User Manual
For

M1-TKH0401 MDVR

Mobile Digital Video Recorder

For more information, please visit our website **www.en.streamax.com**

Notice

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without any notice.

The purpose of this manual is to kindly aid the user for the operation for our MDVR. The user should have a basic understanding of computer operation and basic knowledge of how to connect peripherals and make some settings.

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Label

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.

FCC warning:

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.
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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Guarantee & Warnings

1) **Electrical Apparatus Safety**

   All installation and operation should comply with local electrical safety norms.

2) **Transportation**

   In the process of transportation, storage and installation, please avoid heavy stress, violent vibration, impact and water splashing.

3) **Installation**

   Install the equipment in accordance with the requirements, handle carefully. Do not heavily press the equipment before the MDVR installation is finished.

4) **Requirements on Engineers & Technicians**

   All the work of checking and maintenance should be done by qualified technicians and engineers. We do not undertake any responsibility caused by unauthorized modifications.

5) **Requirements on Environment**

   The equipment should be installed and stored in a cool and dry place, away from direct sunlight, flammable or explosive substances, etc. Keep gaps not less than 3cm around the device to facilitate ventilation for cooling.

6) **Accessories**

   Make sure to use accessories from the manufacturer recommended in the attachment.

   Insulate circuit ground and metal shell for all the peripherals.

   Before installation, please open the package and ensure that all parts are included.

   If there are any problems, please contact us as soon as possible.

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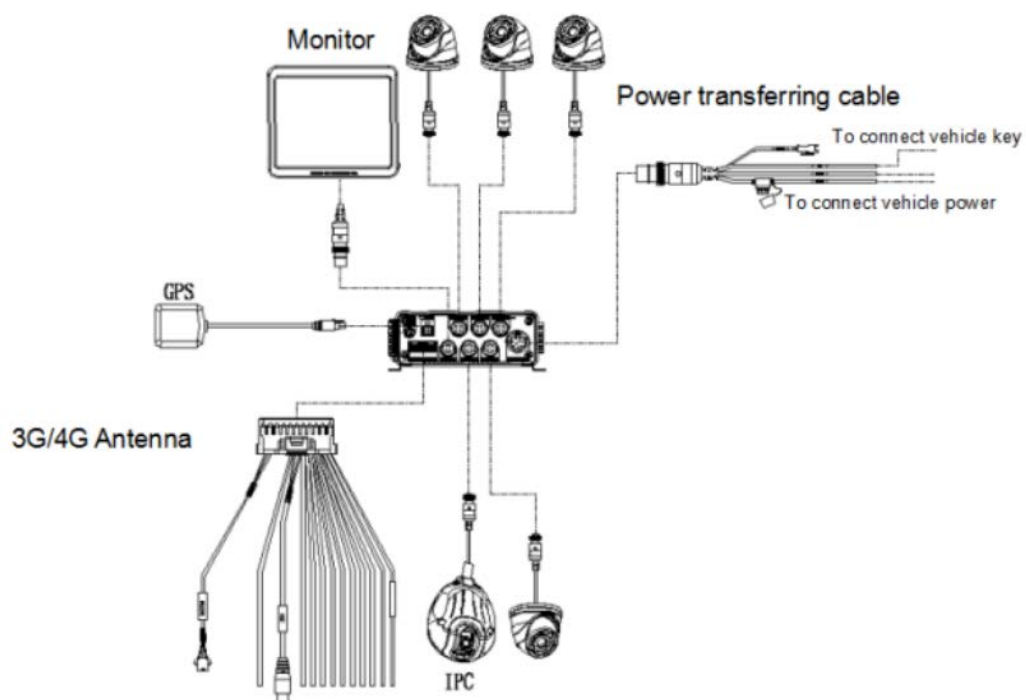
1.Product Characteristics

1.1. Overview

Streamax M1-TKH0401 is a functional Mobile Digital Video Recorder specially designed for vehicle video surveillance. It has a high-speed processor and embedded operating system, combining with the most advanced H.265 video compression / decompression technology, GPS positioning technology. It supports video recording in 1080P, 720P, WD1, WHD1, WCIF, D1, HD1 and CIF formats. It is easy to use with simple design, multi-functions, superior anti-vibration, flexible installation and high reliability.

1.2. Specifications

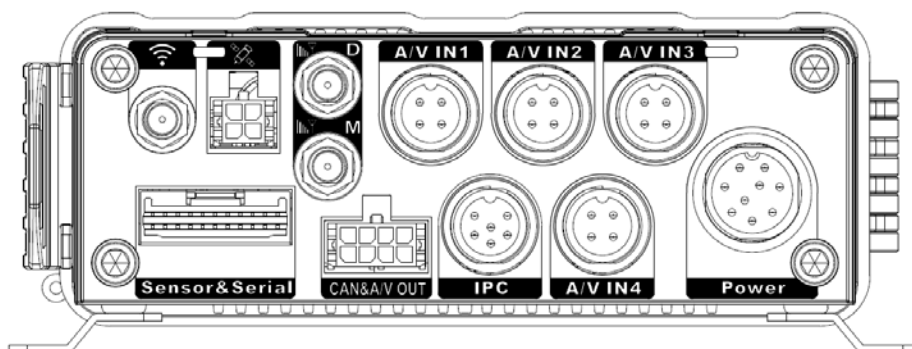| Function Overview		Preview, Recording, Playback, Network, Locating
System	OS	Linux 3.18.20
	Control Mode	CP4, mouse, EasyCheck, network (3G/4G/WIFI)
Video	Input	4 channels AHD(1080P)+1 channel IPC(1080P)
	Output	1 channel
	Total Resource	PAL: 4*720P@25fps(AHD)+1*1080P@30fps(IPC) or4*1080P@10fps(AHD)+1*1080P@30fps(IPC) NTSC: 4*720P@30fps(AHD)+1*1080P@30fps(IPC) or4*1080P@15fps(AHD)+1*1080P@30fps(IPC)
	Video Signal Standard	Electrical level: 1Vpp Impedance: 75Ω Optional NTSC/PAL
Audio	Input	5channels (1 channel IPC audio input)
	Output	1channel
	Audio Signal Standard	Electrical level: 2Vpp Input impedance: 4.7kΩ
Display	Display Split	1/4/9
	OSD	GPS information, alarm, vehicle No., speed, date/time
	Operation Interface	Semi-transparent GUI
Recording	Video/Audio Compression	Video: H.264/H.265
		Audio: ADPCM, G.711U
	Image Resolution	Analog: PAL: 1080P(1920X1080), 720P(1280X720), WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288) NTSC: 1080P(1920X1080), 720P(1280X720), WD1(928X480), WHD1(928X240), WCIF(464X240), D1(704x480), HD1(704x240),CIF(352x240);

		Digital: 1080P(1920X1080), 720P(1280X720)
	Image Quality	1-8 levels adjustable (1 is the best)
	Recording Mode	Boot up/Schedule/Alarm
	Pre-recording	0-60minutes
	Post-recording	0-30 minutes
Playback	Playback Channel	1 channel by local playback
	Search Mode	Date/time, channel, event
Network	IPC Ethernet	6-pin M12(100M x 1, PON power supply)
	WIFI/BT4.0	Support
	4G	Support
Locating	GPS	Location tracking, speed detection and time sync
Sensor	G-Sensor	Built-in three-axis inertia sensor
Storage	SD	SD card slot x 2
Interface	USB	USB2.0 x 1
	RS232	RS232 × 2
	Sensor	8 inputs, 2 outputs
	Speed	1 channel pulse speed detection
	CAN	1×CAN
	Control Panel	Optional CP4
	Intercommunication	1 MIC port(CP4)
Power	Input	DC8-36V
	Output	5V@500mA
	Max Power Consumption	29W
	Standby Power Consumption	≈0W
Physical Characteristic	Dimension (L x W x H)(mm)	167.3 x 146.3 x 54.1
	Weight	0.83Kg
Environment	Operating Temperature	-40℃~+70℃
	Operating Relative Humidity	8%-90% (No Condense)

1.3. System Diagram
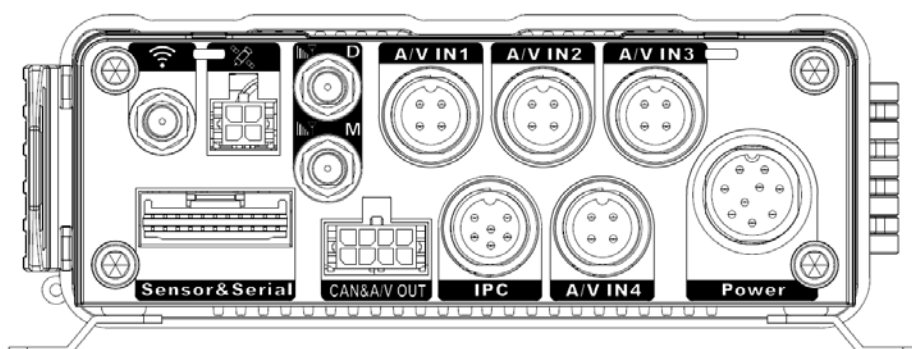

1.4. External Interface

Dimension (Unit: mm)

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Front Panel

Rear Panel

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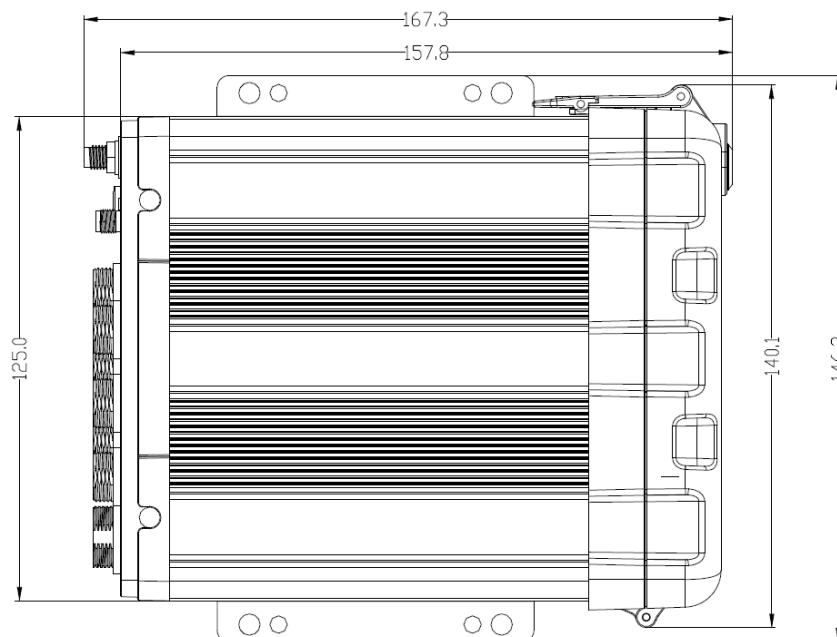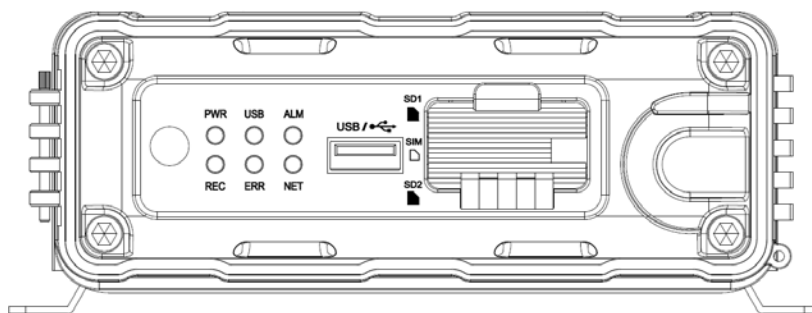
Serial No.	Print	Description
1	Power	DC 8-36 V power input
2	Sensor&Serial	Interfaces of serial port and sensor
3	AHD1~4	Analog Audio & Video input 1-4
4	A/V OUT&CAN	Analog Audio & Video output&CAN interface
5	IPC	Interface of PON power supply
6	GPS	GPS antenna interface
7	WIFI	WIFI antenna interface
8	M	4G main antenna interface
9	D	4G sub antenna interface

warning:

External antennas are only suitable for antennas of type C6D-3000TKX placed in accessories boxes, and other external antennas are prohibited from use. BT, WIFI supports a maximum antenna gain of 5 dBi. 4G band 2 supports a maximum antenna gain of -2.17 dBi, 4G band 4 supports a maximum antenna gain of 0.26 dBi, 4G band 5 supports a maximum antenna gain of 0.01 dBi, 4G band 12 supports a maximum antenna gain of -1.72 dBi, 4G band 13 supports a maximum antenna gain of 0.08 dBi, 4G band 14 supports a maximum antenna gain of 0.36 dBi, 4G band 66 supports a maximum antenna gain of 0.26 dBi, 4G band 71 supports a maximum antenna gain of -1.72 dBi,

1.5. Definition and Pictures of External Cables

Alarm Cable Definition
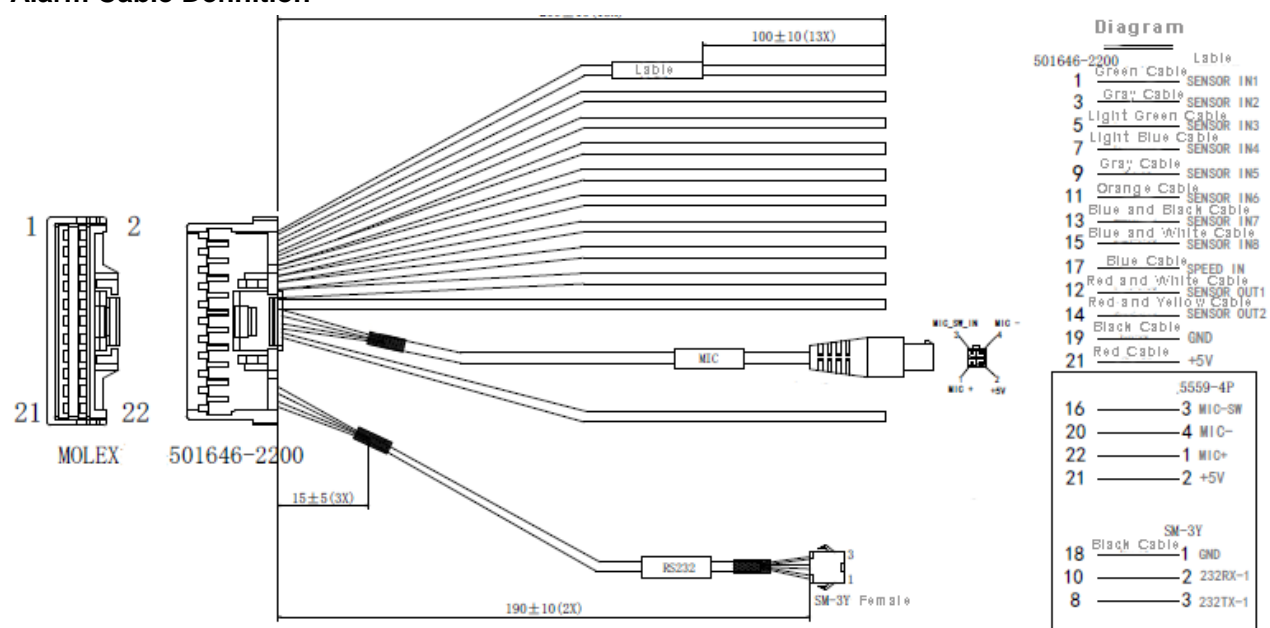
2.FAQ

1) The system can't start?

Usually this problem results from the incorrect power connection. Please follow below steps to check the power connection:

1. Check the input power, whether the power wire is connected correctly, whether the ground wire is connected back to the battery, and whether the fuse on the power wire is in good condition.
2. Check whether the ACC signal wire input to the power is with voltage higher than 7 V.
3. Check whether the device key is closed.

2) The MDVR restarts uninterruptedly?

Please follow below steps to check it:

1. Check whether the voltage of MDVR is insufficient. If the voltage is less than the start-up voltage of the device, the device would always restart.
2. The problem in hard disk/SD card may cause the failure to start. Take off the storage part and check whether it is broken down.

3) The device can't record?

Usually this problem results from the storage disk or camera. Please follow below steps to check it:

1. Check whether the storage disk is installed, whether it is in good contact, and whether the disk can be read normally in computer.
2. Check whether the storage disk is formatted. The storage disk should be formatted before normally storing record files.
3. Check whether there is video signal input into the device from camera, and whether there is video/image on the screen.

4) There is no voice in record file?

Please follow below steps to check it:

1. Check whether there is an external pickup, or whether the camera features with the function of audio collection.
2. Access to Video Channel Settings, check if Audio is set on.
3. There must be video input into the channel for recording and it must record normally.

5) The GPS works abnormally?

Please follow below steps to check it:

1. Check whether the GPS antenna is installed correctly. There is a silk print logo on the GPS antenna holder behind the host device.
2. Check whether the antenna receiver is sheltered. It should not be covered by any stuff, which may cause it not to receive signals.
3. Environmental influence such as tree shades, being inside tunnel, driving near tall building or elevated roads, thunderstorms or other weather influence, etc. can also cause signal loss or receiving wrong signals.

6) The device can't shutdown in ignition switch mode?

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1. Check if the ACC line connection mode is correct; and check whether there is voltage on ACC yellow line when the key is turned off.
2. If the device has been set with schedule recording, it can't shutdown if it is still during recording time of the task table.

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