Axon Fleet 2
Installation Manual

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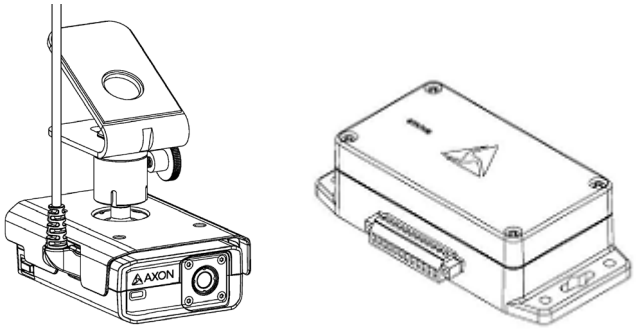
Introduction

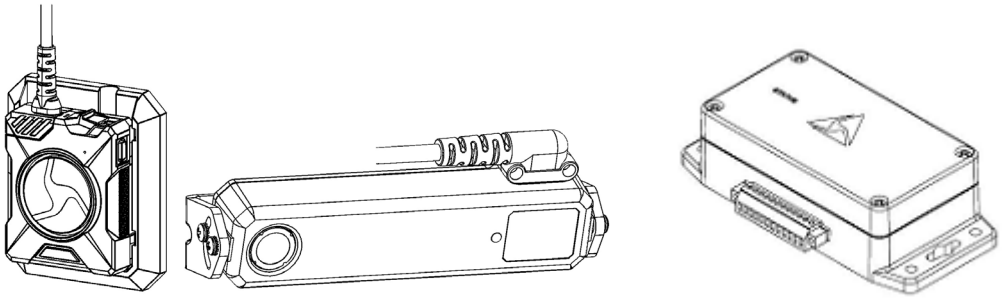
The Axon Fleet 2 solution is a camera system incorporating an audio and video recording device with a vehicular windshield mount. This camera is designed for use in tough environmental conditions encountered in law enforcement, corrections, military, and security activities. The Axon Fleet 2 cameras are designed to record events for secure storage, retrieval, and analysis via Evidence.com services. The recorded events can be transferred wirelessly to the Evidence.com website using LTE and Wi-Fi technology.

Axon Fleet 2 is a video solution that connects police vehicles to an intelligent, cloud-based evidence ecosystem. Axon Fleet 2 allows agencies to access and analyze in-car video. The cameras are mounted in the car, where they can be activated using Axon Signal technology, through the in-car computer using the Axon View XL application, or manually with the on-camera button. The cameras then communicate with the Axon View XL application and can offload video wirelessly through LTE or Wi-Fi technology to the Evidence.com website.

The Axon Fleet 2 system consists of the Axon Fleet cameras, the Axon Fleet camera mounts, the Axon Fleet rear camera controller, and the Axon Fleet power unit. The Axon Fleet power unit is an inline power supply for the cameras. During normal operation, the camera is powered by the vehicle; however, if the ignition is shut off and a camera is still recording, the associated Axon Fleet power unit is designed to supply the camera with enough energy to continue recording for approximately 4 hours.



Axon Fleet 2 front camera with mount and an Axon Fleet power unit

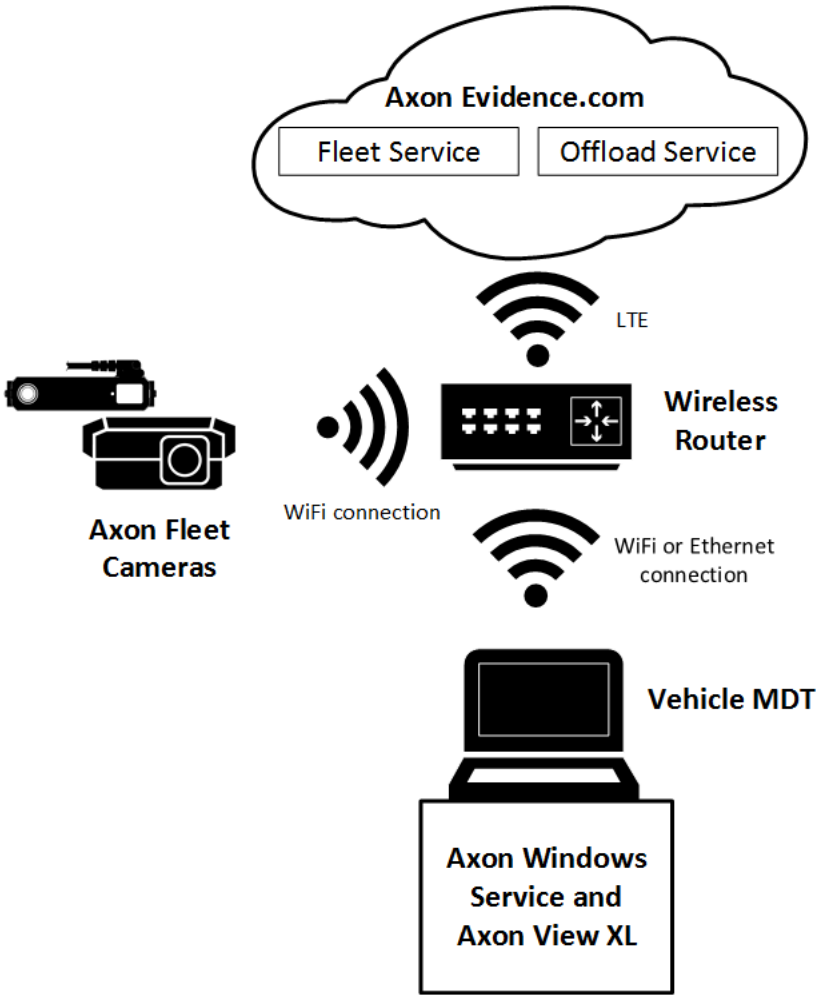


Axon Fleet 2 rear camera controller, rear camera, and Axon Fleet power unit

The Axon Fleet 2 system has Axon Signal technology integrated into the camera solution. The Axon Signal Vehicle unit is part of a communications platform that sends a signal when certain conditions are met; this signal can be recognized by Axon equipment. For example, the Axon Signal Vehicle unit can be set up to work with an emergency vehicle's light bar. When the light bar activates, all properly equipped Axon systems within range can begin recording. Currently, Axon Signal technology is built into Axon Fleet 2, Axon Body 2, Axon Body 3, Axon Flex (with an Axon Flex controller equipped with Axon Signal technology) and Axon Flex 2 systems. See the associated product user manuals for more information. Ultimately, this enables a fully integrated Axon camera system, that comes together to form a coordinated car, body camera, and smart weapon environment.

Axon Fleet 2 Network Overview Diagram

The following diagram provide an overview of the Axon Fleet 2 network. See the Additional Reading section on the next page for more information about Axon Fleet 2.



Additional Reading

This manual explains how to install the Axon Fleet 2 camera hardware. Other manuals cover additional aspects of the Axon Fleet 2 system. These documents are available from the Support section at www.axon.com.

- The *Axon Fleet 2 – Evidence.com Set-Up Guide* provides information on setting up Axon Fleet 2 vehicles and camera settings in Evidence.com
- The *Axon Fleet 2 Camera System User Manual* provides instructions for recording with the camera.
- The *Evidence.com User and Administrator Reference Guide* provides instructions on managing vehicles, Fleet 2 camera settings, and other agency settings.
- The *Axon View XL User Guide* provides instructions for installing and using the Axon View XL application.
- For training on the Axon View XL application, or how to assign personnel to cameras, recharge your camera, and transfer video from an Axon device to a computer. Visit academy.axon.com.

For installation of the router and the antenna, refer to the appropriate manufacturer's instructions for installation.

- Cradlepoint installation
- Airgain Antenna Installation

Installation Time Estimates

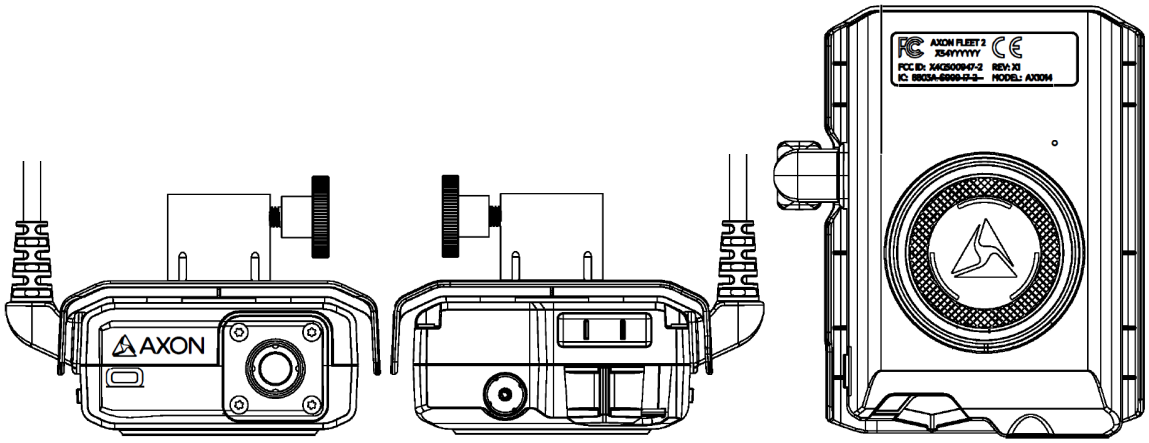
The installer can estimate the following table as a guide for installation times.

Per Installer, Per Unit	Minimum Time
Evidence.com	5 Min
Fleet 2 Hardware	55 Min
Antenna	30 Min
Router	15 Min
Axon View XL Installation	15 Min
Axon View XL Configuration	Variable
Software Validation	5 Min
Hardware Validation	5 Min
Total Installation Time with Router	**130 Min**

Axon Fleet 2 Contents

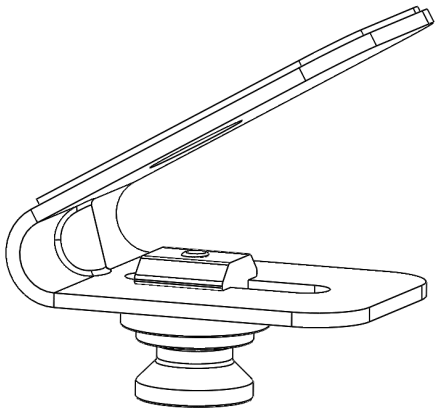
Every Axon Fleet 2 system comes with the following parts required for installation.

One Axon Fleet 2 front camera – SKU 71079

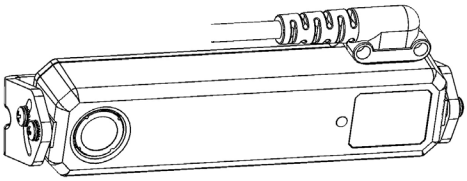


Front view Back view Bottom view

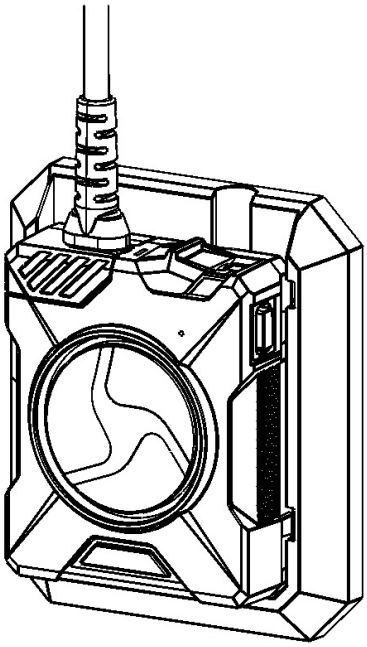
One Front Camera Mount – SKU 71080



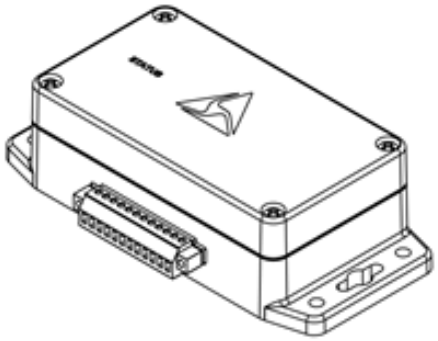
Axon Fleet 2 rear camera – SKU 71081



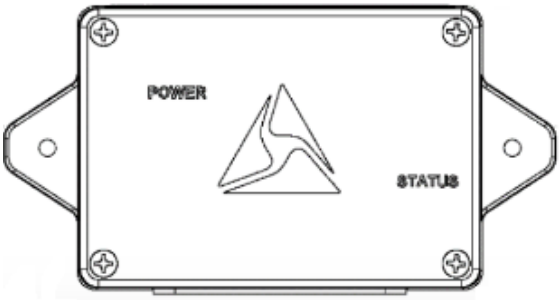
Axon Fleet 2 rear camera controller and mount – SKU 71082/71083



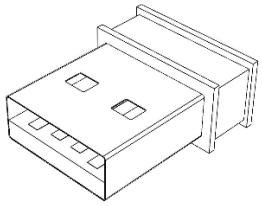
Two Axon Fleet Power Units – SKU 74024



One Axon Signal Vehicle Unit – SKU 70112



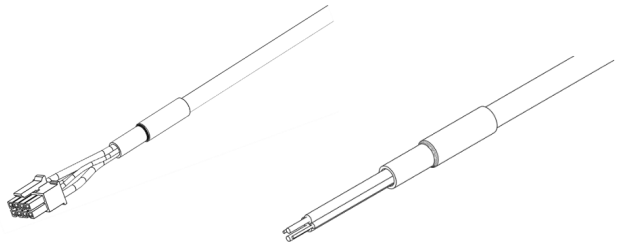
One Bluetooth Dongle – SKU 74027



This dongle is plugged in to a USB port on the vehicle's mobile data terminal (MDT), the in-vehicle Windows laptop computer. The dongle is provided by Axon and enables the MDT to have Bluetooth low-energy (BLE) capabilities. This is required for the MDT to communicate with the Axon Fleet 2 cameras.

Wiring Harness Assemblies

Two power unit to camera/controller cables SKU 71085



These cables are 18 feet (5.5 m) in length. One end of the cable has a plug-in connector for the front camera or rear camera controller mount and the other has the following wires:

18 AWG – White

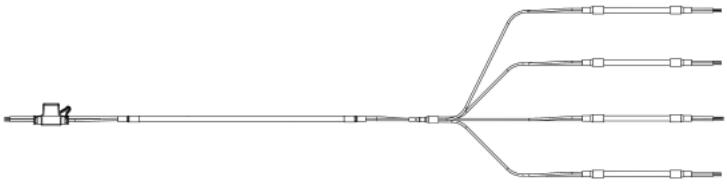
18 AWG – Gray

24 AWG – Green

24 AWG – Violet

Note: This cable contains wires that pass data communication. As such, you should never extend or apply a splice in this cable at any time. This cable should be shorted to length instead of using a service loop.

Power unit to vehicle cables SKU 71100



These cables are 12 feet (3.5 m) in length with four leads for each fleet component, and one for the Cradlepoint router:

18 AWG – Orange – Ignition, 7.5 amp fuse

18 AWG – Black

18 AWG – Red – 12V power, 7.5 amp fuse

Additional Items

In addition to the standard Axon Fleet 2 hardware, the agency will need to have a laptop computer, with the Axon View XL application installed.

Also, a wireless router is required. Axon Fleet 2 includes a Cradlepoint IBR900 series router, unless deviations are approved by an Axon Sales Engineer. For other options speak to an Axon Sales Engineer.

Installation

This section provides information on the tools needed and procedure for installing Axon Fleet 2 hardware.

Upgrading from Axon Fleet to Axon Fleet 2

If you are performing an Axon Fleet 2 installation as upgrade to an existing Axon Fleet system, it is not necessary to remove the existing power units or signal unit. The scope of installation is limited to the cameras.

Only the following installation steps are required:

1. Remove the Axon Fleet front and rear cameras and mounts.
    - Disconnect the Axon Fleet cables connecting the mounts to the Axon Fleet Power Units from the power units.

      Please note which power unit is connected to the front and rear cameras. It is important that the power units connect to the new Axon Fleet 2 front and rear cameras respectively.
2. Clean any remaining adhesive from the camera mounting surfaces using a commercially available adhesive cleaner.
3. Follow the instructions under Axon Fleet Power Unit to Camera/Controller Mount, using the supplied 71085 cables to connect the Front Camera and Rear Camera Controller to the respective power units.

   Note: Axon recommends trimming the supplied 71085 cable to length. Do not create a service loop or splice this cable assembly in anyway.
4. Follow the steps for determining the mounting locations and installing the Front Camera Mount and Rear Camera and Controller.

Installation Warnings and Prerequisites

Read and follow all instructions included with the Axon Fleet 2 products, accessories, and parts, including any supplemental instructions.

Failure to follow the instructions in this manual or as provided with any Axon Fleet products, accessories or parts may result in Axon Fleet 2 or Axon Signal not working properly or cause damage to the products or the vehicle. Save all instructions.

General Warnings

- The technician who installs the Axon Fleet 2 components and the Axon Signal Vehicle unit must be qualified to work with automotive electronics.
- When installing Axon Fleet 2 and the Axon Signal Vehicle unit, ensure that drilling will not damage the emergency vehicle's equipment or surface. Remove all burrs and debris after drilling.
- Do not install Axon Fleet 2 components or the Axon Signal Vehicle unit anywhere that will interfere with airbag deployment.
- Do not install any part of the Axon Fleet 2 system or the Axon Signal Vehicle unit in the vehicle's engine compartment.
- Do not install any part of the Axon Fleet 2 system or the Axon Signal Vehicle unit on the exterior of the vehicle.
- The Axon Fleet 2 system front and rear cameras have Ingress Protection (IP) ratings of IP53 and IP54, respectively. However, the entire Axon Fleet 2 system does not have an IP rating and should not be considered waterproof.

Vehicle Power, Ground and Ignition Inputs

Ignition: The vehicle must use a true 12V ignition source (12V with key ON, 0V with key OFF)

- Key ON: Minimum of 6V and Maximum of 18V

  Above 18V the Fleet Power Units will shut off power to the cameras.

  Below 6V the Fleet Power Units see the ignition as OFF and will not charge (cameras will power down below 50% Fleet Power Unit charge).

- Key OFF: 0V to 2V

Constant Power: The system needs 6V to 18V power, preferably provided directly from battery with an in-line fuse.

- Below 6V the Fleet Power Units will see the ignition as OFF. The Status LED will blink rapidly.
- Above 18V, the Fleet Power Unit will not draw power from the car. The Status LED will blink rapidly.

Ignition Timer/Charge Guard Guidance:

If you are using an ignition timer or charge guard, Axon still recommends connecting the Fleet Power Units to a constant voltage source, such as the car battery.

If the constant voltage source is the ignition timer, when it times out the Fleet Power Units will stop communicating with cameras and cameras will shut down after 15 seconds.

The shutdown will also stop video offload unless ignition is turned back on. Recommended timeout time is 1-2 hours

Ground:

The Maximum acceptable impedance to Static Chassis Ground is less than 0.25 Ohms between pin 2 and chassis ground.

- Attempt to use dedicated ground buss bars or connect directly to the chassis.
- Do not use a floating ground. Ensure the ground path is not compromised by vehicle vibration. Such as a ground path that runs through a mechanical connection to the vehicle body/chassis that may not be firm/secured
- Avoid sharing ground connections with UHF/VHF Radios.
- Maintain at least 12 inches (30 cm) between system ground and any high current loads, such as radios or other equipment that consumes more than a couple of amps.
- If using a shared ground bus, please ensure that impedance to Static Chassis Ground does not exceed 0.05 Ohms.

  Warning: Failure to do so can result in compounded thermal response, and irreversible damage to equipment.

Pre-deployment Checks

Prior to installing the Axon Fleet system, review and confirm the following information:

- Mounting locations for Axon Fleet hardware, cameras, and cables for each type of vehicle.
- Antenna placement on each type of vehicle.
- Source of GPS for the Axon View XL. If the MDT modem is the preferred source, then the MDT must have the capability to forward GPS information to Axon View XL. Note that any software required to forward the MDT's GPS information is not provided by Axon.
- Agency preferred offload method, as agreed in the Statement of Work.
    - **LTE Only** - Where in-car MDT has access to Axon Evidence.com via a cellular data service either through the router or the MDT. The video transfer is direct to Axon Evidence.com.

      Axon recommends that the 2FF SIM card should be placed in the Router instead of the MDT.

      This is a good video offload method for agencies with a strong, speedy cellular connection and an unlimited cellular data plan without throttling terms/conditions.
    - **Wireless Offload Server** - The in-car router is configured similarly to the LTE + WiFi method, but all Wireless Access Points reside on the same network as a server running Axon software.

      Videos are only transferred from the vehicle to the server when a proper connection is made, such as when the vehicles pull into the station or other designed offload site where a server is present.

      The server is then responsible for completing the upload to Axon Evidence.com.

      This is a good offload method for agencies who want to offload video as quickly as possible in range of an access point, have a limited cellular data plan or prefer not to offload non-prioritized video via cellular data.
- SSID naming convention. Axon recommends using *VehicleNumber*_5G (for example: 535_5G)

Installing the SIM Card in the Cradlepoint Router

SIM Card Location

Note: Work with your agency's IT department to ensure LTE connectivity.

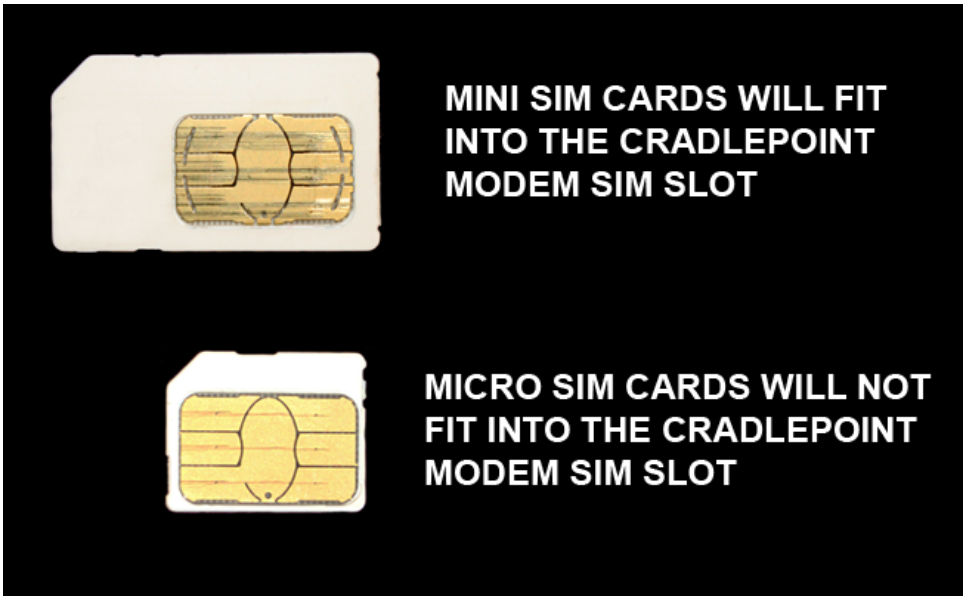
Important: An active, 2FF size SIM should be installed in the router's internal modem. **Use SIM slot 1**. For the IBR900, slot 1 is closest to the bottom of the router. A SIM is required for router GPS functions.

Agencies can configure specific networks to allow or disallow uploads. For example, an agency can choose to allow uploads over Wi-Fi, but not over LTE unless LTE is managed by an APN.

Axon does not currently provision, activate, or manage carrier SIMs. Some carriers may require the SIM card for every router to be associated with an IMEI. You may also need to re-provision the sim card through your carrier.

The Axon Router requires a 2FF "Mini-SIM" to operate properly and agencies must have the 2FF Mini-SIM cards available prior to confirming Axon onsite installation.

Axon installers will be unable to complete Fleet setup and testing without the SIM card.



Inserting the SIM Card into the Integrated Modem (IBR900)

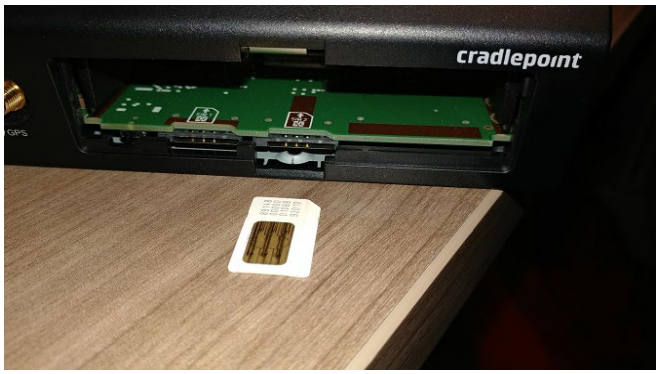
1. Remove the SIM cover (this requires a small Phillips screwdriver).

2. Insert the SIM card into sim card slot 1 with the metal contacts down and as shown below.

3. Push sim until you feel a click and the sim stays in place.

Inserting the SIM Card into the Integrated Modem: (IBR1700)

1. Remove the SIM cover (this requires a Phillips screwdriver).
2. Insert the SIM card into sim card slot 1 with the metal contacts up as shown below.
3. Push sim until you feel a click and the sim stays in place.



Note: Ensure the placement of the notch is on the right making sure the gold side of the sim is facing up, for the IBR1700 model router. The sim card will go under the green board (PCB) as shown in the picture above.

Inserting the SIM Card into the Add-on Modem

1. To properly insert your SIM card into a Cradlepoint modem, slide it into the modem's SIM slot while its gold contacts are facing down, with the notched corner going in first.

2. Make sure that the modem is also facing correctly, with its label appearing on the bottom.
3. For additional Cradlepoint instructions, see the Cradlepoint instructions at: https://customer.cradlepoint.com/s/article/How-To-Install-a-SIM-Card

Axon Fleet Router Configuration

- Carrier activated 2FF SIM card is placed in Slot 1
- Routers are assigned to NetCloud Manager
- Routers are managed through NetCloud Manager
- Manage routers using Group Configurations
- Configurations are pushed from NetCloud Manager to the router(s)
- See the *Cradlepoint Netcloud Configuration Guide* for Axon Fleet for additional information

Tools

The following is a list of required and recommended tools to install the Axon Fleet 2 camera system.

Required Tools

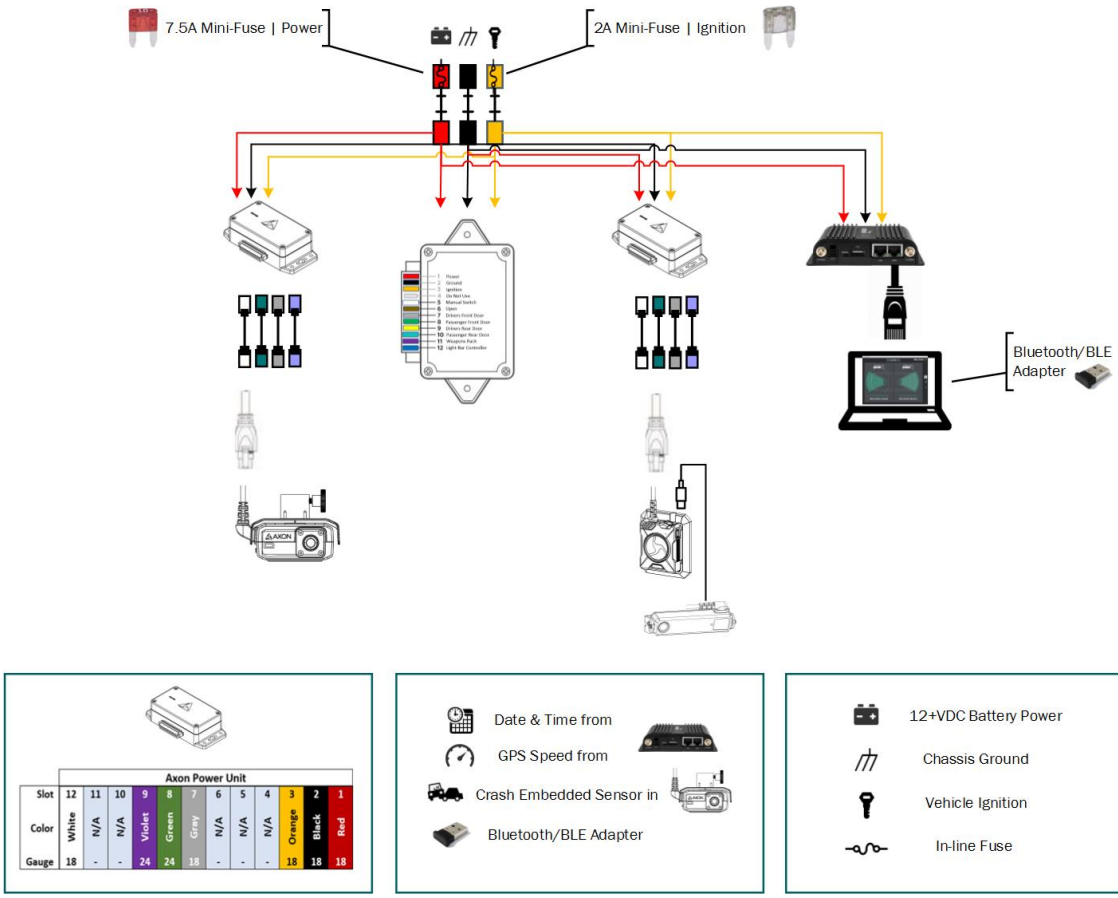
- Multi-meter to test for voltage
- #1 Phillips screwdriver
- Mini screwdriver set or multi-bit mini set with mini ratcheting screwdriver
- Power drill/ impact driver set
- Mini ratchet/ socket
- Wire cutters and crimper (Klein Tools products are recommended)
- Wire strippers
- Small right-angle bit driver set
- Allen wrench set (metric and standard)
- Paper Towels
- Cable ties
- 3M Electrical tape
- 3M Double-sided tape
- 3M Adhesive promoter wipes
- Metal or nylon fishing tape for running wires through channels
- Multi-end crimp set for various terminations of connections (if crimping is chosen method)
- Hole Saws and arbors - Ensure a 7/8″ hole saw (22 mm) for the antenna
- #31 or 3mm drill bit to pre-drill rear camera mount holes.

Highly Recommended Tools

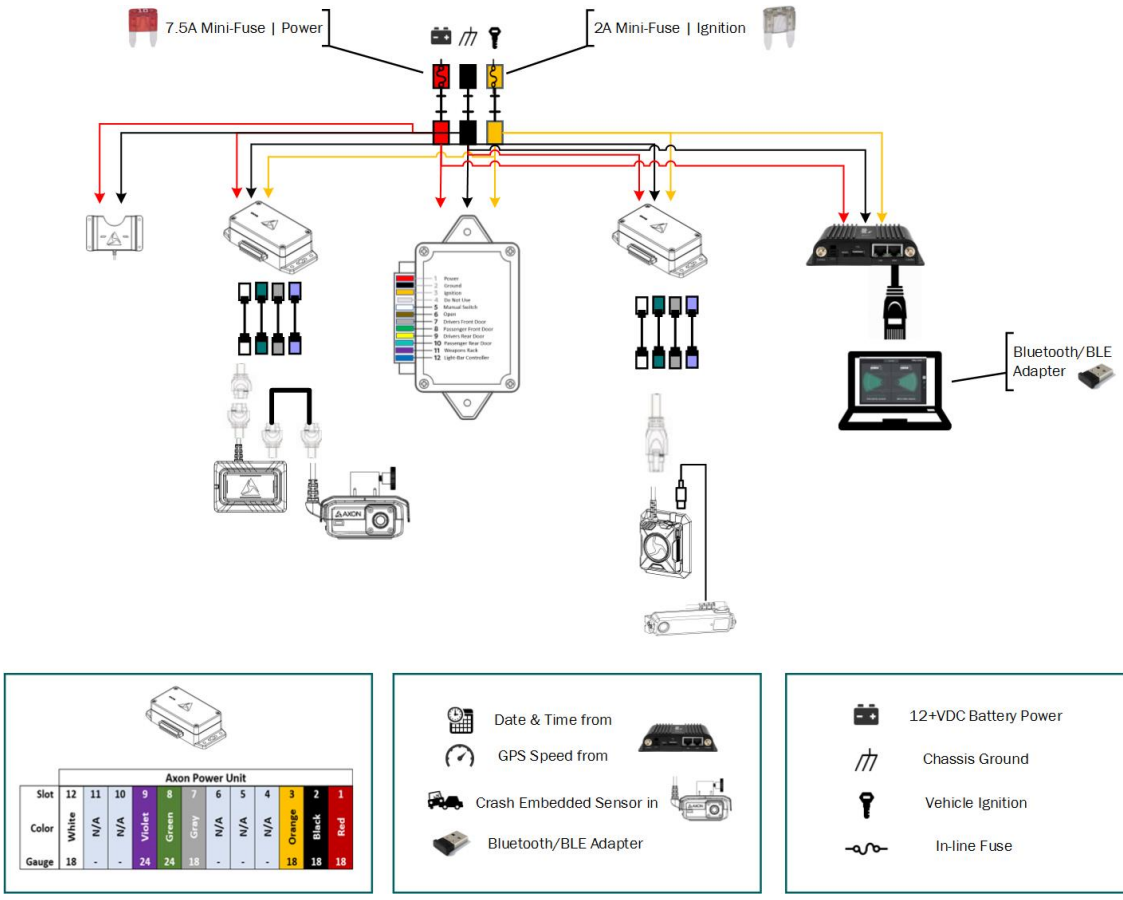
- Battery powered, handheld flashlight
- Nut driver set
- Small/short box wrench set
- Antenna bit
- Knee pads

Axon Fleet Hardware Installation Diagrams

Without Wireless Microphone



With Wireless Microphone



Determine the Mounting Locations

Axon Fleet Power Unit and Axon Signal Vehicle Unit

Axon Fleet 2 is installed in typically three different locations. It is important to note the location of the power units, for future reference, in the event the agency needs to locate equipment.

The preferred locations for component installation are:

- Securely mounted on the equipment tray or in the rear of the vehicle
- Behind the passenger seat, bolted on the partition

  Note: Axon does not recommend installing any fleet components in the center console.

Axon Fleet Power Unit

The choice of which location is based on the availability of wires. Installer should be able to access the car wires outlined below. It is the installers discretion as to location chosen.

1. Active Power
2. Ground
3. Ignition/accessory

The power unit should be located so that each 18-foot (5.5 m) wiring harness (SKU 71085) can reach their respective camera. The wiring harness should be trimmed as needed for installations that do not require the full length of the harness.

Important: While it is recommended to shorten the18-foot wiring harness **DO NOT** extend the harness or splice the cables in any manner. Service loops or “wadding” of this cable must also be avoided.

Axon Fleet Cameras and Mounts

The Axon Fleet 2 cameras draw power from their associated Axon Fleet power unit, and therefore the front camera and rear camera controller must be connected to a power unit using the 18-foot (5.5 m) wiring harness (SKU 71085). Do not mount any of the hardware on the exterior of the vehicle or inside the engine compartment.

The Axon Fleet 2 system front and rear cameras have Ingress Protection (IP) ratings of IP53 and IP54, respectively. However, the entire Axon Fleet 2 system does not have an IP rating and should not be considered waterproof.

Front Camera and Mount

With the Axon Fleet 2 front camera properly secured to the Axon Fleet 2 mount and without permanently affixing the mount, determine the appropriate location to affix the mount upon the interior of the windshield.

The swivel ball joint on the camera is inserted directly up into the mount. Tighten the thumbscrew to hold the camera in place.

Do not install the camera anywhere that will interfere with airbag deployment or adversely obstruct the driver’s view.

It is recommended that the front camera be mounted on the center part of the windshield, approximately 1-1/2″ (3.8 cm) from the headliner.

Notes:

- For the straightest picture, the mount needs to be as close to the center of the window as possible, without interfering with the rearview mirror, or equipment attached to the windshield.
- The installer can wait to affix the mount to the window until the system is installed, then use the live view feature to help align the camera and mount
- Fit the camera and mount prior to installation. Incorrect installation can interfere with visibility, the ability to move the rearview mirror, or sun visors.
- If possible do not install on tinted windows or on window frit.

Rear Camera and Controller

For the rear camera, the installer should find a proper location, based on the installation of agency specific components.

- The rear camera controller should be installed so that users can easily access the power switch and Event button.
- The rear camera controller and rear camera should be located so that the USB–C cable can connect the controller and camera.
- For the rear camera, the installer can use Axon View XL to find the location that best views the cage area.

Locate the Vehicle's Electronics

The next step to installing the Axon Fleet 2 system is locating the wiring for the vehicle. The vehicle make and model will dictate where wiring is found. The installer needs to locate the following wires:

- Active Power
- Ground
- Ignition/accessory

To easily access wiring, it may be helpful to remove the weather-stripping and door seals near the wiring harness. It may also be helpful to remove any plastic interior that easily snaps on and off below the A-pillar.

Running the Wiring Harness

Run the wiring harness to the Axon Fleet power unit the safest, most direct way.

Do not interfere with any lifesaving equipment.

Generally, radio or any high-current load cables should never run parallel to Axon Fleet power unit cables. Parallel cables may be allowed if the cables are at least 18 inches (46 cm) apart. Cables can run orthogonally.

The Axon Fleet power unit to camera cables should be trimmed to the required length for installation. Each cable is the data communication path between the camera and the power unit and should be as short as possible and practical for each installation. The 18ft (5.5m) length of the stock cable is the maximum allowable length for that cable. Installers should not add length to any cable, or splice in any other wiring in any manner.

Radio Frequency Interference Mitigation

This section has information and instructions for mitigating Radio Frequency Interference (RFI) with Axon Fleet.

Maximize separation from VHF antenna and cabling. Avoid routing the Fleet 2 cables next to in-car radio/antenna cables.

- Route the Axon Fleet Power Unit-to-camera cables (SKU 71085) down the A-pillar through the kick panels rather than through the headliner.
- If placement near radio cables are unavoidable, maintain as much distance as possible between the Fleet 2 cables and the radio cables. If it is necessary to cross the two, do so at right angles and avoid running parallel lengths of Fleet 2 and radio cables.

Use a shielded Fleet Power Unit to Camera cable (SKU 71085) with two ferrite clamps (RF filters) between the Fleet Power Unit and camera or junction box.

- Place one clamp near the connector where the Fleet Power Unit to Camera cable (SKU 71085) connects to the Front Camera or Junction Box and the other near the connector where the cable connects to the Fleet Power Unit.

For unshielded Fleet Power Unit to Camera cables (SKU 71085) on vehicles that are already installed, place ferrite clamps (RF filters) on the existing cables leading to the Front Camera or Junction Box.

- Place two ferrite clamps on the installed Fleet Power Unit to Camera cable (SKU 71085), one near where the cable connects to the Front Camera or Junction Box and one near where the cable connects to the Fleet Power Unit.

  If a Junction Box is not installed, place the ferrite clamp on the end of the cable near where it plugs into the Front Camera and one near where the cable connects to the Fleet Power Unit.

  DO NOT place the clamps on the camera's cable. The clamps must only be placed the Fleet Power Unit to Camera cable (SKU 71085).

- If your radios operate in the 150 – 160 MHz bands, axon recommends running the Fleet Power Unit to Camera cable (SKU 71085) through the ferrite clamp 2 times.

  - Note that running the Fleet Power Unit to Camera cable (SKU 71085) 2 times can be very tight and puts a strain on the clamp clasp. Axon recommend adding tape around the clamp to hold it closed.

  - **DO NOT run a shielded Fleet Power Unit to Camera cable (SKU 71085) through the clamp 2 times.**

Wiring the Axon Fleet Power Unit

Be sure to observe appropriate safety protocols while working with vehicle electronics.

Axon Fleet Power Unit to Car

1. Confirm the mounting location.
2. Locate the power unit to vehicle cable (SKU 71100) and appropriately route the wires from the vehicle to the location of the power unit.

   Notes:

   - It is not necessary to affix the power unit at this point. Depending on mounting location, affixing the unit prematurely may make it difficult to attach wires.
   - Vehicle power sources should be accessed as determined by the vehicle manufacturer.

   After the wiring harness is tied into the vehicles electrical system, proceed to step 3, using the opposite end of the harness.

3. Once the appropriate power wires have been run to the power unit mounting location strip no more than 0.25″ (6.35 mm) of insulation from each of the wires.

4. On the Axon Fleet power unit end, remove the male end of the connector.
5. Unscrew the small set screws.
6. Strip no more than 0.25" (6.35 mm) of insulation from each of the wires.
7. Insert the stripped wires into the appropriate slot on the power unit.

	Axon Fleet Power Unit											
Slot	12	11	10	9	8	7	6	5	4	3	2	1
Color	White	N/A	N/A	Violet	Green	Gray	N/A	N/A	(OPT)	Orange	Black	Red
Gauge	18	-	-	24	24	18	-	-	-	18	18	18

- Orange – 3 (Ignition – Motor On)
- Black – 2 (Ground)
- Red – 1 (12 VDC Power)
- OPT – 4 (optional Ignition – Accessory connection)

8. Tighten down the set screws.

Axon Fleet Power Unit to Camera/Controller Mount

Note: If the installation does not require the full length of the power unit to camera/controller mount wiring harnesses, then cut the harnesses as needed to fit the installation.

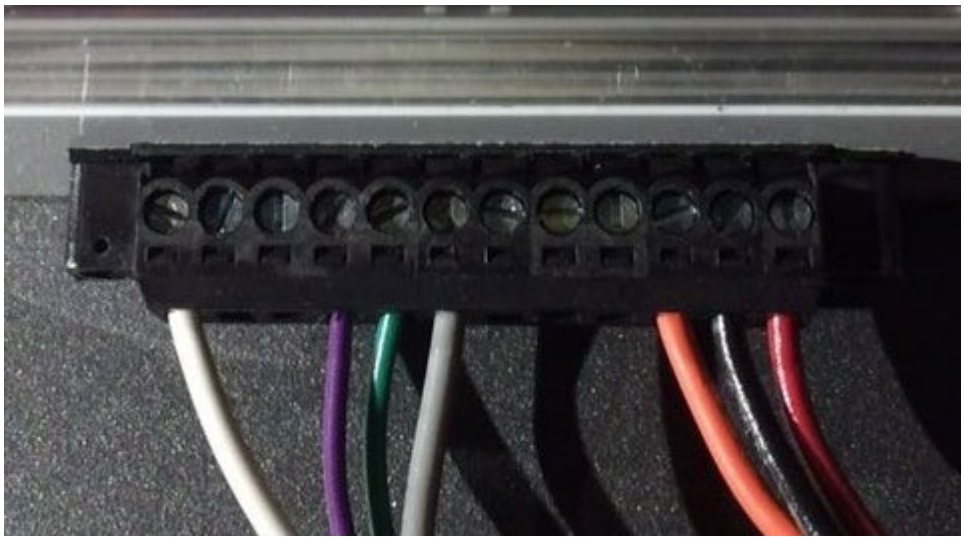
1. Once the Wiring harness has been run to the desired location of the power unit, strip no more than 0.25" (6.35 mm) of insulation from each of the wires.
2. Unscrew the small set screws.
3. Insert the stripped wires into the appropriate slot on the power unit.

	Axon Fleet Power Unit											
Slot	12	11	10	9	8	7	6	5	4	3	2	1
Color	White	N/A	N/A	Violet	Green	Gray	N/A	N/A	(OPT)	Orange	Black	Red
Gauge	18	-	-	24	24	18	-	-	-	18	18	18

- White – 12
- Violet – 9
- Green – 8
- Gray – 7

4. Tighten down the set screws.
5. Reconnect the male connector to the power unit.
6. Secure the male connector using the small set screws on either end of the connector.

   Note: When all 7 wires are installed, the power unit should look like this:



Affix the Front Camera Mount

Choose the appropriate mount location. The mount should be placed approximately 1-1/2" – 2" (3.8–5 cm) from the head liner.

The front camera can be in the mount while initially positioning the mount, but it is recommended that it be removed when affixing the mount.

1. Ensure the camera is looking straight ahead and that the mount is level.

   Notes:

   - Consider the curvature of the windshield when positioning the mount.

2. Prepare the windshield by cleaning the area for the mount.

- Use 3M Silane Glass Treatment AP 115 for maximum adhesion.
- Wipe off excess Silane glass treatment with a paper towel before it is allowed to dry.

3. Peel the top protective layer from the adhesive strip and affix the mount to the windshield.
4. Hold the mount in place for 30 seconds to ensure adhesion.

   The front camera mount must have at least 50% adhesion. This can be approximated by a visual check of the adhesive strip through the windshield.
5. Insert the camera swivel ball joint directly up into the mount. Tighten the thumbscrew to hold the camera in place.
6. Connect the power unit to camera cable to the front camera.

Affix the Rear Camera Controller and Camera

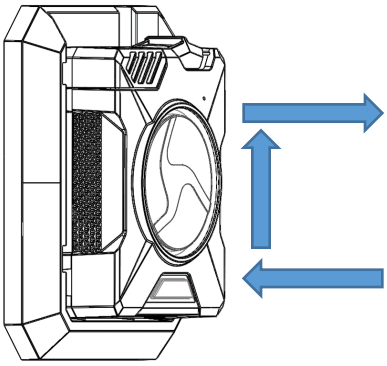
Choose the appropriate rear camera and rear camera controller mount locations.

The rear camera controller and rear camera should be located so that the USB–C cable can connect the controller and camera. The cable is approximately 4 feet long.

For the rear camera, the installer can use Axon View XL to find the location that best views the cage area. After the camera is mounted, the installer can use the angle adjustment screws to adjust the vertical view of the camera.

For proper adhesion ensure the rear camera controller is mounted on a flat surface.

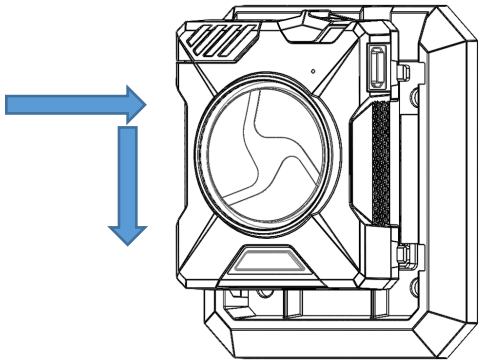
1. Remove the rear camera controller from the mount by pushing in on the controller, sliding it upward to align the tabs, and then pulling out.



2. Prepare the area for the rear camera controller mount by cleaning the area.

3. Peel the top protective layer from the adhesive strip and affix the mount to the area.
4. Hold the mount in place for 10 seconds to ensure adhesion.
5. Connect the power unit to controller mount cable to the mount.
6. Use a cable tie through the slotted opening to hold the cable to the mount. Cut off excess cable tie material.
7. Attach the rear camera facing into the prisoner compartment using the rear camera mount with the provided ½-inch #6-32 screws. This requires pre-drilling holes using a #31 or 3mm drill bit.

   Use the provided 4-40 screws to secure the rear camera to the mount and tighten the screws to hold the camera at the preferred angle.
8. Connect the USB-C cable from the rear camera to the rear camera controller.
9. Insert the rear camera controller in the mount. Align the tabs on the controller with the mount, push the controller into the mount, and then slide downward.



Affixing the Power Unit

1. Tuck all wires and the power unit safely away.

   Note: Do not crimp or pinch any wiring.
2. After ensuring all wires are securely attached, affix the power unit to the predetermined mounting location.
3. Secure the power unit in its location by using robust adhesive (such as 3M VHB tape), 3M Dual Lock re-closeable fasteners, double-sided Velcro straps, or bolts.
4. Repeat steps 1–3 for a second power unit as necessary.

Axon Signal Vehicle Unit

Axon Signal Vehicle is part of a communications platform that transmits an alert when hardware is activated. When that hardware is used, Axon Signal Vehicle transmits a message recognizable by Axon Signal compatible equipment. For example, Axon Signal Vehicle can be set up to work with an emergency vehicle's light bar. When the vehicle light bar is activated, all properly equipped Axon systems within range begin recording.

Axon Signal Vehicle Electrical Specifications

Operation Input Voltage: 5.0 VDC – 14.4 VDC

Ignition Enable Voltage: 3.6 VDC – 14.4 VDC

Trigger Input Voltage: 3.6 VDC – 14.4 VDC

Stand-by Current

Ignition On: 25 mA (typ)

Ignition Off: 25 µA (typ)

Trigger Input Timing (positions J2-5 thru J2-10)

Low to High Transition: 200 ms

High to Low Transition: 200 ms

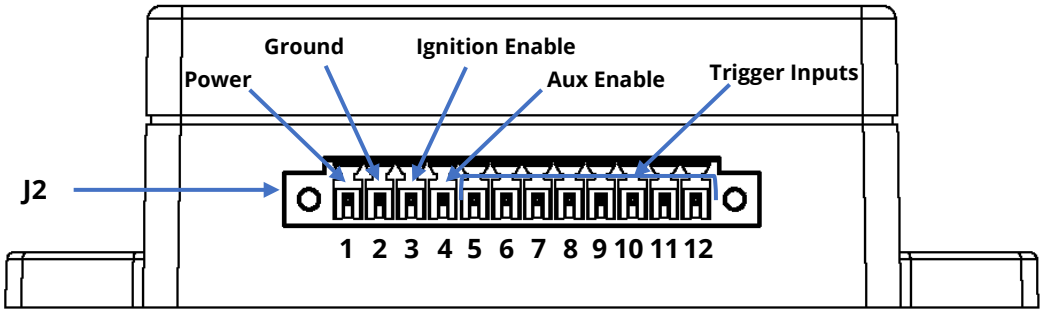
Trigger Input Timing (positions J2-11 and J2-12)

Low to High Transition:200 ms

High to Low Transition: 2.5 s*

*This feature is intended to reduce the likelihood of nuisance videos from extraneous triggers caused by some progressive slide switch control modules. These controllers can cause the input voltage of Axon Signal Vehicle to drop below 3.6 VDC when transitioning between switch positions.

Axon Signal Vehicle Wiring Instructions



Position	Description
J2-1	+12VDC (Fuse @ 1A)
J2-2	Ground
J2-3	Ignition Enable
J2-4	Auxiliary Enable
J2-5 thru J2-10	Trigger Input
J2-11 and J2-12	Trigger Input – Delayed Turn Off

System Power (positions 1 and 2)

Note: Power ground and Ignition are found from the power unit to vehicle cable (SKU 71100**)**

Optional Auxiliary Enable (position 4)

The J2-4 input is used to provide an alternate signal to Axon Signal Vehicle for enabling the system.

Note: Either the Ignition Enable or Auxiliary Enable input on Axon Signal Vehicle must be used for the device to turn on. Both inputs may be used simultaneously to allow for greater flexibility in enabling options, but at least one must be utilized. Axon Signal Vehicle must be wired in a manner such that voltage for Ignition and Auxiliary Enable is removed prior to removal of system power (system power and enable nodes must not be wired from the same source).

Trigger Input (positions 5 through 12)

1. Turn on the trigger source (e.g. light bar control signal).

2. Using a voltmeter, verify the wire that is connected to the trigger source has 3.6–14.4 VDC present while the trigger is enabled.
3. Turn the trigger off and verify that the voltage drops to zero. For Axon Signal Vehicle to work optimally, the trigger should provide a constant voltage to the device when it is activated.
4. Connect the trigger source to one of the input terminals on the Axon Signal Vehicle J2 connector.
5. Up to eight independent trigger sources can be wired directly to Axon Signal Vehicle. It is recommended that inputs that originate from progressive slide switches are wired to J2-11 or J2-12.

Optional Door Trigger Installation

Required equipment per door:

- ABS Trigger with wiring
- Very small screw
- Magnet

The door trigger circuit is not grounded, so either wire performs the same function. The trigger is not designed to interface with any digital circuitry.

1. Drill a hole in the door and install the magnet in the door.
2. Place marking material (such as blue ink) on the magnet so that it will leave a mark on the inner door pinch weld to show the area to drill for the door trigger.
3. Drill a hole in the inner door pinch weld and install the door trigger.
4. Connect one of the trigger wires to the 12v constant power feed.
5. Connect the other wire the Axon Signal Vehicle Unit.

   This allows the trigger to be energized/charged when the circuit/door is open. The change in voltage triggers the Axon Signal Vehicle Unit.

Wireless Microphone Installation (If Applicable)

This section provides information on the optional Axon Fleet 2 wireless microphone system contents, the tools needed for installation, and procedure for installing Axon Fleet 2 wireless

microphone hardware. If your agency is not installing wireless microphones with your Axon Fleet 2 system, skip this section.

Axon Fleet 2 Wireless Microphone Contents

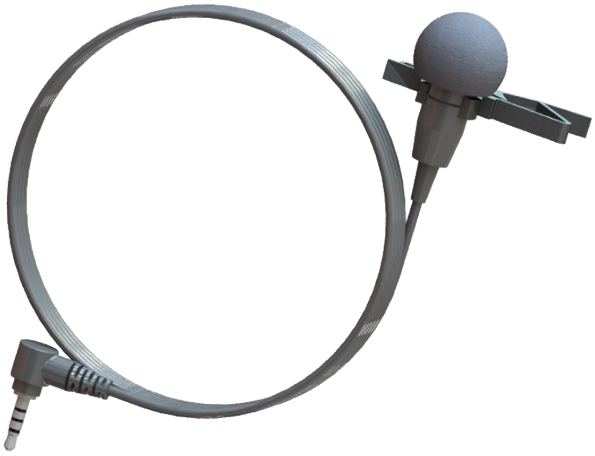
Every Axon Fleet 2 Wireless Microphone system comes with the following parts required for installation.

One Axon Fleet 2 wireless microphone – SKU 71086

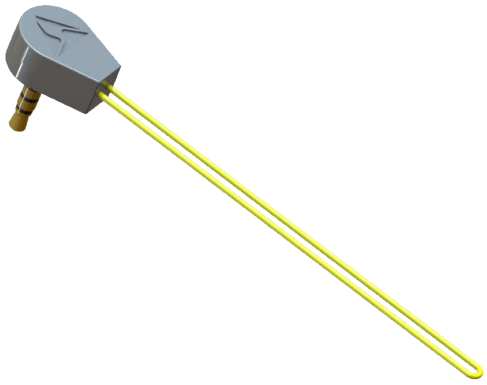
One junction box – SKU 71084

One in-car charging dock and one charging dock to vehicle cable **– SKU 71087**

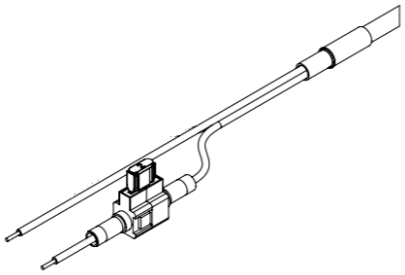
One lapel microphone accessory – SKU 71102



One socket plug – SKU 71103



The cable exiting the charging dock has two wires: Red for 12VDC power and Black for GND. The wires come with factory-installed butt-splice terminals.



This cable is 18 feet (6 m) in length and contains the following wires:

18 AWG – Black

18 AWG – Red – 12V power, 2 amp fuse

Two Axon RapidLock mounts

Optionally, your agency can also purchase:

- Additional Axon Fleet 2 wireless microphones
- AB2 Sync cables (for charging from USB)
- Axon Dock with bays for Axon Body 2 cameras, for in station charging of the wireless microphones

Additional Tools

The following is a list of required and recommended tools to install the Axon Fleet 2 wireless microphone junction box and in-car charging dock.

- Alcohol wipes and paper towels
- 3M Silane Glass Treatment AP 115
- Wire cutters and crimper (Klein Tools products are recommended)
- Cable ties for holding cables in place
- Metal or nylon fishing tape for running wires through channels
- #2 Phillips screwdriver – if installing the in-car charging dock to the vehicle partition or on a carpeted area.

- Drill with a No. 16 (.1770") drill bit – if installing the in-car charging dock to the vehicle partition.
- 5/16" wrench – if installing the in-car charging dock to the vehicle partition.

Affix the Junction Box

Choose the appropriate location on the vehicle's front windshield to mount the junction box. The junction box contains the antenna and receiving circuitry for the wireless microphone RF link. Junction box placement and orientation are important for ensuring best performance. The junction box should be mounted as close to the top and center of the front windshield as possible. The wire connections should face upward.

When positioning the junction box, take into account:

- The position of wiring to and from the junction box
- The curvature of the windshield

1. Prepare the windshield by cleaning the area for the junction box.
   - Use 3M Silane Glass Treatment AP 115 for maximum adhesion.
   - Wipe off excess Silane glass treatment with a paper towel before it is allowed to dry.
2. Peel the top protective layer from the adhesive strip and affix the junction box to the windshield.
3. Hold the junction box in place for 10 seconds to ensure adhesion.
4. Connect the junction box to the Axon Fleet power unit and to the front camera.

Connecting the Junction Box

The junction box connects in series between the Axon Fleet Power Unit and the Axon Fleet 2 front camera. The power unit to camera cable is connected to the junction box, instead of the front camera, and then the junction box cable is connected to the front camera.

1. Connect the power unit to camera cable to the junction box.
2. Connect the junction box cable to the front camera.

Installing the In-Car Charging Dock

There are three options for installing the in-car charging dock: on a flat surface using VHB tape, on the partition between the front and rear seats, or on a carpeted area with sheet metal backing.

Attaching with VHB Tape

VHB tape is attached to the back of the in-car charging dock mounting flange and can be used to mount the dock to a flat, rigid surface such as metal or plastic.

1. Prepare the mounting location by cleaning the surface with an alcohol wipe and allow the surface to dry.
2. Peel the protective layer from the VHB tape and place the dock on the prepared location.
3. Push and hold the dock against the surface for 10 to 20 seconds to ensure adhesion.
4. Connect power to the in-car charging dock.

Attaching to the Partition

To mount the in-car charging dock on a partition, you drill holes into the partition and use the four round-head screws and nuts, included in the installation kit.

Tools required for this installation:

- Drill with a No. 16 (.1770") drill bit
- No. 2 Phillips driver
- 5/16" wrench.

1. Mark the location of the in-car charging dock mounting holes on the partition.
2. Drill the mounting holes using a #16 (.1770") drill.
3. Use the four round-head screws and 5/16" nuts, provided in the installation kit, to attach the dock to the partition.

   If the dock is mounted to the partition between the front and rear seats, insert the round-head screws from the rear seat side of the partition and place the nuts on the front seat side of the partition.
4. Connect power to the in-car charging dock.

Attaching to a Carpeted Area

The in-car charging dock can be mounted to a carpeted area with sheet metal backing, such as the transmission tunnel.

Tools required for this installation:

- No. 2 Phillips driver

1. Test fit the in-car charging dock to ensure there is no interference with
2. Use the four self-tapping screws, provided in the installation kit, with the No. 2 Phillips driver to mount the dock.
3. Connect power to the in-car charging dock.

Connecting Power to the In-Car Charging Dock

After the in-car charging dock is mounted, it must be connected to the vehicle power.

1. Connect the supplied 18’ power cable to the vehicle battery (constant 12V power supply) and route the cable to the butt-splice terminals exiting the dock.
2. Route the wires from the vehicle battery to the in-car charging dock location.
3. Cut the 18’ power cable to the appropriate length at the butt-splice connectors
4. Strip no more than 0.25" (6.35 mm) of insulation from each of the wires.
5. Insert into the stripped end of the wire into the appropriate butt-splice, connecting the red wire to red and the black wire to black, and crimp.

Completion

1. Ensure all wiring is appropriately dressed and tucked away.

   Use extreme caution to not to expose wiring to any place where it would likely be damaged. Keep in mind, if vehicle trim was removed, special care will be necessary to replace trim without damaging the Axon Fleet 2 system.