 3-4s	No smoking please
5		Out of sight	The driver turns his head, head up and head down more than 4-5s from left to right	Please don't look around
6		Driver abnormal	The driver left the lens range and covered his face with	Driver anomaly

			foreign body for more than 5s	
7		Occluding camera	The obstacle completely blocked the lens for more than 5s	Please don't cover the camera
8	ADAS	LDW	Lane offset, cross lane	Lane shift
9		HMW	Lead distance less than 0.8s (adjustable) times current speed	Please keep your distance
10		FCW	Lead distance less than 2.0s (adjustable) times current speed	Collision risk
11	BSD	BSD alarm	Human and non-motor vehicle trigger alarm detected within one meter of the car body, highest priority	Danger please keep away
12		BSD alarm	Within 1~2 meters of the car body, trigger alarm is detected for people and non-motor vehicles, with the second priority	Danger please keep away
13		BSD alarm	Within 2 to 3 meters of the car body, trigger alarm is detected for people and non-motor vehicles. lowest priority	NA

The interface definition

1.0 External interface




Number	Instructions	Number	Instructions
1	LED	9	GPS/BD Antenna
2	IR	10	WIFI Antenna
3	SD Lock	11	VGA/IO2
4	SIM Card	12	Network
5	USB Port (Mouse/Maintenance Tool/USB flash disk)	13	I/O1
6	SD Card	14	AV1-AV4(Contains CVBS output)
7	DEBUG	15	MIC/SPK
8	3G/4G Antenna	16	POWER

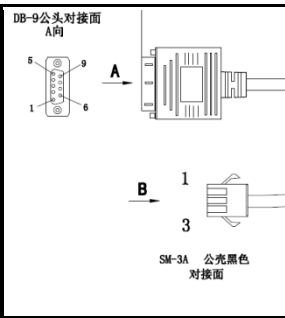
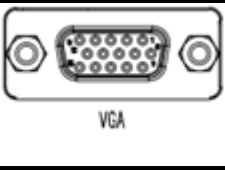
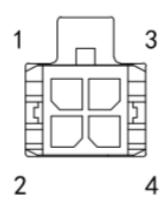
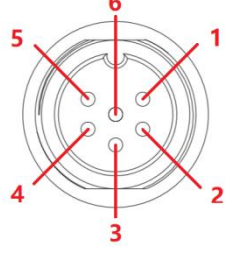
1.1 Power interface

9-36V	9-36V	ACC点火
GND	预留信号输入监测	GND

1.2 I/O1 Interface definition

					
PIN	Line mark	Color	PIN	Line mark	Color
1	OUT1	Blue	2	GND	Black
3	IN2/LEFT	Purple	4	IN1/PANIC	Purple
5	IN4/BRAKE	Purple	6	IN3/RIGHT	Purple
7	EXT_5V	Red	8	TXD_RS232	White
9	OUT2	Gry	10	RXD_RS232	Yellow

1.3 I/O Port Definition (DB9+RS485)

	Number	Definition
	A	DB9
	B	RS485
	C	VGA
	Number	Definition
	1	Spk +
	2	Spk -
	3	MIC +
	4	MIC -
	Number	Definition
	1	TX-
	2	TX+
	3	VCC
	4	RX-
	5	RX+
	6	GND

1.4 TTS

1.5 IPC

1.6 Audio

speaker
interface
definition

Interface
Definition

and video
interface
definition

Video 4
Audio 3



AV-IN

1 +12V
2 GND

+12V
GND



4 Video
3 Audio

AV-OUT

1.7 Outline drawing

