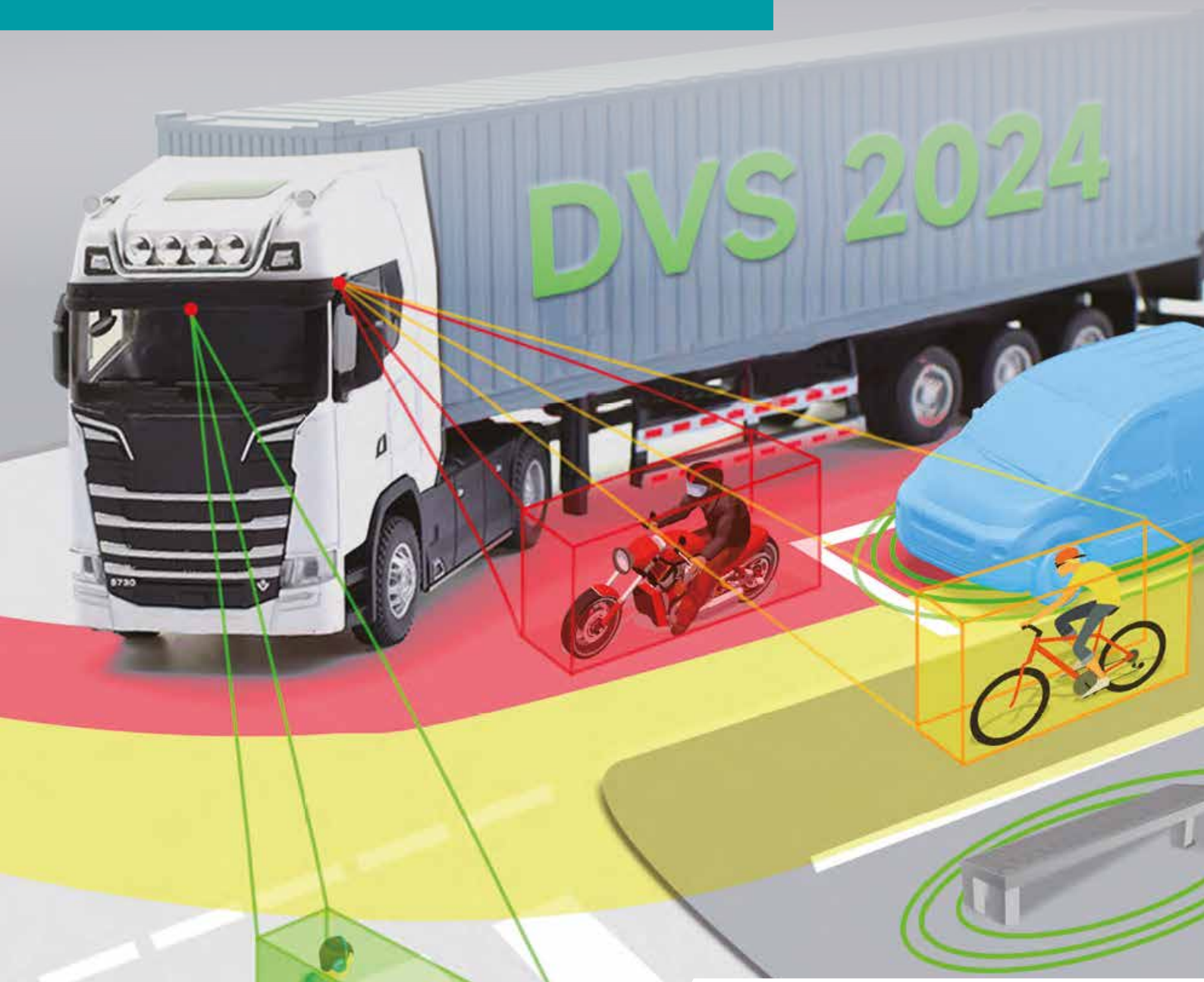
ECHOMASTER

Combined BSIS & MOIS Solution



+44(0)1420 487110

@EchoMasterEurope

ECHOMASTER

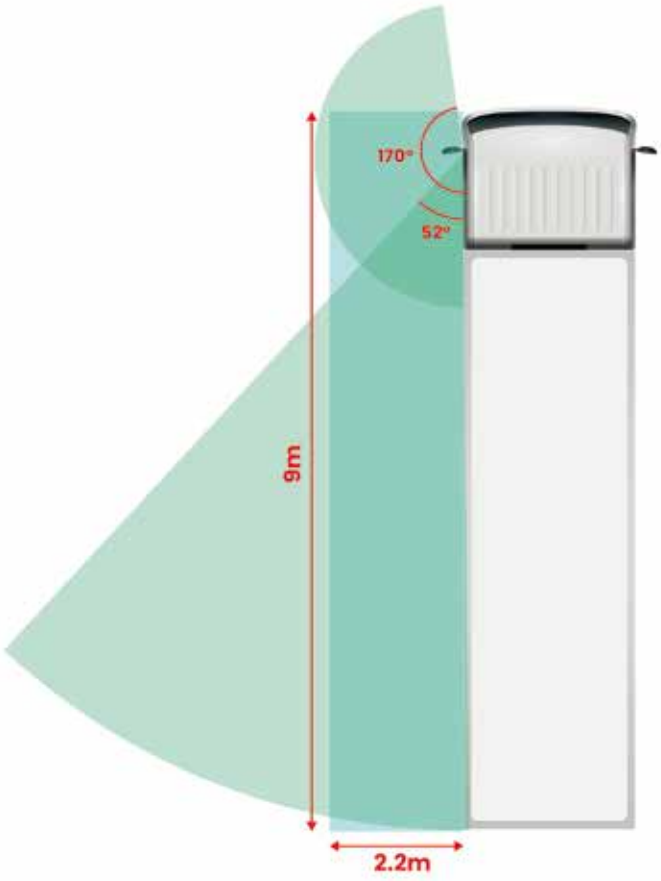
CAMERA SYSTEM
BSIS-MOIS-AI3C

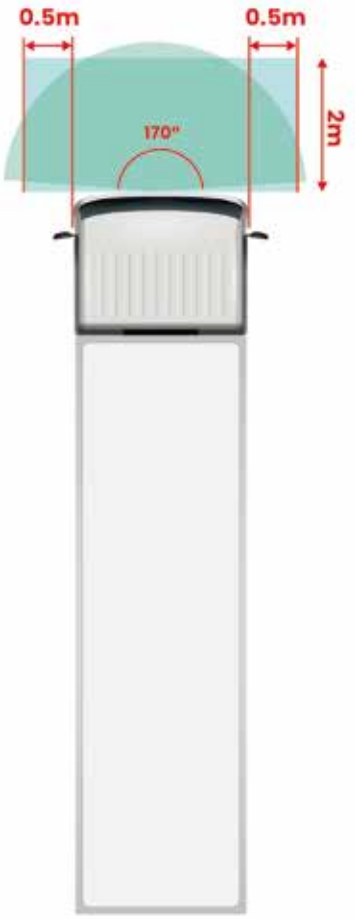
The BSIS-MOIS-AI3C is a High-Performance Combined Blind Spot & Moving-Off Information System with Full HD 1080p Cameras together with AI-powered warning system and driver alerts.

Designed to conform to the new TfL Direct Vision 2024 regulations, it utilises powerful algorithms to identify pedestrians, cyclists and other vulnerable road users (VRUs) within the detection zones stipulated by the new Progressive Safe System.

Key Features

- Full HD 1080p Forward-Detection Camera
- Super-Wide 1080p Road-Facing BSIS Camera
- Side/Rear Full HD 1080p BSIS Camera
- G-Sensor & GPS Functionality designed to detect Rapid Acceleration, Braking, Turning and Collision Detection
- Supports the addition of a Forward Facing camera solution
- Self-Learning Motion Trend Analysis Algorithm to reduce/eliminate invalid alarms
- Simple Installation & Set-up with Wi-Fi Calibration Box & App (BSIS-AAPCHK)*





*sold separately

+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

ECHOMASTER

CAMERA SYSTEM
BSIS-MOIS-AI3C

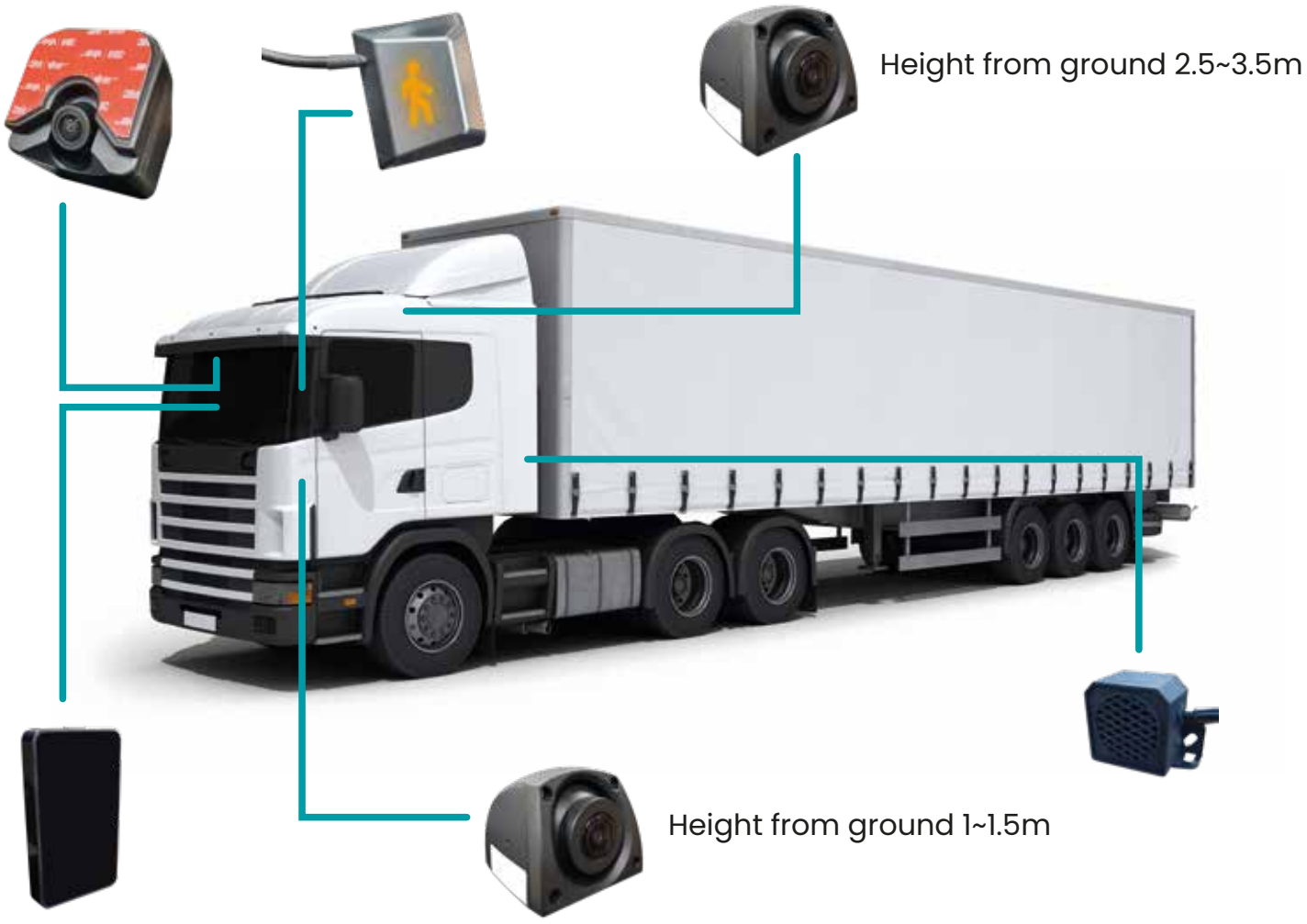
Box Contents

- 1 x Full HD 1080p Forward-Facing MOIS
- 2 x Full HD Side/Rear 1080p BSIS Cameras
- 1 x LED In-Cab Display with Bracket
- 1 x Control Module (ECU)
- 1 x External Speaker
- 1 x A-Pillar LED
- 1 x GPS Module (with G-Sensor)
- 1 x Mute Switch
- 1 x Power Harness
- 1 x Display Cable
- 1 x Video Input lead
- 1 x Video Output Lead
- 1 x 3m Camera Extension Cable
- 1 x 2.7m Display Extension Cable
- 1 x Alarm Extension Cable

Available Separately

- Wi-Fi Calibration Module - BSIS-APPCHK (sold separately)

Product Diagram



+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

System Set-up

Camera Installation

MOIS CAMERA

Ensure the camera's view angle covers the bottom of the front windshield and covers as far forward as possible.

Avoid any shadows or reflections.

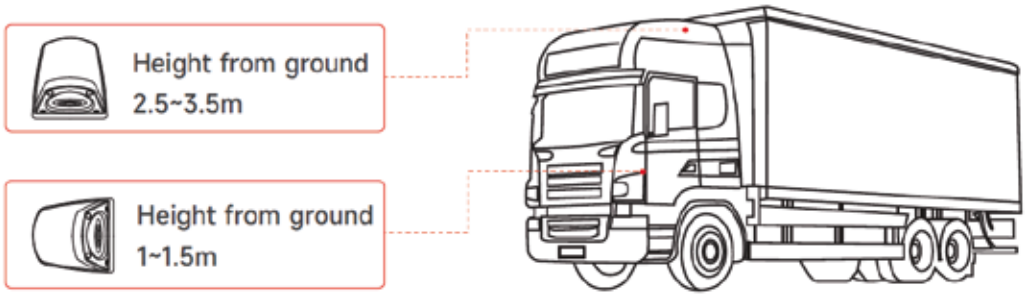
The camera should be in the middle and within the wiper range.

BSIS CAMERA(S)

The wide angle camera should be mounted 2.5m to 3.5m from the ground and the long-focus lens camera should be mounted 1m to 1.5m from the ground. Both cameras need to installed on the nearside of the vehicle.

The wide angle camera should be mounted with the lens facing down vertically. The long-focus lens camera should be mounted with the lens facing backwards and slightly downwards.

Adjust the camera angle until the edge of the vehicle can just be seen.

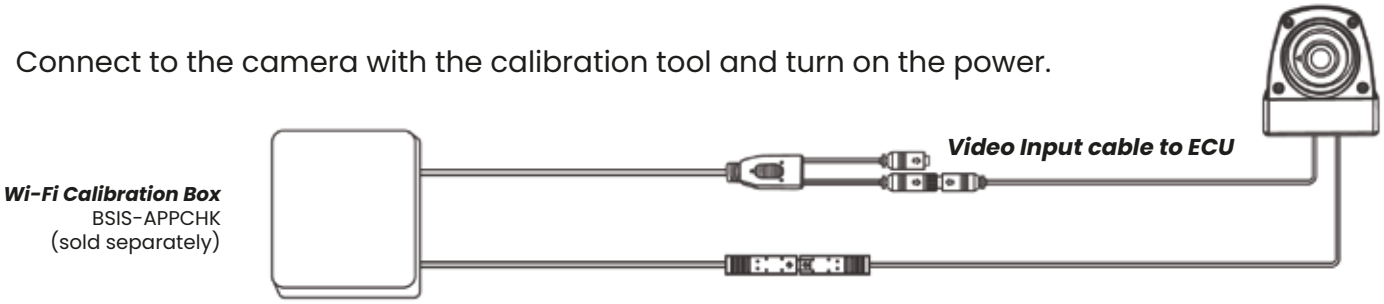


CALIBRATION

Adjust the camera with the image on the monitor, until the calibration line which is close to the nearside overlaps with or slightly cover the vehicle body.

AI Camera Calibration

Connect to the camera with the calibration tool and turn on the power.



Connect to WiFi signal: WiFi signal name: ***XFD_ai camera calibration.***

Select the corresponding camera to be calibrated:
FRONT, BACK, LEFT, RIGHT

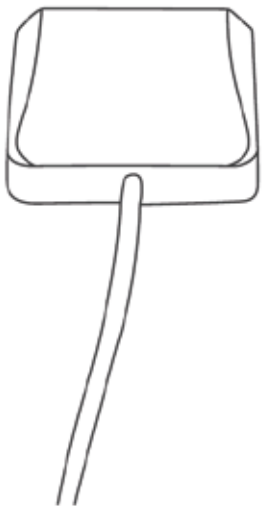
Mark the alarm area on the ground (use traffic cones or similar size objects to set the detection zone).

Move the ruler line on the mobile App to coincide with the ground marking.

After clicking **WRITE,** check whether the ruler line on the test monitor is consistent with the position on the application App.

If consistent, the calibration is completed. The Wi-Fi Calibration Box can be disconnected and the Camera connected to the system.

Installation of GPS Antenna



Installed on the surface of the vehicle dashboard, the surface should be flat, and the GPS module should be tightly fitted. The curved surface of the module must face the sky.

There should be no metal obstructions above the GPS.

Avoid bending the cable.

+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

AI Camera Self-Test

When the system detects a camera blocked by an object, damaged, or with poor connection, the LED display will show the red camera character and give a voice alert to remind the driver which camera has a problem.

Handbrake Function

When the handbrake is on, a 12-24v output is expected. The Speaker on the LED display will remain silent when VRUs are detected.

When handbrake is off, a 0V or GND output is expected. The speaker on the LED display will emit an audible alarm when VRUs are detected.

BSIS Set-up

Once installed the BSIS system will only activate when the vehicle is travelling below 30km/h (18mph). Whilst travelling above this the system will remain in Stand-by mode.

Once set-up, if the vehicle is moving or turning, and there are no Vulnerable Road Users (VRUs) detected the BSIS camera will not display a visual or audio alarm.

When a VRU is detected between 1m -2.2m and the vehicle is continuing forward or a **RIGHT TURN SIGNAL** is activated, the LED display will display a **YELLOW** icon in the relevant location and the A-Pillar Alarm will display the icon with no audio.

When a VRU is detected between 1m -2.2m is activated, the LED Display will show a **YELLOW** icon in the relevant location. When a VRU is detected between 1m -2.2m and a LEFT TURN SIGNAL is activated the A-Pillar will display a Flashing **YELLOW** icon with and an audio warning.

PEDESTRIAN LEFT

When a VRU is detected within 1m, and the vehicle is continuing forward or a **RIGHT-TURN SIGNAL** is activated the LED Display will show a **RED ICON** and the A-Pillar also displays the same **RED** icon.

When a VRU is detected within 1m and a **LEFT TURN SIGNAL** is activated the LED Display & Left A-Pillar will display a Flashing **RED** icon and an audio warning.

PEDESTRIAN LEFT

+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

MOIS Set-up

Once installed the MOIS system will only activate when the vehicle is travelling below 5km/h. Whilst travelling above this speed the system will remain in Stand-by mode.

When no Vulnerable Road Users (VRUs) are detected within the front detection area, the LED display will remain in Standby mode.

When a VRU is detected between 1m -2.2m at the Front of the vehicle, the LED display will display a **YELLOW** icon and provide an audio warning.

When a VRU is detected less than 1m from the front of the Front of vehicle, the LED display will display a **RED** icon and provide an audio warning.

+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

ECHOMASTER

CAMERA SYSTEM
BSIS-MOIS-AI3C

AI Camera Specification

Working Voltage	12~36V
Working Current	<500mA
Operating Temperature	-40~85 degrees
Camera Angle	Front camera : 140 degrees BSIS near side camera : 140 degrees BSIS rear view camera : 120 degrees
Resolution	1080P 30pfs
Detection Range	Front 2 metres (L) x 3 metres (W) Side 9 metres (L) x 2.2 metres (W)

External Alarm Specification

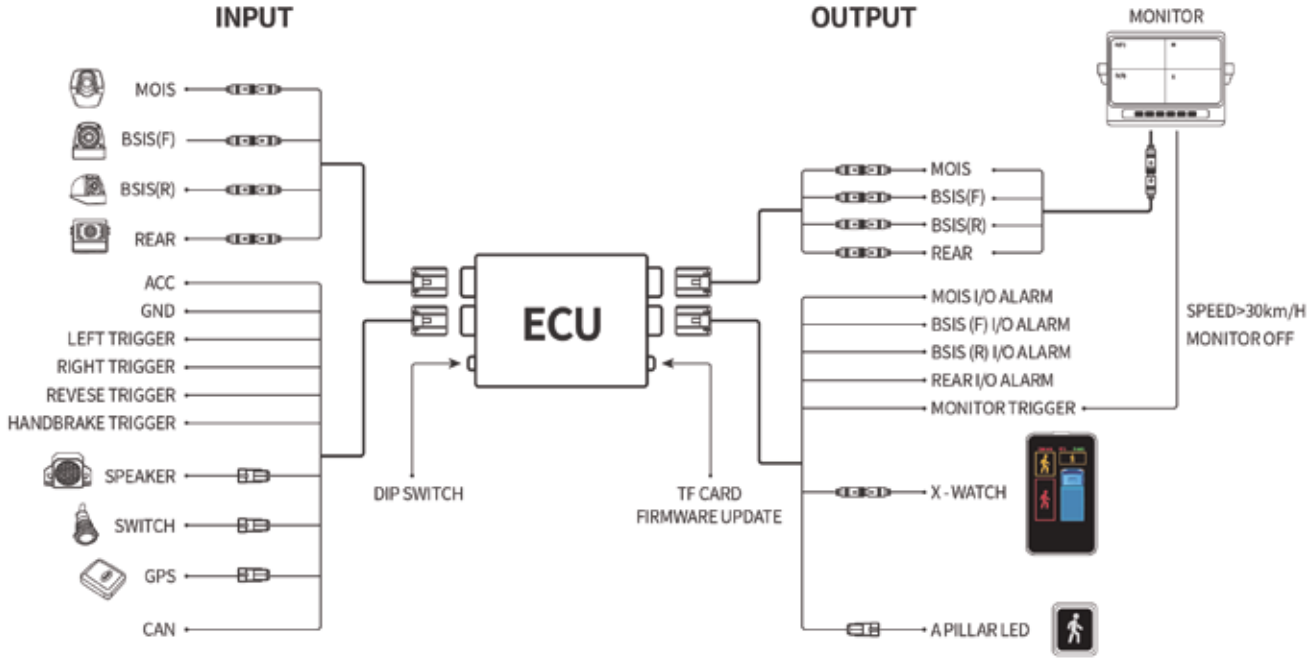
Rated Voltage	DC 12 / 24V
Working Voltage	12 ~ 36V
Working Current	< 500mA @ 24V
Operating Temperature	- 40 ~ 85°C
Storage Temperature	- 40 ~ 85°C
Sound Frequency	500Hz ~ 7KHz
Duty Cycle	3.0S/T (Vocal Reverse Warning) 3.3S/T (Vocal Left Turn Warning) 33S/T (Vocal Right Turn Warning)
Waterproof IP Rating	IP69
Volume	80-85 dB at 1m
Function	With On/Off Switch and Mute Function Time 23:30 - 07:00
Certification	CE/E-mark

+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

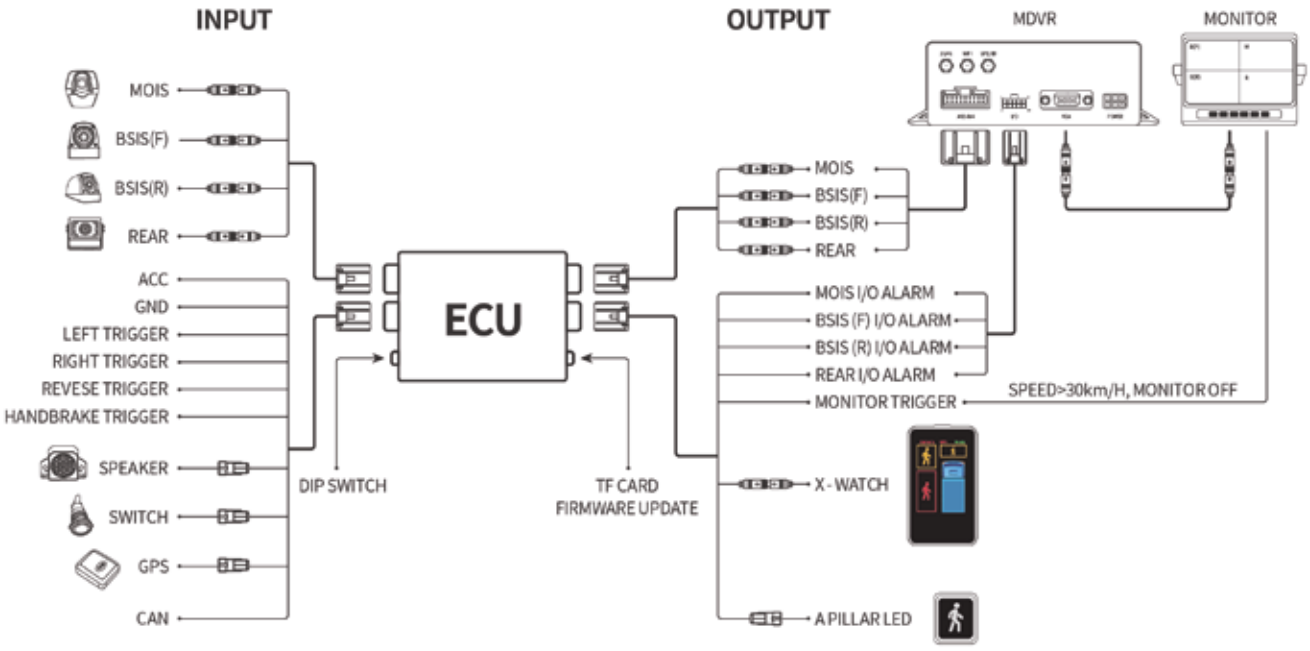
ECHOMASTER

CAMERA SYSTEM
BSIS-MOIS-AI3C

Standard Connection Diagram



Connection Diagram (when using Mobile DVR)



+44(0)1420 487110
echomaster@aampglobal-eu.com
EchoMaster-eu.com

Troubleshooting

Problem	Solution
Inertial Navigation Cannot Locate	The inertial navigation GPS module should be installed in a flat position on the vehicle dashboard, with a flat surface and the line facing straight back, without metal obstruction For the first time, after starting the engine, the vehicle should be stationary for 10 seconds before moving off. Complete the calibration of the gyroscope after driving for about 3 minutes Check for poor connections or loose plugs in the wiring - cable connection
AI-Camera Malfunction	Check for poor connections in the wiring Power on again Connect the monitor to check if the image display is normal
False Alarm / Missed Alarm	Clean the stains on the surface of the lens, and the front camera head also needs to clean the stains on the windshield When installing the front camera, avoid the reflection and shadow of the windshield glass The installation and fixation of the camera should be firm to avoid misalignment of the calibration area caused by loose installation after calibration. The image cannot be tilted
External speakers cannot automatically mute at night or at high speeds	GPS Damage GPS No Positioning
Display Malfunction	No Display i. Check if the ECU power supply is normal Ii. Check cable connection between the display and ECU
	No Sound i. Is the vehicle stationary Ii. Is the indicator activated

+44(0)1420 487110

@EchoMasterEurope