DVR RANGE

EchoMaster DVR Range
Installation Manual

ECHOMASTER

Contents

Contents

Basic Setup (continued)

Contents

Basic Setup (continued)

Contents

Introduction

Thank you for purchasing your EchoMaster Digital Video Recorder (DVR).

EchoMaster DVR's are specifically designed for vehicle video surveillance and monitoring.

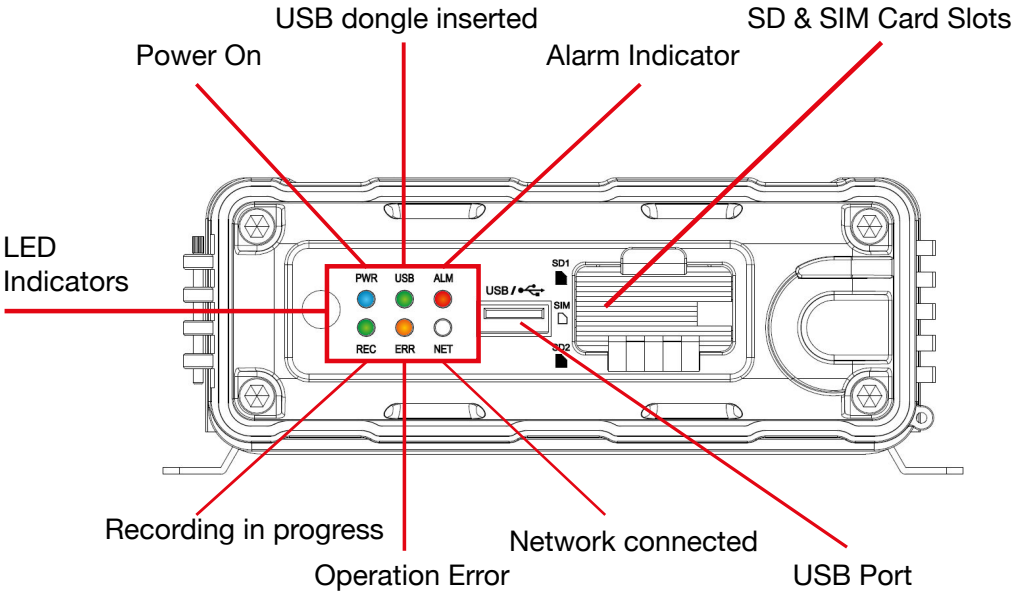
They are able to provide high resolution video recording of connected cameras, GPS location information, trigger alerts and vehicle data (Model Dependant).

This manual covers all variants for the following models:

- DVR-50
- DVR-150
- DVR-350
- DVR-380
- DVR-580

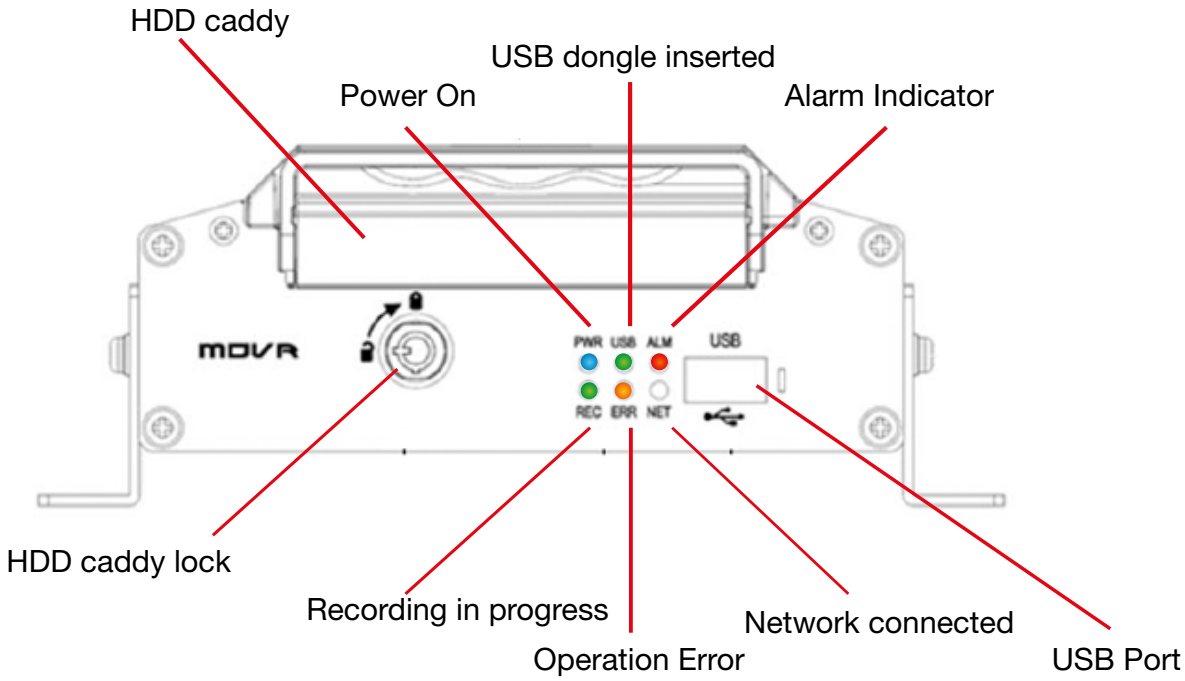
Front Panel Layouts

DVR-50 Range

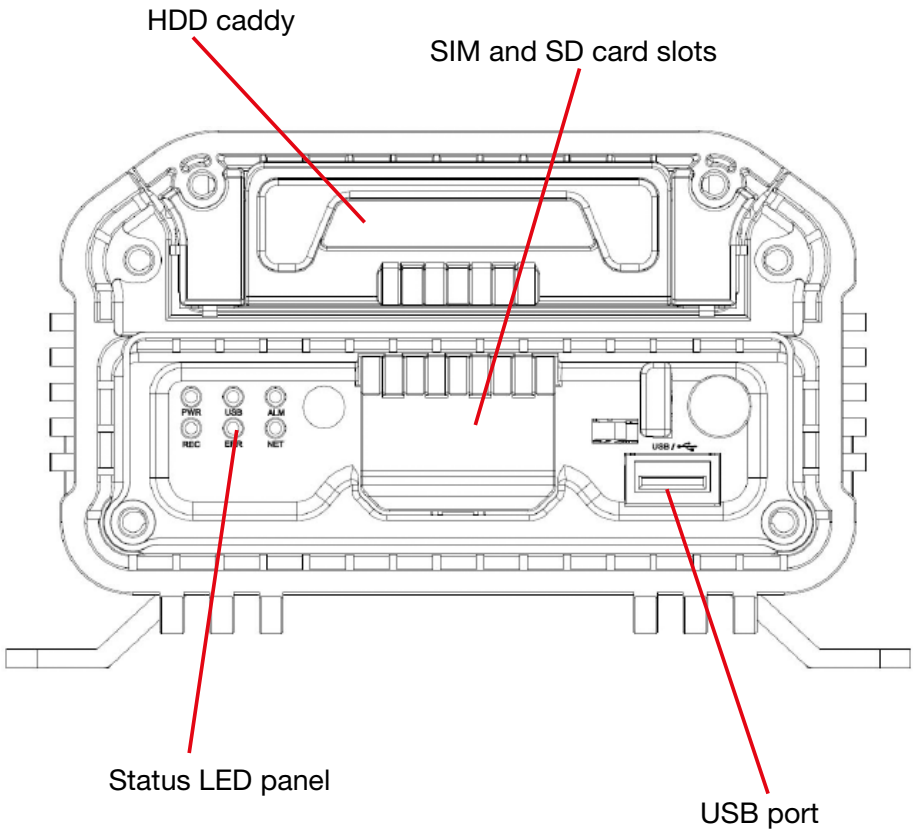


Front Panel Layouts - continued

DVR-150 Range

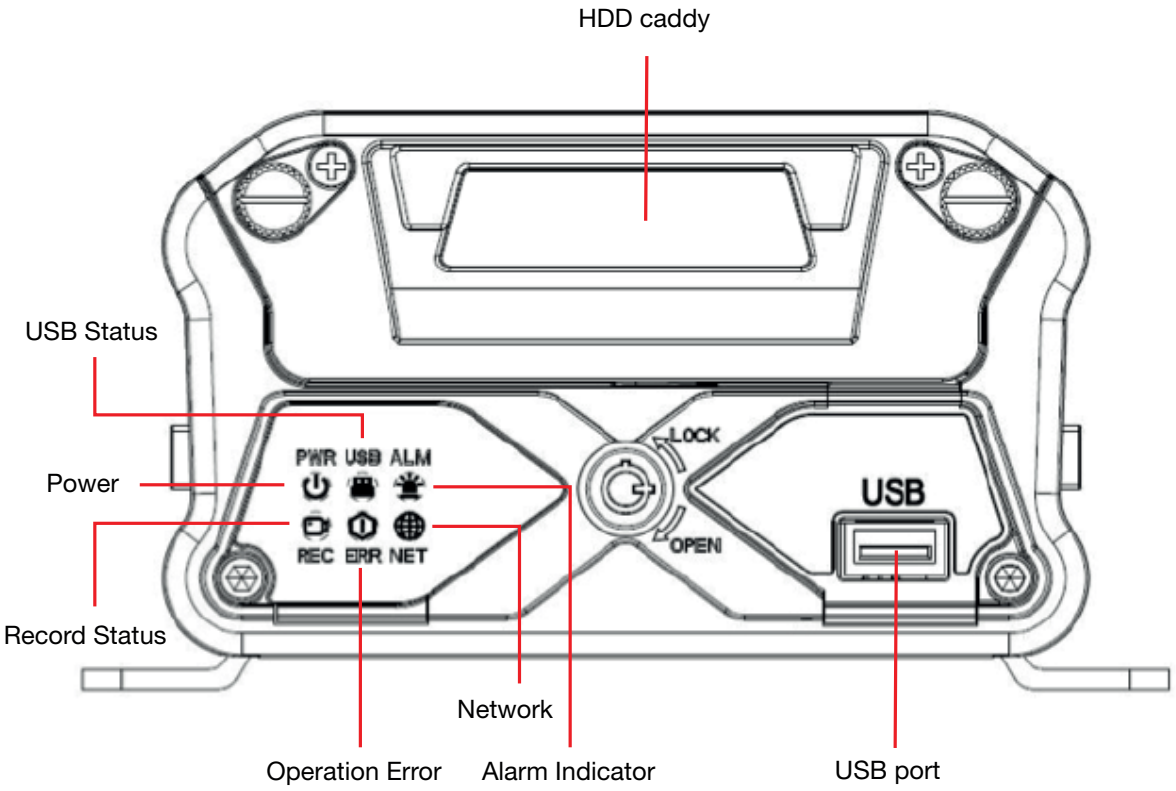


DVR-350 Range

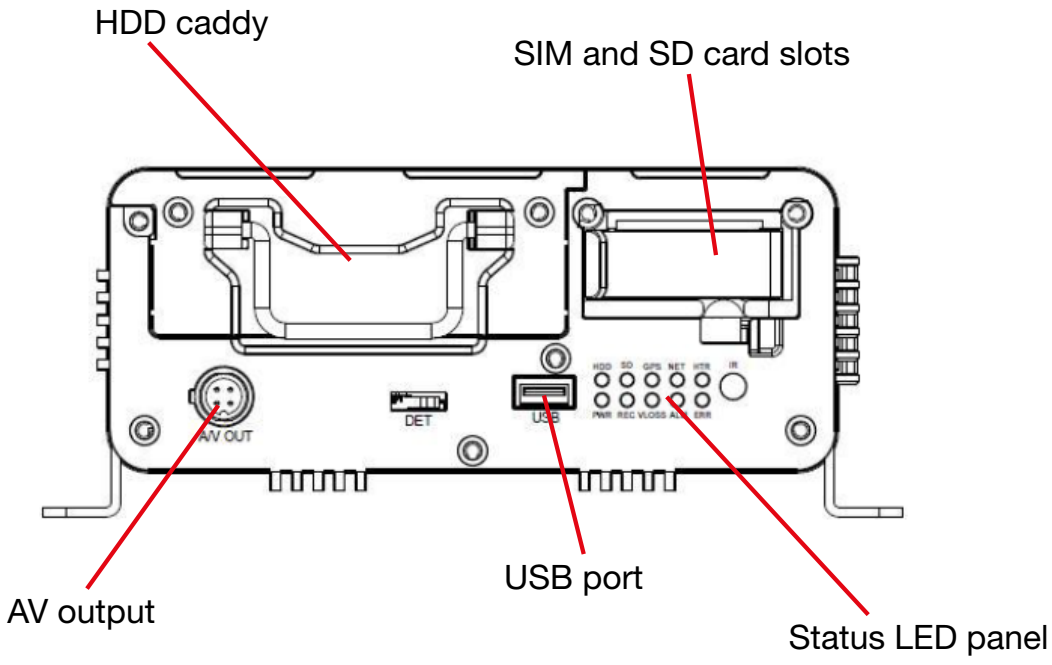


Front Panel Layouts - continued

DVR-380 Range

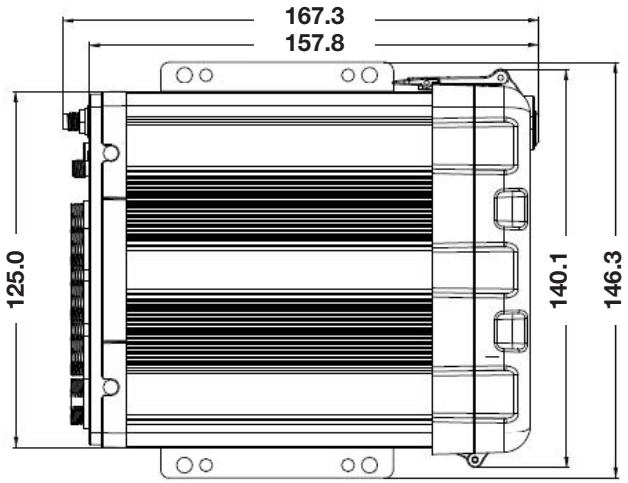


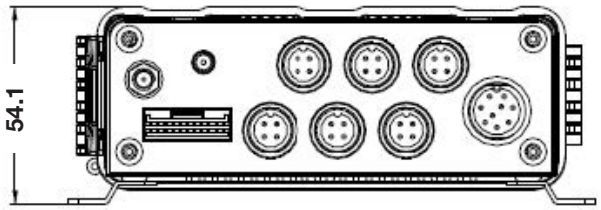
DVR-580 Range



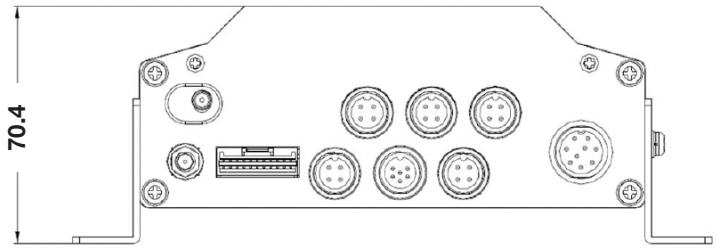
Dimensions

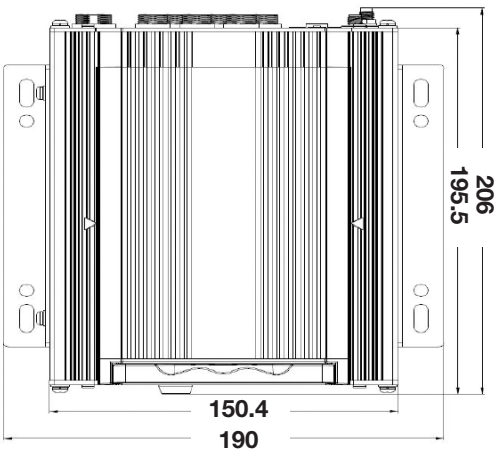
DVR-50

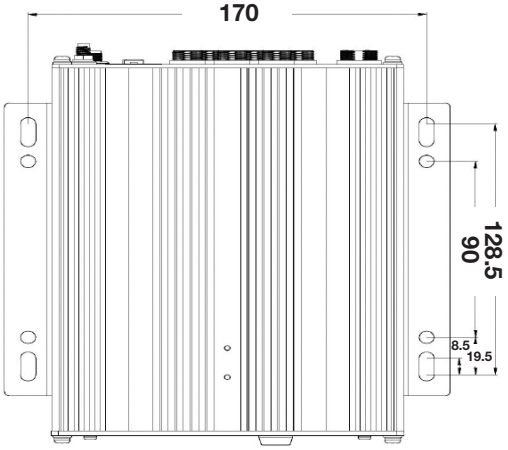




DVR-150

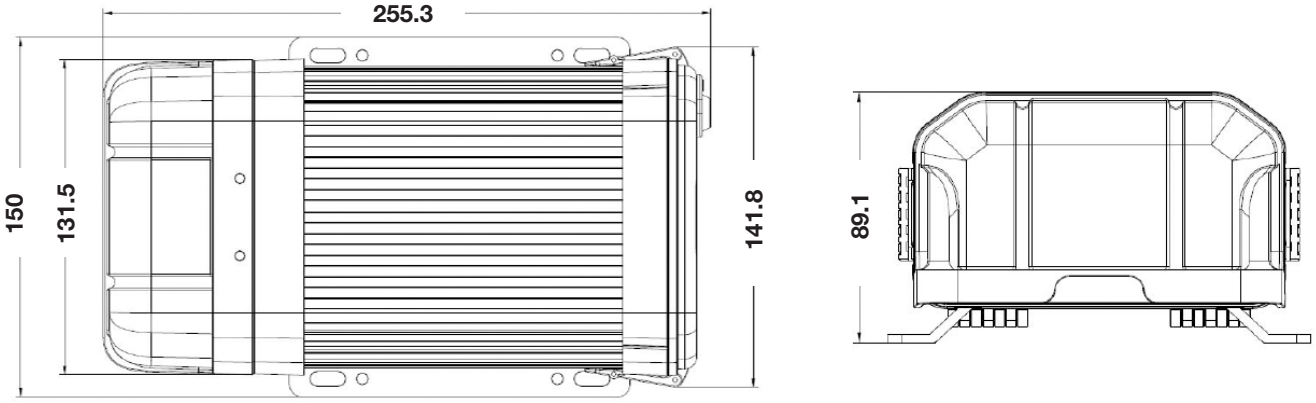




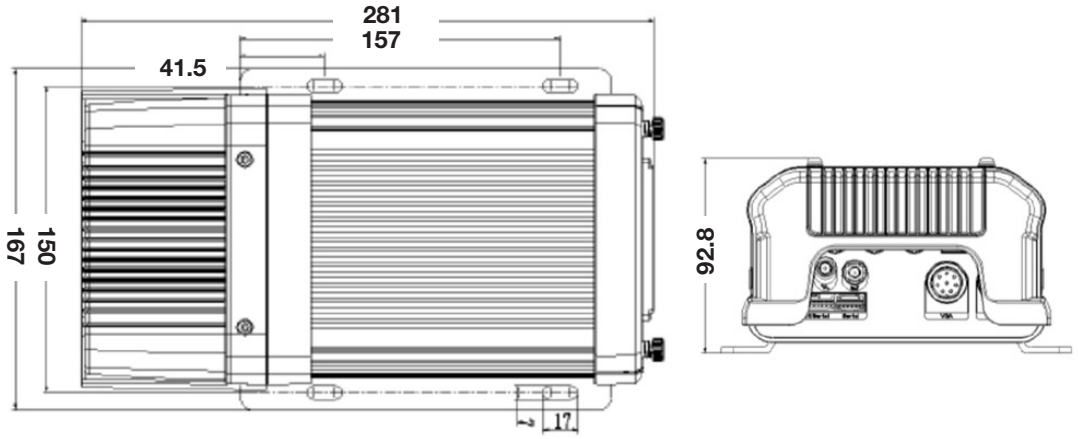


Dimensions - continued

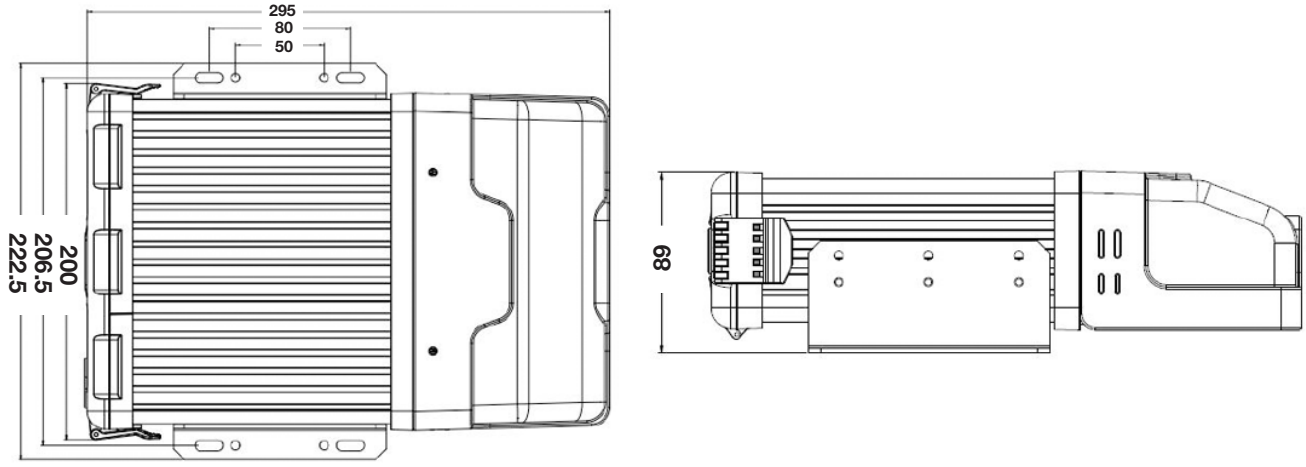
DVR-350



DVR-380



DVR-580



Installation

When choosing a mounting location, please ensure that there is sufficient access to the front panel of the DVR to allow access to the storage media.

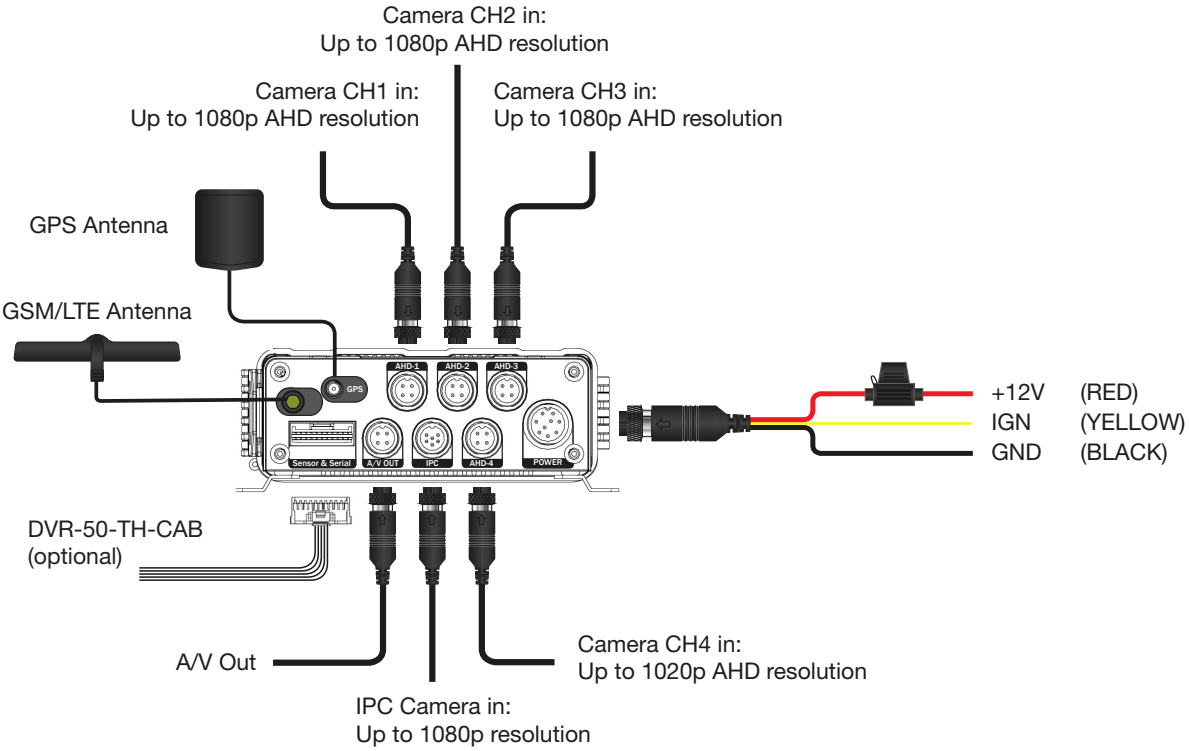
Also ensure that there are no electrical or fluid lines behind any panels that are to be drilled that could become punctured.

Once the mounting location has been decided, secure the unit with 4 screws.

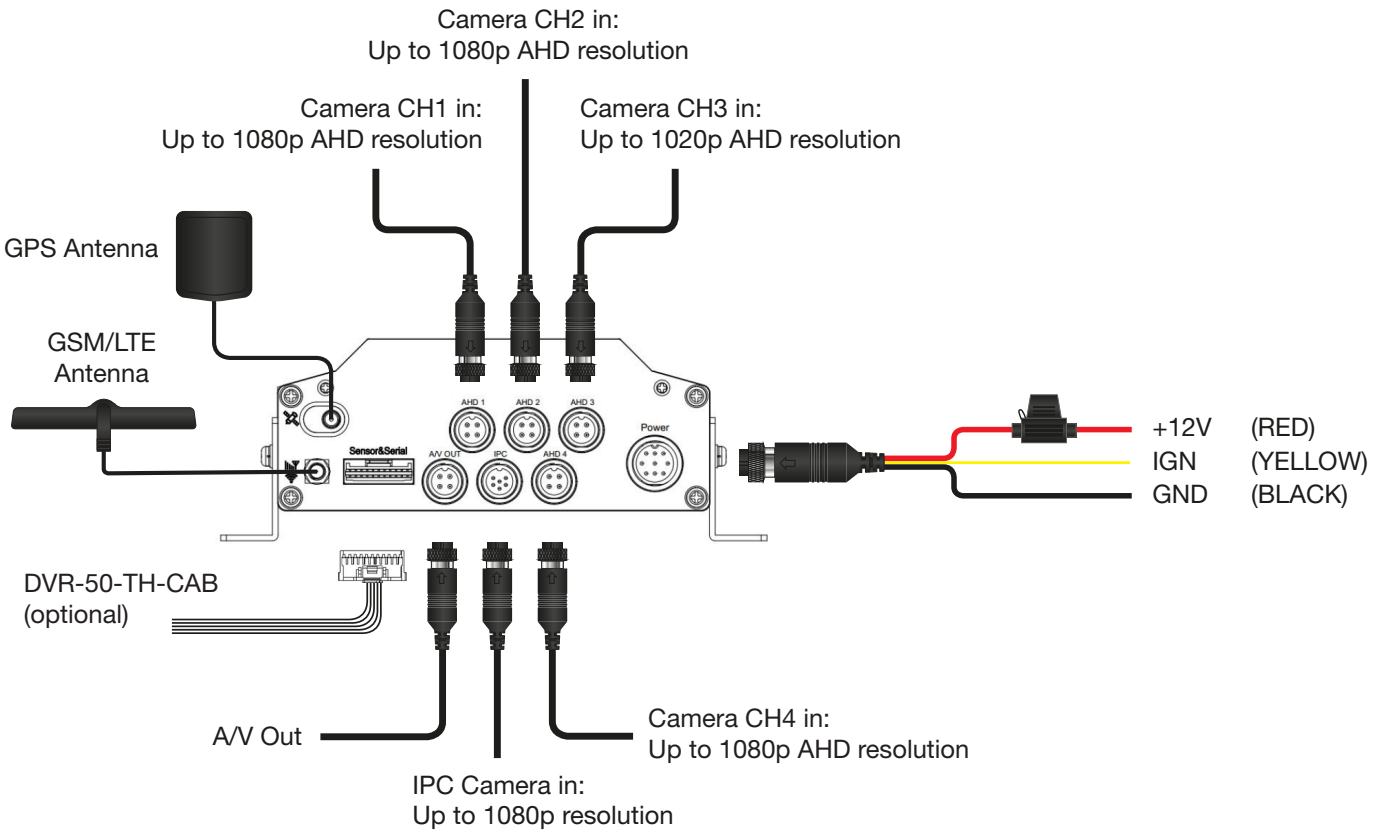
Connect the main power harness to +12V **(RED)** IGN **(YELLOW)** and Ground **(BLACK).**

Make all camera connections before powering up the unit.
Connect and route the GPS antenna and 3G/4G antenna (if supplied) to a position where it has a clear and unobstructed view of the sky. Any metalwork or large wiring looms above the antenna can obstruct its operation.

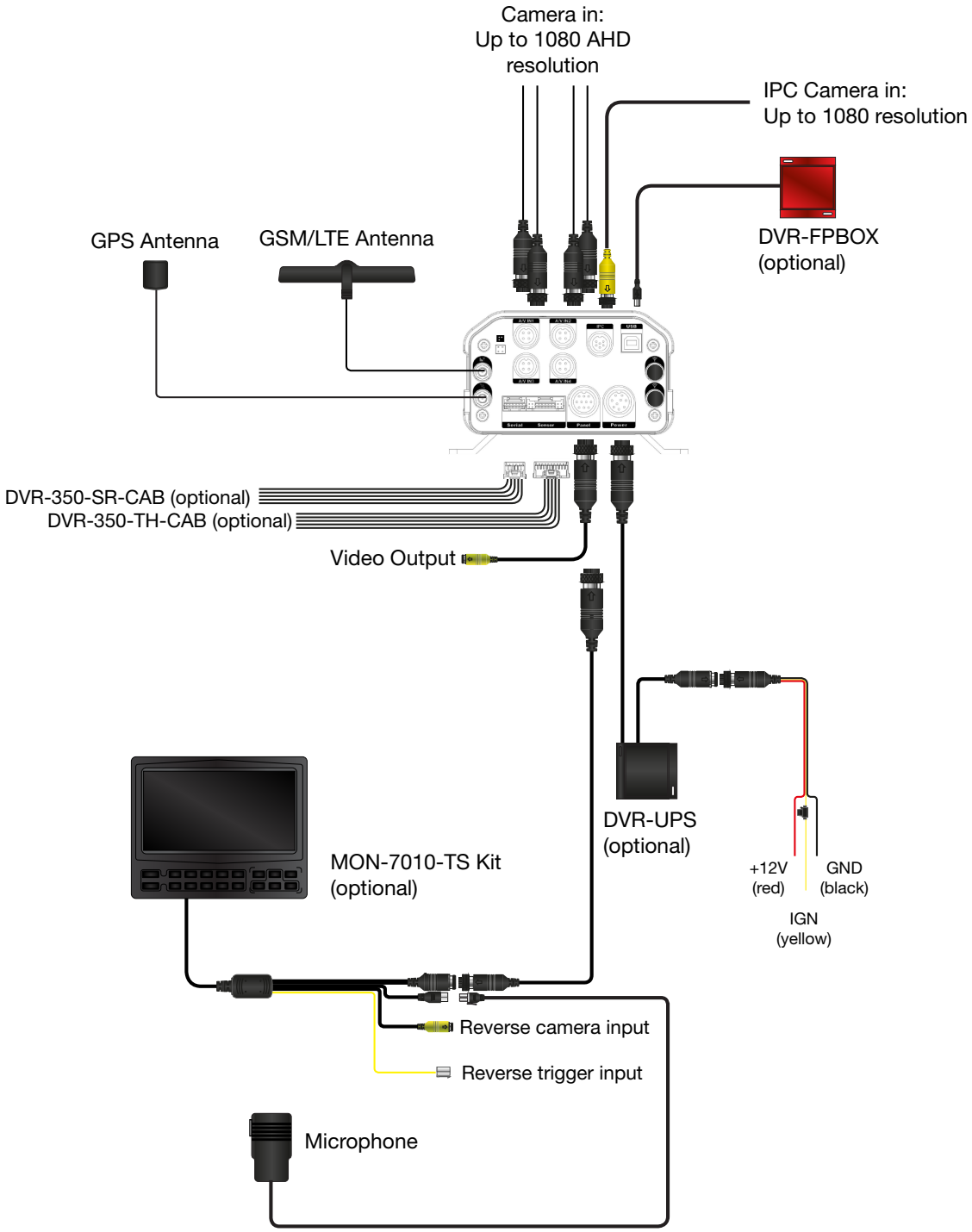
DVR-50



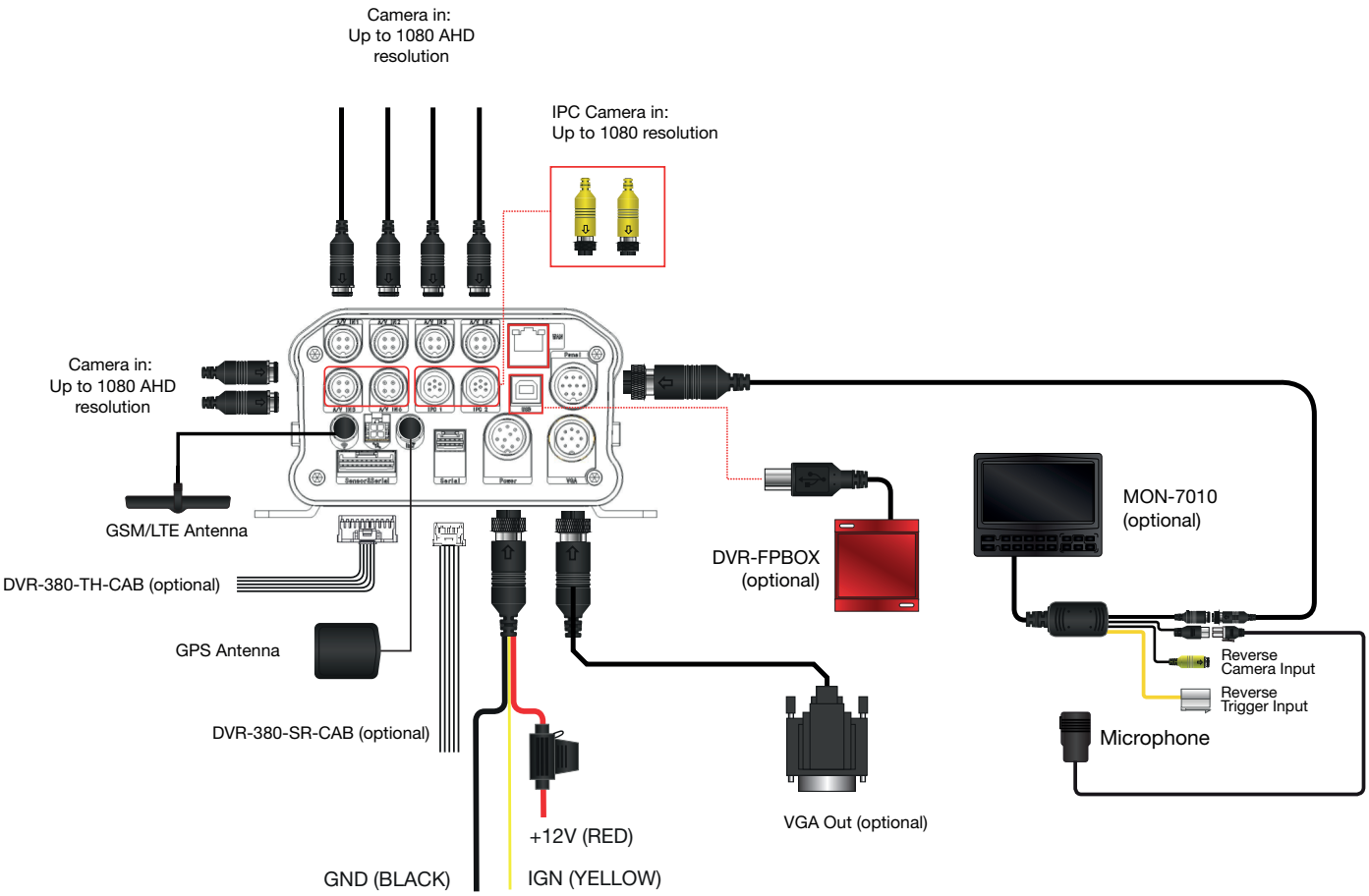
DVR-150


Camera CH2 in:
Up to 1080p AHD resolution
Camera CH1 in:
Up to 1080p AHD resolution
Camera CH3 in:
Up to 1020p AHD resolution
GPS Antenna
GSM/LTE
Antenna
AHD 1
AHD 2
AHD 3
Power
Sensor&Serial
A/V OUT
IPC
AHD 4
+12V (RED)
IGN (YELLOW)
GND (BLACK)
DVR-50-TH-CAB
(optional)
A/V Out
Camera CH4 in:
Up to 1080p AHD resolution
IPC Camera in:
Up to 1080p resolution

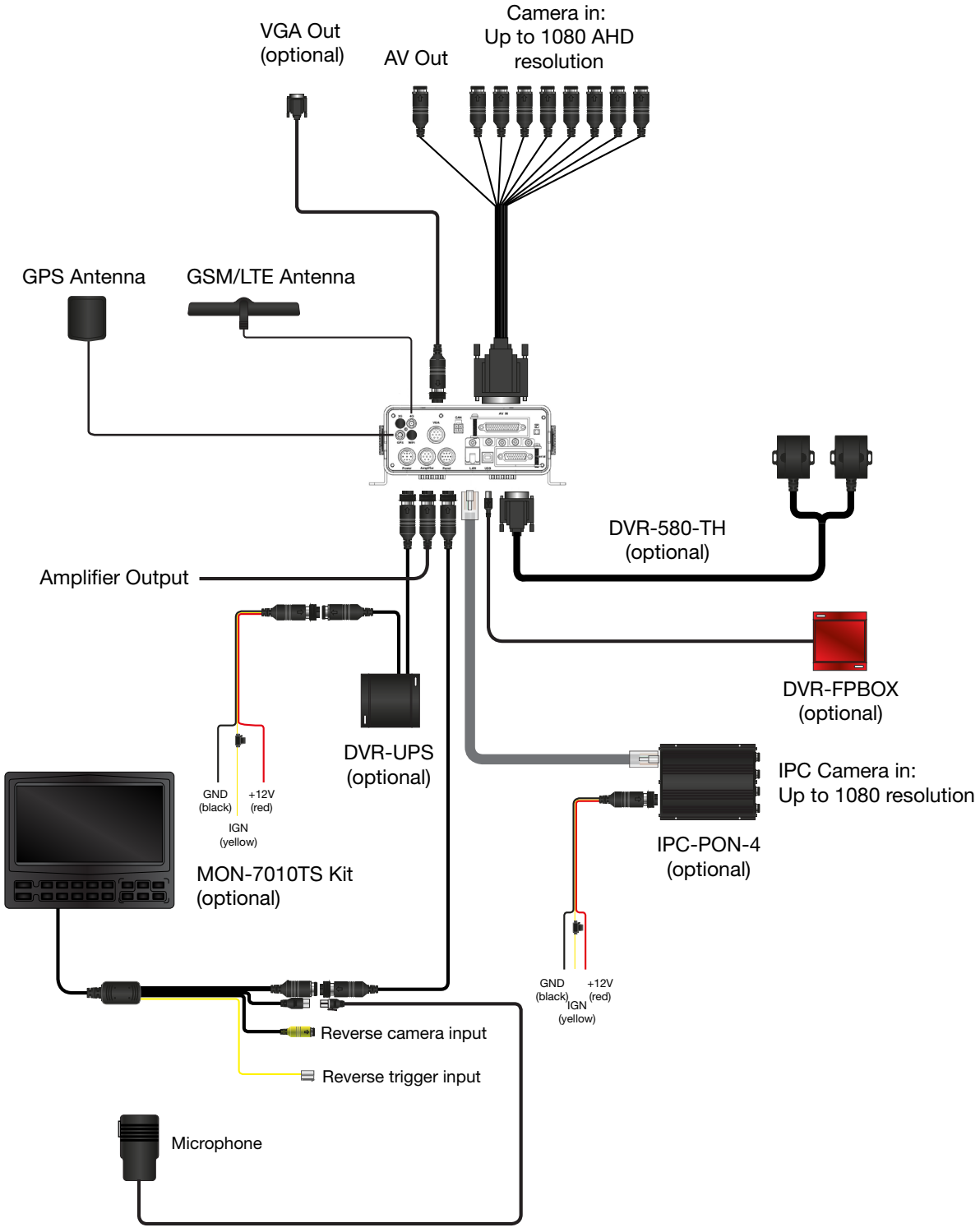
DVR-350


Camera in:
Up to 1080 AHD
resolution
IPC Camera in:
Up to 1080 resolution
DVR-FPBOX
(optional)
GPS Antenna
GSM/LTE Antenna
DVR-350-SR-CAB (optional)
DVR-350-TH-CAB (optional)
Video Output
DVR-UPS
(optional)
+12V
(red)
GND
(black)
IGN
(yellow)
MON-7010-TS Kit
(optional)
Reverse camera input
Reverse trigger input
Microphone

DVR-380


Camera in:
Up to 1080 AHD
resolution
IPC Camera in:
Up to 1080 resolution
Camera in:
Up to 1080 AHD
resolution
GSM/LTE Antenna
DVR-380-TH-CAB (optional)
GPS Antenna
DVR-380-SR-CAB (optional)
DVR-FPBOX
(optional)
MON-7010
(optional)
Reverse
Camera Input
Reverse
Trigger Input
Microphone
VGA Out (optional)
+12V (RED)
GND (BLACK)
IGN (YELLOW)

DVR-580

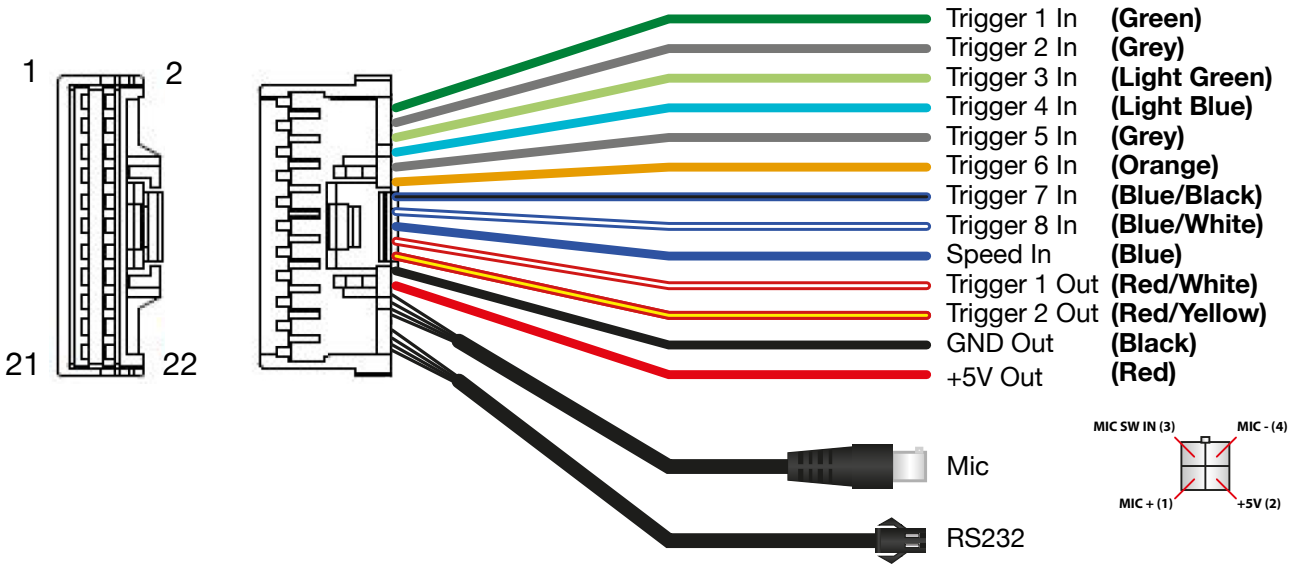

VGA Out
(optional)
AV Out
Camera in:
Up to 1080 AHD
resolution
GPS Antenna
GSM/LTE Antenna
DVR-580-TH
(optional)
Amplifier Output
DVR-FPBOX
(optional)
DVR-UPS
(optional)
GND
(black)
+12V
(red)
IGN
(yellow)
MON-7010TS Kit
(optional)
IPC Camera in:
Up to 1080 resolution
IPC-PON-4
(optional)
GND
(black)
+12V
(red)
IGN
(yellow)
Reverse camera input
Reverse trigger input
Microphone

DVR-50-TH-CAB - For DVR-50 and 150 range

If using the DVR-50-TH then this should be connected at this time using the following instructions. The DVR-50-TH adds the following functions to either the DVR-50 or DVR-150: 8 configurable trigger inputs for external inputs, RS232 serial output, speed pulse input and an external mic input.

Follow the wiring diagram below for all connections.

DVR-50-TH-CAB Wiring Diagram



Trigger IN: 1- 8 can be a high or low trigger value which is configured in the menu of the DVR.

Trigger OUT: 1 and 2 can be used to trigger external devices (such as a telematics device) when any trigger input is activated. This is again configurable in the DVR-50(G) menu.

Speed input: Can be used to record speed information of the vehicle onto the recording captured on the DVR. It should be connected to the analogue speed output wire on the vehicle (often found behind the radio or instrument cluster).

RS232: Can be used to send and receive data from external devices.

The external mic input can be used to record separate audio to that of the mic normally housed in the cameras.

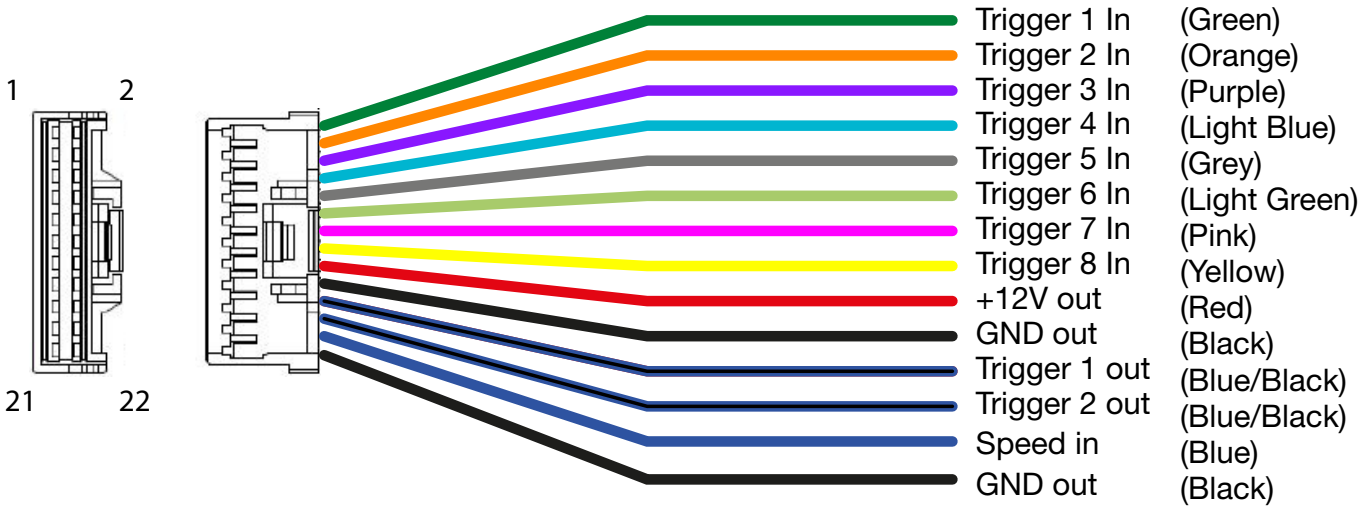
DVR-350-TH-CAB - For DVR-350 range

If using the DVR-350-TH then this should be connected at this time using the following instructions. The DVR-350-TH adds the following functions to the DVR-350:

- 8 x configurable trigger inputs for external inputs
- Speed pulse input
- 2 x configurable alarm outputs
- 1 x 12v output.

Follow the wiring diagram below for all connections.

DVR-350-TH-CAB Wiring Diagram



Trigger IN: 1- 8 can be a high or low trigger value which is configured in the menu of the DVR-350.

Trigger OUT: 1 & 2 can be used to trigger external devices (such as a telematics device) when any trigger input is activated. This is again configurable in the DVR-350 menu.

Speed Input: Can be used to record speed information of the vehicle onto the recording captured on the DVR-350. It should be connected to the analogue speed output wire on the vehicle (often found behind the radio or instrument cluster).

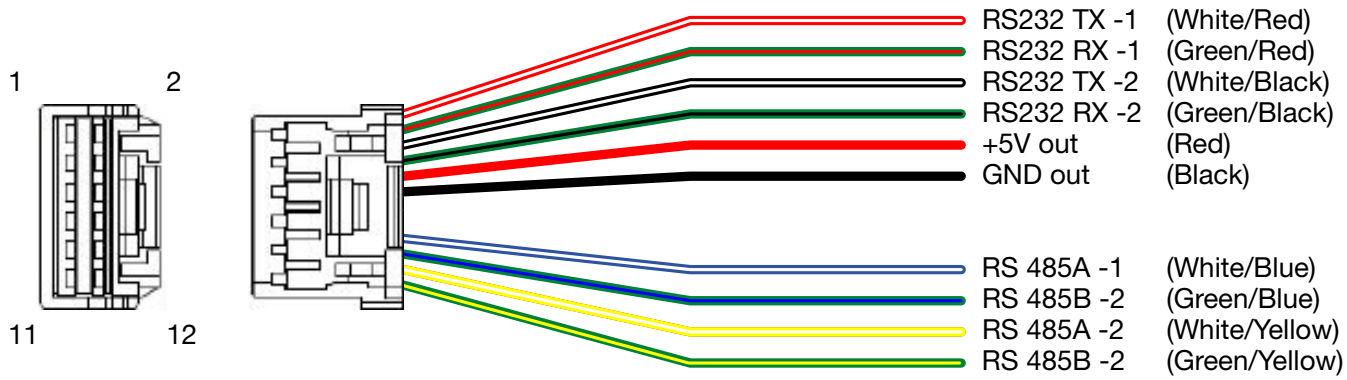
DVR-350-SR-CAB - For DVR-350 range

If using the DVR-350-SR then this should be connected at this time using the following instructions.
The DVR-350-SR adds the following functions to the DVR-350:

- 2 x RS232 inputs
- 2 x RS485 inputs
- 1 x 5v output

Follow the wiring diagram below for all connections.

DVR-350-SR-CAB Wiring Diagram



RS232: Can be used to send and receive data from external devices.
RS485: Can be used to send and receive data from external devices.

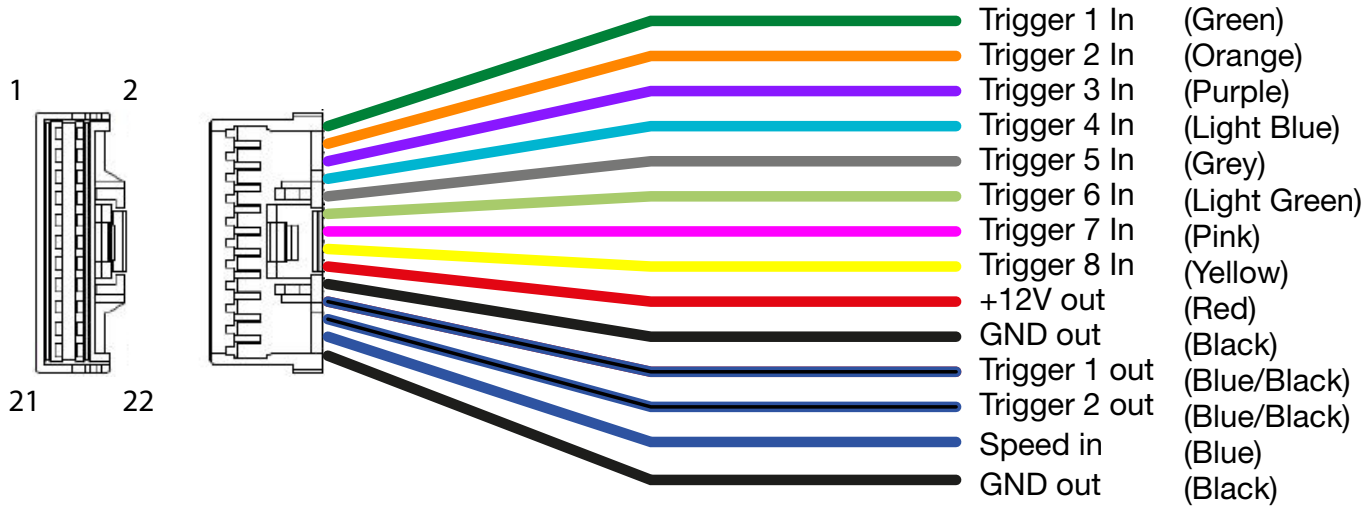
DVR-380-TH-CAB - For DVR-380 devices

If using the DVR-380-TH-CAB, then this should be connected using the following guidelines
The DVR-380-TH-CAB adds the following functionality to the DVR.

- 8 x Configurable trigger inputs
- Speed pulse input
- 2 x Configurable alarm outputs
- 1 x +12v accessory power output

Follow the wiring diagram below for all connections.

DVR-380-TH-CAB - Wiring Diagram



Trigger IN: 1- 8 can be a high or low trigger value which is configured in the menu of the DVR-380.

Trigger OUT: 1 & 2 can be used to trigger external devices (such as a telematics device) when any trigger input is activated. This is again configurable in the DVR-380 menu.

Speed Input: Can be used to record speed information of the vehicle onto the recording captured on the DVR-380. It should be connected to the analogue speed output wire on the vehicle (often found behind the radio or instrument cluster).

DVR-580-TH-CAB - For DVR-580 range

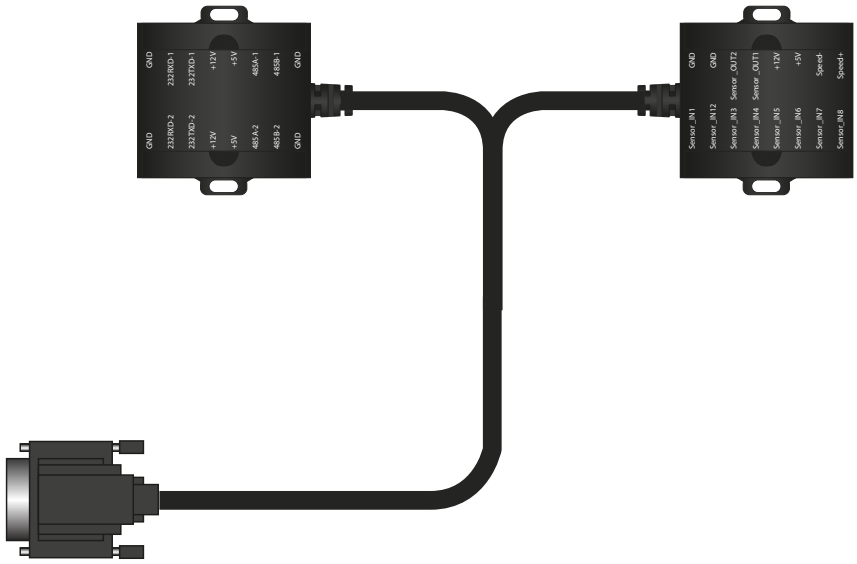
If using the DVR-580-TH then this should be connected at this time using the following instructions.

The DVR-580-TH adds the following functions to the DVR-580:

- 8 x configurable trigger inputs for external inputs
- Speed pulse inputs
- RS232 inputs
- 2 x configurable alarm outputs
- 12v & 5v outputs
- RS485 inputs

Follow the product labelling for all connections.

DVR-580-TH-CAB Wiring Diagram



Trigger IN: 1- 8 can be a high or low trigger value which is configured in the menu of the DVR-350.

Trigger OUT: 1 & 2 can be used to trigger external devices (such as a telematics device) when any trigger input is activated. This is again configurable in the DVR-350 menu.

Speed Input: Can be used to record speed information of the vehicle onto the recording captured on the DVR-350. It should be connected to the analogue speed output wire on the vehicle (often found behind the radio or instrument cluster).

RS232: Can be used to send and receive data from external devices.

RS485: Can be used to send and receive data from external devices.

Initial Set-up

Note: Not all options are available on all devices and some options require additional add on accessories.

Insert your storage device (SD, HDD, etc) and power ON the unit.

Note: The DVR door must be closed if equipped and the lock locked.

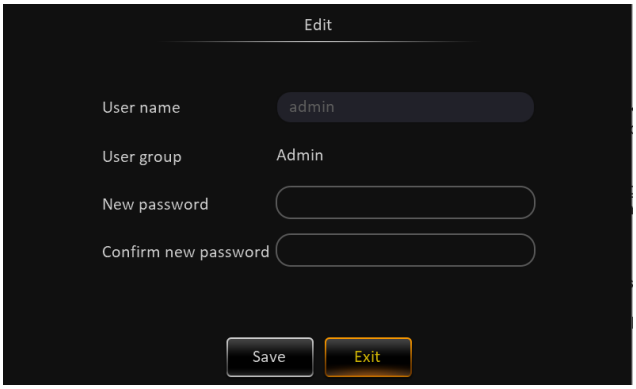
Power ON the unit with the door closed using the ignition.

Once the DVR is powered on, you can navigate to the login process using the optional Touchscreen monitor (MON-7010-TS) or by plugging a mouse (Not Supplied) into the device USB port.

Note: For devices with a door/access cover you may open it at this point to access the USB port, if no USB device is recognised within a set time the DVR will power off.

On later firmware devices the user is required to change the default password.

The user will be shown the following message on startup.



When Selecting 'OK' on the pop-up box the user will be directed to the password edit option.

The new Password must include;

Numbers, Letters, Upper and Lower case and be no less than 8 characters in length.

The default Admin password is **'admin'**

Touch the screen on the MON-7010-TS or right click on the mouse and the click on the  icon to login.

You will now have access to all the various features and settings of the unit.

Once initial setup is complete, if connected unplug the mouse, close and lock the door and you are ready to start using the product.

Note: It is always recommended to carry out a format on storage media using the internal format function of the DVR before first use. (See page 37)

Menu Function

Main Menu

Using either the optional touch screen MON-7010-TS (not included) or a USB mouse (not included), the user is able to access the main menu options by either touching the screen of the MON-7010-TS or right clicking on the mouse.

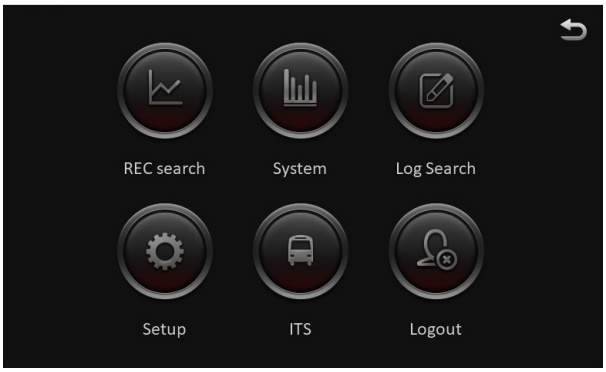
With these initial options you are able to select the individual channel display option or you are also able to choose 2 different split screen display options (4-way and 9-way split).

Playback of the most recent file is also possible from this screen by selecting the playback option.

The BIZ menu allows you to read text messages sent to the device via the mobile app.

All configurable options are accessed by selecting the  icon to bring up the home menu.

Home Menu



When browsing the menu system you can return to the previous menu by clicking the back arrow at the top right of the screen.

Selecting the home icon from any menu will return you to this screen.

REC search

Recordings can be searched for by date by selecting the required date and clicking next.

You will note that the colour displayed under the date signifies what type of recordings are present (normal recording, locked recording and alarm recording).

You can also filter recordings by the recording type and also the recording source (Main, sub or mirror).

Once a date has been selected there are options displayed for selecting specific video types (all, normal or alarm). You can also select which channel to view (channels without recorded data are greyed out). Clicking search will provide the option to search by time and also channel (multiple channels can be selected). Clicking the + or – buttons will zoom in on the time bar graph allowing for very accurate time selection while clicking the < or > icons will scroll up or down the graph. You can also select the exact time to start playback by clicking on the time counter and entering the exact time.

Once you have chosen your start time, click playback to start the playback of the recording.

Files can also be exported to a USB device in either a comprehensive .264, .265 or .avi format of which may be more easily read by various devices.

When selecting to export a file you are given the option to choose the start and end time for export.

Log Search

This function will allow all operation or alarm logs to be viewed.

These are searched for in the same manner as video files with the user able to choose the date for viewing and then the time. The option to view different log types is also given (alarm logs, operation logs and locked logs).

Clicking search will then display the list of time stamped logs with the log type displayed next to it. These will be shown in chronological order with the most recent displayed at the top of the list.

If the log is an alarm log then the related video file can be played by clicking the video icon to the right of the file.

System

Clicking this icon will display all the relevant information about the DVR including connected modules, server status, DVR status (environment), and storage information.

Setup

In this menu all configurable options for the DVR can be set.

Note:
Please ensure that you click save in each screen after making any changes otherwise these changes may not be saved.

Log Out

Click this to log out the current user.

Basic Setup

Registered Info

Device Info You can assign a number to the DVR to distinguish it from others.

Vehicle info **Vehicle plate –** input the registration number of the vehicle to which the device is installed.
Vehicle number – OPTIONAL
Line Number – OPTIONAL

Driver info **Driver number** – Assign a unique number to the driver of the vehicle if required
Driver name – Input the name of the driver

Time Setup

General This allows the user to set the date format, time format and time zone.

Time sync You can set the time and also choose whether the time will remain synced via information received by GPS, server or NTP server.

DST It is also possible to configure DST settings.
Once enabled, you are able to set the DST. time offset and also the start and end time for DST to be enabled.

Startup

On/Off

Mode
Select whether to power cycle the unit according to ignition position, timer or both ignition and timer.

Ignition delay
Select a delay period that the unit will continue recording after ignition has been turned off (0-86399 seconds). Note that the timer will not begin countdown until 5 minutes have passed from the last power up.

Timer
Allows a specific power up and power down time to be set.

Light off time
Sets a timer for the lighting on the MON-7010-TS to turn off.

Sleep

Sleep Mode
Can be set to NO or LOW consumption standby.

Low voltage protect
When enabled, the unit will automatically shut down when the battery voltage drops below the set level.

Battery low voltage protect
Sets the low voltage threshold for automatic shutdown.

Voltage startup
Sets the threshold for when the unit will boot up and return to normal operation.

Low volt upload
When enabled this will report low voltage incidents to the log.

User Setup

Idle time

This function allows you to set the delay time that the screen will revert to the camera image screen. If set to "never," then the screen will always remain on the current screen and never default back to the live view. This will also auto logout the current user. If set to never then you will be required to log out manually by clicking the logout icon in the main menu.

Users

You can add, remove or edit users in this menu by selecting a current user (to edit) or selecting add to enter a new user. This menu is where passwords can be set for each user. Only Admin user can add new users (up to a maximum of 2 normal users).

Note: You cannot delete or rename the Admin user.

Admin user will have full access to all menus and setups whereas a normal user will not be able to change any settings, but they will be able to search video and log files.

Network

These menus and features are for use in products with the built in communication modules that support network connections.

Navigate to BASIC SETUP - NETWORK - SERVER.

The DVR can have multiple server configs saved.

To select use the drop down menu after centre server, you are able to add and delete server profiles here as well.

Typically only 1 server config is required and is set by the service administrator. Any saved server connection that is to be utilised must have the ON check box selected.

Network - continued

Protocol type is set to N9M for the **EchoMaster Connected** platform and is default for most applications.

Enable network, this sets how you want the DVR to connect to the server.
(Module1 is typically the SIM 3G/4G connection)

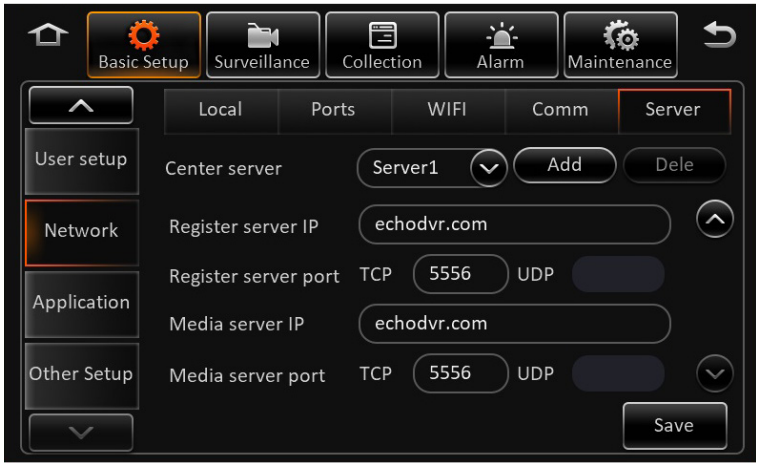
Register server IP, this is set by the server administrator, **echodvr.com** is the default and is required for connection to the **EchoMaster Connected** platform.

Register server port is default to 5556 and must not be changed.

Media server IP is default to **echodvr.com** this is the default setting to be able to connect to the **EchoMaster Connected** platform.

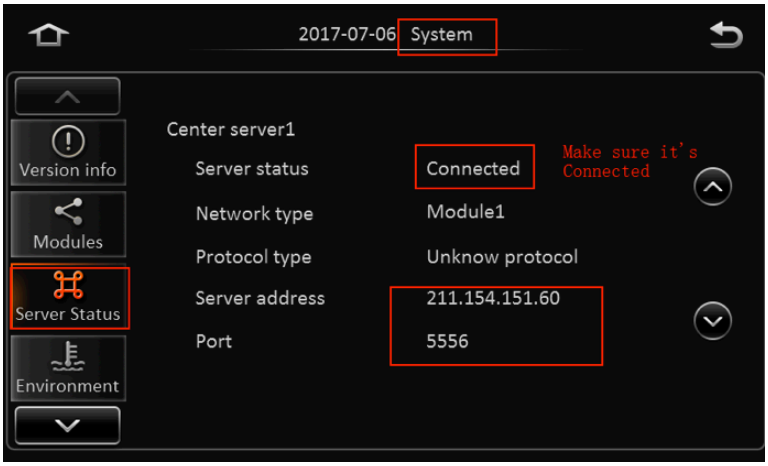
Media server port is default to 5556 and must not be changed.

Remember to click save before changing tabs or your settings will not be stored.



You are able to test the connection to the server by navigating to the server status menu found within the System menu

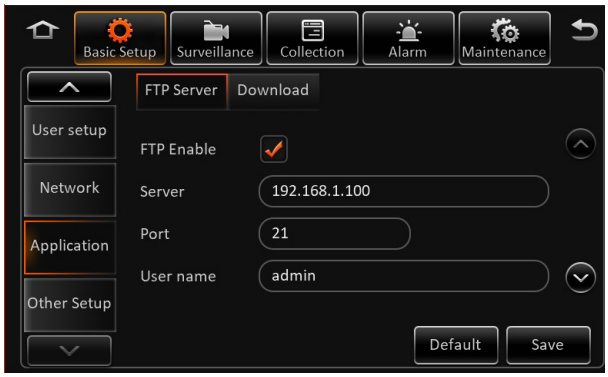
Navigate to the Server Status tab to check the connection of the DVR to the Connected platform. You can check the module being used and the Server address here in this menu.



NOTE: A subscription is required for access to the EchoMaster Connected platform.

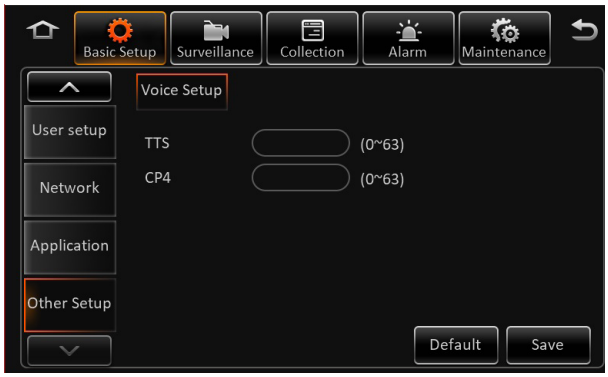
Application

This feature is reserved for data transfer settings, when configured to a suitable service it will allow data transfer from the device to a server. (typically reserved for Wi-Fi enabled units)



Other Set-Up

This allows the 'Text to Speech' and MON-7010-TS volume levels to be set.



Surveillance

Live View

These settings are used to configure how the video is displayed on a monitor connected to the DVR.

Preview

Preview Audio
Selects whether the audio is heard in the live view screen.

Image Setup
Allows adjustment for brightness, contrast, colour and saturation. These are individually configurable for each channel. You can also adjust the mirror image and vertical image flip in this menu (again configurable for each channel separately) by clicking on the 2 rotate icons. Settings can be copied from 1 channel to any other channel to save making the same changes multiple times.

Margins Adjust the margins for the left, right, top and bottom of the screen to ensure that it correctly fits your monitor.

Startup screen Set the default image display when the unit starts up (single image or split screen). You can also choose which cameras to display in this split screen mode.

Auto loop You can configure the unit to automatically loop through any number of video inputs. These can be displayed as a single image (1x1) quad screen (2x2) or 9-way split screen (3x3).

Any combination can be chosen and the time that each image is displayed can be set independently for each camera.

Live OSD

You are able to configure what information is displayed on the live view by ticking the required box.

Note: Not all options are available on all devices and some options require additional add on accessories.

Record

General

System
Allows the video output to be set as PAL or NTSC format.

Overwrite
The user is able to choose the manner in which data is overridden.
Capacity will overwrite data when the storage medium is full. Days will start overwriting the storage medium after a set number of days (1-31). The 'Never' setting will not allow any data to be overridden (recording will be suspended when the storage medium is full.)

Lock duration
This determines the length of time that locked files are retained before they will be overwritten (1-31 days).

Pre-recording
If an alarm is triggered this setting defines the length of pre-recorded time that is locked. Sets the threshold for when the unit will boot up and return to normal operation.

Main Stream

Channel	Choose which channel to carry out settings on.
Channel Name	Assign a specific name to that channel.
Enable	Turn the channel on or off.
Resolution	Set the recording resolution of the particular channel.
Frame rate	Set the desired frame rate for the chosen channel.
Quality	Choose the recording quality (1 is highest).
Record Mode	This can set the mode in which recording is started on that particular channel. Power up will start recording as soon as the device is turned on. Timer will only start recording on that particular channel at specific times which can be set after this option is highlighted and alarm which will only record that channel when an alarm is triggered.
Audio	Allows audio to be recorded from any channel.
Alarm quality	This can change the recording quality to a different level than that of non-alarm recording. This means that the recording level can be set to a lower quality to conserve storage space but then switch to a higher quality when an alarm is triggered.
Encode mode	Choose whether files are encoded at variable bit rate (VBR) or constant bit rate (CBR). You are able to copy the settings from one channel to all others, or selected channels by using the copy function.

Dual Stream

This allows a separate recording stream to be enabled. This can be set to be a mirrored recording, a sub-recording of certain channels or a recording of alarm channels.

This can be saved to only the internal storage medium as the external SD card has no function in this version. In mirror recording, all video parameters are set to be the same as the main recording stream. In sub-recording you can configure separate parameters for each channel which are independent of the main recording stream.

OSD

You are able to choose what information is shown on the recorded videos by ticking the required parameter.

Position The position on screen where the relevant pieces of information can be changed by clicking this button. You will then be shown a single image with all of the information selected shown. Click and drag the information to the desired area and click save.

IPC Setup

Configure all settings when using the IPC HD cameras. Please ensure that the IPC camera is connected before configuring any of these options.

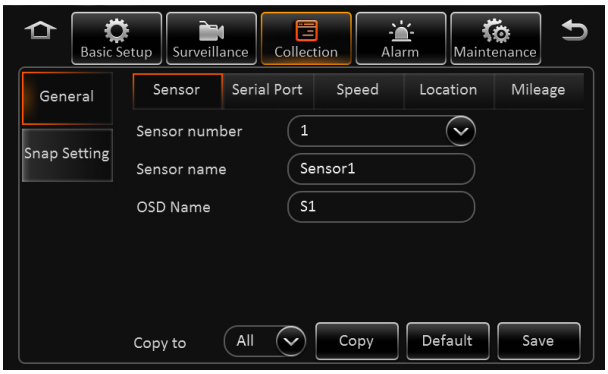
Only certain channels can be assigned to IPC cameras. These are selected with the tick box. Once ticked, you should click the search icon for the relevant channel. The unit will then perform a search for a connected IPC camera. Once the camera has been found, the results will be displayed. Select the camera by ticking the check box and click OK.

There will now be an IP address and port number displayed on the main IPC setup screen. Click save and the camera image should now be able to be viewed in the live view.

PTZ

This feature is reserved for future use.

Collection



General

Sensor

Sensor Number
Choose which sensor you wish to edit.

Overwrite
Assign a specific name to the chosen sensor

OSD name
Assign a certain name that will be displayed on screen when a sensor is activated.

Serial port This allows you to configure all functions for the RS232 serial port when using external devices, including the type of device connected and also the baud rate.

Speed In this menu, the speed unit and source of the speed information can be configured.

Navigation Currently can only be set to GPS.

Mileage

Source You are able to select the source of the mileage information.

Total Displays the total miles covered since last reset.

Base Value This is the initial starting value for the mileage counter when reset. This can be useful if swapping out units as the mileage counter from the old unit can be inserted into this column to retain an accurate record.

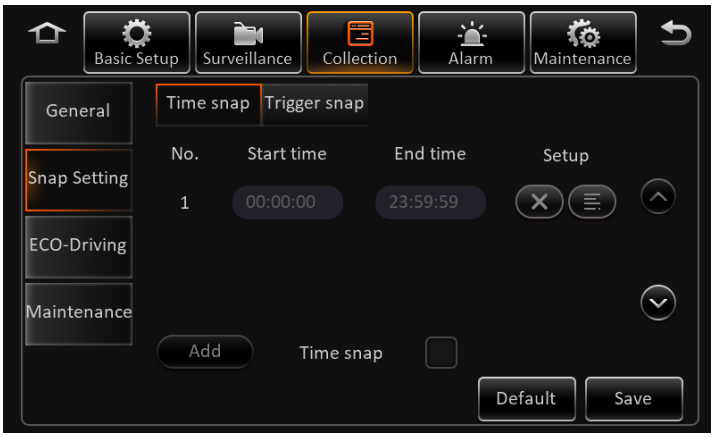
Operation Clicking correct will adjust the mileage counter to that of the number entered into the base value. Clicking clear will reset the mileage counter to zero.

Flow Limit This allows you to set a maximum data transfer speed for live view etc.

Unit Allows you to change the units for temperature etc.

Snap Setting

The MDVR can be configured to take a snapshot from a select camera. Snapshot trigger criteria is configured in the following menus.



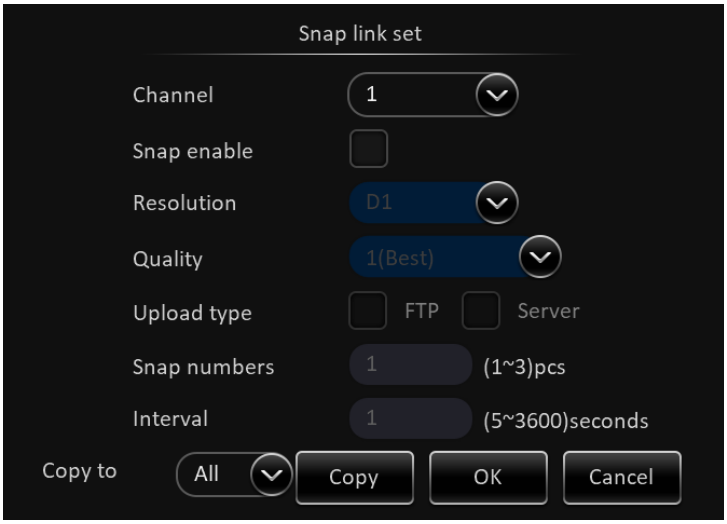
Time Snap Use the check box to enable the time snap feature. Click the icon to configure. Use the **Add** button on the bottom of the page to add multiple time snaps.

Trigger Snap Select the trigger snap tab and select the **Setup** button after the desired Alarm Snap or Manual Snap heading to configure options.

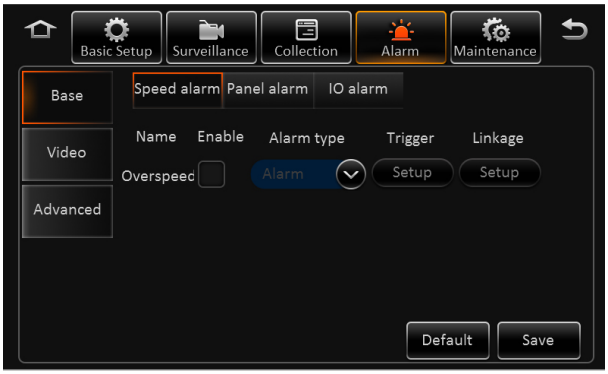
Snap Options

Use the option page to configure snapshot criteria.

- Channel Number
- Check to enable
- Resolution and Quality settings
- Upload via Connected Server (subscription and connected device required) or FTP
- Snapshot quantity and interval time between snapshots



Alarm



Base

Speed Alarm

The speed alarm function can be turned on by ticking the enable box. You can also then configure the type of alarm reported (Alarm/Event).

Once enabled you can configure the speed setting, speed difference and alarm duration by clicking the trigger setup.

Using the linkage setup, it is also possible to link this alarm to one of the 2 available trigger outputs and additionally configure post-recording times in addition to linking the alarm to a particular camera.
Post recording will continue to record locked video for the set time after the alarm has been cancelled.

Panel Alarm

This feature when configured is used to send an alarm when the front panel has been opened/accessed.

IO Alarm

The speed alarm function can be turned on by ticking the enable box.

You can also then configure the type of alarm reported (Alarm or Event).

Once enabled, you can configure the trigger type to high or low by selecting setup under the Trigger column. Selecting high will mean that when a corresponding trigger input detects a positive voltage applied it will be active. Setting this to low will mean that when a corresponding trigger input detects a positive voltage disengage it will activate.

Using the linkage setup, it is also possible to link this alarm to one of the 2 available trigger outputs and additionally configure post-recording times in addition to linking the alarm to a particular camera. The alarm snap feature is not functional on this product.

Post recording will continue to record locked video for the set time after the alarm has been cancelled.
It is possible to copy the settings from 1 alarm to any or all of the others using the copy feature.

Video

Video loss

This enables a video loss on a particular channel or multiple channels to trigger an alarm and also to switch display or file lock to a different channel.

Using the linkage setup, it is also possible to link this alarm to one of the 2 available trigger outputs and additionally configure post-recording times in addition to linking the alarm to a particular camera.
The alarm snap feature is not functional on this product.

Post recording will continue to record locked video for the set time after the alarm has been cancelled.

Motion

This enables motion to be detected by the camera and trigger an alarm and switch to a chosen channel display and lock file.

To set the motion detect area, enable the function and then click on trigger setup. Green highlighted areas are detection areas whereas grey highlighted areas are not detected.

You are able to select the sensitivity and the detection area individually for each camera. Use the left mouse button to drag the desired detection area on screen. If you make an error, you can clear all or part of the detection area by click and dragging the mouse across any of the grey highlighted grid.

To back out of this menu, use the right mouse click.

Once happy with all the detection areas, click OK and Save on the main screen.

Using the linkage setup, it is also possible to link this alarm to one of the 2 available trigger outputs and additionally configure post-recording times in addition to linking the alarm to a particular camera.
The alarm snap feature is not functional on this product.

Post recording will continue to record locked video for the set time after the alarm has been cancelled.

Cover

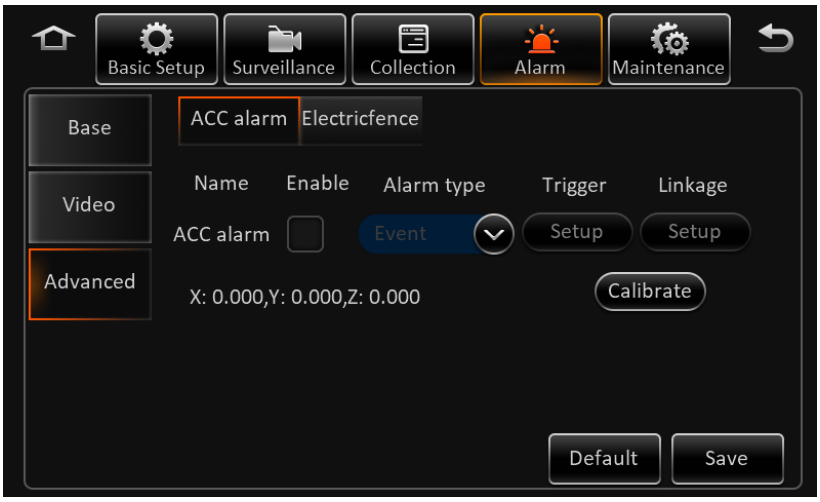
This enables the DVR to detect if a camera has been covered and switch the display to a chosen channel and also to trigger an alarm and lock a recording.

Check the box to enable this feature and choose whether it reports as an event or an alarm.
By clicking the trigger setup, you can select which channels to enable this feature on and also set the sensitivity, alarm duration and delay time before the alarm is triggered.

Using the linkage setup, it is also possible to link this alarm to one of the 2 available trigger outputs and additionally configure post-recording times in addition to linking the alarm to a particular camera. The alarm snap feature is not functional on this product.

Post recording will continue to record locked video for the set time after the alarm has been cancelled.

Advanced



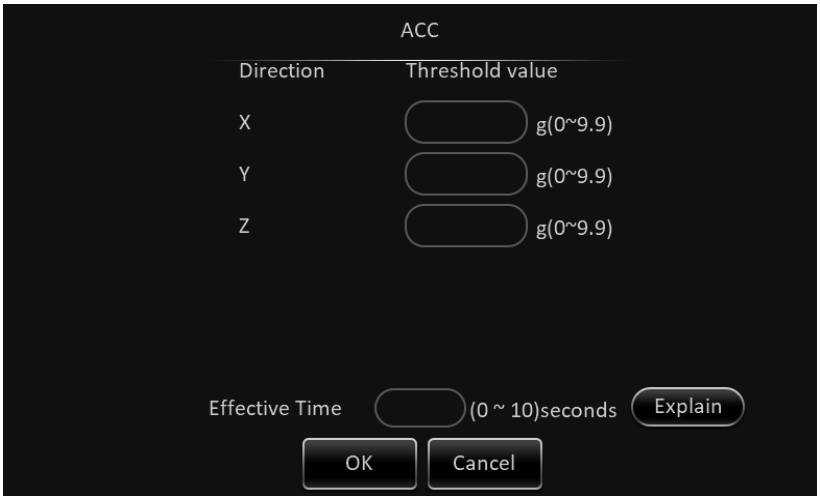
ACC Alarm

This allows an alarm to be triggered on heavy acceleration, deacceleration and cornering.

NOTE: Depending on model this may require additional parts.

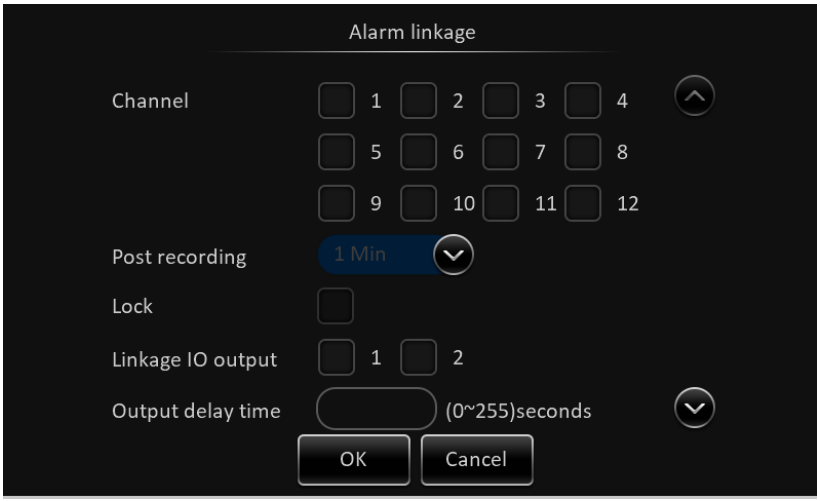
With the MDVR or ACC Sensor securely mounted, enable and select the 'Calibrate' button.

The user is able to select the alarm type, Event or Alarm, Link to a desired camera channel



The trigger threshold value must be set first.

This should be configured for your type of vehicle, the lower the setting the more sensitive the trigger will be.



The Linkage screen allows the following options to be selected.

Channel number – select which camera channels to link
Post record time – use the drop down options to configure
IO Output linkage – select an output trigger channel to trigger external devices if required
Output Delay – set time output trigger is active

Click OK when finished and select Save before moving from the ACC Alarm tab

Electricfence

By Selecting this feature it will an alarm to be triggered when the preset area has been configured using the connected platform. See Connected Platform manual for additional detail.

Maintenance

Config

You are able to import and export configuration files which is useful if you are fitting multiple products to different vehicles and wish to use the same configuration for all. This will save having to configure each unit separately.

A USB hub can be used to simultaneously connect a USB drive and a mouse so that this operation can be carried out.

File Data

You can export any type of file data to an external USB device using this menu. Data can be exported in bulk (all data) or only between a certain period of time.

A USB hub can be used to simultaneously connect a USB drive and a mouse so that this operation can be carried out.

Upgrade

The unit can be upgraded from this menu option when upgrades are released. The upgrade file should be placed on the root folder of a USB device.

A USB hub can be used to simultaneously connect a USB drive and a mouse so that this operation can be carried out.

Storage

This option will display all connected storage mediums and also gives you the option to format each device individually.

Reset

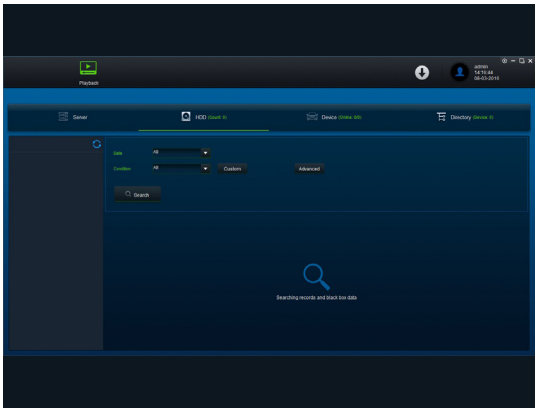
You are able to reset all parameters to default factory settings using the reset feature in this menu. You can also reboot the system from this location.

Offline Video Playback

To view the stored video content from the device, either remove the storage medium or download the video files to a external storage media i.e. USB memory stick. The files are accessible for playback by using the EchoMaster Connected application.

This is downloadable from the following location
https://bit.ly/3bVFhcN

Please refer to the separate Platform user guide for additional detail on using the software.



Specification - Non-Connected Range

		DVR-50-AHD	DVR-50-G-AHD	DVR-150-G
Storage Media Type	HDD	✗	✗	✓
	SD	✓	✓	✗
Max HDD Capacity		✗	✗	1TB
Max SD Capacity		256GB	256GB	✗
Channels		4	4	4
Resolution		720p	720p	720p
IPC		1	1	1
IPC Resolution		720p	720p	720p
Video Output		CVBS	CVBS	CVBS
Built in G Sensor		✗	✗	✗
USB		✓	✓	✓
Sensor Inputs		8 with DVR-50-TH-CAB	8 with DVR-50-TH-CAB	8 with DVR-50-TH-CAB
Sensor Outputs		2 with DVR-50-TH-CAB	2 with DVR-50-TH-CAB	2 with DVR-50-TH-CAB
Voltage Range (V)		8-36	8-36	8-36
Dimensions (mm)	L	167.3	167.3	206
	W	146.3	146.3	190
	D	54.1	54.1	70.4
Operating Temp (C)		-40 to +70	-40 to +70	-40 to +70
Video Compression		H.264	H.264	H.264
IO		RS232 x 1	RS232 x 1	RS232 x 1
Client		✗	✗	✗
OS		Linux 3.0.8	Linux 3.0.8	Linux 3.0.8
Wi-Fi		✗	✗	✗
3G		✗	✗	✗
4G		✗	✗	✗
GPS		✗	✓	✓

Specification - Connected Range

			DVR-50-FHD-G	DVR-50-FHD-4GG	DVR-150-FHD-G
System	OS		Linux 3.18.20	Linux 3.18.20	Linux 3.18.20
	Control Mode		IR Remote, CP4, Easy Check, Mouse	IR Remote, CP4, Easy Check, Network (3G/4G), Mouse	IR Remote, Easy Check, CP4, mouse
Video	Input		4 channels AHD(1080P) +1 channels IPC(1080P)	4 channels AHD(1080P) + 1 channels IPC(1080P)	4 channels AHD(1080P) +1 channels IPC(1080P)
	Output		1 channel	1 channel	1 channel
	Total Resource	PAL	4 x720P @ 25fps(AHD) + 1 x 1080P @ 30fps(IPC) **or** 4 x 1080P @ 10fps(AHD) + 1 x 1080P @ 30fps(IPC)	4 x 720P @ 25fps (AHD) + 1 x 1080P @ 30fps (IPC **or** 4 x 1080P @ 10fps (AHD) + 1 x 1080P @ 30fps (IPC)	4 x 720P @ 25fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @ 10fps(AHD) + 1 x 1080P @ 30fps(IPC)
		NTSC	4 x 720P @ 30fps(AHD) + 1 x 1080P @ 30fps(IPC) **or** 4*1080P @ 15fps (AHD) + 1 x 1080P @ 30fps	4 x 720P @ 30fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @ 15fps(AHD) + 1*1080P @ 30fps(IPC)	4 x 720P @ 30fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @ 15fps (AHD) + 1 x 1080P@30fps (IPC)
	Video Signal		Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional	Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional	Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional
Audio	Input		5 channels (1 channel IPC audio input)	5 channels (1 channel IPC audio input)	5 channels
	Output		1 channel	1 channel	1 channel
	Audio Signal		Electrical Level: 2Vpp Input impedance: 4.7kΩ	Electrical level: 2Vpp Input impedance: 4.7kΩ	Electrical level: 2Vpp Input impedance: 4.7kΩ
Display	Display Split		1 or 4 or 9	1 or 4 or 9	1 or 4 or 9
	OSD		GPS information, alarm, vehicle no, speed, date/time	GPS information, alarm, vehicle no, speed, date/time	GPS information, alarm, vehicle no, speed, date/time
	Operation Interface		Semi-Transparent GUI	Semi-transparent GUI	Semi-transparent GUI
Recording	Video/Audio Compression	Video	Video: H.264/H.265	Video: H.264/H.265	Video: H.264/H.265
		Audio	Audio: ADPCM, G.711A, G.711U	Audio: ADPCM, G.711A, G.711U	Audio: ADPCM, G.711A, G.711U
	Image Resolution	Analog			
		PAL	1080P(1920X1080), 720P(1280X720), WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288	1080P(1920X1080), 720P(1280X720), WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288)	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);	1080P(1920X1080), 720P(1280X720), WD1(928X480), WHD1(928X240), WCIF(464X240), D1(704x480), HD1(704x240),CIF(352x240)	1080P(1920X1080), 720P (1280X720), WD1(928X480), WHD1(928X240), WCIF(464X240), D1(704x480), HD1(704x240),CIF(352x240);
		Digital	1080P(1920X1080), 720P(1280X720)	1080P(1920X1080), 720P(1280X720)	1080P(1920X1080), 720P(1280X720)
	Image Quality		1-8 levels adjustable (1 is the best)	1-8 levels adjustable (1 is the best)	8 Levels adjustable
	Recording Mode		Schedule/Alarm(sensor trigger, speed, acceleration, video loss, temperature)	Schedule/Alarm(sensor trigger, speed, acceleration, video loss, temperature)	Schedule/Alarm(sensor trigger, speed, acceleration, video loss, temperature)
	Pre-recording		0-60minutes	0- 60minutes	0-60minutes
	Post-recording		0-30 minutes	0- 30 minutes	0-30 minutes
	Mirror Recording		Yes	Yes	Yes
Playback	Playback Channel		1 channel by local playback	1 channel by local playback	4 channels by local playback
	Search Mode		Date/time, channel, event	Date/time, channel, event	Date/time, channel, event
Network	4G / WIFI				
	IPC Enternet		6-pin M12 (100M x 1, PON power supply)	6-pin M12 (100M x 1, PON power supply)	6-pin M12(100M x 1, PON power supply)
Locating	GPS		Location tracking, speed detection and time sync	Location tracking, speed detection and time sync	Location tracking, speed detection and time sync
Sensor	G-Sensor		Built-in three-axis inertia sensor	Built-in three-axis inertia sensor	Built-in three-axis inertia sensor
Storage	SD / HARD DISK		SD card slot x 2	SD card slot x 2	2.5" SATA hard disk x 1
Interface	USB		USB2.0 x 1	USB2.0 x 1	USB2.0 x 1
	RS232		RS232 × 1	RS232 × 1	RS232 X 1
	SIM			SIM Slot x 1	
	Sensor		8 inputs, 2 outputs	8 inputs, 2 outputs	8 inputs, 2 outputs
	Speed		1 channel pulse speed detection	1 channel pulse speed detection	1 channel pulse speed detection
	Control Panel		Touch panel CP4 Optional	Touch panel CP4 Optional	Touch panel CP4 Optional
	Intercommunication		1 MIC interface	1 MIC interface	1 MIC interface
Power	Input		DC8-36V	DC8-36V	DC8-36V,Ignition signal
	Output		5V @ 500mA	5V @ 500mA	5V@1A
	Max Power		29W	29W	32W
	Standby Power		≈0W	≈0W	≈0W
Physical Characteristics	Dimensions (L x W x H)		167.3mm x 146.3 mm x 54.1mm	167.3mm x 146.3 mm x 54.1mm	206.0 x 170.0 x 70.5
	Weight		0.83 KG	0.83 KG	1.24 KG
Environment	Operating Temp		-40°C + 70°C	-40°C - +70°C	-40°C ~+70°C (with heating and no HDD)
	Operating Humidity		8%~90%(No Condense)	8%~90%(No Condense)	8%~90%(No Condense)

Specification - Connected Range

			DVR-150-FHD-WG	DVR-150-FHD-4GG
System	OS		Linux 3.18.20	Linux 3.18.20
	Control Mode		IR Remote, Easy Check, CP4, mouse, Network (WIFI)	IR Remote, Easy Check, CP4, mouse, Network (3G/4G)
Video	Input		4 channels AHD(1080P) + 1 channels IPC(1080P)	4 channels AHD(1080P) +1 channels IPC(1080P)
	Output		1 channel	1 channel
	Total Resource	PAL	4 x 720P @ 25fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @10fps (AHD) + 1 x 1080P @30fps (IPC)	4 x 720P @ 25fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @ 10fps (AHD) + 1 x 1080P@30fps(IPC)
		NTSC	4 x 720P @ 30fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @ 15fps (AHD) + 1 x 1080P @ 30fps (IPC)	4 x 720P @ 30fps (AHD) + 1 x 1080P @ 30fps (IPC) **or** 4 x 1080P @ 15fps (AHD) + 1 x 1080P @ 30fps (IPC)
	Video Signal		Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional	Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional
Audio	Input		5 channels	5 channels
	Output		1 channel	1 channel
	Audio Signal		Electrical level: 2Vpp Input impedance: 4.7kΩ	Electrical level: 2Vpp Input Impedance: 4.7kΩ
Display	Display Split		1 or 4 or 9	1 or 4 or 9
	OSD		GPS information, alarm, vehicle No., speed, date/time	GPS information, alarm, vehicle no, speed, date/time
	Operation Interface		Semi-transparent GUI	Semi-transparent GUI
Recording	Video/Audio Compression	Video	Video: H.264/H.265	Video: H.264/H.265
		Audio	Audio: ADPCM, G.711A, G.711U	Audio: ADPCM, G.711A, G.711U
	Image Resolution	Analog		
		PAL	1080P(1920X1080), 720P(1280X720), WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288)	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);	1080P(1920X1080), 720P(1280X720), WD1(928X480), WHD1(928X240), WCIF(464X240), D1(704x480), HD1(704x240),CIF(352x240);
		Digital	1080P(1920X1080), 720P(1280X720)	1080P(1920X1080), 720P(1280X720)
	Image Quality		8 Levels adjustable	8 Levels adjustable
	Recording Mode		Schedule/Alarm(sensor trigger, speed, acceleration, video loss, temperature)	Schedule/Alarm (sensor trigger, speed, acceleration, video loss, temperature)
	Pre-recording		0-60minutes	0-60minutes
	Post-recording		0-30 minutes	0-30 minutes
	Mirror Recording		Yes	Yes
Playback	Playback Channel		4 channels by local playback	4 channels by local playback
	Search Mode		Date/time, channel, event	Date/time, channel, event
Network	4G / WIFI		802.11b/g/n	EVDO/TD-SCDMA/WCDMA/TDD-LTE/FDD-LTE
	IPC Enternet		6-pin M12(100M x 1, PON power supply)	6-pin M12(100M x 1, PON power supply)
Locating	GPS		Location tracking, speed detection and time sync	Location tracking, speed detection and time sync
Sensor	G-Sensor		Built-in three-axis inertia sensor	Built-in three-axis inertia sensor
Storage	SD / HARD DISK		2.5" SATA hard disk x 1	2.5" SATA hard disk x 1
Interface	USB		USB2.0 x 1	USB2.0 x 1
	RS232		RS232 X 1	RS232 X 1
	SIM			SIM Slot x1
	Sensor		8 inputs, 2 outputs	8 inputs, 2 outputs
	Speed		1 channel pulse speed detection	1 channel pulse speed detection
	Control Panel		Touch panel CP4 Optional	Touch panel CP4 Optional
	Intercommunication		1 MIC interface	1 MIC interface
Power	Input		DC8-36V,Ignition signal	DC8-36V,Ignition signal
	Output		5V@1A	5V@1A
	Max Power		32W	32W
	Standby Power		≈0W	≈0W
Physical Characteristics	Dimensions (L x W x H)		206.0 x 170.0 x 70.5	206.0 x 170.0 x 70.5
	Weight		1.24 KG	1.24 KG
Environment	Operating Temp		-40°C ~+70°C (with heating and no HDD)	-40°C ~+70°C (with heating and no HDD)
	Operating Humidity		8%~90%(No Condense)	8%~90% (No Condense)

			DVR-380-FHD-4GG	DVR-580-4GG
System	OS		Linux	Linux 3.0.8
	Control Mode		CP4, Easy Check, Network (3G/4G), Mouse	CP4, Easy Check, Network (3G/4G), Mouse
Video	Input		AHD x 6 IPC x 2	8 channels AHD (1080P)+4 channel IPC (1080P)
	Output		2 Channel	2 channels
	Total Resource	PAL	6 x 720P @ 15fps (AHD) + 2 x 1080P @ 30fps (IPC) or 4 x 1080P @ 10fps (AHD) + 2 x 1080P @ 30fps (IPC) or 4 x 720P @ 25fps (AHD) +2 x1080P @ 30fps (IPC)	8 x 720P @ 25fps (AHD) + 4 x 1080P @ 30fps (IPC) or 8 x 1080P @ 10fps (AHD) + 4 x 1080P @ 30fps (IPC)
		NTSC	6 x 720P @ 15fps (AHD) + 2 x 1080P @ 30fps (IPC) or 4 x 1080P @ 12fps (AHD) + 2 x 1080P @ 30fps (IPC) or 4 x 720P @ 30fps (AHD) + 2 x 1080P @ 30fps (IPC)	8 x 720P @ 25fps (AHD) + 4 x 1080P @ 30fps (IPC) or 8 x 1080P @ 10fps (AHD) + 4 x 1080P @ 30fps (IPC)
	Video Signal Standard		Electrical Level: 1Vpp Impedance: 75Ω NTSC/PAL optional	Electrical level: 1VPP Impedance: 75Ω NTSC/PAL Optional
Audio	Input		8 Channel (AHD x 6+IPC x 2)	12 Channels
	Output		1 Channel	2 Channels
	Audio Signal		Electrical Level: 2Vpp Impedance: 4.7kΩ	Electrical Level: 2Vpp Input Impedance: 4.7kΩ
Display	Display Split		1/4/9 Image Display	1/4/9 Image Display
	OSD		GPS Information, Alarm, Temperature, Acceleration, Voltage, Device Information, Software Version, MCU Version, Network Status	GPS Information, Alarm, Temperature, Acceleration, Voltage, Device Information, Software Version, MCU Version, Network Status
	Operation Interface		Semi-Transparent GUI	Semi-Transparent GUI
Recording	Video/Audio Compression	Video	Audio: ADPCM, G.711A, G.711U	Video: H.264
		Audio	Video:H.264/H.265	Audio: ADPCM, G.711A, G.711U
	Image Resolution	PAL	1080P(1920X1080), 720P(1280X720), WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288)	1080P(1920X1080), 720P(1280X720), WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288)
		NTSC	1080P(1920X1080), 720P(1280X720), WD1 (928x480, WHD1 (928 x 240, WCIF (464x240), D1 (704x480) HD1 (704x240), CIF (352x240)	1080P(1920X1080), 720P(1280X720), WD1 (928x480, WHD1 (928 x 240, WCIF (464x240), D1 (704x480) HD1 (704x240), CIF (352x240)
		Digital	1080P(1920X1080), 720P(1280X720)	1080P(1920X1080), 720P(1280X720)
	Image Quality		8 Levels Adjustable (Level 1 is the best)	8 Levels Adjustable
	Recording Mode		Start-up/Schedule/Alarm	Start-up/Schedule/Alarm
	Pre-recording		0-60 minutes	0-60 minutes
	Post-recording		0-30 minutes	0-30 minutes
	Mirror Recording		Yes	Yes
Playback	Playback Channel		1/4 Channel by Local Playback, supports WEB 1/4/8 Channel by Local Playback	4 Channels by Local Playback
	Search Mode		Date/Time, Channel, Event	Date/Time, Channel, Event
Network	3G/4G		EVDO/WCDMA/TDD-LTE/FDD-LTE	EVDO/WCDMA/TDD-LTE/FDD-LTE
	Ethernet		RJ45 x 1 (10/100 M)	RJ45 x 1 (10/100 M/1000M)
	IPC Enternet		2 x 6-Pin DIN Jack (10/100M PON port, Power Supply)	6-pin M12 (4x10/100M, PON Power Supply)
Locating	GPS		Location Tracking, Speed Detection and Time Sync	Location Tracking, Speed Detection and Time Sync
Sensor	G-Sensor		Built-in 6-Axis Inertial Sensor	Built-in 6-Axis Inertial Sensor
Storage	HDD / SSD		1 x2.5"SATA HDD or SSD Thickness 7mm/9.5mm/15mm, supports Hard Disk Heating	Supports 2.5" Hard Disk up to 2TB
	SD		Support SDXC 32GB/64GB/128GB/256GB, Plug and Play	Support SDXC 32GB/64GB/128GB/256GB, Plug and Play
Interface	USB		1 x USB 2.0 (Type A) + 1 x USB 2.0 (Type B) - Hot Swap	USB 2.0 x 2
	SD		SD Slot x 1	SD Slot x 1
	SIM		SIM Slot x 2	SIM Slot x 2
	Serial		2 x RS232, 1 x RS485, 1 x CAN	RS232 X 2
	Speed		1 Channel Pulse Speed Detection	1 Channel Pulse Speed Detection
	Control Panel		Touch Panel CP4 optional	Touch Panel CP4 Optional
	Intercommunication		1 MIC Interface	1 MIC Interface
Power	Input		DC8-36V, ACC	DC8-36V, ACC
	Output		5V@500mA, 12V@500mA	5V @ 500mA, 12V @ 500mA
	Max Power		46W	105.3W
	Standby Power		≈0W	≈0W
Physical Characteristics	Dimensions (L x W x H)		281 x 167 x 92.8 (with Bracket and Rear Sheild)	295 x 222 x 89mm
	Weight		2.2KG (not including HDD)	2.6KG
Environment	Operating Temp		-40°C ~+70°C (with Heating and NO HDD)	-40°C- +70°C (with Heater) or -10°C- +70°C
	Operating Humidity		8%-95% (No Condensation)	8%~90%

Specification - Connected Range - continued

		DVR-50-3GG-AHD	DVR-150-4GG-AHD	DVR-350-4GG-AHD	DVR-580-4GG-AHD
Storage Media Type	HDD	×	✓	✓	✓
	SD	✓	×	✓	✓
Max HDD Capacity		×	1TB	1TB	2TB
Max SD Capacity		256GB	×	256GB	256GB
Channels		4	4	4	8
Resolution		720p	720p	1080p	1080p
IPC		1	1	1	4 with IPC-PON-4
IPC Resolution		720p	720p	1080p	1080p
Video Output		CVBS	CVBS	CVBS	CVBS
Built in G Sensor		×	×	✓	✓
USB		✓	✓	✓	✓
Sensor Inputs		8 with DVR-50-TH-CAB	8 with DVR-50-TH-CAB	8 with DVR-50-TH-CAB	8 with DVR-580-TH
Sensor Outputs		2 with DVR-50-TH-CAB	2 with DVR-50-TH-CAB	2 with DVR-50-TH-CAB	2 with DVR-580-TH
Voltage Range (V)		8-36	8-36	8-36	8-36
Dimensions (mm)		167.3	206	255.3	295
		146.3	190	150	222
		54.1	70.4	89.1	89
Operating Temp (C)		-40 to +70	-40 to +70	-40 to +70	-40 to +70
Video Compression		H.264	H.264	H.264	H.264
IO		RS232x1	RS232x1	RS232x2, RS485x2	RS232x2, RS485x2
Client		EchoMaster Platform	EchoMaster Platform	EchoMaster Platform	EchoMaster Platform
OS		Linux 3.0.8	Linux 3.0.8	Linux 3.0.8	Linux 3.0.8
Wi-Fi		×	×	×	×
3G		✓	✓	✓	✓
4G		×	✓	✓	✓
GPS		✓	✓	✓	✓

Storage Capacity

The table below provides a guide to required storage capacity for 1 hour of storage at various resolutions.

Quality	1	2	3	4	5	6	7	8
Resolution								
1080	3.52 GB	2.74 GB	2.36 GB	1.75 GB	1.59 GB	1.21 GB	843 MB	450 MB
720	2.64GB	2.06 GB	1.77 GB	1.48 GB	1.19 GB	928 MB	633 MB	338 MB
WD1	1.14 GB	878 MB	731 MB	585 MB	514 MB	457 MB	411 MB	366 MB
D1	900 MB	675 MB	563 MB	450 MB	396 MB	352 MB	316 MB	281 MB

NUMBERS GIVEN ARE AS AN ESTIMATE PER CHANNEL, BASED ON 1 HOUR OF RECORDING TIME

Based on PAL format and 25 FPS. NTSC format will increase required capacity by roughly 10%

ECHOMASTER

T: +44(0)1420 487110
E: echomaster@aampglobal-eu.com
W: EchoMaster-eu.com

EchoMaster is a brand of AAMP Global
Woolmer Way, Bordon, Hampshire, GU35 9QE

aampglobal-eu.com

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