

MOB DMS KIT Installation Guideline for (MOB 8014/8414)

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1. Connection



DMS and ADAS camera: You can install any channel of MDVR.

Then install cameras on other channels and GPS/4G/WIFI antenna, power cable and TFT Monitor.

Speaker Connection:



Need the 4Pin-3Pin converter add between the Speaker and Serial cable.





2. Al Function

Login the MDVR's Main menu, check the Alarm.

A. Setting for Camera

General	
المتركب والمتركب والتركي	
TV System: PAL	Record Mode: Auto 👻
Camera Type: AUTO MODE	
Resolution : 720x576	Encode Type: H264
View Mode : Mode 1	
View Chn: CH1 CH2 CH3 CH4 ☐ ☐ ☐ ☐	
	SAVE

Sub Encode Type: Choose H264 if H265 is not available for your platform.

Main Rec						
CHL	ENABLE	RES	FPS	QUA	AUDIO	
CH1	ON -	720P -	25	1	ON -	
CH2	ON 🚽	720P -	18-	1	OFF -	
СНЗ	ON -	D1 -	18-	1 -	OFF -	

After set the camera mode, you can change Resolution in **Main-stream** also.

B. Setting for Storage

Al video saving in the HDD/SD card of MDVR, so need to set a bigger space for it.



Disk Format							
ENCRYPT : ON KEY :							
CHANNEL : CH1 CH2 CH3 CH4							
Disk	Size(GB)	STD Size	StdPart(GB)	Block(MB)	Action		
DISK1	29	1.0	1.0	Default -	FORMAT		
DISK2	118	0.8	0.8	Default -	FORMAT		
			0		2		
Enter time to estimate record Space(H)							
			SAVE				

For HDD, the default size is 2GB, you can change to 6-8GB for saving. For SD card[if there is and more than 32GB], suggest set as 4GB.



Select the AI Built-in menu, which contains DMS, ADAS, Face Recognition, Speed test.





2.1 DMS

DMS supports Smoking, Phone call, Eye closing, Yawning, Distracted, Absent (No driver), Sunglasses and Camera Cover.

DMS Set							
Camera	Chn: 🚺	hn1	-				
Туре	Enable	Speed	Interva	l Rec	Sens	Hold	Linkage
Smoking	ON 🕂	[15]	50	5	H	0.5	LINK_SET
Call	ON -	15	30	5	H	0.5	LINK_SET
EyeClosi	ON H	15	10	5	H	0.5	LINK_SET
Yawn	ON 🕂	15	10	5	H	5.0	LINK_SET
Distract	eon -	[15]	50	5	H	0.5	LINK_SET
Absent	ON -	15	50	5	H	0.5	LINK_SET
Sunglass	eon P	[15]	60	5	H	0.5	LINK_SET
CamCover	ON 🚽	15	60	5	H	0.5	LINK_SET
Tips:Alarm trigger hold time[0-10]seconds!							
Calibrate Save							

Camera Chn: Set the Channel for DMS.

Enable: Turn on/off this alert.

Speed: The alert triggering speed (km/H or MPH, switch in **Speed** menu), which you can configure it.

Interval: The interval (Unit: Second) for next same alert.



PreRec: Previous recording time (Unit: Second), 1 to 5 seconds for option.

Sens: Adjust sensitivity as High/Middle/Low.

Hold: The threshold to trigger the alert.

Linkage: Make the corresponding alarm linkage.

		AlarmLink Set	t
RECORD: PREMODE:	ON - MODE 1 -	BUZZER	t: OFF -
REC_LOCK:	СН1 СН2 СН3 С	H4 □	
RECUPLOAD	сна сна сна сна сна сна си образовани си	H4	
ALARM OUT	: 101102		
SNAPPIC:	СН 1 СН 2 СН 3 С СН 1 СН 2 СН 3 С	H4	
PRECHN:	СН1 СН2 СН3 С СН СН2 СН3 С	H4 □	
		SAVE	

Click Alarm LINK_SET, it will show as this

Alm Msg: Alarm message on/off to platform.

Voice: Turn on /off alert announcement.

REC_LOCK: No need to select.

RECUPLOAD: Choose the channel that need to upload.

ALARM OUT: Choose output1, output2.

SNAPPIC: Take a snapshot.

PRECHN: Preview channel when the alarm is triggering.

Just tick the corresponding channel for **RECUPLOAD** and **SNAPPIC**, then those video/picture will upload to the MOB.

Face to the camera, make your face in the center of image, then Click Calibrate, it will begin to calibrate





2.2 ADAS

ADAS Set						
Туре	Enable	Speed	Interval	PreRec	Senstivity	Linkage
FCW	ON -	30	5	5	High	LINK_SET
HMW	ON -	30	5	5	High	LINK_SET
LDW	ON -	30	5	5	Med	LINK_SET
PCW	ON 🚽	30	5	5	High	LINK_SET
Camera Chn: Chn2 - Calibration Config						
Save						
Save						

ADAS supports **FCW** (Forward Collision Warning), **HMW** (Headway Monitoring Warning), **LDW** (Lane Departure Warning), **PCW** (Pedestrian Collision Warning).

Camera Chn: Set the channel for ADAS.

Enable: Turn on/off this alert.

Speed: The alert triggering speed (km/H or MPH, switch in Speed menu), which you can



configure it.

Interval: The interval (Unit: Second) for next same alert.

PreRec: Previous recording time, 1 to 5 seconds for setting.

Sensitivity: H/M/L, adjust sensitivity as high/middle/low. High is the most sensitivity.

Linkage: Make the corresponding alarm linkage.

Alm Msg: Alarm message on/off to platform.

Voice: Turn on /off alert announcement.

REC_LOCK: No need to select.

RECUPLOAD: Choose the channel that need to upload.

ALARM OUT: Choose output1, output2.

SNAPPIC: Take a snapshot.

PRECHN: Preview channel when the alarm is triggering.

		A1	armLink Set			
RECORD:	0N -		BUZZER	OFF	Ð	
PREMODE:	MODE 1	3				
REC_LOCK:	CH1 CH2 CH3	3 CH4				
RECUPLOAD	:CH1 CH2 CH3 М М П	3 CH4				
ALARM OUT	: 101102 1 10					
SNAPPIC:	СН1 СН2 СН3 М М П					
PRECHN:	СН1 СН2 СН3 1 1 1 1	6 CH4				
		C	SAVE			

Just tick the corresponding channel for **RECUPLOAD** and **SNAPPIC**, then those video/picture will upload to the MOB.

Click **Calibration Config** to do the calibration procedure, please refer to our dedicated manual for more

details.

	•	
	1PI	a
_		_

ADAS Adjust Param Set
Horizon : <mark>360</mark>
CarMiddle: 640
CarWidth :183
CameraHeight : 130
Camera2Bumper: 185
CameraCenter : 0
Camera2Axle :89
Calibrate Save

2.3 Face Recognition

Face Recognition Set				
Driver ID :				
Driver Name:				
Face Collect: COLLECT				
Face Search : SEARCH				
FR Enable: ON F				
Type Enable PreRec Linkage				
DriverBack ON 7 5 LINK_SET				
DriverChange ON 7 5 LINK_SET				
Save				

Driver ID: Input an ID for the driver.

Driver name: Input the name for this driver.

Face Collect: After you input the driver ID and name, click **"COLLECT**" to register driver. **It supports 20 faces as Maximum**.

Face Search: Check the drive list which have been registered.



FR Enable: Face Recognize enable or disable.

For **Driver Back** and **Driver Change**, the system will detect and analyze its same driver or another driver.

2.4 Speed test

Spectral Spectral States Spectral Spe	eed Test
Set Analog Speed:	
Start Simulation Speed	
Unsimulated Speed	

For office testing or demo mode, need set a speed for it.

Input a setting speed which should over than ADAS&DMS threshold speed, then click **Start Simulation Speed**.

For stopping it, click Unsimulated Speed.

2.5 Voice Set

Voice: Import the customize audio. Voice Volume: 0-5 for selection, 5 is Maximum.





3. Installation

3.1 DMS

Install the DMS camera face to driver, 60-120cm distance, don't cover it by other objects. You can adjust the angle (left and right, up and down) to make sure the driver face in the center of DMS.

Attention: Not support install in A Column of vehicle.



The Standard installation is like this:





If the steer wheel occludes the installation, two solutions:

1. Install a holder to enhance the height.

2. Put the DMS camera offset about 15-20cm or less than 15 degrees, but can't over the center of windshield. Then let the camera face the driver, make the calibration and make sure the driver face in the center of camera view.



3.2 ADAS





Middle and Large-size Vehicle

Small Vehicle

For small-sized vehicles, ADAS camera should be installed on the upper part of the windshield, which is at the bottom part of the rear mirror. The horizontal location should be in the central axis as presented.

For medium and large-sized vehicles, the ADAS camera should be installed close to the bottom of the windshield. The horizontal location should be in the central axis as presented.

Note: The installation location should be within the wiper area with no blockage of camera by the wiper).





3.3 R/L-Turn Signal

In order to not make wrong judgement of Lane Departure Waring, need connect the Right/left-Turn signal to MDVR.

Take the serial cable from the package, User Sensor-IN1 and Sensor-IN2, Connect the Left-turn and right-turn signal to the serial cable of device (Must be consistent with the actual connection line and then set R/L-turn item).

For wait time, suggest set as **0 or 1 second**.

NO	Enable	Level	Delay	Wait	Linkage
IN1	970	H	0	5	LINK_SET
IN2	Panic -	(H -	0	5	LINK_SET
IN3	F-door	H -	0	5	LINK_SET
IN4	M-door B-Door	H	0	5	LINK_SET
IN5	Blues	H	0	5	LINK_SET
IN6	Siren	H-	0	5	LINK_SET
IN7	L-Turn	H	0	5	LINK_SET
IN8	Brake	H-	0	5	LINK_SET
IN9	TBACK Talk	H	0	5	[LINK_SET]

After you connected, turn the vehicle's light, then check the I/O status from the system page. It will change from 0 to 1 if connect & set success, which you can see from INFO page.

- Life Stream	System Information
Mcu Ver :	G21072301 App Ver : 74-P21092701.252-C
SysPower :	11.7V Dev ID : 500001
ACC :	ON Lock : LOCK
IO Status:	<1>0 <2>0 <3>0 <4>0 <5>0 <6>0 <7>0 <8>0
G-sensor :	X=0.00g Y=0.00g Z=0.00g A=0.0° D=0.00g
GPS Info :	GPS [NO WORK]
Plate NO.:	1 [0.00:0.00 KM]
SN :	3B4398001726941C



4. Calibration

4.1 DMS

- 1. After you install the camera, sit in front of the DMS camera, and face the camera lens.
- 2. Go to DMS set menu, Click Calibrate.

Absent	ON I-	[15]	50	5	H	0.5	(LINK_SET)
Sunglass	ON -	[15]	60	5	H	0.5	LINK_SET
CamCover	ON 🚽	[15]	60	5	H	0.5	LINK_SET
Tips:Alarm trigger hold time[0-10]seconds!							

It will take a while to calibrate.

DMS is calibrating

3. It will show "DMS Calibrate successfully" if success.

If failed, make sure you face in the center of screen, adjust the camera angle and try to calibrate again.

4.2 Face Recognition

- 1. Sit in front of camera, and face the lens.
- 2. Input the driver ID and name, then click "COLLECT".



Driver ID :	(
Driver Name:			
Face Collect	COLLEC	r) 🔶	
Face Search	SEARCH		

3. When you face the camera, click "Start collect".

Please aim at the lens	
Start Collect	7

4. It will take some seconds to record, It will pop-up "Face collection Successful".







5. After register, you can click "Search" to get the list, it supports 20 drivers at most.

			Face Inf	Îo		
			С	lurrent	Pag1/1	
	Face I	D list	Nan	ne		
1	10		louis			(FIRST)
2	01		xav			
3	002		kevin			PREV
						NEXT

4.3 ADAS Calibration

1. Install the ADAS camera, and stop the vehicle in a flat and open area.



2. Ready to calibrate

A. Put a pole or ruler in the front of vehicle, the distance from camera center to pole/ruler is 5m, mark a line which is the same height with ADAS camera.





Fig.1 Flat Nose Truck



Fig.2 With Nose Truck

For example:

Use a ruler, 5m distance from the camera. make the same height with camera center. Then mark a line on the ruler.

And the ruler/Pole must be in exactly same line with ADAS center.





3. Go to ADAS setting menu, select the ADAS channel, default is Channel2.

Click "Calibration Config"

ADAS Set							
Туре	Enable	Speed	Interval	PreRec	Senstivity	Linkage	
FCW	ON 🖣	30	5	5	High	LINK_SET	
HMW	ON -	30	5	5	High	LINK_SET	
LDW	ON 🚽	30	5	5	Med	LINK_SET	
PCW	ON 🚽	30	5	5	High	LINK_SET	
Comoro Cl	hn: Chr	2	a	- C	libration	Confin	
Camera Chn: Chn2 Calibration Config							
			Sa	ve			

You will get this page.



	ADAS Adjust Param Set
Horizon :	360
CarMiddle:	640
CarWidth :	183
CameraHeig	ht :130
Camera2Bum	per: 185
CameraCent	er :0
Camera2Ax1	e :89
Calibrate	Save

Horizon: The horizontal level, this value need to adjust to get it, not by input directly. **Unit:Pixel**.

Car Middle: The offset(distance) from the camera center, Need calibrate to get it. Unit: Pixel. Fig.3

Attention: Must put the ruler/pole in the exactly same line with ADAS center.



Fig.3 Car middle

Fig.4 Car Width

Car Width: The width between the out edge of tires. Unit: cm. Fig.4 Camera Height: The distance from the ground to center of camera. Unit: cm. Fig.5 Camera2Bumper: The distance from camera to front bumper. Unit: cm. Fig.5





Fig.5 Camera Height and Bumper

Camera center: Set as 0 directly. Unit: cm.

Camera2 Axle: The distance from camera to front wheel axle. Unit: cm. Fig.6 Attention: Need to pay attention the negative/positive value. If wheel is after the camera, need input negative value.



After you input those parameters, Click the **Calibrate** button. Then follow those steps.

A. Camera angle adjustment -- Physical adjustment

Need adjust the Car middle line and horizon level line.





Loosen the ADAS screw, then adjust the camera angle, make sure the two red lines area could cover the Ruler's mark line. After you adjust camera, fix it with screw.



Fig.7 Adjust camera

B. Software adjust

Car Middle: Adjust the **Green line** to by **CarMiddle**, make it overlap with the ruler in Vertical direction.

Horizon: Use the remote control to adjust via the Horizon ▲▼ button.





Make the horizontal Blue line to be overlapped with the marked line on the ruler,

Fig.8 Adjust Horizon&Car middle

C. Click "Calibrate", it will success later.



Fig.9 Calibration Success



4. Voice of Alert

	Item	Туре	Alert Voice
	1	FCW	Dangerous
ADAS	2	HMW	Too Close
	3	LDW	Lane Departure
	4	PCW	Pay attention to pedestrian
	ltem	Туре	Alert Voice
	1	Smoking	No smoking
	2	Call	No phone call
	3	Eye closing	No fatigue driving
DMS	4	Yawn	Yawning
	5	Distracted	No distracted driving
	6	Absent	No driver detected
	7	Sunglasses	Eye detection failed
	8	Cam-Cover	Camera is covered

5. Check MOB Platform

5.1 Reports

Login the MOB client or web, Select the Report Type, device ID and alert type, then search.





GPS Report	DMS An	d ADAS Details query \times	DMS And ADAS Details Re	port ×			
GPS Details query	0 20	021-02-05 - 2021-02-05	800001	Alarr	n Type Please Cf	hoose AlarmTyp 👻 🔍	Search
🗿 Alarm Report 👻	No	Device No 🌲	Alarm Type 🌩	Latitude Longitude 🌲	Alarm Start/End	¢ Time ≑	Takeup U
👑 DMS And ADAS Report 🔺	1	800001(800001)	Pedestrian Collision	• 55.4657135,25.3917904	Alarm End	2021-02-05 13:02:48	
DMS And ADAS Details query	2	800001(800001)	No Phone Call	9 55.465404,25.393343	Alarm End	2021-02-05 13:02:34	
DMS And ADAS Details Report	3	800001(800001)	Pedestrian Collision	• 55.4666328,25.3937263	Alarm End	2021-02-05 13:02:18	
📜 Online-Offline Report 🛛 👻	4	800001(800001)	FCW(Front Car Colli	• 55.4662781,25.3929539	Alarm End	2021-02-05 13:02:10	
🕙 Mileage Report 🗸 🗸	5	800001(800001)	HMW(Vehicle Too Cl	9 55.4662361,25.3928547	Alarm End	2021-02-05 13:02:09	
🔛 Oil Report 🗸 👻	6	800001(800001)	Pedestrian Collision	• 55.4652138,25.3893929	Alarm End	2021-02-05 13:01:30	
 Speed Report 	7	800001(800001)	No Phone Call	55.4687042,25.390625	Alarm End	2021-02-05 13:01:02	
Passenner Flow Report	8	800001(800001)	FCW(Front Car Colli	• 55.4689713,25.3907604	Alarm End	2021-02-05 13:00:59	
	9	800001(800001)	HMW(Vehicle Too Cl	• 55 4694595,25.3909512	Alarm End	2021-02-05 13:00:54	
tge Driver Report ▼	10	800001(800001)	Lane Departure	• 55.4728928,25.3924885	Alarm End	2021-02-05 13:00:06	
	11	800001(800001)	FCW(Front Car Colli	9 55.4701691,25.389267	Alarm End	2021-02-05 12:59:46	
	12	800001(800001)	FCW(Front Car Colli	• 55.4692993,25.388319	Alarm End	2021-02-05 12:59:40	
	13	800001(800001)	HMW(Vehicle Too Cl	9 55 4686813,25.3876724	Alarm End	2021-02-05 12:59:36	
	Pre	1 2 3 4 5	Next Go To 1 Pag	es Ok Total Size 222 50) Pcs/Page 🗸		

5.2 Evidence Center

MDVR will upload the ADAS&DMS alarm videos to MOB directly, just make correct setting on MDVR side.

1. Server Setting, must use the Server2's H-protocol.

		CENTER		
i.				
	Servl	Set:[H-protocol	GPS	Interval: 30
	IP1:	172.16.50.80		Port: <u>33000</u>
	Serv2	Set:[H-protocol]	GPS	Interval: 30
	IP2:	Your Server IP address		Port: <u>33000</u>
	Serv3	Set:OFF	GPS	Interval: 0
	IP3:	192.168.1.103		Port: 8000
	Serv4	Set:OFF	GPS	Interval: 0
	IP4:	192.168.1.103		Port: 8000

2. Link_Set

For DMS and ADAS's alarm linkage setting, just tick the corresponding channel, then those video/picture will upload to the MOB. For example. If DMS is channel1, just choose the CH1.



AlarmLink Set	i state d
RECORD: ON BUZZER:	OFF y
REC LOCK: CH1 CH2 CH3 CH4 CH5 CH6 CH7 CH8	
ALARM OUT: IO1IO2	
SNAPPIC: CH1 CH2 CH3 CH4 CH5 CH6 CH7 CH8 I I I I I	
PRECHN: CH1 CH2 CH3 CH4 CH5 CH6 CH7 CH8	
SAVE	

Attention: This automatically upload is only for DSM&ADAS.

Search the alarm videos/pictures in Evidence Center.





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