VISIONTRACK

masternaut
A MICHELIN GROUP COMPANY

MASTERNAUT VT3000-AI INSTALLATION GUIDE

THE UK'S MOST AWARD-WINNING CAMERA TELEMATICS COMPANY

www.visiontrack.com

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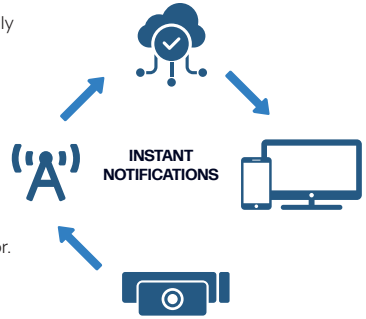
Important Information:

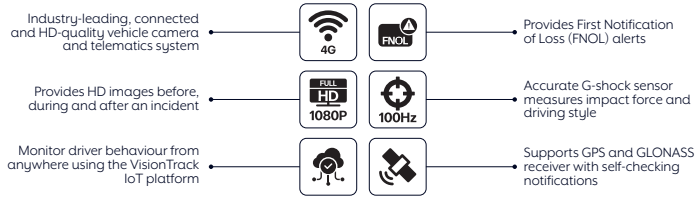
- Before you begin installing and commissioning the system, please ensure that you have read this manual thoroughly referring to any supplementary information provided for the unit as required.
- Care must be taken in the routing of all cables so that the insulation does not become worn or damaged.
- Unauthorised modification to this equipment or associated accessories is unadvised without the expressed permission and agreement from the product manufacturer.
- This equipment should not be operated in hazardous environments i.e. areas that contain explosive materials or flammable vapours.
- This equipment should not be operated within aircrafts or in close proximity to medical equipment.
- This equipment may only be located in a position where it cannot interfere with the normal operation of the vehicle or present a hazard to the driver or passengers.
- Failure to comply with the following Warnings, Approval and Safety information may invalidate warranty, certification or type approval of this product.
- All installation and service work must be carried out in accordance with FCS1362, FCS1372, RQAS, 95/54/EC, ISO 21609 and / or any other statutory guidelines or Directives currently in force. Therefore it is strongly recommended that the unit is installed and commissioned by suitably trained and qualified installation personnel with accreditation.
- Under no circumstances may any part of the product be installed inside the engine compartment area.
- Unauthorised changes or alterations to the equipment or the installation will invalidate certification issued by the Approved Accreditation Bodies and may also affect the vehicle manufacturers warranty.
- To avoid interference the VisionTrack power supply MUST be installed as far away as possible from other telematics devices and power supplies already installed within the vehicle. Ideally, installation should be on the opposite side of the vehicle.

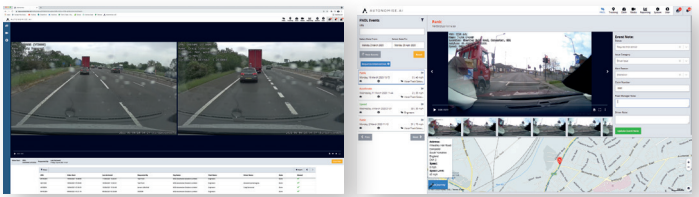
1. Overview

VisionTrack's **VT3000-AI** is a cost-effective mobile video surveillance device specially designed for remote video and driver safety monitoring for every vehicle type. The soultion has three components: **VT3000-AI** (ADAS Camera), **VT-DSM-AI** camera and the **VT-C26-IPC**, which integrates multiple modules, such as 4G, Wi-Fi and G-sensor.



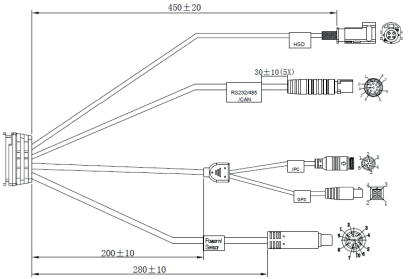
Key features:

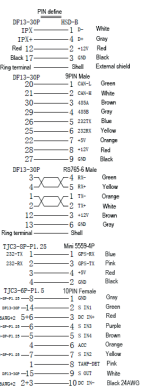




1.1 System Diagrams

VT3000-AI Main Cable





1.2 Packing List*:

VT3000-AI

VT-DSM-AI

Additional IPC Camera

9-Pin Power Cable

GPS Receiver

Serial Cable

Torx T8 Screwdriver

VT-R Watch V2

Wipe

SD Card

Standard SIM Card

VT-EASYCHECK

J1939 Connector

6-PIN IPC Extension Cable 3m

2A Mini-blade Fuse

*Contents subject to kit purchased

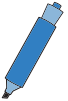
1.3 Required Tools:

Plastic Trim Tool

Screw Driver

Cable Ties

Drill



Marker Pen

USB Flash Drive
(Optional)

Wire Cutter

Wire Stripper

Self Tapping Screws

Allen Keys

5M/50M Tape Measure

Crimping Tool

Electrical Tape

Multimeter

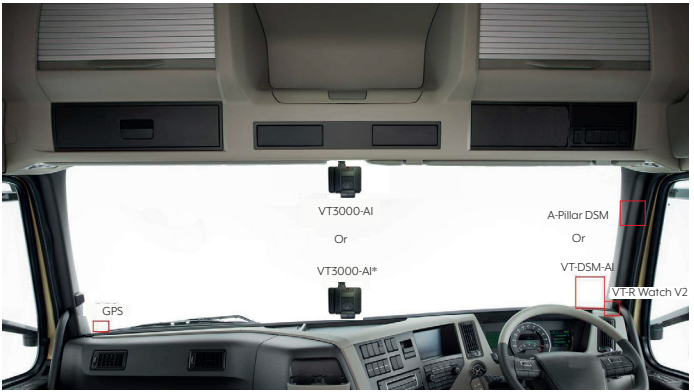
Amalgamating Tape

1.4 VT3000-AI Features:

2. System Installation Overview

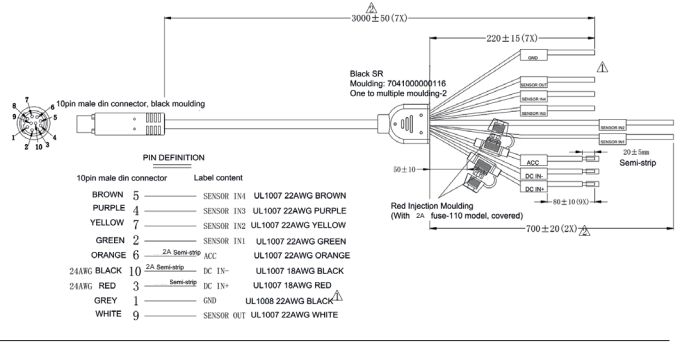
2.1 System Install

Mount the VT3000-AI on the windscreen

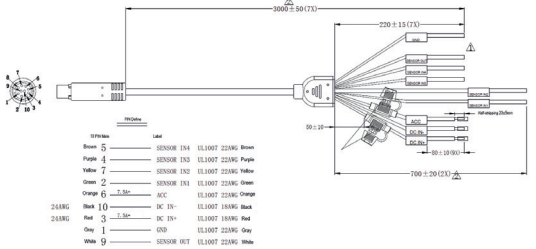


*When mounted lower down the windscreen, all cables need to be mounted at the top of the windscreen.

2.2 Power Supply, Ignition & IO Signal



2.3 Speed Signal & Serial Ports



The vehicle speed can be read from the pulse signal from the vehicle, a CAN port or GPS, for detailed settings see section 4.

2.4 Install SIM & SD Cards

Standard size SIM card:

Check the SD card's write protection switch, which should be in the "on" position.

Check "write enable"
of SD Card

3. Install and Calibration

Depending on the model of the vehicle, select the most appropriate installation location (for install and maintenance).

GPS and 4G antenna are pointed towards the sky.

Remove the bracket from the rear to enable install, (slide top to remove).

Remove the cover and install the SD card and SIM card**.

**This may already be done for you.

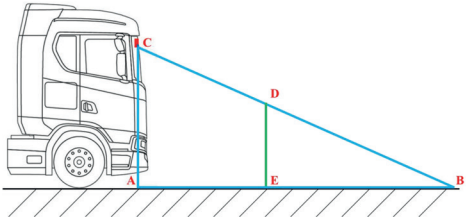
3.1 VT3000-AI Installation

IMPORTANT: Degrease and clean the windscreen before attaching.

The **VT3000-AI** should be mounted in the middle at the top of the window screen, ensuring the lens is within the swept area of the wipers. All cables should be going towards the roof. Maximum height should be no more than 4m high and always check the live image in easycheck before securing to the window.

The **VT3000-AI** can also be fitted at the bottom of windscreen on HGVs.

3.2 VT3000-AI Camera Calibration*



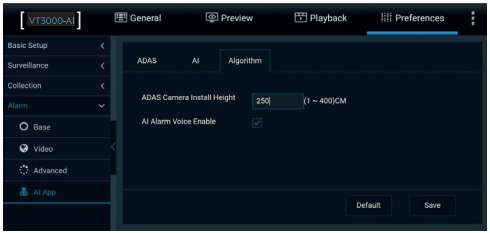
*You may need VT Commission Support for this step. Refer to the Commissioning section on **page 19**.

Basic trigonometry functions: $\frac{AC}{AB} = \frac{ED}{EB}$

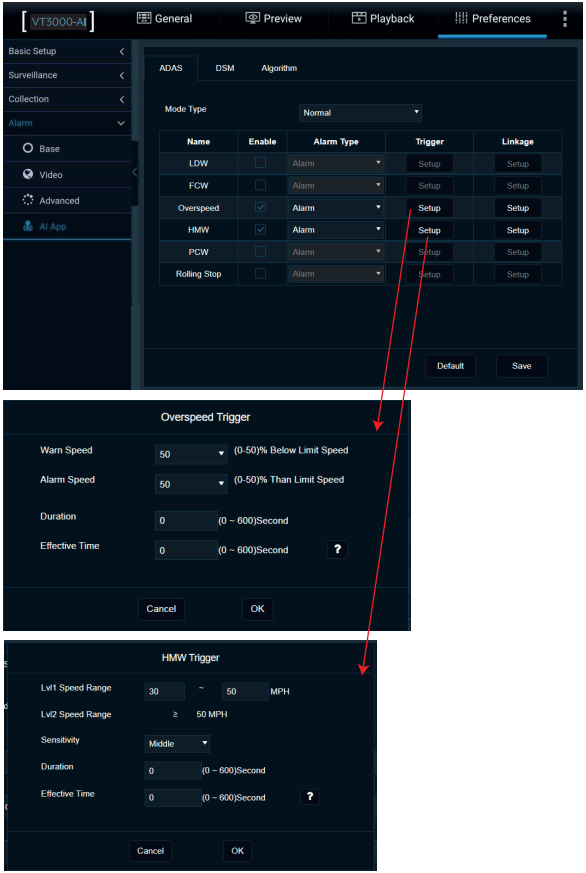
Assuming the VT3000-AI camera install height is **AC= 3m,** the ideal calibration reference point **AB= 30m** and we only have **AE=5 m** of level ground in front of the vehicle.

Thus, find the ED: $ED = 2.5m$

Then place a 2.5m high reference point **in front of the lens** that is 5m away. (Please note the ED might change when the camera is installed higher)
Open the settings of the VT3000-AI, enter the ADAS camera install height (AC) in the "Algorithm" menu (Easycheck APP).



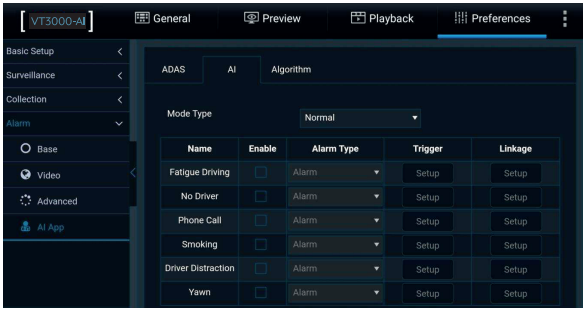
Open the "**ADAS**" menu, set the Mode Type to "**Calibration**" then click save*.



Refer to the live view again, 3 horizontal line should show in the image for reference. Adjust the ADAS camera lens angle (remove the ADAS camera cover on the back) that will allow the 30m reference line up with the reference point **DE** as mentioned above*.

*You may need VT Commission Support for this step. Refer to the Commissioning section on **page 19**.

Finish the ADAS camera calibration by changing it to Normal mode then click ok.



3.3 DSM Camera Installation

Install the DSM in the location according to the system installation diagram (section 3). The bottom screws must be tightened and camera should mount right above the steering wheel on the dashboard in front of the driver.
Secure the camera **AFTER** finishing the calibration.

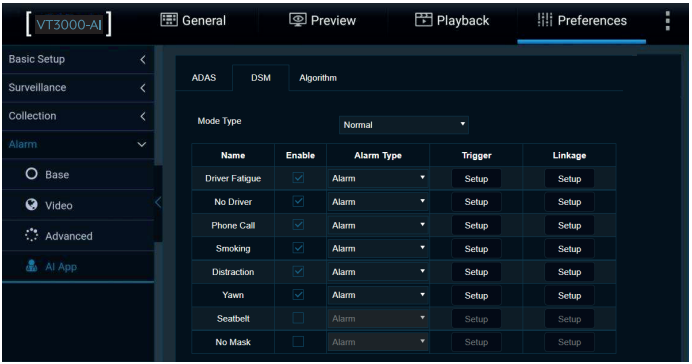
The DSM camera should mount 70 – 120cm between the driver's eyes.

3.4 DSM Camera FOV

The driver camera FOV should cover the facial area of the driver and the tops of the shoulders. Allow space to the left, right, up, down for more flexibility so that it is possible to catch the driver's face when looking in different directions.

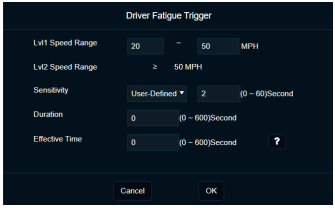
3.5 DSM Calibration*

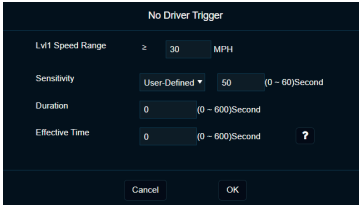
It is recommended to have the actual driver perform the calibration. If this is not possible, it is best to ask a person with a similar height for help.
Open the IPC settings of the DSM camera channel, e.g. Channel 5.
Keep the device name as "DSM" and select "Calibration", set "Front" or "Side" depending on the installation location.

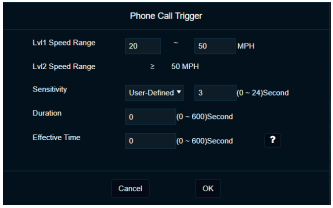


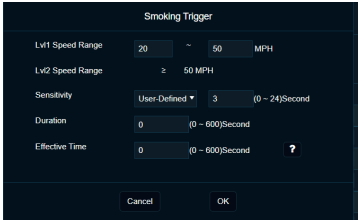
*You may need VT Commission Support for this step. Refer to the Commissioning section on **page 19**.

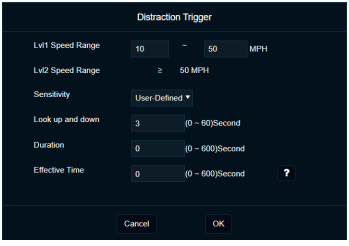
Following each Trigger 'Setup' button, use the settings below.

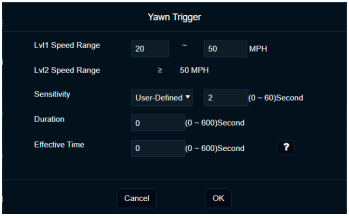




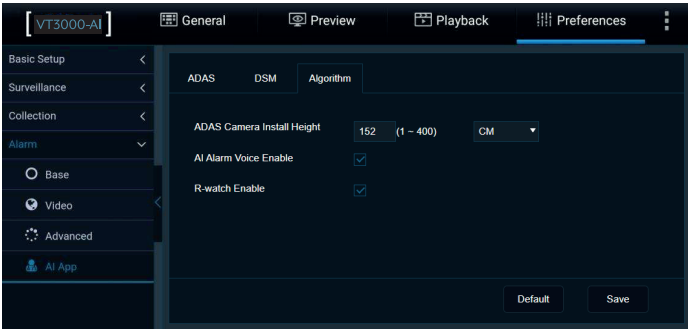




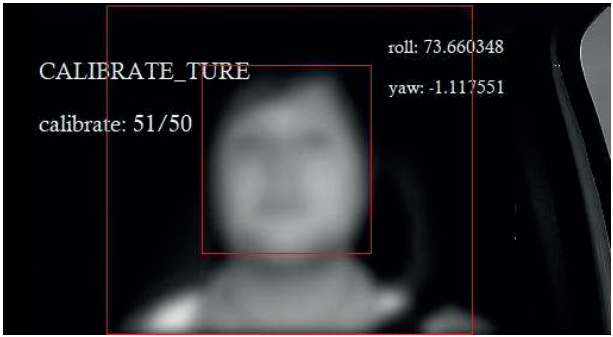




Algorithm Settings



Camera confirguration continued....



Finish the driver camera calibration by changing it back to “Normal mode” then secure on the dashboard.

3.5 Install the VT-C26-IPC Cab Camera (if applicable)

Install the IPC camera inside the driver's cab, FOV example shows in figure below:

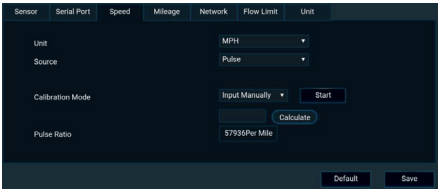
4. Speed Signal

There are **two ways** to acquire the vehicle speed signal that may be used for the VT3000-AI.

Speed Pulse

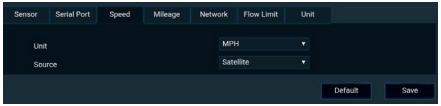
Speed pulse is more accurate than GPS speed as it has direct access to the vehicle, also it may take time to find the speed pulse signal from the vehicle for wiring and calibration.

Find the "Pulse" in the "Speed" menu.



Satellite

GPS speed may have latency that may affect the accuracy of the alarms, but it is acceptable for most applications. Find the "Satellite" in the "Speed" menu.



Commissioning:

When the cameras are positioned and supplied with power, **wait until the green LED is steady and press the panic button**. You can now use the commissioning app to commission the cameras. To find out more about our commissioning app, please download here: **engineering.visiontrack.com**. You can also contact the **VisionTrack technical support** on **01246 225 858** to commission the cameras. You will have to give them the Kit number on the box as well as the make, model, colour and registration of the vehicle, an ID number and site information.

It is important to **leave the vehicle ignition ON during the commissioning**. The commissioning team will inform you of any potential faults and make you change the angle of the cameras if they are not correctly adjusted.

The VisionTrack technical support team is available between 9am - 5pm Monday through to Friday and 9am - 5pm on a Saturday.

You will be given a Camera Commissioning Number by the Commissioning Team. It is very important that the commissioning number is recorded on your Job sheet/ticket.

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