



Monitors and Camera Installation Guide v3

Specifications Subject To Change Without Notice

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IMPORTANT NOTES ON WIRING

(See wiring examples on page 3/4 & 7)

1. Isolate all power. Make sure the vehicle power is off when installing camera and monitor system.

2. Camera positions. Check position of cameras for ideal view before mounting. (See page 7)

3. Vehicles with CANBUS lighting systems. *(See wiring example on page 3)* The CANBUS system may see the monitor and camera as extra power drain and may react to this by reducing the voltage on the circuit they have been connected to. This can then cause an adverse effect of the camera and monitor. You may see interference, lines or no image, often only seen when engine is running. (When engine is off, but ignition is on the CANBUS does not always react the same way and the monitor and camera may work correctly. Check system with both engine off and engine on).

Any connection to the vehicle should be on a isolated circuit, either by using a relay (not always guaranteed to work on CANBUS Systems) or ideally use a PSPK5 (12v on ignition from CANBUS) you should avoid powering monitors and cameras directly from the reverse lighting circuit.

The PSPK4 offers 12v out on reverse and is also a useful product to use in the wiring of vehicle monitors and cameras requiring only power on, on reverse.

The PSPK4 and PSPK5 are 1 Amp rated so it recommended to use the PSPK modules to trigger a relay if you plan to use more than 1 Amp, most monitor and camera systems will exceed 1 Amp.

NOTE: It is recommended you do not cut any CANBUS wiring and you check with manufactures warranty first before attaching any aftermarket products to the existing CANBUS wiring system. PSPK4 and PSPK5 are designed to work with CANBUS circuits.

4. Using the monitor trigger. If it is a single camera and monitor install you do not need to use the monitor trigger.

If you want the monitor and camera on all the time wire monitor and camera to ignition.

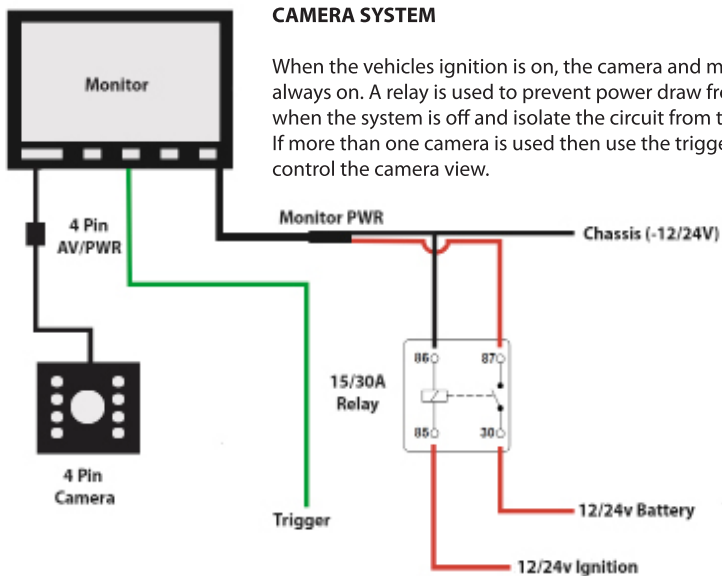
The monitor trigger is only typically used if you have more than one camera, ie. Side camera and reverse camera. Side camera on all time, Reverse camera only selected when reversing (Use trigger for reverse camera).

Note: Some models of Parksafe monitors will only show parking gridlines if the trigger is used.

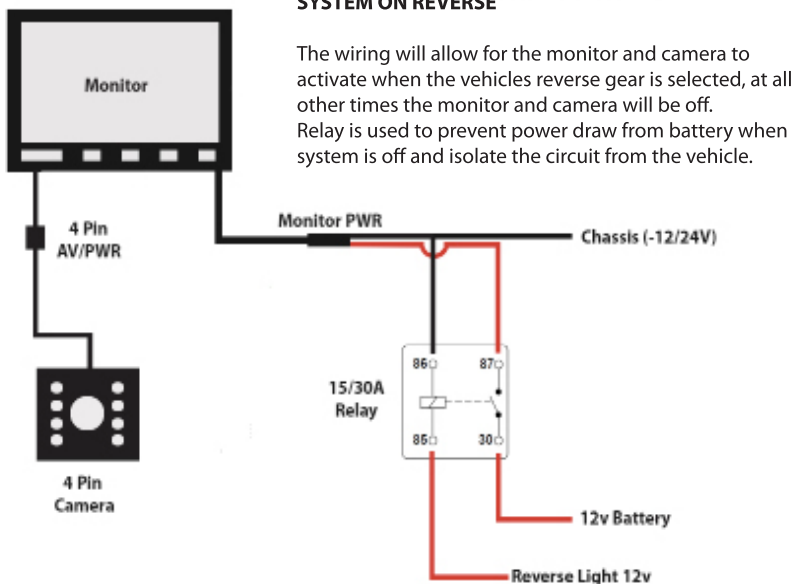
5. Connectors and cable joints. Make sure all external joints are sealed. Ideally seal any joints with self amalgamating tape this is to prevent any moisture travelling inside the cable into the camera and causing moisture ingress issues.

RECOMMENDED WIRING EXAMPLES ON NON CANBUS VEHICLES

TYPICAL WIRING FOR ALWAYS ON MONITOR AND CAMERA SYSTEM



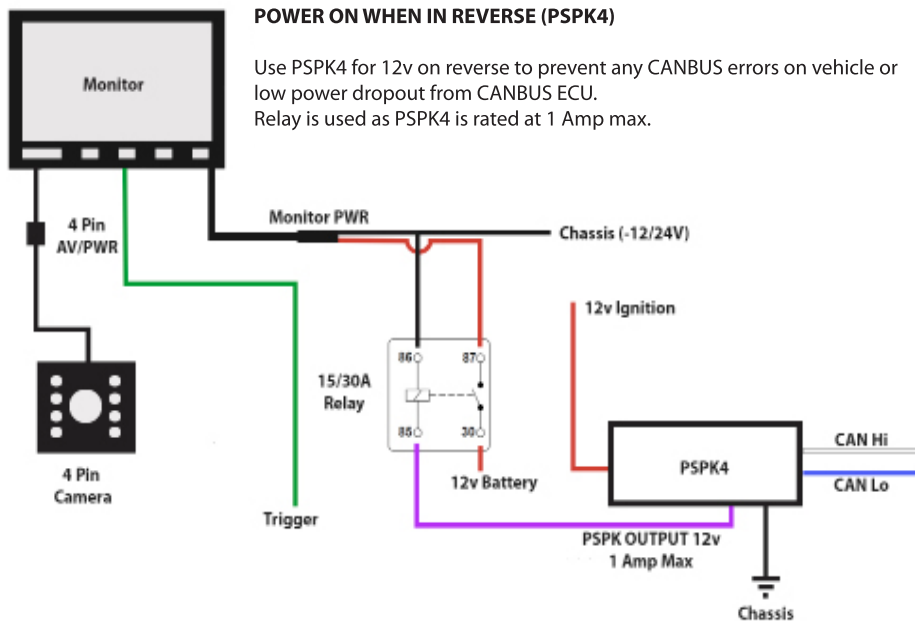
TYPICAL WIRING FOR MONITOR AND CAMERA SYSTEM ON REVERSE



RECOMMENDED WIRING EXAMPLES ON CANBUS VEHICLES

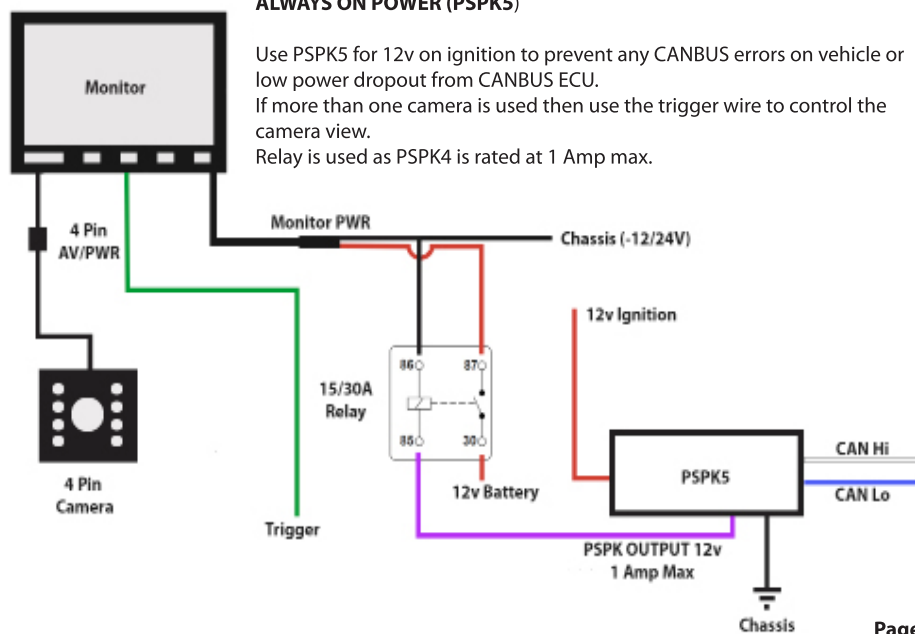
CANBUS VEHICLE - TYPICAL WIRING FOR MONITOR AND CAMERA FOR POWER ON WHEN IN REVERSE (PSPK4)

Use PSPK4 for 12v on reverse to prevent any CANBUS errors on vehicle or low power dropout from CANBUS ECU.
Relay is used as PSPK4 is rated at 1 Amp max.



CANBUS VEHICLE - TYPICAL WIRING FOR MONITOR AND CAMERA FOR ALWAYS ON POWER (PSPK5)

Use P5PK5 for 12v on ignition to prevent any CANBUS errors on vehicle or low power dropout from CANBUS ECU.
If more than one camera is used then use the trigger wire to control the camera view.
Relay is used as P5PK4 is rated at 1 Amp max.



CANBUS VEHICLES AND CANBUS INTERFACE UNITS

It is highly recommended that you use a CANBUS Interface unit to make any connections to the vehicle when fitting monitors and camera systems to prevent any issues with power, interference and warranty claims.

PSPK4 / PSPK5 are 12 volt only. Do not connect to 24 volt systems. The PSPK4 and PSPK5 are 1 Amp rated so use a relay for devices rated above 1 Amp (See wiring examples on page 3).



PSPK4 - Provides 12v on reverse

Ideal for having the system activate when the vehicle is placed into reverse gear. At all other times the system will be inactive or to use as a way of getting a reverse signal for a monitor trigger. For CAN High and CAN Low location and connection refer to vehicle specifications or Parksafes.

Wiring

- **RED** - 12 volt DC Live via 5 amp fuse, AA or permanent Live
- **BLACK** - Ground/Chassis
- **WHITE** - CAN High
- **BLUE** - CAN Low
- **PURPLE** - 1 Amp Rated Max. Connect to monitor and camera power feeds via relay. Can also be used to provide a reverse trigger output from the vehicle to activate the trigger on the monitor ideal if you have power feed issues or cannot find a reverse feed on the vehicle.



PSPK5 - Provides 12v on ignition

Ideal for having the system activate when the vehicle is running for an always on view of the camera or cameras. For CAN High and CAN Low location and connection refer to vehicle specifications or Parksafes.

Wiring

- **RED** - 12 volt DC Live via 5 amp fuse, AA or permanent Live
- **BLACK** - Ground/Chassis
- **WHITE** - CAN High
- **BLUE** - CAN Low
- **PURPLE** - 1 Amp Rated Max. Connect to power feeds of monitor and cameras via relay.

CANRUI

CANBUS Engineers programming kit

Essential for onsite diagnostics and reprogramming of PSPK1 on vehicles that need special programming. Everything you need to get your customers car talking to our parking sensor interface without having to revisit site.



OEM BRAKE LIGHT CAMERAS

Parksafe Automotive offer a range of OEM brake light cameras for specific vehicles.

Depending on the model the brake light camera it may contain LED's or a bulb for the illumination of the brake light during braking. If the brake light camera does not contain LED's or a bulb then the original unit LED array will be used by unclipping the LED array from the original unit and clipping it into the replacement brake light combined camera.

Brake light cameras with IR illumination - The IR LEDS are provided power by the camera and will only come on at night in dark conditions.

OEM brake light cameras and factory fit head units.

Brake Light cameras that are to be fitted to vehicles that will feed the video to the vehicles original head unit are usually required to be NTSC format. PAL format cameras may not be compatible, please check with the manufactures spec of original head unit.

OEM head unit programmers and OEM interface modules are available from Parksafe Automotive please follow the instructions given with these units. Please refer to Parksafe Automotive catalogue or website for information on OEM interfaces and programmers. The camera used should be NTSC.

Mounting of Monitors. Dash Mounted and Mirror Style Monitors.

Dash mounted monitors.

Mount the monitor in a position where it will not interfere with the drivers view using the supplied monitor mounting system. Depending on the model or monitor you will be provided with a U shaped bracket that will be mounted with the use of screws or bolts to the desired position or a fan bracket that will stick to the desired position using 3M double sided pad or pads. If using the 3M pads make sure both surfaces are clean, grease and oil free and dry. Warming the surface will allow for better adhesion.

Mirror monitors.

Mirror monitors are provided in several options.

Clip on mirrors.

This type simply clips on to the existing mirror and then the cables go to the roof lining and then to the location where you want to make all connections.

Universal bracket type mirrors.

These mirror monitors have a universal bracket that allows you to fix the monitor to the roof lining or another suitable position.

OEM replacement mirrors.

These mirror monitors are provided with a stalk and adaptor that allows you to use the existing windscreen boss. This offers an OEM look. Adaptors are available for most vehicles please enquire at Parksafe Automotive for your type of vehicle. Parksafe Automotive may require a photograph go the original windscreen boss to ID the correct adaptor.

OEM replacement mirrors with self applying window boss.

These mirror monitors are provided with a stalk, adaptor and universal windscreen boss with glue should you not have a fitted OEM windscreen boss. Please follow the instructions provided with the kit.

It is important to glue the boss to the glass and not the enamel painted part of the windscreen.

MULTI FUNCTION CAMERAS - ONE BUTTON CONTROL

One button control cameras have a small control box in the loom that allows you to make changes to the camera such as Guidelines on/off, Guideline Style, Guideline Height, Guideline Width, PAL/NTSC, Normal/Mirror Image, Inverted/Non Inverted Image.

Ideally place the one button controller in a position where both installer and customer can access. Protect controller from water.

Mode select.

Click within 3 seconds to change setting. i.e.. 6 Clicks to select Grid Line Height and then leave a very short pause and then press to adjust height. Height will move to maximum and then reset to lowest before moving back up again in a loop.

Programming.

- **1 CLICK** - Guide Line switching mode: Turn ON/OFF Guide Lines

THE FOLLOWING MODES MUST BE OPERATED WITH GUIDE LINES ON.

If guidelines are off you can not access the features to modify them. If the customer does not want guidelines turn off after making any changes. Changes will be saved.

- **2 CLICKS** (Quick-continuous clicks) - Mirror / Non Mirror and Invert Switching Mode

- **3 CLICKS** (Quick-continuous clicks) - PAL / NTSC Switching Mode

- **4 CLICKS** (Quick-continuous clicks) - Guide Line Type selecting Mode. 2 options of guide lines.

- **5 CLICKS** (Quick-continuous clicks) - Guide Line Width adjusting Mode

- **6 CLICKS** (Quick-continuous clicks) - Guide Line Height adjusting Mode

MOUNTING AND WIRING OF CAMERAS

- Ideally keep cameras away from heavy water spray areas.
- Do not clean cameras with a pressure washer.
- Seal all connectors with self amalgamating tape to protect from water ingress.
- Check view and position of camera before mounting to make sure it provides the view required.
- If mounting a camera in vehicle bodywork make sure you paint and exposed surfaces to protect from rust.

Wiring.

(See also wiring examples on page 2/3)

Pay attention to the voltage of the camera if wiring directly to the vehicles power. Most cameras are only 12 volts. If the camera is to take power off the monitor video in/power out connectors there is no issue as the monitors will provide 12 volts even if 24 volts is provided to the monitor.

Cameras with 4 pin connections.

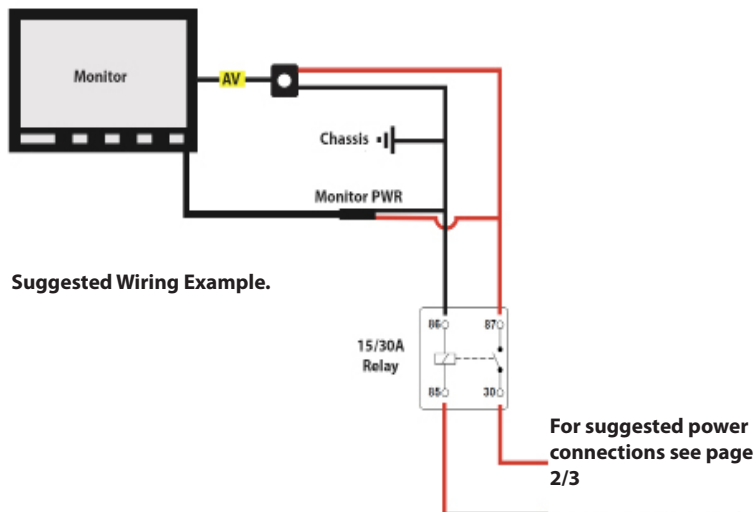
Video, power and audio (if microphone is installed on camera) are all connected through the 4 pin connector and can be connected directly to some monitors. If the monitor has a phono/RCA connector then use the optional/supplied 4 pin aviation plug to Phono/RCA fly lead. If using the fly lead with a monitor fitted with Phono/RCA then you will need to provide power to the camera separately, ideally use the same feed as the monitor.

Cameras with phono/RCA connections.

Video, power and audio (if microphone is installed on camera) are separate, Red or black connectors are typically power, Yellow Phono/RCA will be video, White Phono/RCA will be Audio. If using a Phono/RCA to 4 pin aviation plug fly lead the power will be provided by the 4 pin aviation plug of the power feeds are connected.

CAMERAS WITH OWN POWER SUPPLY

Some cameras have separate power cables and should be given their own power. *(See also wiring examples on page 2/3).*



MONITOR MENUS AND CHAINGING SETTINGS

Most monitor menus are very similar so this simple guide will help you navigate the menu. Not all monitors have all the menu options and some monitors are are fixed on one view.

Please note: Some monitors when in the activated trigger mode will not let you enter the menu. You need to make sure the trigger is not activated first to enter the menu

Monitors keys.

The menu is easy to navigate through by using the keys.

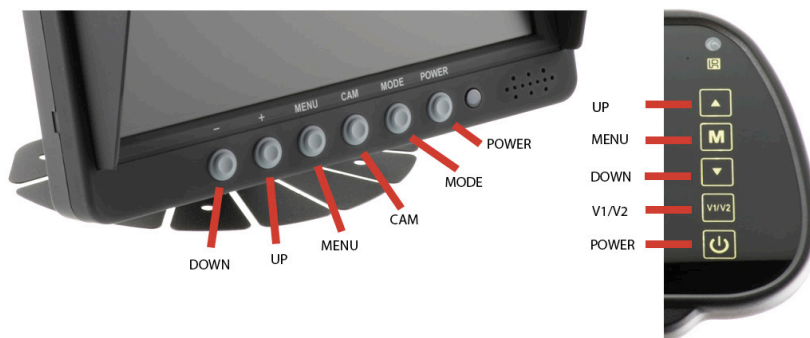
To enter the menu press MENU or M

Then use the UP and DOWN keys to scroll through the menu

Press MENU to enter the setting you wish to change and again use the UP and DOWN key to choose the setting

Press MENU or M to save setting

Settings will remain when power is off.



CAM = Video Channel

V1/V2 = Video Channel

MODE = Preset screen styles

MENU = Enters Menu/Saves Settings

POWER = Turns On/Off Monitor

UP = Scroll up menu / Changes volume (Only if camera has microphone)

DOWN = Scrolls down menu / Changes volume (Only if camera has microphone)

Monitor Menu. Examples of menu features. (Not all features are included on all monitors.)

Volume -	Adjusts the volume of the internal speaker if fitted.
Brightness -	Adjusts the brightness of the screen.
Contrast -	Adjusts the contrast of the screen (The relative difference between light and dark areas).
Hue -	Adjusts the hue, the property of light by which the colour of an object is classified as red, blue, green, or yellow in reference to the spectrum.
Saturation -	Adjust the colour of the image.
Colour -	Adjust the colour of the image.
Video Mode -	NTSC & PAL. Depending on the camera you may need to select one of these settings to get a clear image. Most monitors are auto setting.
Language -	Allows you to change the menu language.
AV or Video Source -	Allows you to select the video channel or camera view you require. (AV1, AV2, AV3, AV4 depending on model)
L/R -	Screen orientation. Left and right rotation of screen. In effect of swaps the left and right round as it would looking in a rear view mirror. So for example, if the rear camera is not preset to show a mirror view then use this to create the effect. When using this feature the text will also rotate, this is to remind you of the view.
U/D -	Screen orientation. This inverts the image, for example if the screen is mounted on the dashboard use U and if on the roof use D. It can also be used for a camera that is mounted upside down. When using this feature the text will also rotate, this is to remind you of the view.
TCON -	Screen orientation. When using this feature the text will also rotate, this is to remind you of the view.
Zoom -	Offer 16:9 or 4:3 Aspect ratio of the screen.
Park Setup -	Allows you to turn on/off parking guide lines and adjust them if featured.
Cam Delay -	If using Triggers this is the time the image is held after trigger is deactivated
Triggers -	If using Triggers this is the time the image is held after trigger is deactivated
Mode -	This will set pre-defined screen settings for brightness etc.
Reset -	Puts the monitor back to factory settings.

Seeing a Video Image

Depending on monitor type and wiring configuration seeing an image will depend on the on this. Some monitors will only power up when they see a video signal from the camera. For example, if the camera is powered by the reverse light you will need to be in reverse to see the video image.

Some monitors will show an image or images all the time power is applied on ignition.

If triggers are used then when a trigger is activated then the corresponding image will be shown.

MAINTANCE OF MONITORS AND CAMERAS

Monitors

- Clean the monitor only with a damp soft cloth.
- Do not use or spray any chemical cleaners onto the monitor as there is a possibility of damage to the surface of the LCD and monitor case.
- Do not use any abrasive cleaners or abrasive cloths to clean the monitor as this can damage the case and LCD Screen
- Check fixings are secure

Cameras

- Clean the camera only with a damp soft cloth.
- Do not use or spray any chemical cleaners on the camera as there is a possibility of damage to the surface, case and seals.
- Do not use any abrasive cleaners or cloths as this can damage the lens and case.
- Do not use a pressure washer to clean the camera as this can damage the seals.
- Check connector seals and fixings are all secure

Trouble Shooting

Monitor not powering up -	Check power and fuse on main loom and vehicle fuse. Check cables and connections are secure.
Blue screen on monitor -	Check connectors from monitor to camera are secure. Check camera connections are secure. Check camera power and fuse if separate.
Cannot enter menu - Triggers not working -	Check the monitor does not have a trigger activated. Check wiring. Check settings in menu.
No video image -	Check correct video channel is selected. Check camera connection is secure.
Video image is displayed wrong -	Check Settings in menu Check camera is correctly orientated

NOTES

NOTES

WARRANTY

All monitors and cameras have a 2 year warranty.

The warranty is non transferrable and only applies to the original purchaser.

Should the product be found to be defective within the warranty period, the product or part will be replaced without charge.

To obtain repairs or replacement under the provisions of the warranty, the product should be returned prepaid with proof of purchase to the address below with a completed copy of our warranty returns form. To obtain a returns form please contact Parksafe Automotive Limited.

This warranty does not cover the removal or reinstallation costs nor does it cover damage through alteration, misuse, mishandling, neglect or accident.

Any implied warranty is limited to the duration of this written warranty and Parksafe shall not be liable for any loss or damage, direct or consequential, arising from the use or inability to use this product.

No person or representative is authorised, to alter or amend this warranty either verbally or in writing.

This warranty does not affect your statutory rights.

Parksafe Group, Suppliers of Vehicle Electronics. FORS & CLOCS
Approved. DVR Recorders, Vehicle CCTV, Dash Cameras,
Reversing Systems, Parking Sensors, Lighting, Warning Beacons
& Consumables. OEM Design Services.
ISO 9001 Approved Company

'YOUR SAFETY DRIVES US'

Parksafe Group,
Eden House,
High Holborn Road,
Codnor Gate Industrial Estate,
Ripley, Derbyshire,
DE5 3NW
+44 (0) 1773 746 591

sales@parksafegroup.com



RoHS