

REVCAMUK

Reversing cameras UK Ltd

Instructions for our modular digital wireless systems

Introduction

We'd like to thank you for your purchase of one of our wireless kits. In order to get the most out of your kit and protect it we recommend reading the instructions fully before you start your installation. Please check the system for damage in the post or omissions and inform us within 7 working days.

Safety and Installation Precautions

If you are not using a cigarette lighter to connect to the electrics then we recommend disconnecting the negative terminal of your vehicles battery. Be aware this may reset your clocks/computer/radio code.

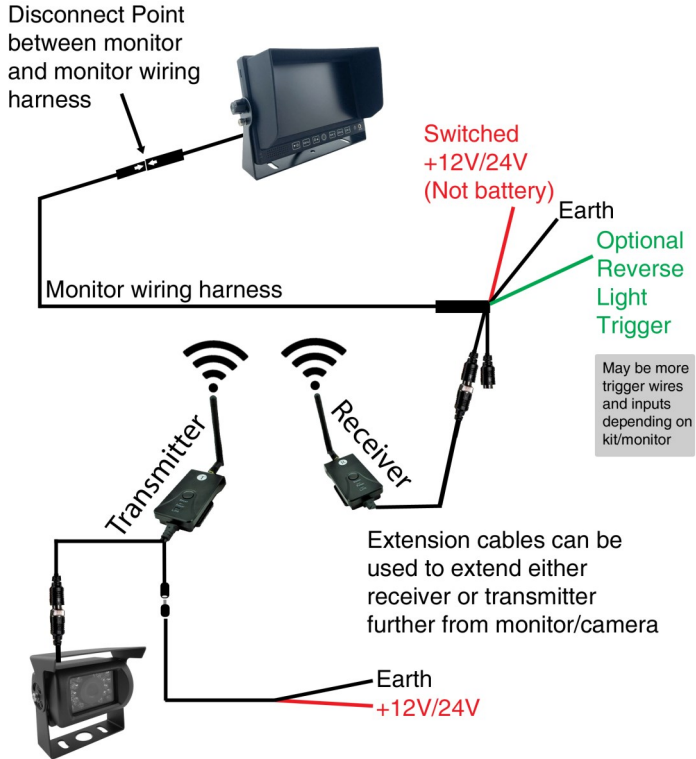
The TFT panel of the monitor is delicate and pressing the front can cause the thin glass sheet inside to crack. If this happens a black area will form around the line of the crack. Be careful not to apply pressure to the front of the monitor.

Modern vehicles now have very complex electrical systems. In order to reduce fuel consumption many vehicles use smart battery charging. This can mean the voltage applied to the battery terminals can rapidly fluctuate and go beyond the normal voltage ranges you would expect. **UNDER NO CIRCUMSTANCE TAKE YOUR POWER DIRECTLY FROM A BATTERY.**

Can I fit myself?

This system is designed to be installed by anyone that is fairly competent at working with basic DC electrics and is handy with a soldering iron and a multimeter. If you are at all worried about any of the steps we recommend finding a local fitter, the best people to approach are auto electricians, tow bar fitters, In car entertainment installers and car alarm specialists.

Basic Wiring Diagram For Integrated Wireless Camera Kit



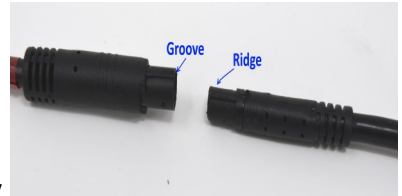
The above diagram shows the basics of how your kit will be laid out. Each monitor wiring harness looks slightly different, but has the same general layout (ie 2x or 3x 4 pin inputs, positive, earth and between 1 and 3 trigger wires. Trigger wires are optional to wire up, if using the trigger wire ensure the receiver is in Channel 2 unless your monitor has more than one trigger wire, in which case they should be labelled channel 1/2/3 etc so you can choose which trigger you wish to put to which camera channel.

Tools you may need

- Insulating tape/ Heat Shrink
- Cable conduit (especially if running a cable along the chassis)
- Solder and soldering iron
- Low amp wire to extend the reversing light trigger wire if connected.
- Sikaflex 512 adhesive/sealant (useful on motorhomes to avoid drilling holes)
- Self tapping screws to camera bracket and monitor
- Drill to make holes to get cables through body/cupboards etc

Installing the Monitor and Receiver

There are two parts to the monitor. The monitor itself and its wiring loom. **Be careful when plugging in the monitor to its wiring loom to line up the locating arrows. On some connectors there is a ridge and groove to locate it.**



The power supply to the monitor should be controlled by the ACC switch. There should be sufficient cable to reach a suitable power supply. If connected to a power supply that is “live” this can eventually run the battery down, as most of our monitors use around 0.5W when in standby mode.

The red wire is the 12v or 24v positive feed. The black wire is the earth (negative) and should be connected to a suitable earth point (not just sharing earth wires with preinstalled electronics). **Never connect directly to a vehicle battery as this is a significant fire risk.**

Some of our monitors have a round 2.1mm DC socket designed for a cigarette lighter plug to fit, if this isn't required please remove and use the red and black cable as above.

Connecting the trigger wire is optional and is rare for most of our wireless customers due to the desire to keep wiring to a minimum. The monitor can be turned on and off whenever needed with the power button, trigger wires would normally only be used if you have taken the sender box power supply from the reversing lamp feed. If connected always use a low amp fuse (max 1 amp) as close to where you connect to the vehicle electrics as possible. If your vehicle uses CANBUS to control its lights or has LED reversing light bulbs then using a professional auto electrician will be best.

The receiver should be plugged in to a spare channel input on the monitor wiring harness. If you are using a trigger wire (not very common) then it should be plugged in to the matching channel for the trigger wire connected.

The monitor wiring harness will power the receiver box. Most people leave the receiver in a position that they can reach if needed, although it doesn't need to be mounted in the open, so even inside a glovebox or in a safe place in a footwell.

To maximise signal we recommend aligning the aerals so they face the same “plane”, ie if you have the sender aerial pointing upwards, it would give the best range if you had the receiver aerial pointing upwards.



Fixing the Monitor Bracket

We have a few different types of bracket depending on monitor, some of our monitors come with the side mounting points and have a “U” bracket which would need drilling down.

All our dash monitors come with a central channel to the rear, which allows a variety of dashboard mounts as well as suction mounts (temporary fitting only) to be used. The central channel dash mounts have a self adhesive base which will stick the bracket down and have holes should you wish to screw the bracket down.

Installing the Camera and Transmitter

When selecting a location for the camera make sure you chose a position that does not impede access or operation of the vehicles rear doors, tail gates or hydraulic lifts. A high location looking down will always give a better view than one lower down.

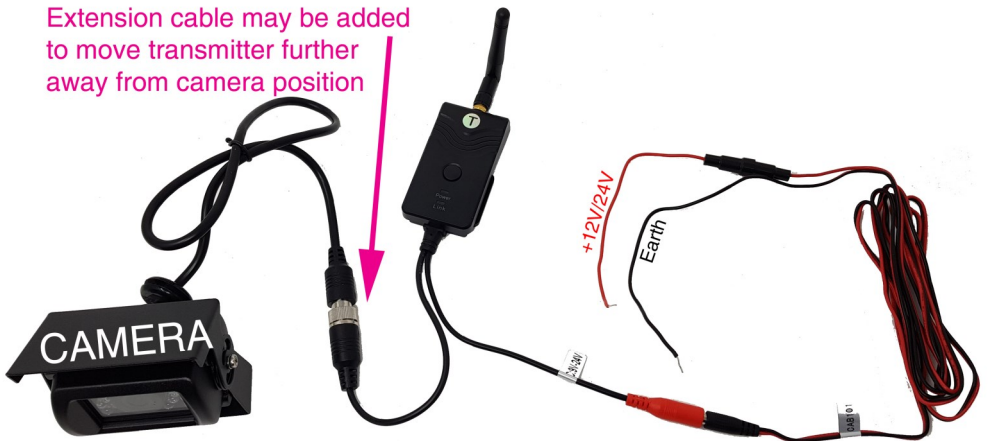
It is wise to try the location of the camera first to ensure you have the view you require. We find Duct tape ideal for temporary fixing, although you should always take care to ensure the camera cannot drop.

When mounted low the camera will need regular cleaning with a damp cloth. We find waxing the camera body (not the front glass) helps preserve the finish of the camera and prevent “white rust” which can be a problem when the camera is exposed to salt on the road in winter. Electrically isolating the camera as much as possible also helps. To do this a rubber washer and plastic fixing bolts can be used. This helps prevent cathodic action which occurs when you mix two different metals with salt and water.

If you are mounting the camera on the roof, check the camera is positioned so there is nothing obstructing the view. If mounted too far forward it can become impossible to see the rear bumper Always measure carefully to ensure the camera is central. Double check everything before drilling holes. On the bracket style cameras they can be fixed with bolts or self tapping screws. On a motorhome to reduce the number of holes through the skin you can use a motorhome adhesive. Glue the bracket in position and use tape to hold it there for 24 hours. After that the camera can be installed. **Some brackets are reversible to aid getting the angle of tilt the camera needs.**

If using the cable grommet then always drill a hole smaller than the inner diameter of the grommet. This is to ensure a good seal.

The IP rating of the camera will not withstand direct spray from a high pressure cleaner. If you do use one be careful to protect the camera. The most common cause of water getting into a camera is cable damage. Be careful not to cut the outer sheaf of the cable on the sharp metal of the hole drill for the cable entry point as this will invalidate the guarantee.



The above image shows how the transmitter side is wired up, in this picture you can see the indoor non waterproof transmitter/sender box. If you have ordered the external/waterproof boxes then the connections will be the same, the box will just look a little different.

The red wire on the supplied power cable will need either a 12V or 24V input and the black wire will need to go to earth (earthed to chassis is the best method).

On a caravan, most of our customers like to use the fridge power supply as this has power when the caravan is plugged in. Alternatively customers have been known to take supply from either the side lights or the number plate lights and just turn their lights on when they wish to view the camera. This is also useful when using on a basic trailer, which may not have fridge supply wiring to connect in to.

As mentioned when talking about installing the receiver, it is best to make sure the aerials point in the same direction as each other ie if the receiver aerial is pointing up to the sky, it is best to also point the transmitter aerial up towards the sky. This will ensure you get optimum signal between the two modules.

An extension cable, like the one to the right, can be used to position the sender further away from camera. Most of the time, customers will site the transmitter close to the camera, but there are occasions where this just might not be possible. The extension cables are waterproof and screw together and lock.





The picture above shows the sender box fitted inside a rear cupboard on the back of a caravan, the camera is mounted on the other side of this cupboard.

Pairing the wireless modules

During testing we pair the sender and receivers with each other so you shouldn't need to pair the two units up again unless someone long presses one of the buttons or you wish to use more than one transmitter (ie multiple trailers and just one towing vehicle). In this case please follow the guide below.

Both types of sender/receiver box have similar ways to pair up, firstly you would need to ensure both sender and receiver presently has the power light on. Go to the receiver and press and hold the pair button for 3 seconds, the pair light will start to flash. Within the next 30 seconds you will need to press and hold the pair button on the transmitter for 3 seconds. The flashing pair button should become a solid colour (green for the internal bridges and blue for the external bridges).

Fault finding

We test all the parts we send out so in theory the kit should work. If you find the system does not work then check to see if you get the AV channel number on the monitor when there are no cameras attached. If you do then your power supply and monitor are OK. If there seems to be no life from the monitor and you used crimp terminals for your power connection then these are usually to blame (try remaking the connection with solder and insulate).

If your monitor is working and the pair light is constant meaning the sender and receiver are talking to each other then it may be possible there is an issue with the camera, we would recommend taking this out temporarily and plugging it directly in to the monitor wiring harness (this will tell you whether the camera works or not).

If the camera shows as working then you may have low voltage to the sender, for experimentation you could try temporarily providing an alternative 12V or 24V power in to rule out a bad power in (the transmitters can work on a lower voltage than the camera). If this doesn't fix the issue then there may be a problem with either sender or receiver.

If the system has been in use for some time check water has not got into any joints.

The monitors supplied with this system have both over voltage and limited reverse polarity protection so it would be unusual to break it in installation.

Guarantee Details

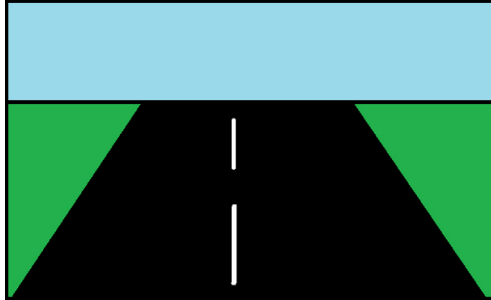
The product is guaranteed for 24 months from the date of purchase provided it is not damaged by accident or in fitting, it has not been adapted or disassembled and that the serial numbers remain on the product.

The guarantee is limited to the product and accessories supplied only and doesn't extend to any third party losses or damages, neither does it cover cosmetic appearance of the camera or monitor. The guarantee does not cover labour costs associated with the products installation or removal for guarantee service.

We are usually able to repair the monitor if it fails after the guarantee period. It is usually a low cost repair providing the LCD panel has not been damaged.

Tips for Camera Angle

When pointing the camera back we recommend you angle down ever so slightly. This stops the camera from auto white balancing to the sky. If you are pointing it so it looks back down the road then ensure that the camera can see more road etc than sky. This will stop the picture from going dark on bright days.



Care of the camera

DO NOT ALLOW A PRESSURE WASH JET TO HIT IT. 1000-3000lb per square inch is beyond the IP rating of all reversing cameras!

Keep the front glass clean using a damp cloth.

If possible wax the camera body on a regular basis. In winter rinse off salt as soon as possible. The combination of salt, steel and alloy can cause corrosion. If you look after the camera it will last for years.

Avoid pointing the camera directly at the sun. The lens of the camera will act like a magnifying glass and can burn the camera sensor. If your vehicle is likely to be regularly parked on a hill which will result in the camera pointing at the summer sun then consider tilting the camera down more.

Do not wax the front glass of the camera. This can lead to poor night vision with IR light being reflected back off the wax.

Touch up any paint chips as soon as possible.

Thankyou and enjoy your kit.