

REVERSE CAMERA INSTALLATION GUIDE

Introduction

Thank you for the purchase of your New Xtrons Reverse Camera. Before installation please ensure you have all the required connections and accessories to comfortably install this item in your vehicle.

Please be advised whilst every effort has been made to ensure the guide contains as much information as should be required to confidently fit this product we cannot guarantee that this guide will be applicable to all vehicles, this is due to the many variations in style and fitting methods used by different manufacturers. We ask customers to exercise great care when following our guide any work under taken is done so at your own risk if in any doubt please consult a professional.

Help and support can be offered by using the live chat function on either www.xtrons.com or www.xtrons.co.uk
For more in depth advise please visit www.fourm.xtrons.co.uk

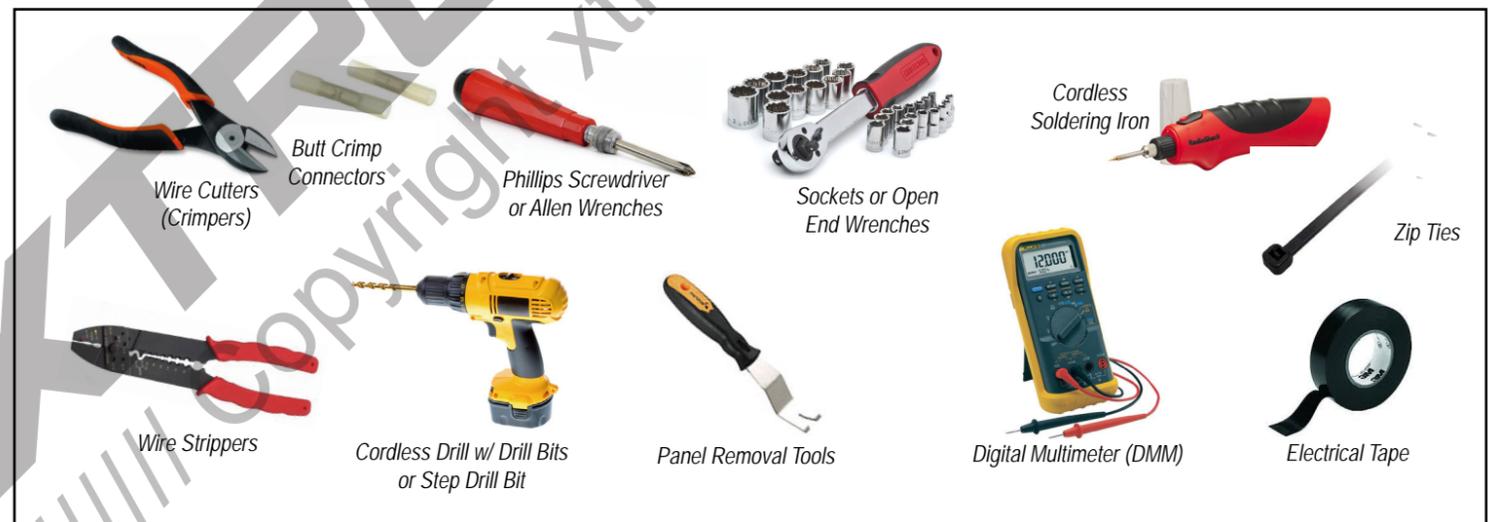
Difficulty Level: Moderate

Average Installation Time: 3-4 Hours

Tools and Supplies Needed:



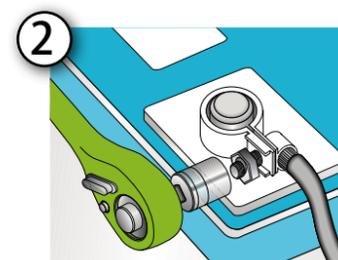
Installation of a reverse camera involves connecting the power cable to the reverse lighting circuit for a live and ground, as well as taking a Live feed from the reverse lights to the reverse switch on the screen or stereo, some vehicles may also require the installation of a 4 pin always open relay to bypass CANbus circuits. The RCA cables needs to be routed through the vehicle to connect the camera to the input on the screen or stereo.



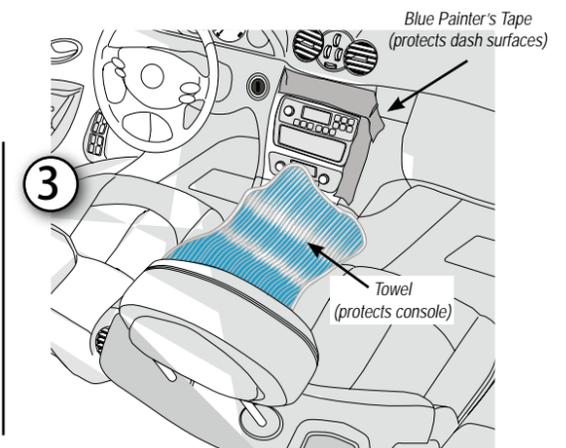
⚠ Before You Begin



Read all instructions carefully



Disconnect the negative battery cable



Protect interior surfaces

Note: Accessories such as video cables or vehicle specific AV interface may be required. Vehicles with CANbus may require the addition of a relay to complete the installation.

Reverse Camera Options

Custom Fit Camera

Custom fit cameras are designed for easy installation on some of the most popular vehicles on the market. This style of camera is generally manufactured in the style of an existing number plate light or boot switch allowing for easy mounting, in most cases this style of camera will eliminate the need for cutting or drilling. Custom fit cameras are fantastic for providing that factory fitted look to your installation.



Honda Accord Factory-style Camera



Toyota Factory-style Camera

Surface-mount Camera

By far the most popular choice. Surface mounted cameras are designed to be mounted on a flat surface usually above the number plate. Generally minimal cutting and drilling is usually required to install a surface mounted camera.



Surface Mount Cameras

Flush-mount Camera

Flush mounted cameras are designed to be counter sunk into the vehicle bumper giving the outward look of a reverse sensor, Flush mounted cameras require drilling and cutting for installation.



Bumper Mount Cameras

License Plate Mount Camera

With universal fitting a licence plate camera can fit most vehicles with a standard sized number plate. Fitted behind the licence plate and secured using the existing number plate fitment. Removal of the licence plate is required and some drilling and cutting should be expected.



License Plate Frame Camera Mounts and Cameras

! CAUTION:

Before attempting any DIY back-up camera installation, assess your comfort level disassembling vehicle interior panels and ensure you have the recommended tools for the job. Many independent retail installation shops welcome jobs with products purchased on Xtrons.com. Always look for a Mobile Electronics Certified Professional (MECP) installation technician to handle your most challenging installation needs.

Wired over Wireless

There are many options available when deciding which camera is best for you, here at Xtrons we always recommend choosing a wired option over a wireless. Please do not make your purchase based on the "easier" installation of a wireless camera, extensive testing has proven that wireless cameras are more susceptible to failure, degraded video signal and electronic interference than a wired alternative.

Pre-install Advice

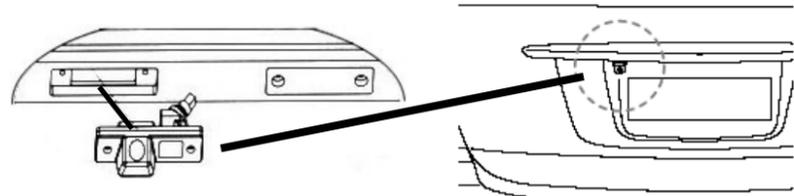
The location of the camera is a key point to be considered before installation, this will vary depending on the style of camera and vehicle the camera is to be fitted to. In general the camera is ideally situated above the number plate as close to the centre of the vehicle as possible.

Before running any cables dry wire the camera to the screen or stereo to ensure all components are working correctly.

Custom Fit Camera

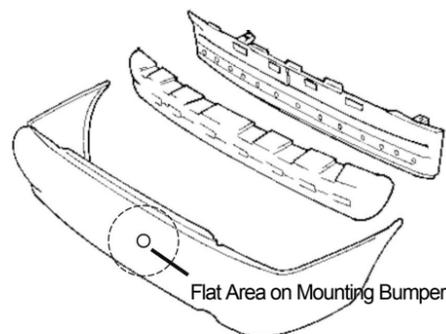
Designed to replace the existing number plate light or boot switch, for best results carefully follow your vehicle manual for the correct removal procedures.

Example of Factory-style Camera replacing a license plate light. Most Factory-style cameras use factory mounting locations and hardware.



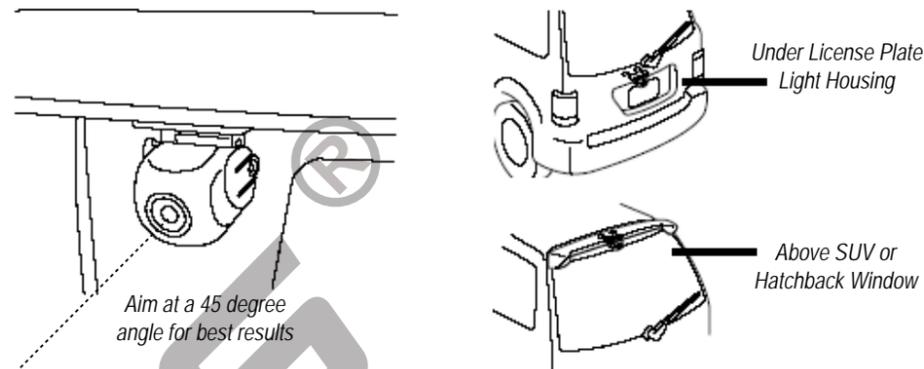
Flush-mount Camera

A flush mounted camera is the most invasive installation option and will require a certain amount of experience. We would always recommend this style of camera be mounted to a plastic body panel such as the rear bumper this will be easier for drilling and cable running, where it is possible to mount in the metal bodywork this can be more difficult and if not correctly sealed lead to rusting. Using the hole saw provided mount the camera as close to the centre line as possible.



Surface-Mount Camera

Most commonly installed above the number plate a surface mounted camera generally angles out at 45°, where some are fixed like CAM005 others like CAM009 offer a couple of different mounting options allowing for 5° adjustment up or down. Depending on the vehicle a hole may need drilling behind the camera for the cable to enter the vehicle where possible try feed through existing openings such as number plate lights.



License Plate Camera

Number plate cameras will generally allow for the easiest installation and on most vehicles will mount the camera on the centre line. Simply remove the number plate fix the camera bracket and remount the plate in the housing some drilling may be required for the cable to enter the vehicle where possible try feed through existing openings such as number plate lights.

Attach to Top of License Plate Mount



Reverse Camera Connections

To power the camera it is recommended the feed be taken from the reverse lights so the camera is only active when the vehicle is reversing this will prolong the life expectancy of the camera. Where possible try to locate the correct colour wires from the vehicle specifications, without this information it is recommended you use a Power Probe or Multi meter to locate the correct wire, this is best done with another person 1 to test the connections and 1 to switch the vehicle in and out of the reverse gear. You are looking for a connection giving a 12V positive feed when the vehicle is in reverse, if the reading is less than 12V a relay will most likely be required (refer to later section Installing a CANbus relay).

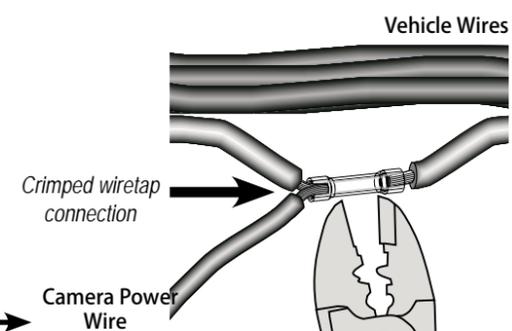
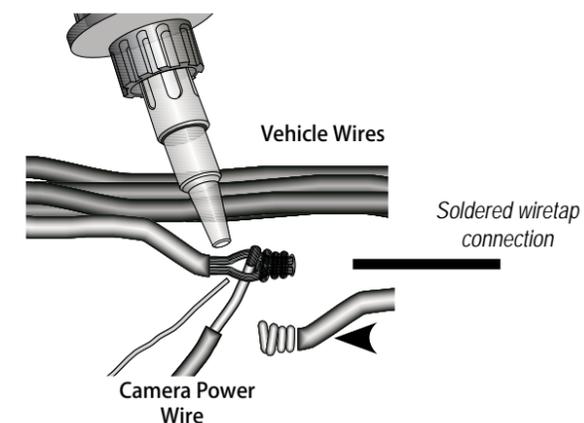
Live and Reverse Switch

Once you have located the positive you will need to connect the power cable for the camera and depending on the installation most likely the 12V reverse switch, with an Xtrons camera this is a Red Tag wire on the RCA cable.

There are a couple of ways this can be achieved.

- Soldering:** Strip back 10mm to 15mm of insulation on the positive wire and part the internal strands to form a loop. Bind together the reverse switch and camera live now feed these through the opening and proceed to wrap tightly around the exposed cable. It is recommended this new connection be soldered and insulated with PVC tape or heat shrink.
- Crimping:** Cut the positive wire and strip back a small section of insulation from each end. Bind the camera live to one side and the reverse switch to the other. Using the correct size straight connector place the cables in each end and crimp closed.

Xtrons recommend completing the installation and testing whether a CANbus relay is required before crimping and soldering the connections, in place.



! CAUTION:

For vehicles with low voltage (+5 volt), pulse width modulated (PWM), or low current LED-based reverse lamp circuits, seek professional installation for the electrical connection. These circuits cannot directly connect to a (+) 12 volt power source and may require special vehicle specific adapter devices or electronic parts. The individual vehicle determines the required parts to provide the proper reverse lighting circuit power to the camera. If you can't locate a dedicated +12 volt reverse light wire using a DMM at the reverse light wiring harness, your vehicle may have one of these special circuits. As an alternative, use a +12 volt Accessory (key switched) circuit for power to the camera.

Reverse Camera Connections (Continued)

Ground Point

Xtrons advise making sure the ground is as close to or on the reverse light circuit, this can be connected using the same methods as the live and reverse switch or by using a Ring Connector and attaching to a ground peg. Simply unscrew the retaining nut and slide the ring connector into place, after removing and nut always secure to the manufacturers torque specifications.

Video Connection

All Xtrons reverse camera systems require a video feed from the camera to the display. This is generally a 5 meter RCA cable with a red Tag wire at each end for the required reverse switch to allow for easier installation. Great care should be taken not to damage and trims or panels when feeding the cable through the vehicle, be advised plastic edges can be sharp please take precautions to prevent personal injury. Due to the small size of the cable itself in most vehicles this can be tucked under the trim without the need for removal be sure to use a Plastic none sharp instrument to prevent damage to the cable. Follow the steps below to ensue correct connection is achieved.

1. Connect the RCA cable to the video feed from the reverse camera.
2. Connect to the correct camera input on the display.
3. Locate the reverse switch at the back of the display on an Xtrons unit with will be labelled BACK, CAM, REVERSE or something similar, the legend on an Xtrons unit can also be used to determine the correct colour.
4. Connect the Tag wire to the reverse switch on the display.

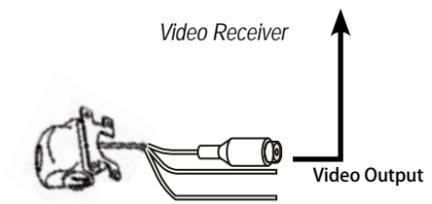
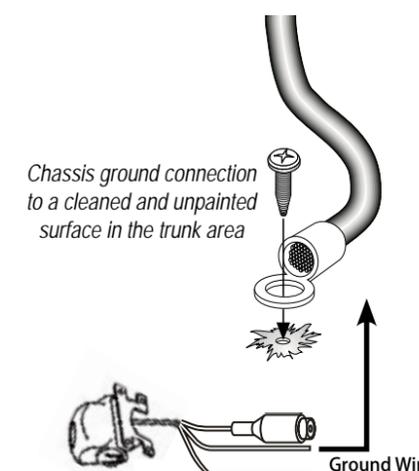
Note: Ensure all connections are secure and insulated.

Final Checks and Installation

1. Switch the ignition to ACC (power without engine running)
2. Place the vehicle in reverse.
3. The display should automatically switch to the reverse screen.
4. Make sure the camera image is displayed.
5. Move the vehicle back to neutral (Park in Automatics)
6. The screen should switch back to the standard function.

CANbus

Repeat the above process with the vehicle engine running if you find that the camera no longer displays an image, or the screen shows interference or a distorted view this is caused by the active CANbus circuits of the vehicle. You will be required to install a relay.



Testing Tip:
Low-light conditions affect the clarity of the back-up camera image. Testing the back-up camera's performance during daylight is recommended.

Installing A CANbus Relay

Most modern vehicles use CANbus circuits to test the light circuits and notify the driver when a bulb needs replacing, when installing a reverse camera this signal can be presented as interference when the engine is running.

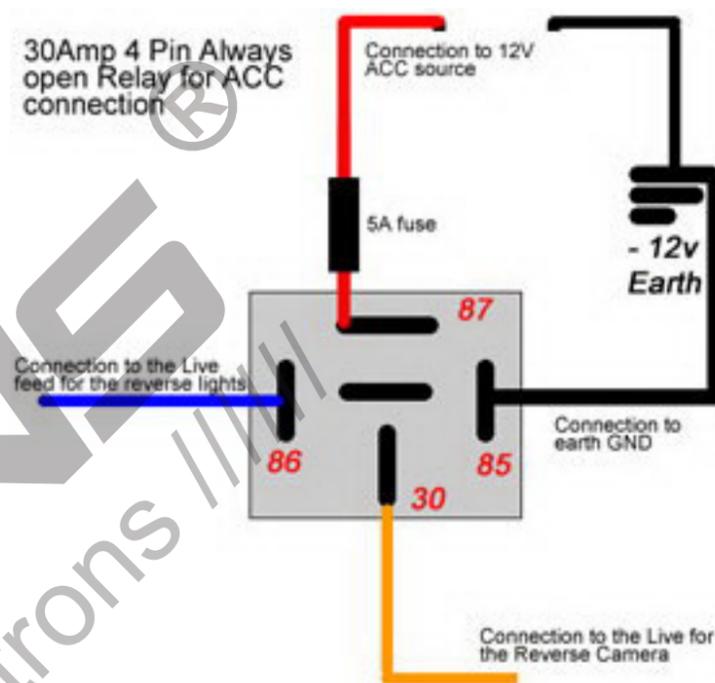
You will require:

- 30A 4pin always open relay
- Spade crimp connectors
- 12V cable and fuse
- Ground Cable.

Locate a none CANbus 12V source either directly from the battery or if available a rear 12V cigarette socket.

1. Run a 12V cable with inline fuse from the connection to the installation area near the rear light and finish with a female spade connector.
2. Attach a ground to a suitable earth point (you can use the same as the camera) and finish with a female spade connector.
3. Take the camera live and reverse switch and finish with a female spade connector.
4. Connect a 12V wire to the live of the reverse lights (see live and reverse switch section above) and finish with a female spade connector.

Now you have 4 female spade connections to connect to your relay follow the diagram for correct connection. Once complete go back over Final checks an installation.



Finishing Touches

Once all connections have been checked tested and confirmed ensure all loose cabling is tidied away and secured using insulation tape or tie wraps, if used ensure the relay and connections are secure. Carefully replace any panels or trims that were removed to complete the installation.