

# Large Skid Mobilization

## OVERVIEW

### Purpose and Scope

This document provides field service personnel at EPIC iO, partner organizations, or customers the information necessary to set-up a large security skid for operation. The document addresses the following operations:

- Orientation of the skid for maximized solar and security objectives
- Mounting devices (camera and related equipment) on the mast
- Erecting and raising the mast and making electrical connections
- Powering on the unit and establishing connectivity
- Adjusting camera views
- Final quality assurance testing and acceptance
- Logging and securing the unit for service

This document defines the approved standard process and procedures for the mobilization of a EPIC iO large security skid. Large security skids are commonly referenced by their platform abbreviation, "SS" followed by the build sequence of the skid (i.e., "SS04", "SS31", etc.).



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### 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 skid.

### Tools and Equipment Required Personal Protective Equipment (PPE)

At a minimum, the following PPE is required during skid set-up or breakdown (additional location- and/or customer-specific requirements may need to be met):

- Hard hat
- Eye protection (safety glasses or protective goggles)
- Steel-toed footwear
- Gloves
- High-visibility Vest

### Tools and Equipment Required



5kLb Forklift with  
5'-8' Forks



16'-18' Reach Ladder  
w/ V-rung



Pipe Stand



Jack Stand



Rope/Straps (to tie-off  
extension ladders)



Cordless Electric  
Impact Drill



SAE Shallow Socket Set,  
9/16" to 1-1/8" (for mast  
bolts and set screws)



12"-15" Adjustable Wrench  
(up to 1-1/8" opening)



T10, T20, T30 Torx  
Screwdrivers or Bits



1/8" Terminal Block  
Screwdriver (w/ 4" shank)

### STEP 1

## ASSEMBLY AND MOBILIZATION PROCEDURES

### Positioning and Leveling the Skid

#### A. Select a location.

**NOTE:** When positioned, the area due east of the skid must have a clear radius of approximately **18 feet (5.5 meters)** to allow for assembly and installation of the mast.

- Consult with the customer to determine the desired field of view, and select a location that will satisfy these requirements.
- MAKE SURE the selected location provides the following:
  - Level surface to provide cameras with a square field of view
  - Allows solar panels to face due south to obtain maximum sun exposure from dusk to dawn
  - Is located away from overhead or surrounding obstructions (power lines, eaves/overhangs, fences/walls, etc.) that will interfere with erecting the mast, or with the intended camera fields of view.

#### B. Position the skid.

- Use a forklift (see **Tools and Equipment Required** on page 2) to position skid in adequate area to erect mast (**Figure 1**).
- Position the skid appropriately before continuing.
  - BE SURE the skid is positioned so it is relatively level, and does not move, pivot or wobble when handled.
  - If needed, adjust the skid position to obtain the necessary stability.

If the intended location does not have a clear area for mast installation, temporarily position the skid in an area that allows the mast to be safely erected. Then, using **EXTREME CAUTION**, relocate the skid to the intended location at a slow and cautious speed.



**Figure 1.** Assembled Skid

**! WARNING !** This option should be used only when absolutely necessary. The assembled skid can become unstable during transit and shift or fall, which may result in equipment damage, personal injury, and/or death.

### STEP 2

## Installing the Cameras and Speaker

There are two different camera types that may be used in Large Skid mobilizations. Camera configurations vary depending on customer requirements, so a given configuration may include one or both camera types.

- Use a large pipe stand (see **Tools and Equipment Required** on page 2) to support the mast while installing the speaker and cameras (**Figure 2**).

**NOTE:** MAKE SURE proper mounts for skid configuration are secure after transport and positioning.

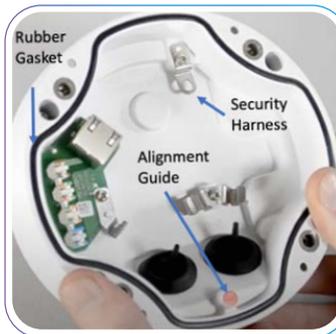


**Figure 2.** Mast Supported by Pipe Stand

## Installing a Large-Axis Bullet Camera

**CAUTION:** MAKE SURE the black rubber gasket (**Figure 3**) is properly seated and secure inside the camera mount. Failure to comply may allow moisture intrusion into the camera, resulting in equipment damage or failure.

- Clip the security cable** from the camera to the harness (**Figure 4**).
- Plug in the RJ45 connector** (**Figure 5**) until an audible click is heard, then tug on the cable slightly to ensure a secure connection has been made.
- Position the camera** so the red half circle on the inside base is aligned with the red dot on the camera mount (**Figure 6**).
- MAKE SURE the cat6 cable is not kinked, crushed or otherwise damaged** before mounting camera to base.
- Tighten the setscrew on the neck of the camera** firmly to prevent movement or damage while erecting/moving the mast or skid.



**Figure 3.**  
Rubber Gasket



**Figure 4.** Security Cable Connection



**Figure 5.** RJ45 Connector



**Figure 6.**  
Alignment Indicators

**NOTE:** Some models may not include the red alignment indicator, but will have a similar design feature to ensure proper installation.

### Installing an Axis Q6125 PTZ Camera

#### A. Remove the camera mounting arm cover:

- Remove the rubber plug on the top of the camera mounting arm to access the cover screw.
- Loosen the screw using a T30 Torx screwdriver (see **Tools and Equipment Required** on **page 2**), then remove the cover.

#### B. **MAKE SURE** the mounting plates (circled in **Figure 8**) on the camera mounting arm **are securely fastened**. If necessary, tighten the plates **BEFORE** mounting the camera.

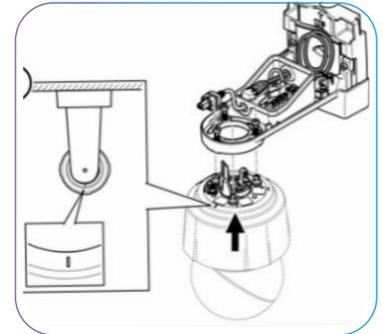
#### C. Install the camera on the camera mounting arm:

- Insert the top of the camera head into the holes at the end of the mounting arm (**Figure 7**).
- Twist the camera body **COUNTERCLOCKWISE** (when viewed from above) to lock the camera in place (**Figure 8**).
- Tighten the three mounting screws using a T30 Torx screwdriver (see **Tools and Equipment Required** on **page 2**) to secure the camera to mount (**Figure 8**).

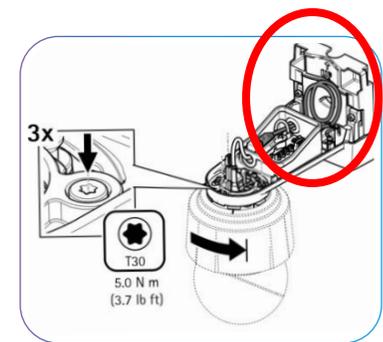
#### D. Insert the black pigtail RJ45 connector into top of the PTZ camera (**Figure 9**).

#### E. Reinstall the camera mounting arm cover (**Figure 10**):

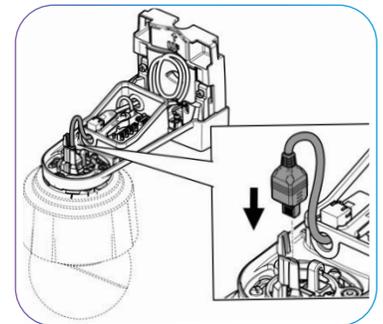
- **MAKE SURE** the rubber gasket around circuit board is properly aligned.
- Install the camera mounting arm cover on the mounting arm.
- Tighten the cover screw using a T30 Torx screwdriver (see **Tools and Equipment Required** on **page 2**) to secure the cover.
- Insert the rubber plug over the cover screw.



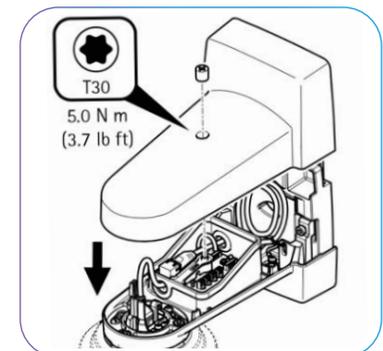
**Figure 7.**  
Camera Mounting Arm



**Figure 8.**  
Camera Installation



**Figure 9.**  
RJ45 Connector



**Figure 10.**  
Camera Mounting Arm  
Cover Installation

### Installing the Axis C3003-E/C1310-E Network Horn Speaker

#### A. Install and adjust the horn:

- Install the horn on the horn mount and secure in place using two Phillips-head screws provided (**Figure 11**).
- Adjust the horn to an angle of approximately 45° from the mast to maximize sound dispersion.

#### B. Insert the rubber grommet into the port cover hole. Push the RJ45 connector into the port until an audible click is heard, then tug on the cable slightly to ensure a secure connection has been made.

#### C. Ensure the **microphone selector switch** inside of port cover (**Figure 12**) is set to "ON".

#### D. Install the **port cover** and hand tighten (**Figure 13**).



**Figure 11.**  
Horn Installed  
on Horn Mount



**Figure 12.**  
Microphone Selector Switch



**Figure 13.**  
Port Cover Installation

### STEP 3

## Installing the Mast

**! WARNING !** Be sure to support the mast base in the upright position when removing nuts from the mast base retaining bolts. Failure to comply may allow the mast base to pivot away from the skid in an uncontrolled manner, resulting in equipment damage or personal injury.

#### A. Release and lower the mast base:

- Locate the mast base retaining hardware, and remove the two nuts (or bolts), lockwashers, and washers (**Figure 14**).
- Carefully pivot the mast base away from the skid base to allow for assembly and installation of the mast.
- Use a jack stand (see **Tools and Equipment Required** on **page 2**) to support the mast base while installing the mast.

**NOTE:** Place a protective barrier (towel or shop cloth) on the jack stand to avoid scratching the mast or the mast base.

#### B. Loosen the set screws and ground lug on mast base to allow the mast to slide into tube.

#### C. Install the mast in the mast base:

**! WARNING !** The mast is heavy. Do not install the mast alone. The mast can be accidentally dropped if it is not adequately supported while installing. Failure to comply may result in equipment damage or personal injury.

- Two persons are recommended to install the mast.
- CAREFULLY and SAFELY lift the mast and slide the mast into the mast base. MAKE SURE the jack stand securely supports the added weight before releasing the mast (**Figure 15**).

#### D. Align the mast so the ethernet cables are in line with the bulkhead/connection box.

#### E. Tighten the set screws on the mast base to 15-20 ft lbs (20.4~27.1 Nm) torque.

#### F. Secure the grounding strap to the grounding lugs (**Figure 16**).

#### G. Determine the rotation angle of the mast head necessary to position the cameras to the desired field of view when the mast is raised, and adjust the mast position as necessary prior to raising the mast.

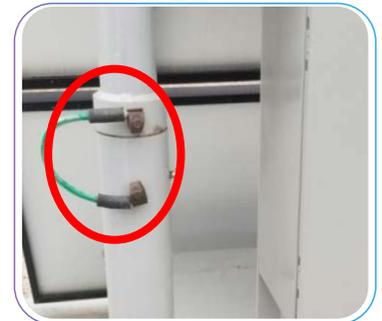
- For mast heads with a cotter pin flange: Make sure the cotter pin on the flange of the mast is secure, and the set screws are properly tightened (**Figure 17**).



**Figure 14.**  
Mast Base Retaining Bolts and Nuts



**Figure 15.**  
Mast Installed in Mast Base



**Figure 16.**  
Grounding Strap



**Figure 17.**  
Cotter Pin and Set Screws

### STEP 4

## Raising the Mast

**! WARNING !** The mast is heavy. Do not raise the mast alone. The mast can be accidentally dropped if it is not adequately supported while raising. Failure to comply may result in equipment damage or personal injury.

**A. Unlock the connection box** and open door for cable access (**Figure 18**).

- The key is located inside the locked cabinet of the skid.
- Pull the key towards you to disengage the lock and release the pin.
- Lift the lock vertically to remove.



**Figure 18.**  
Connection Box Key

**B. Raise the mast:**

- Position both persons near the end of the mast closest to the installed equipment (**Figure 19**).
- Lift the mast from its resting position on the jack stand and carefully raise it to shoulder level.



**Figure 19.** Mast Lifting Point

**NOTE:** It may be necessary to briefly rest the mast on your shoulder.

**C. Using both hands, lift the mast overhead** and carefully walk the mast toward the skid base until the mast is upright.

**D. Guide the loose cables through the connection box** to prevent pinching, wedging, or otherwise damaging the cables.

**E. Secure the mast:**

- Push the mast into the fully upright position.
- With one person holding the mast in the upright position, reinstall the two washers, lock washers and nuts (or bolts) to secure the mast base to the skid.
- MAKE SURE all hardware is tightened securely and the mast does not move before proceeding.

**F. Connect each wire/cable** to its corresponding bulkhead in the following order (**Figure 20**):

- Strobe
- RJ45 connectors
- Coax/antenna.



**Figure 20.** Cable

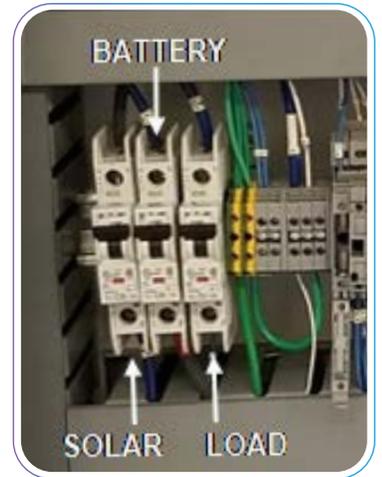
**NOTE:** Axis Q6125 PTZ cameras (or similar) will have a designated port going to the Axis PoE injector or 90W Antaira.

### STEP 5

## Powering the System On

Once all camera and equipment connections have been made and secured, the system is ready for power on.

- A. **Open the electrical cabinet.**
- B. **Actuate the circuit breakers** in the following order (**Figure 21**):
  - BATTERY
  - SOLAR
  - LOAD
- C. Once the system is powered up, make sure the **10T router completed its start up sequence**, and **cellular signal indicators are visible**.



**Figure 21.**  
Circuit Breaker Layout

### STEP 6

## Orienting the Cameras

Axis Q6125 PTZ cameras (or similar) will require adjustment for proper orientation after the system is operating.

- A. **Adjust an extension ladder** to an appropriate height to safely reach the necessary camera(s) (**Figure 22**).

**NOTE:** When positioning the ladder, use the 4:1 ratio rule. For every very 4 feet in (1.2 meters) height, move the base of the ladder 1 foot (0.3 meters) away from the object.

- B. **Securely tie off the ladder** using rope or straps at the bottom and top of ladder to prevent accidental movement.

**Contact the EPIC iO Customer Support Center (CSC) at 817-422-0714** to assist in proper adjustment of the cameras, and to confirm that all equipment is accessible remotely and visible on the EPIC iO platform. **Installation IS NOT COMPLETE until CSC gives final approval.**



**Figure 22.**  
Camera Adjustment

## 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 Q1765-LE Network Camera Installation Guide](#)

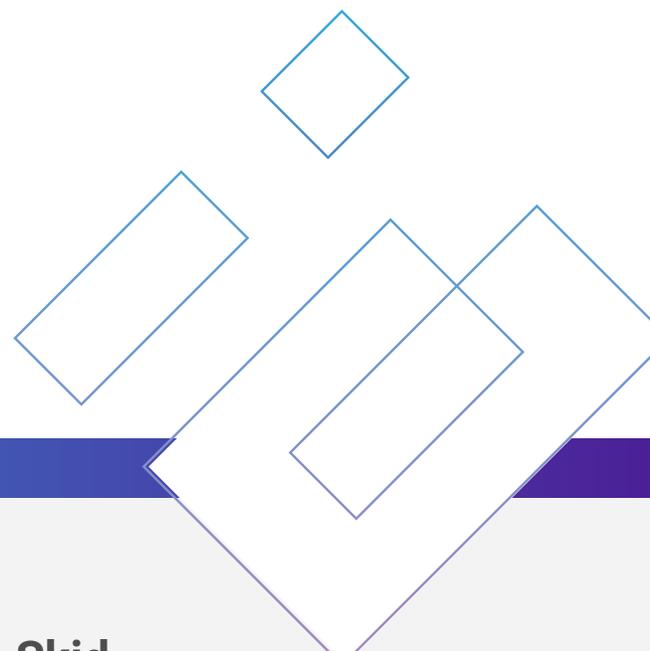
[Axis Q1765-LE Network Camera User Manual](#)

[Axis Q1785-LE Network Camera User Manual](#)

[Axis T91L61 Wall and Pole Mount Installation Guide](#)

[Axis C3003-E Network Horn Speaker Installation Guide](#)

[Axis C1310-E Network Horn Speaker Installation Guide](#)



## 6 simple steps to setting up your Large Skid.

For additional questions please contact our customer support team at [support@epicio.com](mailto:support@epicio.com). We're happy to help!

Learn more today:  [epicio.com](https://www.epicio.com)

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