EPIC iO

INSTALLATION GUIDE

Standard Trailer Mobilization

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OVERVIEW
Purpose and Scope

This document provides field service personnel at EPIC iO, partner organizations, or customers theinformation necessary to set-up a standard surveillance trailer (Valiant VTS900A or similar) for operation.

The document defines the approved standard processes and procedures for the mobilization of a EPIC iO standard security trailer. Standard security trailers are commonly referenced by the platform abbreviation “ST,” followed by the build sequence of the trailer (e.g., “ST18”, “ST31”, etc.).

Standard trailers may be equipped with LED lighting, emergency strobe lighting and/or a backup generator. This document does not address the installation or use of this equipment.

Responsibilities

Assigned field service personnel conducting mobilization or breakdown operations must ensure all appropriate safety precautions are followed, and all assembly/disassembly steps are performed exactly as prescribed. Additionally, the parties conducting set-up or breakdown operations are solely responsible for protection of the sensors, batteries, solar panels, and other equipment related to the trailer.

Tools and Equipment Required

Personal Protective Equipment (PPE)

At a minimum, the following PPE is required during trailer set-up or breakdown:

- Hard Hat - ANSI/ISEA Z89.1, Type I, Class G certified
- Eye Protection (safety glasses or protective goggles) – ANSI Z87.1 certified
- Foot Protection - Steel-toed ASTM F2413-05 M(F) I/75 C/75 standard
- Hand Protection – Suitable to protect against cuts by sharp objects and minor pinch points
- Reflective Clothing – High visibility reflective vest, or clothing with retroreflective material
- Flame-Resistant Clothing (location- and customer-dependent) – Arc-flash protective with “FR” tech tag clearly visible on the exterior of the garment

Special Tools

Trailer Key

Stabilizer Arm Wrench

Hitch Lock

T30 Torx® Security Bit

STEP 1

MOBILIZATION PROCEDURES
Positioning and Leveling the Trailer

A. Position the trailer.

NOTE: Solar panels must face south to ensure effective charging of the batteries.

- Consult with the customer to determine the desired field of view, and select a location that will satisfy these requirements.
- Position the trailer appropriately before continuing. BE SURE there are no overhead obstructions (power lines, roof eaves, etc.) that could impact the ability to raise the mast to operating height or interfere with camera visibility.

B. Chock the tires.

- Once the trailer is properly positioned, place wheel chocks in front of and behind both wheels to prevent unintentional movement **(see Figure 1)**.

Figure 1. Tire Chocks

C. Secure and disconnect the trailer.

- Set the parking brake **(see Figure 2)**.
  - Pull the red parking brake lever (located near the trailer hitch) to the upright position to engage the parking brake and further secure the trailer in place.
- Disconnect the trailer from the tow vehicle.

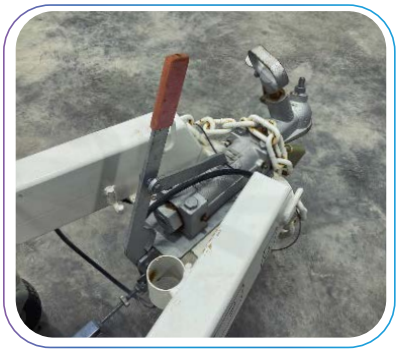

Figure 2. Parking Braker Lever

CAUTION BE SURE to disconnect all trailer electrical and safety devices (chains, break away cable, trailer wire connector) before disconnecting the trailer from the tow vehicle. Failure to comply may result in damage to the trailer, the tow vehicle, or associated equipment.

- Place a trailer lock on the hitch to assist in preventing theft.
- Place the trailer key inside the lock box. Secure the lock box to the trailer frame **using code 6713**.
- Position the swivel jack.

NOTE: The swivel jack allows for small adjustments to the trailer position without the need to place the trailer back on a vehicle hitch or otherwise lift the trailer.

! WARNING ! The swivel jack is not intended to serve as a traveling axle to reposition the trailer significantly. Using the swivel jack to move the trailer more than a few inches may damage the swivel jack and may result in PERSONAL injury or death.

- Pull the grip handle on the swivel jack and rotate the jack leg until the wheel is in the downward position **(see Figure 3)**.
- Use the rotating handle at the top of the jack to raise or lower the jack leg until the trailer is roughly level.

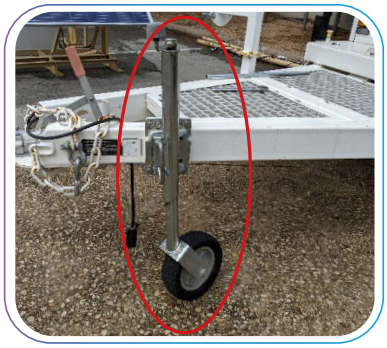

Figure 3. Swivel Jack Leg

Figure 4. Release Pin

D. Position the stabilizer legs.

NOTE: The stabilizer legs provide a wider, more stable platform for the trailer.

- Remove the yellow release pin at each of the four stabilizer legs **(see Figure 4)**.
- Pull each leg away from the trailer approximately 2 ~ 3 feet (0.6 ~ 0.9 meters) **(see Figure 5)**.
- Reinsert the release pin at each stabilizer leg once the legs are positioned properly.

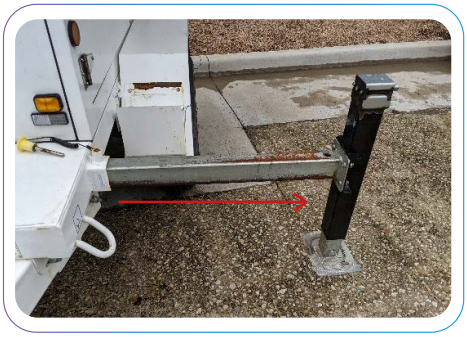

Figure 5. Positioning the Stabilizer Legs

E. Level the trailer

NOTE: A "Bullseye" (floating bubble) level indicator is provided at the front of the trailer near the bottom of the mast to aid in leveling the trailer **(see Figure 6)**.

- Use the stabilizer arm wrench (stored inside the trailer) (see **Special Tools** on **page 2**) to lower each of the four stabilizer legs **(see Figure 7).**

Figure 6. "Bullseye" Level Indicator

NOTE: An electric drill with a 17mm socket can be used in place of the stabilizer are wrench.

  - Have one person observe the level indicator while a second person adjusts the stabilizer legs.
  - Rotate the wrench clockwise to lower the leg, and counterclockwise to raise the leg.
- MAKE SURE all stabilizer legs are in contact with the ground surface, and that the trailer is stable and level at all points.

Figure 7. Stabilizer Arm Wrench

STEP 2

Extending the Solar Panels

The solar panels are configured as a 3-panel solar array.

CAUTION DO NOT extend the solar panels until the trailer has been properly positioned and leveled (see **Positioning and Leveling the Trailer** on **page 3**). Failure to comply may result in damage to the equipment.

A. Unlock the solar panels.

- A spring-loaded L-shaped locking pin (upper solar panel release pin) locks the solar panels in place when stowed or when fully deployed **(see Figure 8)**.
  - Pull the release pin away from the trailer and rotate the handle in either direction to unlock.
  - Allow the handle to slowly retract and engage the receiver detent **(see Figure 9)**. Leave the release pin in the unlocked position until the solar panels are deployed.
- A blue, plastic coated lever pin (lower solar panel release pin) located where the lower end of the solar panels attach to the trailer releases the solar panels to slide to the extended positions **(see Figure 10)**.
  - Push the release pin downwards to allow the solar panel to slide into position.

B. Slide the solar panels to the extended positions.

! WARNING ! Exercise care when extending solar panels to avoid catching fingers between panels and structural components. Failure to comply may result in personal injury.

Figure 8. Upper Solar Panel Release Pin – Locked Position

Figure 9. Upper Solar Panel Release Pin – Unlocked Position

Figure 10. Lower Solar Panel Release Pin

CAUTION Aerosol white lithium grease is recommended when lubricating solar panel tracks. Oil-based lubricants may promote contamination by airborne dirt or debris and result in degraded bearing performance.

NOTE: When extending the solar panels, the upper panel remains stationary, the center panel slides to the left, and the lower panel slides to the right.

- Lubricate the solar panel tracks with aerosol silicone lubricant to allow panels to slide easily on the tracks.
- Carefully slide the left and right solar panels to their fully extended positions.
- Pull the upper solar panel release pin out of the receiver detent **(see Figure 8)** and rotate the handle 180 degrees in either direction to lock the solar panels in the extended positions.

STEP 3

Mounting the Cameras

Standard Trailers are typically outfitted with:

- Three (3) Q6125 PTZ cameras (or similar)
- One (1) C3003-E speaker/horn assembly (or similar)

In most cases, the cameras will be unmounted when transporting the trailer to prevent damage from excessive movement, vibration and/or road debris.

A. Mount the cameras on the camera brackets (see Figure 11).

IMPORTANT: Cameras and Ethernet cables are labelled to ensure proper connections. BE SURE each camera is connected to its corresponding Ethernet cable to ensure proper operation.

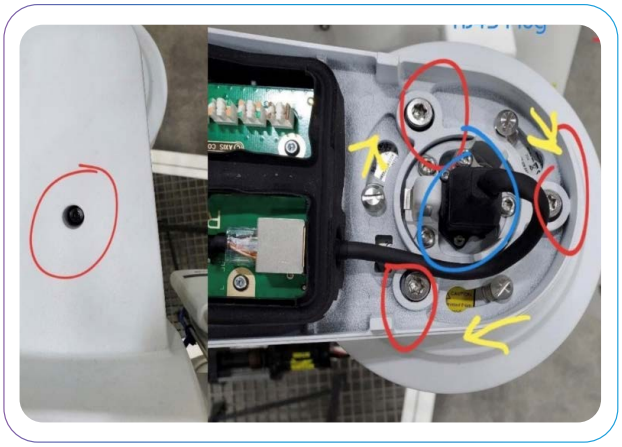

Figure 11. Camera Mounting

- Remove the top of the camera arm using a large Axis Tool, or a screwdriver with T30 Torx security bit (see **Special Tools** on **page 2**).
- The camera brackets may become loose during transport. BE SURE the brackets are securely fastened. Tighten the brackets, if necessary, BEFORE mounting the cameras.
- Insert the top of the camera head into the holes at the end of the camera mounting arm. Twist the camera body counter-clockwise (when viewed from above) to lock the camera in place.
- Use the Axis Tool, or a screwdriver with T30 Torx security bit (see **Special Tools** on **page 2**), to tighten the camera in place.
- Connect the black, pig-tail cable to the camera.
- Reattach the top of the camera, and tighten the bolt to secure in place

STEP 4

Connecting Guy Wires to the Mast

NOTE: Install guy wires when installing the trailer in a location where high winds may be encountered.

Guy wires may be used to further stabilize the mast in high wind conditions. Each trailer comes with three guy wires of different lengths. Each guy wire MUST be connected to its respective connection point on the mast.

A. Connect guy wires to the camera mast.

- Attach guy wires to the mast bracket at the designated connection points, as follows **(see Figure 12)**:
  - Attach the longest guy wire to **point A** on the mast bracket.
  - Attach the middle length guy wire to **point B** on the mast bracket
  - Attach the shortest guy wire to **point C** on the mast bracket.

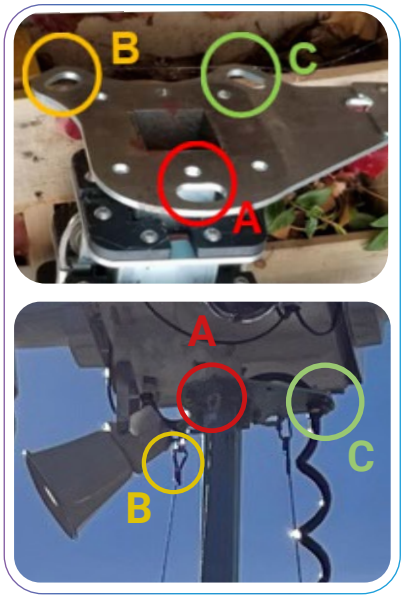

Figure 12. Guy Wire Connection Points – Mast Bracket

STEP 5

Initializing Start-up

CAUTION Circuit breakers MUST be actuated in the order specified. Failure to comply may result in damage to the equipment.

NOTE: The circuit breaker panel is located in the trailer electrical compartment **(see Figure 13)**. The electrical compartment is located on the side of the trailer with the double doors.

A. Actuate the circuit breakers

- Actuate the circuit breakers in the following order **(see Figure 14)**:

1. BATT
2. SOLAR
3. LOAD (& PLC if applicable)
4. MAST

NOTE: DO NOT actuate the circuit breaker labeled **LIGHT** unless specifically instructed to do so.

Figure 13. Trailer Electrical Compartment

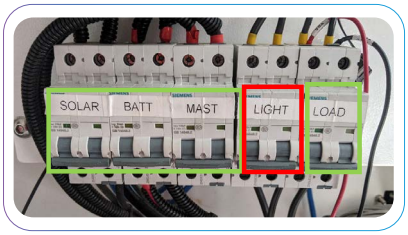

Figure 14. Circuit Breaker Layout

STEP 6

Raising and Securing the Camera Mast

! WARNING ! Do not move the trailer once the mast has been raised and secured, regardless of height. failure to comply may cause the mast to strike overhead objects, including overhead power lines, which may result in equipment damage, personal injury, and/or death.

NOTE: Guy wires, when required, must be attached to the mast box before the camera mast is raised (see **Connecting Guy Wires to the Mast** on **page 7**).

An orange controller that raises and lowers the camera mast is located inside the trailer compartment near the circuit breaker panel **(see Figure 15)**.

Figure 15. Mast Controller (Stowed)

A. Raise the mast.

- Press the up arrow on the mast controller **(see Figure 16)** until the mast is fully extended.
- Observe the exterior cable assembly connected to the mast box (and connected guy wires, if installed) while extending the mast. MAKE SURE the cable (and guy wires) extends with the mast and does not become tangled, stuck or hung up while the mast is in motion.

Figure 16. Mast Controller

B. Secure the mast.

- When the mast is at full height, remove the mast retaining pin from its holder, and place it in the retaining slot on the mast body to prevent the mast from lowering **(see Figure 17)**.

Figure17. Mast Retaining Pin

STEP 7

Securing Guy Wires to the Trailer

NOTE: Install guy wires when installing the trailer in a location where high winds may be encountered

Each guy wire MUST be secured to its proper anchor point on the trailer.

A. Secure guy wires to the trailer.

- Secure guy wire turnbuckles to the designated anchor points on the trailer, and in the specified order, as follows **(see Figure 18)**
  - Connect the longest guy wire to the anchor point closest to the tongue of the trailer (**point A**).
  - Connect the middle length guy wire to the anchor point on the passenger side of the trailer (**point B**).
  - Connect the shortest guy wire to the anchor point nearest the driver side or the trailer (**point C**).

NOTE: DO NOT over-tighten turnbuckles. Over tightening the turnbuckles may damage the mast.

B. Tighten the turnbuckles

- Once the turnbuckles are secured to the designated connection points, tighten the turnbuckles in the same order as connected; **A** first, then **B**, and **C**.
  - Tighten each turnbuckle until the turnbuckle is snug, and there is no slack in the guy wire.
- Inspect the mast after all turnbuckles have been tightened. MAKE SURE the mast does not “tilt” or “lean” in any direction.
  - If necessary, slightly loosen one or more turnbuckles until the mast returns to vertical.

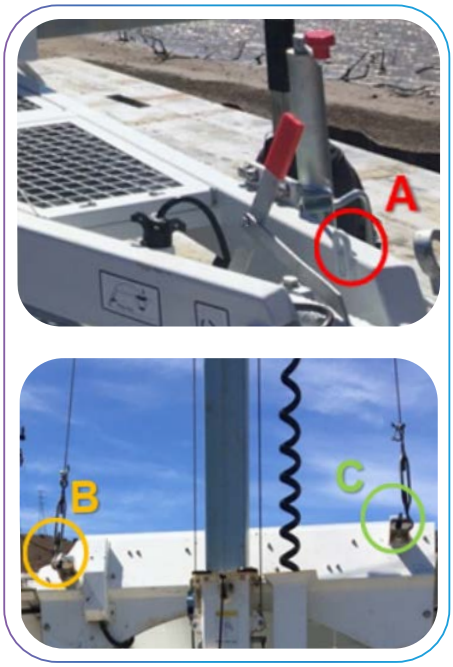

Figure 18: Guy Wire Connection Points – Trailer

Backup Generator

A backup generator is optional equipment on certain trailers. If equipped, refer to the "Backup Generator Usage and Maintenance" and/or link below:

Kipor IG3000 Generator User Manual

Yaofeng YF3500I Generator User Manual

External References

Cameras and Equipment Links

Axis Q6125-LE Network Camera Installation Guide

Axis Q6125-LE Network Camera User Manual

Axis Q6135-LE Network Camera Installation Guide

Axis Q6135-LE Network Camera User Manual

Axis C3003-E Network Horn Speaker Installation Guide

Axis C1310-E Network Horn Speaker Installation Guide

7 simple steps to mobilizing your Standard Trailer.

For additional questions please contact our customer support team at **support@epicio.com**. We're happy to help!

Learn more today: epicio.com