



LYTX HUB® ADAPTER INSTALLATION GUIDE

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The optional Lytx Hub Adapter allows you to connect up to 4 auxiliary cameras to your Lytx device for increased visibility around the vehicle.

This is not a standalone document. It is a supplement, intended to be used in conjunction with the Lytx SF-Series Installation Instructions for your region ("SF-Series Guide"). If you do not have the SF-Series Guide, do NOT proceed with installation until you also obtain and read the SF-Series Guide from the Lytx Technical Support Center at 925.732.4246 or support@lytx.com. Always check to make sure you have the most current guides available.

Safety Warnings

THE DEVICE SHOULD BE INSTALLED AND MAINTAINED BY QUALIFIED TECHNICIANS. Only a properly qualified technician should install and maintain the Lytx device(s). Any electrical work should be performed only by an MECP-certified or equivalent technician with an expertise in installing and troubleshooting advanced vehicle onboard components including multiplexed circuits. Lytx, Inc. disclaims all responsibility for any damages arising from improper installation and maintenance of the Lytx device(s).

Read and follow the instructions and precautions in this guide and all documents referenced in this guide when installing this device. Always refer to the vehicle manufacturer's service manual for proper installation and wiring of any aftermarket devices, including the SF-Series device. Failure to do so may result in property damage and/or personal injury.

THIS GUIDE IS NOT A SUBSTITUTE FOR A QUALIFIED TECHNICIAN.

This guide is protected as confidential and proprietary information of Lytx, Inc. Copying and use of this guide for any purpose other than installing SF-Series devices in vehicles of Lytx, Inc.'s customers is expressly prohibited. Information contained in this guide was in effect as of the date set forth above and is subject to change without notice or liability. Lytx, Inc. reserves the right to revise the information presented or to discontinue the production of parts described at any time.

WARNING: Park the vehicle on a level surface before beginning any maintenance or installation. Block the wheels to prevent the vehicle from moving. Never work under a vehicle supported only by jacks as jacks can slip and fall over.

WARNING: Wire Protection: Take all necessary measures to protect all wire runs through a metal surface with a grommet or other device and all wire runs outside the vehicle cab with a loom. Always protect against wire fatigue and harness abrasion by properly attaching wires at closely spaced intervals, while avoiding contact with sharp edges or **doing anything else that might result in exposed wires**. All wires should be secured with tie wraps at least every one foot (30 cm/300 mm) or less. Do not over-tighten any tie wraps.

EXPLOSION HAZARD: Do not disconnect equipment unless power has been removed and the area is known to be non-hazardous.



WARNING: Substituting or supplementing components may impair suitability and performance. If you are missing any components contact Lytx Technical Support Center at 925.732.4246 or email support@lytx.com.

WARNING: Wear safe eye protection to prevent serious eye injury when you perform vehicle maintenance or service.

WARNING: Some countries/regions/jurisdictions have adopted, or may in the future adopt, laws that prohibit objects from being mounted on a vehicle's windshield or other locations in a vehicle. Always refer to any applicable laws that concern mounting devices on vehicle windshields before choosing a mounting location. You are responsible for complying with such laws, as Lytx, Inc. does not accept responsibility for your failure to do so.

THE DEVICE SHOULD NOT INTERFERE WITH THE VEHICLE'S COMPUTER SYSTEMS. The SF-Series device interfaces with the vehicle's computer systems to capture data for safety analysis. However, it should not interfere with any of the vehicle's computer systems. If there is a malfunction of the vehicle's computer systems after installation, contact Lytx Technical Support Center at 925.732.4246 or email support@lytx.com immediately. Lytx recommends that you do not drive the vehicle until the malfunction is resolved. Lytx, Inc. disclaims all responsibility for any damages arising from improper installation and maintenance of the Lytx device(s).

WARNING: Make certain that neither the cable nor your installation activities interferes with any airbag-related mechanisms or otherwise risks affecting airbag deployment. Consult the vehicle manufacturer for the location of any airbag sensors and systems and restrictions that may apply.

CAUTION: Before proceeding, you may need to remove the window and door trim to route the cable underneath. These typically snap on and off using special clips. In vehicles with side and curtain airbags, the clips are often one-time use and may need to be replaced after removal. Please refer to the vehicle service manual for information.

WARNING: Only approved wire connection methods are recommended. Refer to the vehicle manufacturer's service manual to determine if soldering, sealing crimp connections, Add-A-Circuit, Posi-Tap, sealing butt connections, or OEM connections to open connection ports are approved. Never use plier tap products such as insulation displacement connectors (i.e. ScotchLoc connectors) when installing the SF-Series device.

WARNING: Never wire the SF-Series device in a manner that shares a connection with another aftermarket product in the vehicle. Independent connections should always be used.

WARNING: All wires that carry electrical current to the Lytx device(s) must be fused. Failure to fuse the power, ground, and ignition wires can lead to serious personal injury and/or property damage. If any wires or cables containing fuses/fuse boxes need to be cut or otherwise shortened, always be certain to replace such fuses/fuse boxes or install new ones.



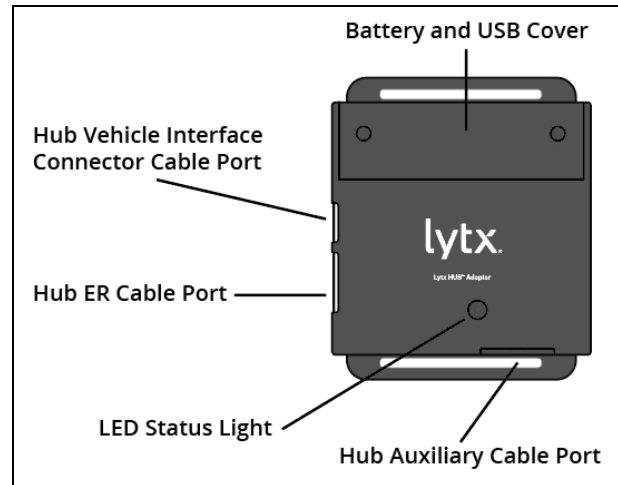
Device Connections Supported

Lytx devices: ER-SF64, ER-SF300, ER-SF400

Auxiliary camera brands*:

- TVG (Preferred)
- RVS
- AWTI
- Seon
- Convoy Technologies
- Zone Defense
- Buyers Products
- Visor View

*Not all models are supported for each brand. For the most updated compatibility list, consult with a Lytx account executive.



Materials

- Lytx Hub Adapter (Model: DC-6000-010)
- Hub ER Cable
- Hub Vehicle Interface Connector Cable
- Hub Auxiliary Cable
- Lytx Installation Tool
- (Optional) Coaxial cables with BNC connectors: Used to extend the reach of the Hub Auxiliary Cable, if needed

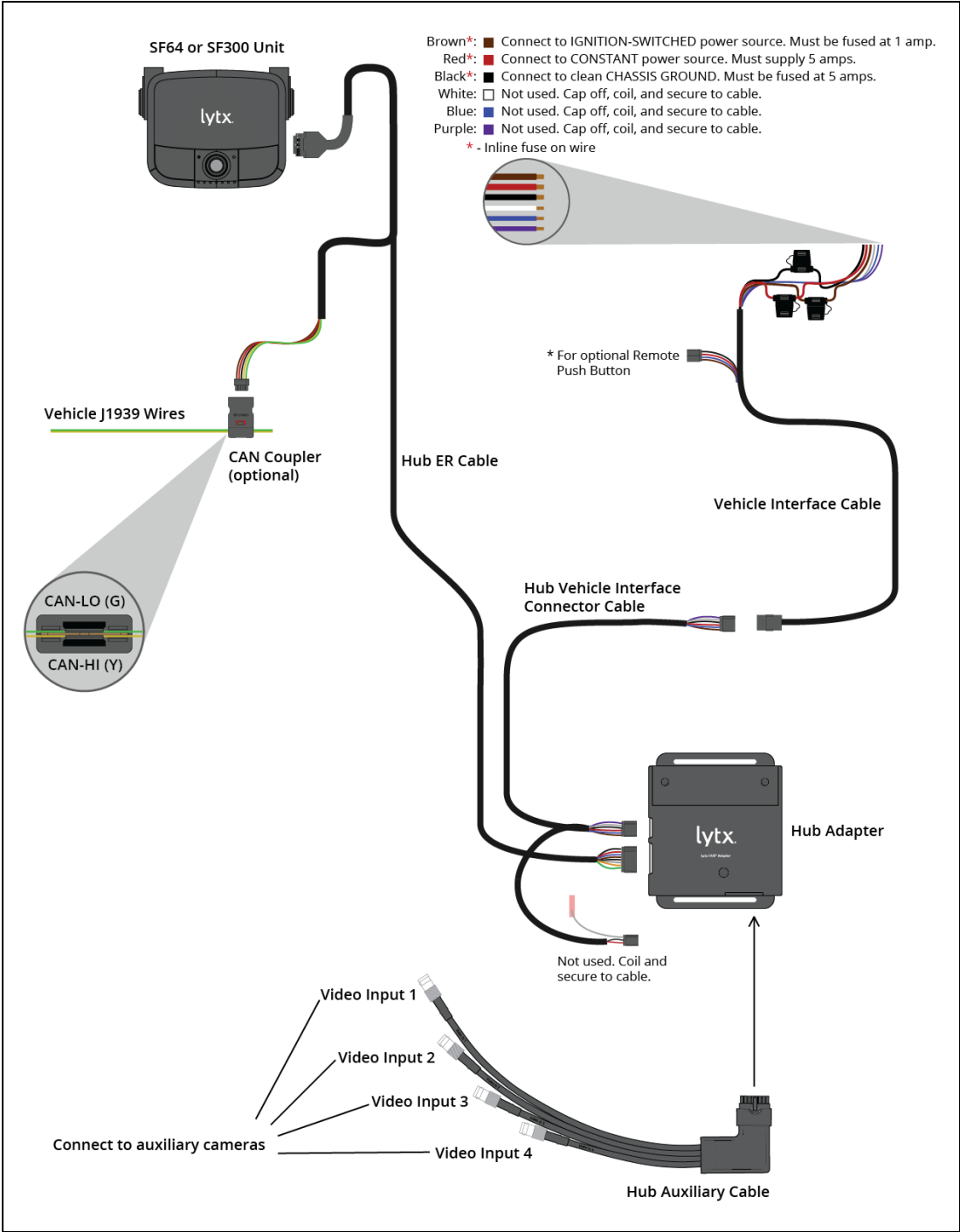
Depending on the type of auxiliary cameras being used, you may also need these:

- TVG Wiring Harness
- Dust Cap
- Lytx Connector Cable

NOTE: Ensure your vehicle is only using TVG **or** RVS. Lytx products **do not** support a combination of TVG and RVS.



Electrical Connection Overview Diagram





Connecting the Hub

WARNING: Do NOT mount the Hub in this section. Although you must find a suitable mounting location, the Hub shouldn't be mounted until after testing has been completed. During testing, keep the Hub accessible for convenience.

1. Find a suitable mounting location for the Hub.
 - a. The location should be within a few feet of the auxiliary camera video feed.
 - b. It shouldn't interfere with any moving parts of the vehicle or of the driver.
 - c. It should be off the floor.
 - d. If screws are used to mount the Hub, the area behind the screws must be clear of any wires, sensors, or air lines.
2. Run the wiring harness to the mounting location to ensure you have sufficient length to reach the Hub.
3. Connect the Hub ER Cable, the Hub Vehicle Interface Connector Cable, and the Hub Auxiliary Cable into the Hub.

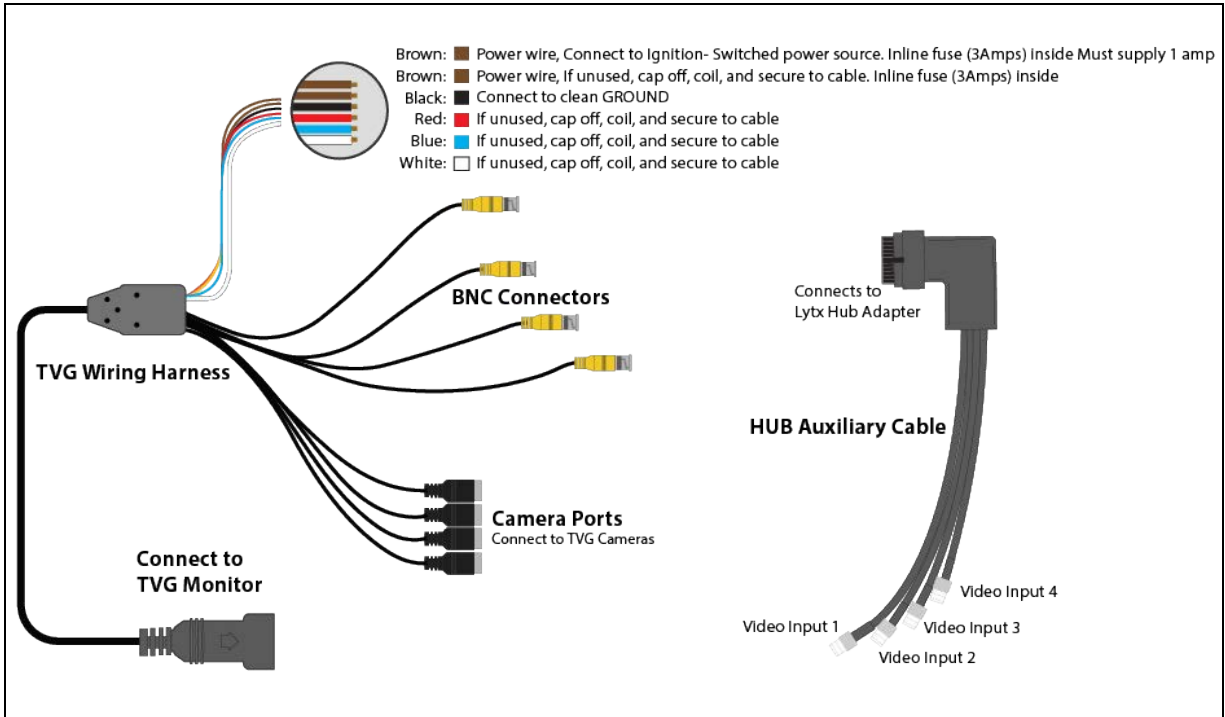
Proceed below to connect the Hub to auxiliary cameras.

Connecting to Auxiliary Cameras

TVG Cameras

TVG Camera Installations

For guidance on installing TVG cameras, email Support@Lytx.com.



1. As directed in the TVG camera installation guides, identify the 4 camera ports (in black, **labeled front, back, left, right**) on the TVG Wiring Harness. Connect the camera ports to the TVG cameras (or to extension cables leading to the cameras). Use as many ports as needed. Note the labels of the camera ports used (Front, Back, Left, and Right).
2. The 4 yellow BNC connectors have labels matching the camera ports. Plug the corresponding BNC connectors to the Video Inputs on the Hub Auxiliary Cable. For each camera, use the next Video Input on the Hub Auxiliary Cable. For example, if connecting 2 cameras total, use Video Inputs 1 and 2; if connecting 3 cameras total, use Video Inputs 1, 2, and 3.
3. Locate the ignition source (typically, this is in the vehicle fuse panel). Connect only one BROWN wire to IGNITION (both BROWN wires have an inline fuse). Connect the TVG Wiring Harness's BLACK wire to GROUND.

If unused, cap off, coil, and secure the remaining brown, red, white, and blue wires.

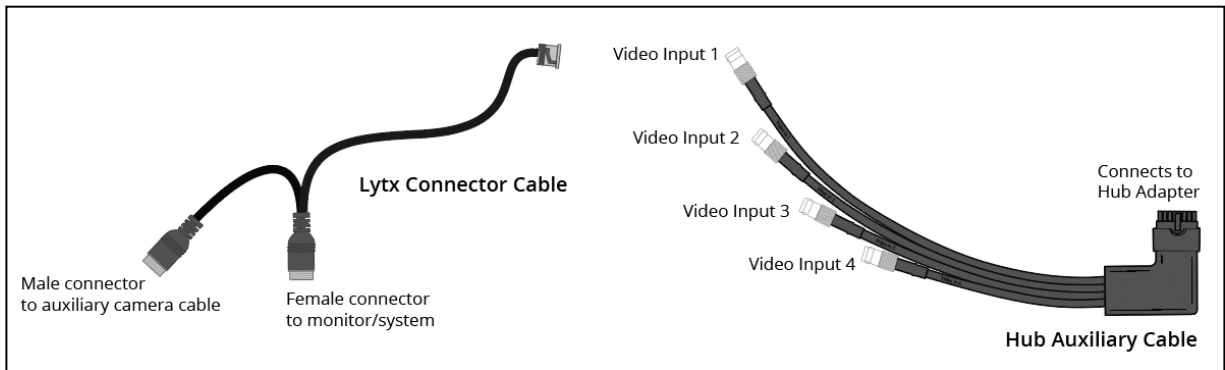
WARNING: All wires that carry electrical current to the Lytx device(s) must be fused. Failure to fuse the power, ground, and ignition wires can lead to serious personal injury and/or property damage. If any wires or cables containing fuses/fuse boxes need to be cut or otherwise shortened, always be certain to replace such fuses/fuse boxes or install new ones.

NOTE: Your TVG camera installation manual may direct you to connect these wires differently. However, to integrate the Lytx Hub with the TVG system, these wires must be connected as indicated above.

4. **If a TVG monitor is installed**, plug the 13-pin mini-DIN connector of the TVG 4-channel harness into the monitor. Verify the monitor turns on/off with ignition.
5. **If a TVG monitor is not installed**, cap and secure the 13-pin mini-DIN connector of the TVG 4-channel harness.

Other Cameras

Use the instructions below for cameras from: AWTI, Seon, Convoy Technologies, Zone Defense, Buyers Products, and Visor View.

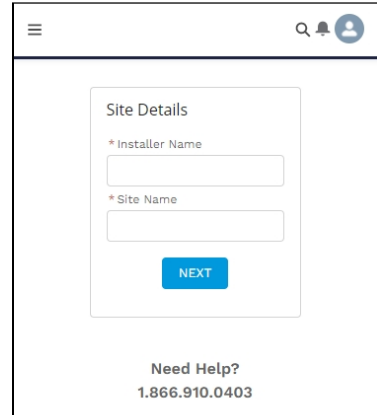


1. Disconnect the auxiliary camera cable at the camera, monitor, or system, as applicable. Connect that cable to the male connector on the Lytx Connector Cable.
If needed, use an optional coaxial cable to extend the cable (optional cables not offered by Lytx).
2. Connect the female connector to the auxiliary camera monitor/system. Connect the BNC connector to the Hub Auxiliary Cable.
3. Repeat these steps for each auxiliary camera. For each camera, use the next Video Input on the Hub Auxiliary Cable. For example, if connecting 2 cameras total, use Video Inputs 1 and 2; if connecting 3 cameras total, use Video Inputs 1, 2, and 3.

Running Testing and Mounting the Hub

Before testing and completing the Hub installation, you must install the compatible SF-Series device, the Hub, and all auxiliary cameras.

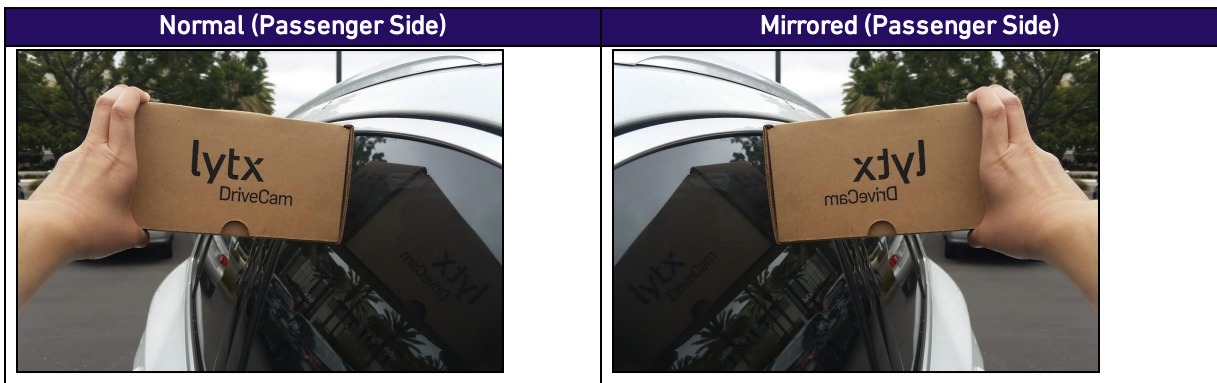
1. Turn on the vehicle ignition (engine on).
2. Using your phone or tablet, go to the Lytx Installation Center. Follow the instructions and prompts.
URL: <https://lytx.force.com/Installations/s/>
3. After completion, secure the Hub in the mounting location, using either zip-ties or screws.



Mirror Images on Auxiliary Cameras

While setting up auxiliary cameras in the Lytx Installation Center, check if the cameras are displaying mirror images.

1. Hold the Lytx box up to each camera with the words facing the camera.
2. If the sign is properly oriented (see below), select the Image Orientation of 'None'. Name the view and proceed to the next camera view.
3. If the sign is mirrored (see below):
 - a. Select the Image Orientation of 'Mirror'. Press Refresh View.
 - b. Verify the view updates to correctly read "Lytx".
 - c. Name the view and proceed to the next camera view.



Replacing the Hub

1. Locate the current Hub in the vehicle. Unmount it and detach all cables from it.
2. Plug all cables into the replacement Hub device.
3. From here, follow all instructions in ["Running Testing and Mounting the Hub" on the previous page.](#)

Note: In the Lytx Installation Tool program, you must also name all the auxiliary camera views.

For troubleshooting support, please contact the Lytx Technical Support Center at 925.732.4246 or email support@lytx.com.