Vision S+ Vehicle Observation System

MODEL (LIPPERT PN)

FOS7HTASM (2021132204)	FOS5HTASM (2021132203)
FOS7HTASF (2021124329)	FOS5HTASF (2021124370)
FOS7HTAEN (2021124369)	FOS5HTAEN (2021124375)
FOS7HTAEM (2021124330)	FOS5HTAEM (2021124377)
FOS7HTAPM (2021124366)	FCNFDTASF (2021124484)
FCEFDTASH (2021124443)	FCNFDTASD (N/A)

TROUBLESHOOTING AND SERVICE MANUAL



* Picture shown here is for reference only.

This manual contains the product's basic information, operation instructions, fault diagnosis and basic troubleshooting methods. In order to better understand and use this product, please take good care of this manual, and read it carefully.

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Introduction

This document provides an overview on replaceable parts for Furrion® Vision S+ Camera System, as well as basic troubleshooting and service information.

NOTE: Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ. For more detailed operation, including general safety instructions, warnings and cautions, see Instruction Manuals at: https://support.lci1.com/documents/ccd-0005512 or scan this QR code:

Safety

Read and understand all instructions before installing or operating this product. Adhere to all safety labels.

This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage, including voiding of the Lippert limited warranty.



The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.



Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

⚠ CAUTION

The "CAUTION" symbol above is a sign that a safety risk is involved and may cause personal injury and/or product or property damage if not safely adhered to and within the parameters set forth in this manual.

⚠ CAUTION

Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

Important Safety Instructions

When used as an observation system, this product is intended to assist in safe driving and to allow the driver to have a broader view.
Do not back up your vehicle while watching the monitor screen. Always look in the direction the vehicle is traveling.
Use the monitor as an aid to ensure there are no children or obstructions. The image on the monitor is not designed to show distance and may be misleading. The actual distance is less than what appears in the monitor. The range of the image is limited. Be aware of blind spots.
You, as the driver, are solely responsible for the safe operation of your vehicle and the safety of your passengers according to your local traffic regulations.
Do not use any features of this system to the extent it distracts you from safe driving.
Your first priority while driving should always be the safe operation of your vehicle. Furrion® cannot accept any responsibility for accidents resulting from failure to observe these precautions or safety instructions.

1. This product utilizes high voltage. Any unauthorized modifications or damage to the product may result in electrical shock. Handle all components with care. Inspect regularly for damage to components and cabling.
2. You are responsible for ensuring the installation of this product does not void or affect the vehicle manufacturer's warranty. Furrion® is not liable in full or in part for improper installation resulting in loss or damage to your property, or for voiding all or part of the vehicle manufacturer's warranty.
3. Do not apply excessive force to any of the components contained within this kit. Excessive force used before, during or after installation that results in a damaged or nonfunctional part will void all warranties.
4. Please follow the procedures in this instruction manual. Improper installation or modification of this product will void all warranties.

Many jurisdictions have laws and regulations relating to the use of cameras and some do not allow for the obstruction of information contained on a license plate. Before using this product, it is the buyer's responsibility to be aware of and comply with any applicable laws and regulations that apply to license plates or may prohibit or limit the use of cameras.

Electrical Safety

- Ensure all power sources are isolated before installation.
- Insulate unconnected wires with vinyl tape or similar.
- Use insulated tools when working with a power supply.

⚠ CAUTION

- There are no serviceable parts in the Furrion® Vision S+ Camera System. Do not disassemble or attempt any repairs.
- Install external fuses/breakers as required.

Use

- Electrical appliances and overhead power lines can affect the wireless signal.
- Do not place the monitor in a location where it might hinder field of vision while driving.
- Consideration should be given to any airbags when installing the monitor. Do not place the monitor where it might hinder the airbag or become hazardous if the airbag is deployed.

FCC Statement

The equipment complies with RF exposure limits. This module is limited to installation in mobile or fixed applications. The antenna used for this transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IC Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

RF Exposure

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with RSS-102 — Radio Frequency (RF) Exposure guidelines, this equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

Cleaning and Maintenance

Though your monitor requires little care, you will still need to maintain its condition and performance by following the guidelines below.

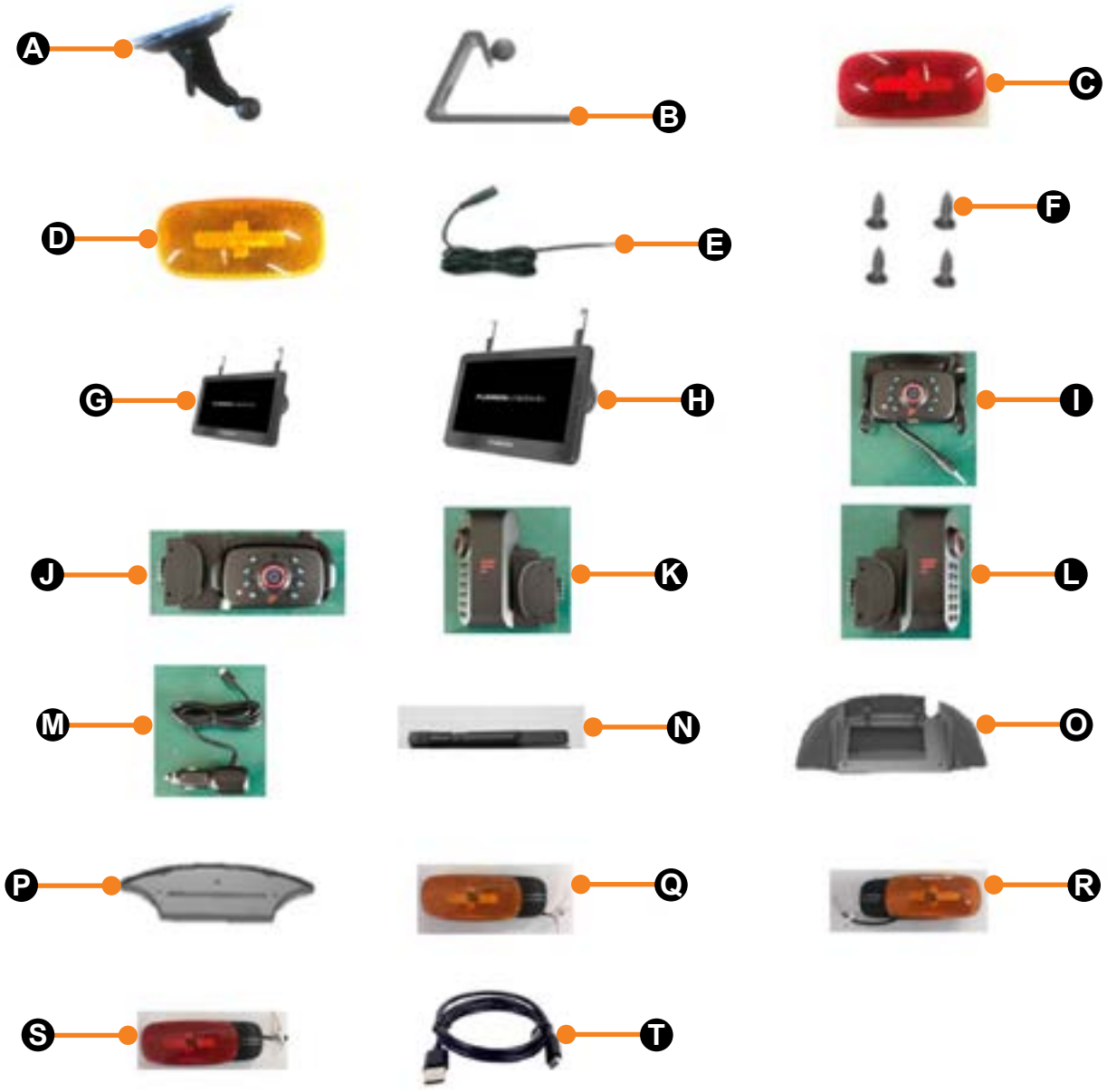
- Keep the unit away from excessive moisture, or extreme heat or cold.
- Keep liquids away from the monitor.
- Occasionally clean the surface of the monitor with a soft cloth moistened with water or glass cleaner.

Do not clean it with strong chemical agents, abrasive cleaners or high-pressure water. Never spill liquid of any kind on the product. Do not allow residue or liquids to enter any part of the monitor as this may cause risk of electrocution. Always disconnect power before cleaning.



Never use solvents such as benzene, thinner or cleaners available commercially to clean the monitor. Furrion® offers you abundant options to set up an observation/ security system for your vehicle. You can mount Furrion® Vision S+ products onto various types of RVs such as trailers and Class A/B/C motor homes.

Replaceable Parts List



Callout	Part #	Description	Model
A	2021123601	Big Suction Cup for 7" / 5" Monitor	FOS5HTASM, FOS5HTASF, FOS5HTAEN, FOS5HTAEM, FOS7HTASM, FOS7HTASF, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM
B	2021123552	Table Mount Bracket	FOS5HTASM, FOS5HTASF, FOS5HTAEN, FOS5HTAEM, FOS7HTASM, FOS7HTASF, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM
C	2021123551	Rear Marker Light Cover (red)	FOS5HTASM, FOS5HTAEM, FOS7HTASM, FOS7HTAEM, FOS7HTAPM, FCNFDTASD
D	2021123569	Side Running Light Cover (yellow)	FOS5HTAEN, FOS5HTAEM, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCEFDTASH
E	2021123608	Camera Power Cable (AWG#16)	FOS5HTASF, FOS5HTAEN, FOS7HTASF, FOS7HTAEN, FOS7HTAPM, FCNFDTASF

Callout	Part #	Description	Model
F	2022014554	Hardware Pack; Mounting Screws (x4)	FOS5HTASM, FOS5HTAEN, FOS5HTAEM, FOS7HTASM, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCEFDTASH, FCNFDTASD
G	2021150756	Vision S+ 5" Monitor Only	FOS5HTASM, FOS5HTASF, FOS5HTAEN, FOS5HTAEM
H	2021150757	Vision S+ 7" Monitor Only	FOS7HTASM, FOS7HTASF, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM
I	2021150752	Vision S+ Sharkfin Camera Only	FOS5HTASF, FOS5HTAEN, FOS7HTASF, FOS7HTAEN, FOS7HTAPM, FCNFDTASF
J	2021150754	Vision S+ Rear Camera Only	FOS5HTASM, FOS5HTAEM, FOS7HTASM, FOS7HTAEM, FOS7HTAPM, FCNFDTASD
K	2021150755	Vision S+ Side Camera (Right -side) Only	FOS5HTAEN, FOS5HTAEM, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCEFDTASH
L	2021150753	Vision S+ Side Camera (Left-side) Only	FOS5HTAEN, FOS5HTAEM, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCEFDTASH
M	2022301338	Monitor Power Adapter-Cigarette Plug to 5V USB Type C	FOS5HTASM, FOS5HTASF, FOS5HTAEN, FOS5HTAEM, FOS7HTASM, FOS7HTASF, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM
N	2022301339	Vision S+ 2.4GHz Antenna	FOS5HTASM, FOS5HTASF, FOS5HTAEN, FOS5HTAEM, FOS7HTASM, FOS7HTASF, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCNFDTASF, FCNFDTASD
O	2021124279	Sharkfin Bracket (OBSOLETE - use 2022070680))	FOS5HTASF, FOS5HTAEN, FOS7HTASF, FOS7HTAEN, FOS7HTAPM, FCNFDTASF
	2022070680	Sharkfin Bracket	
P	2021124266	Sharkfin Bracket Gasket	FOS5HTASF, FOS5HTAEN, FOS7HTASF, FOS7HTAEN, FOS7HTAPM, FCNFDTASF
Q	2021123788	Vision S Right Side Marker Light (with LED lamp) with Dummy Cover (OBSOLETE)	FOS5HTAEN, FOS5HTAEM, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCEFDTASH
	2022068082	Vision S Marker Light with Dummy Cover	
R	2021123807	Vision S Left Side Marker light (with LED lamp) with Dummy Cover (OBSOLETE)	FOS5HTAEN, FOS5HTAEM, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM, FCEFDTASH
	2022068082	Vision S Marker Light with Dummy Cover	
S	2022301340	Furrion® Vision S Rear LED Marker Light (with LED lamp) Camera Bracket	FOS5HTASM, FOS5HTAEM, FOS7HTASM, FOS7HTAEM, FOS7HTAPM, FCNFDTASD
T	2024044810	USB-A TO USB-C POWER CABLE (5FT LENGTH)	FOS5HTASM, FOS5HTASF, FOS5HTAEN, FOS5HTAEM, FOS7HTASM, FOS7HTASF, FOS7HTAEN, FOS7HTAEM, FOS7HTAPM

Troubleshooting

Before calling for service, review this list. It may save you both time and expense. This list includes common experiences that are not the result of defective workmanship or material in your appliance.

Trouble/Symptom	Cause/Solution
Monitor won't turn on (no blue LED).	Check the power cable is connected.
	Check that the power supply has 5-24V DC output.
	Check all fuses and breakers (including fuses in the cigarette power adapter and fuse box).
	Power off and on again to reset.
Wireless camera(s) and monitor won't pair.	Furrion monitor / rear view mirror can only pair with Furrion cameras. Pairing with products from other manufacturers is not supported.
	Check if the camera is receiving power. Ensure that the fuse on the connected power line provides additional 1A fusing current for the camera. Ensure proper cable isolation for all bare ends to avoid short-circuit.
	Make sure to hold the camera pairing button for 2 seconds.
Intermittent / weak signal icon appears.	Check if the camera antenna is fitted and secured correctly - it should be vertical.
	Large dense objects could be obscuring the signal. If possible, move the objects.
	Interference from electrical appliances may be affecting the wireless signal. Turn off the appliances when using the system.
	Interference from overhead power lines may be affecting the signal.
	Try unpairing and pairing again.
Blurry images on the monitor.	Remove the protective film from the camera lens upon completion of installation.
	The camera lens may be dirty. Wipe them with a piece of soft and clean cloth.
	Some adverse weather conditions such as heavy fog, rain, floating dust or mud splashes may either partially or entirely block the camera view. Clean the camera lens immediately after driving to a safe place.
Images too dark / bright on the monitor.	Adjust the brightness and contrast settings.
	The image may be too bright when the camera lenses face a direct light source. This is not a malfunction.
Night vision is poor or does not function.	The light sensor on the camera may be dirty or obstructed. Clean the light sensor or remove obstacles.
	If the ambient light is too strong, the night vision function may not engage. This is not a malfunction.
	Ensure that the camera is installed at least 2 inches away from marker lights.
Monitors Blue LED off with no picture.	The camera has no power connected.
	Ensure the tow vehicle is running.
	Ensure the 7-way connector is connected.

Specifications

Vision S+ Monitor Specifications

Resolution	1024 x 600
Brightness	700cd/m^2
Contrast	CR:800
Viewing Angle	Left / Right 85°, Up 85°, Down 85°
Aspect Ratio	16:9
Memory Card Slot	Micro SD up to 128G (at least Class 10)
Recording Format	AVI, H.265
Supply Voltage	5 ± 0.3VDC
Working Current (Back light On)	<1500mA@5V DC
Working Current (Back light Off)	<800mA@5V DC
Wireless Frequency	2.4GHz
Wireless Range	<492 ft (150m) (open area)
Delaying Time	<250ms
Type Approval	FCC, IC, ROHS

Vision S+ Camera Specifications

Camera Pixel	1920 x 1080
View Angle	140° (rear/sharkfin camera); 65° (left/right camera)
Night Vision Distance	<16ft (5m)
Waterproof	IP65
Optical Lens	F2.6
CMOS Size	1/3"
IR Cut Filter	850nm Automatic
Supply Voltage	8-30VDC
Working Current (IR On)	<350mA @12V DC
Working Current (IR Off)	<200mA@12V DC
Wireless Frequency	2.4GHz
Wireless Range	<492 ft (150m) (open area)
Delaying Time	<250ms
Type Approval	FCC, IC, ROHS

Vision S+ Camera Bracket Specifications

	LED Marker	Sharkfin Bracket
Number of Poles	4	2
Wiring Color	Red — Voltage in Black — GND Yellow — Turn signal trigger (left/right) Brown — Marker Light Voltage in	Red — Voltage in Black — GND
Installation Position	RED for Rear Amber for Side (Left / Right)	Doorway, Rear

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