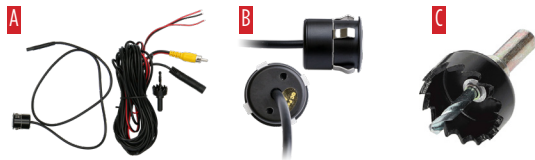




Flush Mount Camera Universal Fit

KIT COMPONENTS

- A) Camera and wiring • B) Camera detail, side/back view • C) Hole Saw



KIT FEATURES

- High-quality metal housing
- 1/4" CMOS camera
- AHD & CVBS Compatible
- Defeatable parking lines
- 110-degree viewing angle
- 0.6 lux night vision
- IP68 Rating (water-resistant & dust proof)
- Hole saw included
- Wire length
 - Camera Cable: 0.61m / 2ft
 - Extension Cable: 6.7m / 22ft

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Visit iBeamUSA.com for more detailed information about the product and up-to-date vehicle specific applications

ATTENTION: With the key out of the ignition, disconnect the negative battery terminal before installing this product. Ensure that all installation connections, especially the air bag indicator lights, are plugged in before reconnecting the battery or cycling the ignition to test this product.
NOTE: Refer also to the instructions included with the aftermarket accessory before installing this device.

INSTALLATION

INSTALLATION TOOLS & ACCESSORIES REQUIRED

- 5/32" twist drill bit
- Drill
- 18.5mm hole saw (supplied)
- 18.5mm Bimetal Hole saw (optional for metal cutting)
- Corrosion preventative (optional for protecting holes drilled in metal)
- Wire loom (convoluted plastic 1/4" or Techflex braided)
- Electrical tape
- Zip ties
- Solder and soldering iron or solderless connectors for wire splicing
- Miscellaneous panel removal and hand tools for vehicle disassembly
- Felt tip marker
- Blue painter's tape
- Rubber grommets/sealant

Installation Tips:

- Avoid placing the video cable where it can get pinched, damaged or caught up in moving parts under the dash and seating areas.
- Do not run the cable close to existing wiring as noise could be introduced resulting in a poor image.

Camera Mounting:

1. Find a suitable location for mounting the camera.

Note: The TE-FLC is a Through Hole Mount design and works best when mounted to vertical surfaces with a slight downward angle.

2. Behind the mounting location, there needs to be at least 1" of depth free of obstructions, wiring and components to

allow for camera clearance. Always check for clearance before marking or drilling.

3. The TE-FLC displays a mirrored image and is designed for rear view applications only. If used as a front view camera, the display will need mirroring capabilities

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BEST PRACTICE is to make connections before drilling or mounting to allow viewing the camera on your screen, verifying proper operation with optimum angle and a view free of obstructions.

Through Hole Mounting:

1. After a mounting location is determined, apply several layers of blue painter's tape to the area to protect the paint or finish.
2. Mark the center point of the hole and drill with a 5/32 drill bit.
3. Use the supplied 18.5mm (3/4") hole saw to enlarge the hole to mounting diameter.
4. Use slow speed and gentle pressure to avoid melting a plastic surface or blistering the paint.
5. The supplied hole saw is meant for soft plastic and rubber surfaces.
6. Metal mounting surfaces will require a bi-metal hole saw designed for harder materials.
7. Holes in metal body surfaces should be protected from corrosion with automotive primer or other corrosion preventing materials.
8. After corrosion protection is applied, the blue tape can be removed.
9. Do not brush away the drilling debris as this may scratch finished surfaces. Use air pressure, vacuum or sticky tape to lift debris.
10. Remember that blowing metal dust into cracks and crevices will allow it to rust there. Take care.
11. Route the camera connector through the mounting hole, plug in the camera and slip it into the hole.
12. Before it is fully inserted, view the camera to ensure the view is parallel to the ground. It will be difficult to remove once fully seated.
13. If rear access to the camera is available, the camera can be unscrewed from its trim bezel and screwed back together while in the mounting hole.

WIRING CONNECTIONS

RED WIRE

1. **RED** wire connects to +12 volt switched voltage to power the camera. It runs through the length of the video cable and either end may be used.
2. If **RED** is connected to the +12volt reverse light wire in the back of the vehicle, the other side of the **RED** wire exiting the **YELLOW RCA** connector at the opposite end of the video cable will be supplied 12 volts that can be used to trigger the reverse input of the radio in the dash.
3. If a stable 12+ reverse voltage is not available at the camera location (some vehicles with LED lighting use an unsuitable pulsed DC voltage on reverse lights), it can be supplied at the opposite end of the cable to the **RED** wire at the **YELLOW RCA** connector.
4. If the display has the ability to display the camera while in forward motion, 12 volts switched accessory power may be connected to either end of the **RED** wire, but the radio will need a separate +12volt reverse wire connected to activate its reverse screen.
5. Many aftermarket radio installation data interface harnesses can supply both 12V reverse and switched accessory power.
6. **BLACK** wire connects to ground (a metal, non-painted surface or factory ground wire).
7. If the ground is made outside the vehicle, paint, undercoating or dielectric grease should be applied over the ground connection for corrosion resistance.

WHITE loop controls parking guide lines. Its behavior is affected by the **GREEN** loop (See table below)

GREEN loop enables AHD (Analog HD) video output. This higher resolution method of transmission gives superior quality images, but is only compatible with AHD capable monitors and displays.

UNCUT, the camera displays standard NTSC video at 480i resolution.

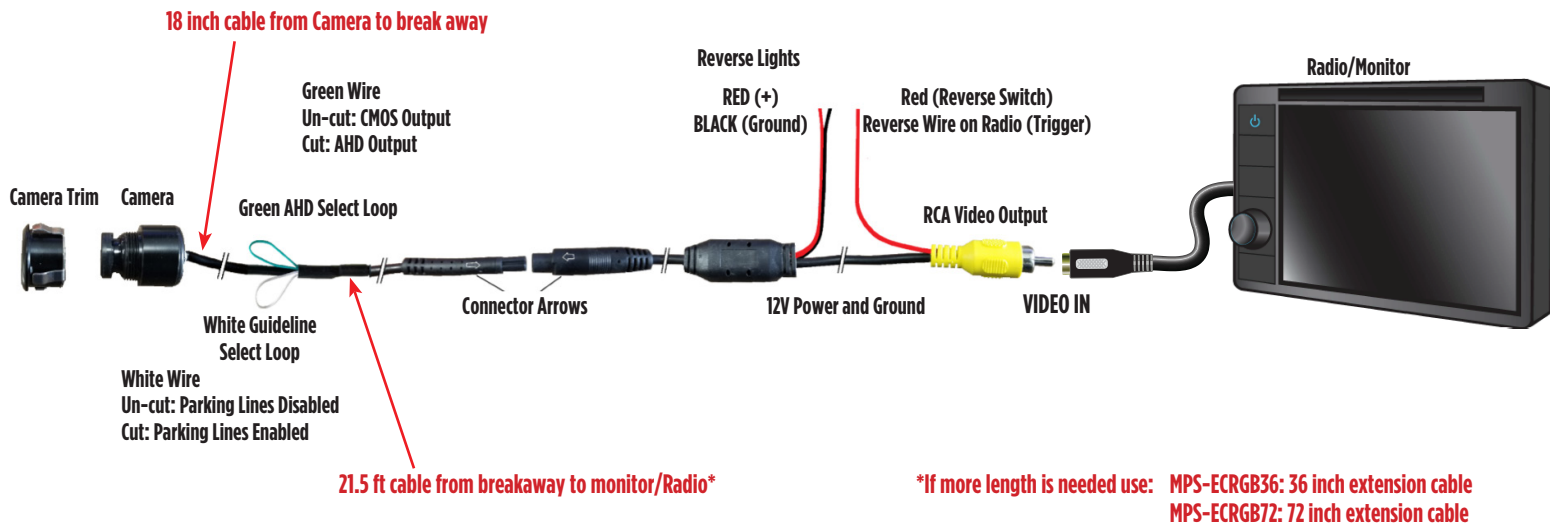
CUT, the camera transmits at 720p resolution.

Table A: Resolution and Wiring Functions

Resolution	Parking Guide Lines	White Loop	Green Loop
480i (CVBS NTSC)	Off	Uncut	Uncut
480i (CVBS NTSC)	On	Cut	Uncut
720p (AHD)	Off	Cut	Cut
720p (AHD)	On	Uncut	Cut

Note: The camera must have 12V removed and reapplied before any loop function changes are recognized.

WIRING THE CAMERA



HARNESS INSTALLATION

1. The 21.5' video cable is run between the radio or video display and the camera. It may be easier to run the cable from the front of the car towards the rear as the camera connector is more compact.
2. At the rear of the car where the cable may be exposed to weather, use protective wire loom and route the cable away from hot exhaust.
3. Tie up any excess cable with zip ties. Best practice is to use existing wire paths and grommets when routing new cables. Any holes drilled to the exterior of the vehicle should have appropriate grommets and weatherproofing applied.

YELLOW RCA

The Yellow RCA connects to the reverse or video input of the radio or display.

The 4-Pin Black camera and cable connectors mate with arrows and keyway matching. Connect firmly but do not force.

BEST PRACTICE is to use existing wire paths and grommets when routing new cables. Any holes drilled to the exterior of the vehicle should have appropriate grommets and weatherproofing applied.

SPECIFICATIONS

TE-FLC	Reverse Camera
Chip Sensor	H63 CMOS
Resolution NTSC (CVBS)	720H x 480V
Resolution AHD	1280H x 720V
Viewing Angle	110°(H) / 170°(Diagonal)
Video Output	AHD/CVBS (Composite Video)
Minimum Lux	.05 Lux
Power Supply	DC 12V
Video Output Voltage	3.3V
Connector	Mini 4PIN with Guideline/AHD Loops
Video Cable	6.5 meters (21.5 feet)
Working Current	90mA
S/N Ratio	>52dB
Warranty	3 years
Water Resistance	IP68 (dustproof/water tight 1.5M)
Operating Temperature	-40°C - 80°C



TE-FLC INSTALLATION INSTRUCTIONS



Having difficulties? We're here to help.



Contact our Tech Support line at:

386-257-1187



Or via email at:

techsupport@metra-autosound.com

Tech Support Hours (Eastern Standard Time)

Monday - Friday: 9:00 AM - 7:00 PM

Saturday: 10:00 AM - 5:00 PM

Sunday: 10:00 AM - 4:00 PM



**Metra recommends MECP
certified technicians**