FEDERAL SIGNAL
Safety and Security Systems

Rapid Deployment Trailer

Description, Deployment, Operation, and Maintenance Manual

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Limited Warranty

This product is subject to and covered by a limited warranty, a copy of which can be found at www.fedsig.com/SSG-Warranty. A copy of this limited warranty can also be obtained by written request to Federal Signal Corporation, 2645 Federal Signal Drive, University Park, IL 60484, email to info@fedsig.com or call +1 708-534-3400.

This limited warranty is in lieu of all other warranties, express or implied, contractual or statutory, including, but not limited to the warranty of merchantability, warranty of fitness for a particular purpose, and any warranty against failure of its essential purpose, all of which are expressly **DISCLAMED**. Additional terms and conditions apply.

FEDERAL SIGNAL
Safety and Security Systems

2645 Federal Signal Drive
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Technical Support	800-524-3021 • +1 708 534-4790

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Limited Warranty

Limited Warranty. This Federal Signal Corporation Rapid Deployment Trailer ("trailer") distributed by Federal Signal Corporation (the "Company") identified by the above written serial number, and subject to the limitations on the term and other limitations hereof as set forth below, is warranted against defects in material and workmanship for a period of twenty-four (24) months, provided the trailer is used in a normal and reasonable manner and in accordance with all operating, maintenance, and safety instructions. Certain parts and components of this trailer have separate warranties as set forth below and are specifically excluded from this warranty. This warranty period commences from the date of delivery to the end user.

This limited warranty is the sole and exclusive warranty given or provided by the Company.

Standard Warranties

(Total Warranty Durations)

Exclusive Remedy. Should any warranted product fail during the warranty period, the Company will cause to be repaired or replaced, as the Company may elect, any part or parts of such trailer that the Company's examination discloses to be defective in material or workmanship. Repairs or replacements are to be made at the Company's authorized dealer's, distributor's, or service center's location or at other locations approved in advance by the Company. In lieu of repair or replacement, the Company may elect, at its sole discretion, to refund the purchase price of any trailer. **The foregoing remedies shall be the sole and exclusive remedies of any party making a valid warranty claim.**

This Limited Warranty shall **not** apply to (and the Company shall not be responsible for):

1. Major components or trade accessories that have a separate warranty from their original manufacturer, such as, but not limited to, hydraulic or mechanical pumps and motors, tires, and batteries.
2. Normal adjustments and maintenance services.
3. Normal wear parts such as, but not limited to, oils, fluids, hoses, light bulbs, fuses, and gaskets.
4. Failures resulting from the trailer being operated in a manner or for a purpose other than as set forth in the Company's operating, maintenance and safety instructions, or in violation of any applicable law or regulation.
5. Repairs, modifications or alterations without the express written consent of the Company, which in the Company's sole judgment, have adversely affected the trailer's stability, operation, or reliability as originally designed and manufactured.
6. Items subject to misuse, negligence, accident, or improper maintenance, or the result of accident occurring during the transport of the trailer.

7. Serviceable items such as greaseable bearings, hydraulic cylinder pins, hinge bearings and bushings, hydraulic hoses, hydraulic connectors, electrical connectors, and torque of threaded fasteners after the first 90 days of the warranty period. Any failure of a serviceable item within the first 90 days of the warranty period must be reported to the Company within 10 days of occurrence.

NOTE: The use in or on the trailer of any part other than parts approved by the Company may invalidate this warranty. The Company reserves the right to determine, in its sole discretion, if the use of non-approved parts operates to invalidate the warranty. Nothing contained in this warranty shall make the Company liable for loss, injury, or damage of any kind to any person or entity resulting from any defect or failure in the trailer.

THIS WARRANTY SHALL BE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND TO THE EXTENT PERMITTED, CONFERRED BY STATUTE, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY AGAINST FAILURE OF ITS ESSENTIAL PURPOSE, ALL OF WHICH ARE DISCLAIMED.

This warranty is in lieu of all other obligations or liabilities, contractual and otherwise, on the part of the Company. For the avoidance of doubt, the Company shall not be liable for any indirect, special, incidental, or consequential damages, including, but not limited to, loss of use or lost profits. The Company makes no representation that the trailer has the capacity to perform any functions other than as contained in the Company's written literature, catalogs, manuals, or specifications accompanying delivery of the trailer. No person or affiliated company representative is authorized to alter the terms of this warranty, to give any other warranties, or to assume any other liability on behalf of the Company in connection with the sale, servicing, or repair of any trailer manufactured, distributed, or sold by the Company. Any legal action based hereon must be commenced within eighteen (18) months of the event or facts giving rise to such action.

The Company reserves the right to make design changes or improvements in its products without imposing any obligation upon itself to change or improve previously manufactured products.

All Federal Signal products are warranted and tested to be free of defects in workmanship and materials and to conform to the published specifications at the time of sale.

Warranty Claim Procedure

Use the following process in situations where a warranted item needs repair or replacement under the terms of the purchase warranty:

1. Locate the trailer's VIN. See "Figure 1 VIN location" on page 18.
2. Have a list of symptoms/conditions of the malfunctions.
3. Contact Federal Signal for the procedure to process your claim. Contact Federal Signal Customer Support at 800-548-7229 or 708-534-3400 extension 367511 or Technical Support at 800-524-3021 or 708-534-4790 or email at techsupport@fedsig.com.

Safety

If you believe your equipment has a defect that could cause personal injury or death or could cause a crash during transit, immediately cease operation and inform Federal Signal Technical Support.

If you believe your siren equipment has a defect that could cause improper alerting or a failed signal, contact Federal Signal Technical Support.

Only qualified and properly trained personnel should be operating equipment and within boundaries of equipment during operation.

Personal Protective Equipment (PPE) should be considered a secondary line of defense against equipment hazards. Qualified personnel need to know how to properly select, use, and clean any PPE being used. PPE does wear out and has limitations on the level of protection against hazards. Qualified personnel operating equipment should use proper PPE, including appropriate hearing protection, gloves, and safety glasses for their safety.

Proper training and understanding of this manual must be completed to justify a "qualified" person.

All Danger, Warning, Caution, and notes highlighted in this manual must be understood and followed during the operation of the trailer and equipment. Failure to read and understand safety messages, warnings, and instructions may cause damage to equipment, property, serious injury, or death to persons.

Responsibilities of Owner and Operators

Inspection and Maintenance

The unit shall be inspected and maintained per the Operation and Maintenance Checklists and this manual. Equipment must be verified to be in proper working order before beginning operation.

Removal from Service

Any equipment not in safe operating condition shall be removed from service until it is repaired to the original manufacturer's standards.

Repairs

Only authorized personnel, in conformance with this manual and manufacturer instructions, shall make all repairs.

Operators

Only trained and qualified personnel shall be permitted to operate the equipment. Personnel must read and understand all safety hazards during operation.

Owner

The owner is responsible for keeping a copy of this manual with the equipment at all times.

Before Operation

Before using the equipment, the operator shall:

- Read and understand the manufacturer's operating instructions and safety rules and be trained by a qualified person.
- Inspect the unit for proper operation and condition. Any suspect item shall be carefully examined, and a determination shall be made by a qualified person as to whether it constitutes a safety hazard. All unsafe items shall be corrected before further use of the equipment.

During Operation

The equipment shall be used only for its intended use and within the manufacturer's limitations and safety rules:

- Ensure that all safety devices are operational and in place.

Be certain that all qualified personnel near the operating scissor lift mechanism understand the safety precautions and pinch points. All personnel other than the operator must stand back a minimum of 5 feet while the scissor lift mechanism is in motion.

⚠ DANGER

CRUSHING HAZARD: Keep personnel clear of moving parts when setting up or storing away the lift and outriggers.

⚠ DANGER

ELECTROCUTION HAZARD: Death or serious injury could result if electrical power lines or energized parts are contacted. Maintain safe distances from energized electrical power lines and parts.

⚠ WARNING

SOUND HAZARD: The sound output of speakers is capable of causing permanent hearing damage. Ensure people are not exposed to sounds exceeding 120 dB– post warnings where applicable.

⚠ WARNING

Read and adhere to all safety warnings in this manual before deploying the Rapid Deployment Trailer.

Safety Messages

⚠ WARNING

It is important to follow all instructions shipped with this product. This device is to be installed by trained personnel who are thoroughly familiar with the country's electric codes and will follow these guidelines as well as local codes and ordinances, including any state or local noise-control ordinances. Listed below are important safety instructions and precautions you should follow.

Important Notice

Federal Signal reserves the right to make changes to devices and specifications detailed in the manual at any time in order to improve reliability, function, or design. The information in this manual has been carefully checked and is believed to be accurate; however, no responsibility is assumed for any inaccuracies.

Publications

Federal Signal recommends the following publications from the Federal Emergency Management Agency for assistance with planning an outdoor warning system:

- The "Outdoor Warning Guide" (CPG 1-17)
- "Civil Preparedness, Principles of Warning" (CPG 1-14)
- FEMA-REP-1, Appendix 3 (Nuclear Plant Guideline)
- FEMA-REP-10 (Nuclear Plant Guideline)

Planning

- If suitable warning equipment is not selected, the installation site for the Rapid Deployment Trailer is not selected properly, or the trailer is not set up properly, it may not produce the intended optimum audible warning. Follow Federal Emergency Management Agency (FEMA) recommendations.
- If sirens are not activated in a timely manner when an emergency condition exists, they cannot provide the intended audible warning. It is imperative that knowledgeable people, who are provided with the necessary information, be available at all times to authorize activation.
- When the sirens are used out of doors, people indoors may not be able to hear the warning signals. Separate warning devices or procedures may be needed to warn people indoors effectively.
- The sound output of sirens can cause permanent hearing damage. To prevent excessive exposure, carefully plan siren placement, post warnings, and restrict access to areas near sirens. Review and comply with any local or state noise control ordinances as well as OSHA noise exposure standards, regulations, and guidelines.
- Activating the sirens may not result in people taking the desired actions if those to be warned are not properly trained about the meaning of warning sounds. Users should follow FEMA recommendations and instruct those to be warned of corrective actions to be taken.
- After installation, service, or maintenance, test the system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.

Safety Messages to Operators

People's lives depend on your safe installation of our products. It is important to follow all instructions shipped with this product. This device is to be installed by a trained and qualified electrician who is thoroughly familiar with the National Electrical Code and/or Canadian Electrical Code and will follow the NEC and/or CEC Guidelines as well as all local codes.

The selection of the location for this Rapid Deployment Trailer, its controls, and the routing of the wiring is to be accomplished under the Facilities Engineer and the Safety Engineer's direction. Listed below are some other important safety instructions and precautions you should follow:

- Electrocution or severe personal injury can occur when performing various installation and service functions such as making electrical connections, drilling holes, or lifting equipment. Therefore, only experienced and qualified electricians should install this product in compliance with national, state, and any other applicable codes, ordinances, and regulations. Perform all work under the direction of the installation or service crew safety foreman.
- Read and understand all instructions before installing, operating, or servicing this equipment.
- This product shall be mounted at a minimum hearing distance of ten feet per FEMA guidelines limiting sound level exposure to 123 dBc maximum sound level.
- All effective warning sounds may, in certain circumstances, cause permanent hearing loss. Take appropriate precautions, including wearing adequate hearing protection. Do NOT exceed the maximum sound level exposure limits specified in OSHA 29 CFR 1910.
- I-IP100 series, DSA1, and DS100 devices are intended for permanent installation and operation per Title 46, Code of Federal Regulations, Parts 110–113, or Title 33, Code of Federal Regulations, Part 183, Subpart I, Section 183.410, and the applicable requirements of the American Boat and Yacht Council, Inc., and/or ANSI/NFPA 302, "Fire Protection Standard for Pleasure and Commercial Motor Craft."
- For optimum sound distribution, do not position the Rapid Deployment Trailer where surrounding objects obstruct the sound output of the speaker.
- Do not paint the speaker. No finish or coating is required. Paint may obstruct the sound output, reducing the effectiveness of the horn.
- Establish a procedure to check the signal system for proper activation and operation routinely.
- Any maintenance to the unit MUST be performed by a trained and qualified electrician per NEC Guidelines and local codes or a Federal Signal Certified Service Provider.
- Never modify or alter the unit in any manner.
- The nameplate should NOT be obscured, as it contains cautionary and/or other information of importance to maintenance personnel.
- After installation and completion of the initial system test, provide a copy of these instructions to all personnel responsible for the operation, periodic testing, and maintenance of the equipment.

- File these instructions in a safe place and refer to them when maintaining, servicing, and/or reinstalling the device.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

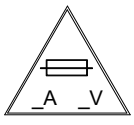
Installation and Service

- After installation or service, test the system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.
- If future service and operating personnel do not have these instructions to refer to and are not properly trained, the system may not provide the intended audible warning, and service personnel may be exposed to hazards that could result in death, permanent hearing loss, or other bodily injuries. File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to recruits and trainees.
- To reduce the risk of electric shock, do not perform any servicing other than what is contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel. Always test the Rapid Deployment Trailer before using it after repairs have been made. Comply with all applicable OSHA standards regarding Lock Out/Tag Out.
- The sound output of sirens is capable of causing permanent hearing damage. To prevent excessive exposure, carefully plan siren placement, post warnings, and restrict access to areas near the sirens. Sirens may be operated from remote control points. Whenever possible, disconnect all siren power, including batteries, before working near the siren.

Operation

Failure to understand the capabilities and limitations of your Mobile Siren Trailer could result in permanent hearing loss, other serious injuries, or death to persons too close to the sirens when you activate them or to those you need to warn. Carefully read and thoroughly understand all safety notices in this manual and all operations-related items in all instruction manuals shipped with the equipment. Thoroughly discuss all contingency plans with those responsible for warning people in your community, company, or jurisdiction. A well-written contingency plan document is recommended.

Symbol Definition



Indicates to reduce the risk of fire, replace the fuse as marked.

Pay careful attention to the notice located on the equipment.

811 is the national call-before-you-dig phone number. Anyone who plans to dig should call 811 or go to their state 811 center's website before digging to request that the approximate location of buried utilities be marked with paint or flags so that you do not unintentionally dig into an underground utility line.

Hazard Classification

Federal Signal uses signal words to identify the following:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Read and understand the information contained in this manual before attempting to deploy or service the siren.

General Description

Introduction

This manual describes the features, deployment, operation, and maintenance of the Federal Signal Rapid Deployment Trailer (trailer). The trailer is a standalone siren system intended for outdoor events (such as festivals, parades, concerts, etc.), municipal emergency management, disaster relief, search and rescue, industrial turnarounds, emergency response, military short-term, or portable Mass Notification System needs.

The mobile trailer includes Federal Signal's Modulator High Powered Speaker array, which provides a flat frequency response up to 2000 Hz, producing intense warning signals and digital voice messaging over a large area. The Modulator design enables the siren to produce a high sound level and intelligible voice communications.

This mobile solution is designed to serve as a standalone notification device or can be integrated into an existing siren system for ease of use. It can be networked via radio (VHF, UHF, 800 MHz, P25), IP, cellular, and/or satellite communications.

NOTE: For more detailed information see the product manuals, visit www.fedsig.com.

The product reference number (VIN) is on the tongue of the trailer, near the hitch. Refer to this number when communicating with Federal Signal.

Figure 1 VIN location

⚠ CAUTION

The Rapid Deployment Trailer is not a personnel lift. The sole intent of the lift is to raise and transport Federal Signal sirens.

⚠ DANGER

Death or serious injury could result from improper use of this equipment. Read and understand the procedures and warnings in this manual before operating the equipment.

⚠ DANGER

TIPPING or CRUSHING HAZARD: Do not raise the siren without deploying the outriggers, or damage to the equipment or personnel may occur. Ensure that the trailer is level once outriggers are deployed. Failure to adhere to this instruction may cause trailer instability, resulting in an unsafe condition for personnel and bystanders.

⚠ DANGER

TIPPING or CRUSHING HAZARD: Ensure that the trailer is on firm, level ground.

Optional Features

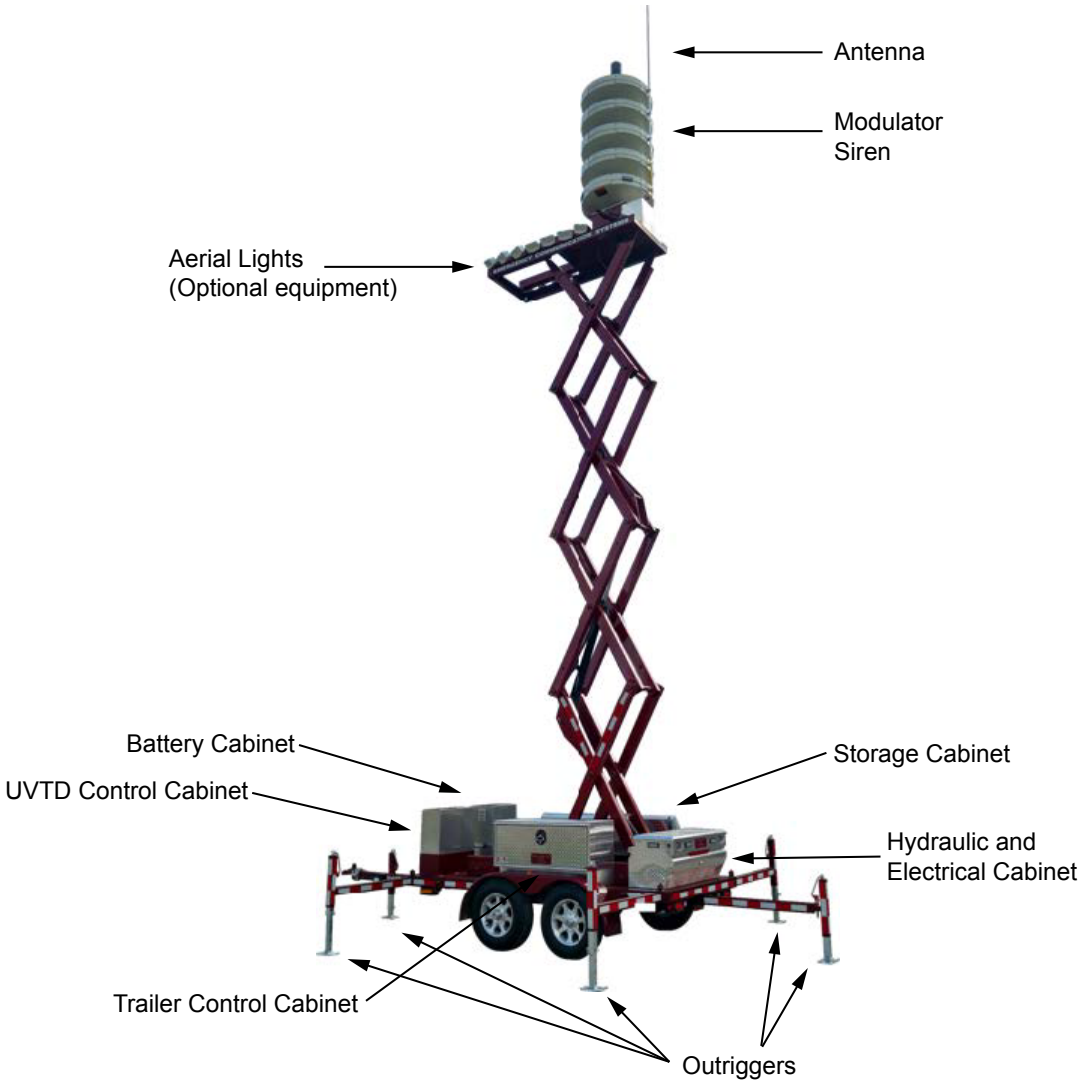
The Rapid Deployment Trailer may have the following features:

- Modulator High-Powered Omni Speaker
- UltraVoice® Electronic Siren Controller and Amplifier System
- Locally stored messages for prerecorded announcements, attention tones, and music files such as the National Anthem
- Live Voice (PA)
- Seven (7) local buttons, siren tones standard, plus a cancel button
- Four (4) siren batteries
- Solar panel and onboard generator (optional equipment)
- Satellite, Cellular, and/or Omni-Directional antenna
- Mobile Trailer - Deployment height of 30 feet to the bottom of the siren
- Dual Torsion Axle, 225/75D15 tires, dual self-adjusting electronic brakes, 2-5/16 inch hitch (can be hauled by a medium-duty vehicle with a 2-5/16 inch hitch ball)
- Four (4) LED warning lights mounted on the siren (optional equipment)
- Six (6) LED warning lights mounted on the trailer (optional equipment)
- Special Relay Board for controlling LED warning lights (optional equipment)
- Area Lighting (optional equipment)

Parts of the Trailer

The following picture describes some Federal Signal products available for the Rapid Deployment Trailer. Your custom trailer may not have all of these options.

Figure 2 Parts of the Rapid Deployment Trailer



NOTE: The generator is not pictured.

Storage Cabinet

The Storage Cabinet may include the following parts.

- Restraint equipment (cables, clevises, turnbuckles, and ground anchors)
- Guyed wires
- Ground anchors (36-inches long terminated with an eyebolt head)
- Fire extinguisher
- First aid kit
- Outrigger pads
- Wheel chocks
- Locking pins

Figure 3 Storage Cabinet

Trailer Control Cabinet

The Trailer Control Cabinet may include one or more of the following parts.

NOTE: Your custom trailer may not have all of these options.

- Laptop (contains Commander® and CommanderOne® software): unlock sliding tray to access (optional equipment)
- Microphone: used for voice announcements
- Radio
- SS2000+
- Emergency stop button
- DOWN/UP SIREN HEAD rotating switch
- LOWER/RAISE SIREN rotating switch
- Power switches
- I-IPSIU (optional equipment)

Figure 4 Trailer Control Cabinet

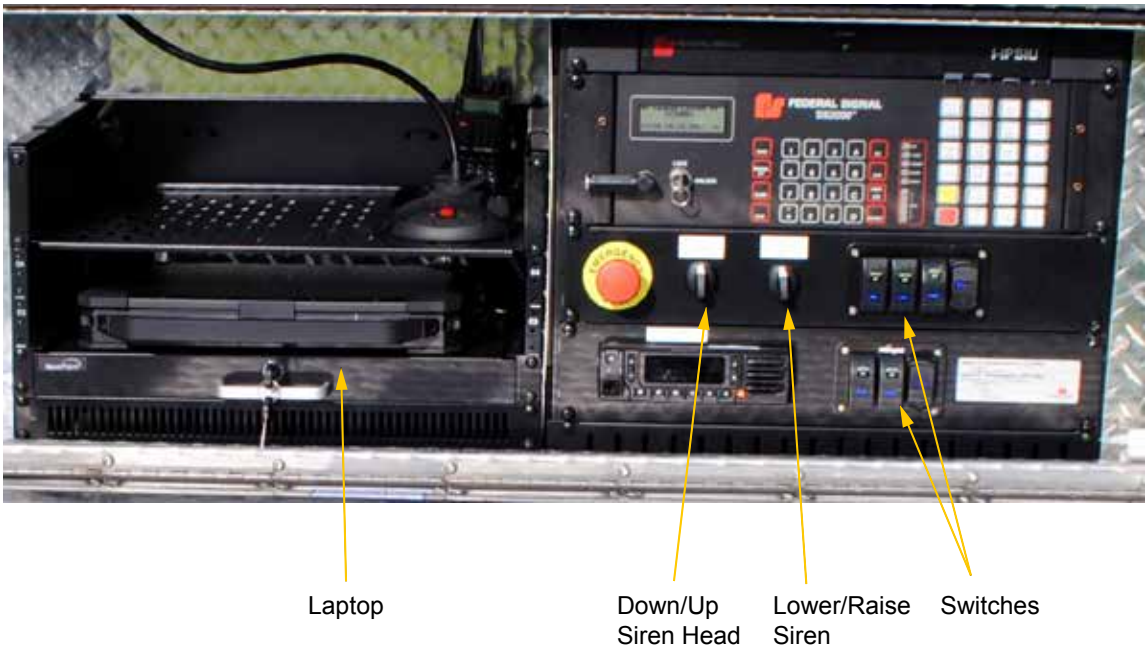


Table 1 Power Switches

Switch	Description
1	Turns on and off the side red and blue traffic lights
2	Turns on and off the white LED area lights (120 Vac required)*
3	Turns on and off the scissor lift mechanism
Voltage readout	Displays the voltage readout for the batteries

*The area LED lights require 120 Vac. For use, connect the trailer to either a generator or a standard 120 Vac wall outlet.

Table 2 Equipment Switches

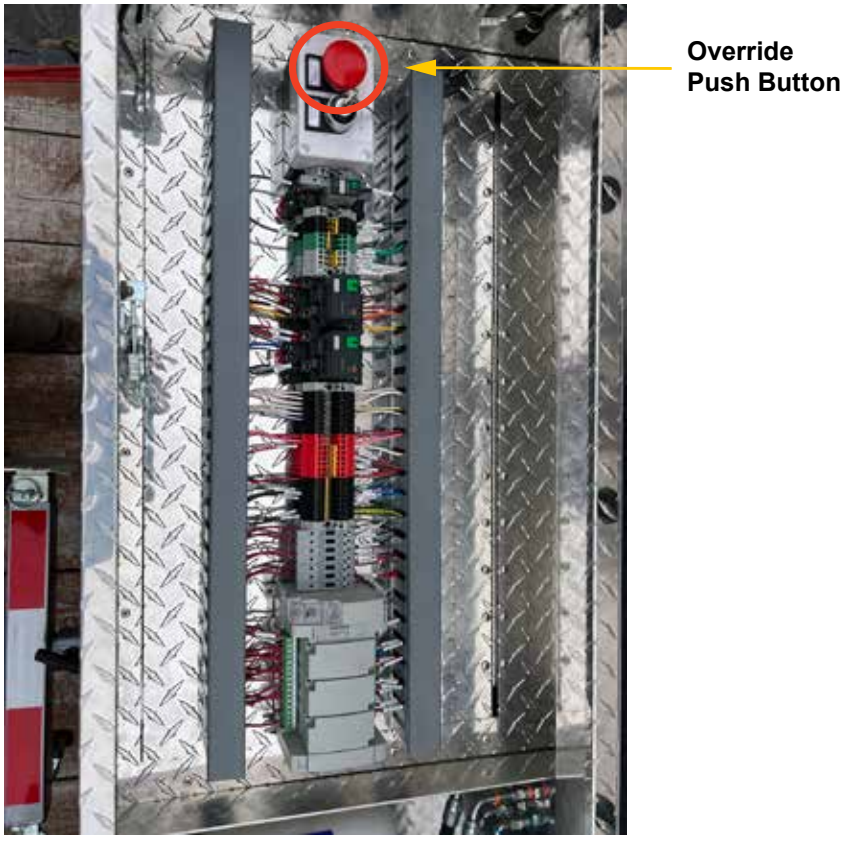
Switch	Description
1	CommanderOne®-LE (One-Way): • SS2000+ • UVTD Siren Controller
2	CommanderOne®-SM (Two-Way): • Commander® laptop • I-IP Devices
Voltage readout	Displays the voltage readout for the batteries

Electrical Cabinet and Hydraulic Tank

Located inside the Electrical Cabinet:

- Override Push Button

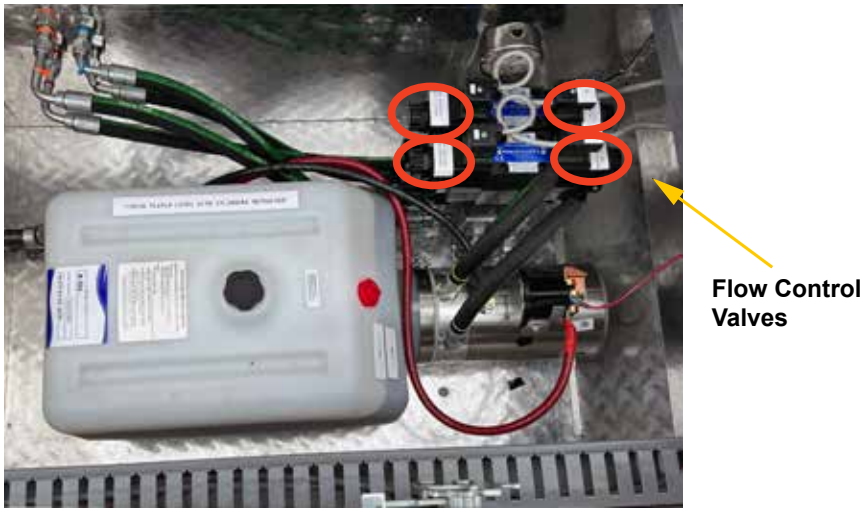
Figure 5 Electrical Cabinet



Located inside the Hydraulic Cabinet:

- Flow control valves are located in four spots. There is a flow control valve for each function.

Figure 6 Hydraulic Tank



See “Operating the Emergency Lower Lift” on page 83 for more information.

Battery Cabinet and Main Motor Fuse/Breaker

Located inside the Battery Cabinet:

- Main power switch for the batteries
- Four batteries
- 24 Vdc charger
- Fuse for the lift

Figure 7 Battery Cabinet

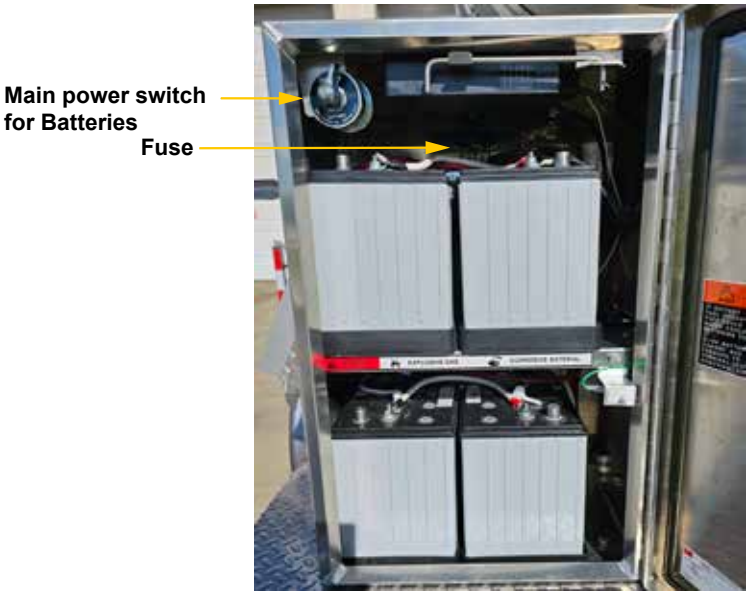
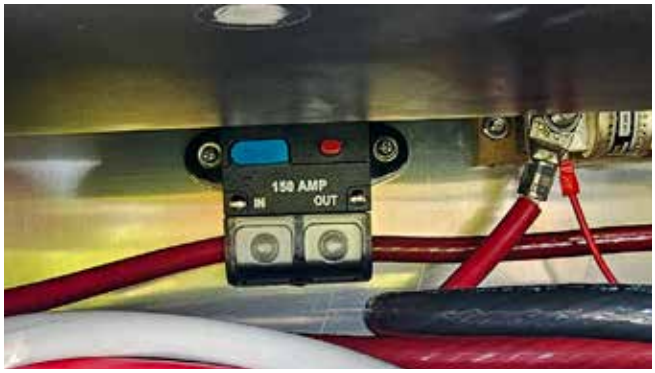


Figure 8 Fuse for Lift Location



UVTD Control Cabinet

Located inside the UVTD Control Cabinet:

- Manual Activation Switches

Figure 9 UVTD Control Cabinet

Generator (optional)

The generator is located on the Trailer Control Cabinet side of the trailer. Its purpose is to provide power when direct power (shore power) is unavailable. See the owner's manual for safety messages, operation, and maintenance information.

⚠ DANGER

CARBON MONOXIDE (CO) POISONING HAZARD: Operate the generator outdoors in an area with plenty of ventilation.

⚠ DANGER

ELECTROCUTION HAZARD: Generators pose electrical risks from improper use of power or accidentally energizing other electrical systems.

Keep the generator dry; do not use it in the rain or wet conditions.

Visit https://www.osha.gov/sites/default/files/publications/OSHA3286.pdf for using portable generators safely.

Shore Power (optional)

Shore power (120 volts) provides an optional power source for the trailer:

- User to maintain a charge for the batteries.
- Connect to operate the LED lights area lights.

Specifications

Table 3 MOD4032BT

Number of Active Modules	4
Power	3200 watts
dB Output	122 dBC at 100 feet (30.48 m)

Table 4 Specifications

Overall Weight (including the MOD siren)	6,750 lb
Trailer Tongue Weight	675 lb
Shipping dimensions	7.9 x 19 x 7 ft (H x W x D)
Height to Top of Siren (Deployed)	33-1/2 ft
Maximum Allowable Towing Speed	70 mph
Wheel and Tire Rating (Each)	2,540 lb at 65 PSI
Tire Specifications (All)	ST225/75R15
Receiver Size	2-5/16 in
Power Unit Voltage	24 Vdc
Hydraulic Reservoir Capacity	4.5 US GAL
Max wind speed without guyed wires	50 mi/h
Max wind speed with proper guyed wires and anchors	100 mi/h
Generator	See owner's manual for the generator.
Hydraulic fluid type	Replace fluid with Dexron® Automatic Transmission Fluid only.
Battery	Part Number 15500007A-02 AGM 105Ah Model 8A31
Guyed wires	4 with 4 ground anchors (The guyed wires consist of one each 37-foot cable between the top and turnbuckle on the bottom and one 4-foot connecting cable between the turnbuckle and the ground anchor.)

Table 5 Specifications for SunSaver MPPT Solar Controller for Hawaii

Electrical	
Peak efficiency	97.5%
Nominal battery voltage	12 or 24 V
Max. battery charging current	15 A
Battery voltage range	7-36 V
Nominal Max. Operating Power*	
12 volt battery	200 W
24 volt battery	400 W
Max. PV open circuit voltage**	60 V
Rated load current	15 A
Self consumption	35 mA
Transient surge protection	4 x 1500 W
Environmental	
Operating temperature	-40° to +140°F (-40° to +60°C)
Storage temperature	-67° to +212°F (-55° to +100°C)
Humidity	100% non-condensing
Tropicalization	Epoxy encapsulation conformal coating marine rated terminals
Mechanical	
Dimensions (H x W x D)	6.6 x 2.5 x 2.9 in (16.9 x 6.4 x 7.3 cm)
Weight	0.6 kg (1.3 lb)
Power terminal	16 mm^2 / #6 AWG
Enclosure	Die cast aluminum with plastic cover
Battery Charging	
Battery types	Gel, Sealed, AGM, Flooded
4 Stage charging	Bulk, absorption, float, equalize (optional)
Temperature compensation	
Coefficient	–5mV/°C / cell (25°C ref)
Range	–22° to +140°F (–30° to +60°C)
Set points	Absorption, float, equalize

Pre-Deployment Checklist

Complete the following items before setting up the trailer:

- ☐ Never operate the trailer if the wind load exceeds 100 miles per hour. If using the trailer on a grass surface with cables and ground anchors, the trailer is rated for wind loads up to 100 miles per hour. If using the trailer without cables and ground anchors, the trailer is rated for wind loads up to 50 miles per hour.
- ☐ If deploying the trailer on a grass surface with firm ground and using cables and ground anchors, call 811 to request the approximate location of buried utilities be marked. Hitting a buried line while digging can disrupt utility service, cost money to repair, or cause serious injury or death.
- ☐ If deploying the trailer on a grass surface with firm ground, evaluate the area where you will need to dig to place the ground anchors into the soil. Ensure that ground is soft enough to dig into. Ground Anchors are 36 inches long.
- ☐ Identify a flat surface with firm ground for the trailer location.
- ☐ Identify a 10-foot safety zone perimeter for the trailer.
- ☐ Do not locate the trailer under a power line.
- ☐ Ensure you have hearing protection, for example, earplugs. Use hearing protection when operating, performing tests, or maintaining the siren.

NOTICE

SAFETY DECALS: Safety decals are placed onto, or located near, system components that can present a hazard to operators or service personnel. Always heed the information noted on the safety decals.

⚠ WARNING

SOUND HAZARD: Operating the trailer should be performed by qualified personnel familiar with the siren, associated controls, and power sources being used and in conjunction with the authorities having jurisdiction.

The sound output of sirens is capable of causing permanent hearing damage at short distances. Therefore, always wear hearing protection when performing tests or maintenance on the siren and avoid excessive exposure.

Towing Procedure

NOTICE

EQUIPMENT DAMAGE: When towing, the trailer must be level or damage to the axles may occur.

Before towing the trailer, read and understand the towing capabilities of the trailer.

- Use the trailer tongue screw-down jack for raising or lowering the trailer coupler onto or off a 2-5/16 inch receiver towing hitch ball. Keep the jack in the stowed position when not in use.
- Use a drop or raised hitch if the trailer is not level when connected to the tow vehicle.
- The trailer has a built-in torsional suspension and an overall tire rating maximum speed of 70 mph.
- Use wheel chocks to prevent the unit from rolling while being set up, in operation, and connecting and disconnecting the trailer from the tow vehicle.
- The trailer is designed to be transported over the road. The lighting and braking system requires a seven-pin receptacle for proper connection.

NOTICE

EQUIPMENT DAMAGE: Do not disconnect the trailer from the tow vehicle until wheel chocks are securely placed in front and back of the tire. Place them around a wheel on each side of the trailer to prevent tires from rolling.

NOTICE

EQUIPMENT DAMAGE: Do not use the tie-down rings as lifting points for the unit. Mechanical damage may occur.

Connecting Trailer to Tow Vehicle

⚠ DANGER

A secure coupling (or fastening) of the trailer to the tow vehicle is essential. A loss of coupling may result in death or serious injury. Therefore, you must understand and follow all of the instructions for coupling.

To connect the Rapid Deployment Trailer to your tow vehicle:

1. Unlock the coupler's lock.

Figure 10 Coupler with lock

2. Remove the trailer's lock.

Figure 11 Trailer coupler

3. Align the tow vehicle to the trailer coupler.

4. Raise the trailer hitch by rotating the jack clockwise so that it is higher than the trailer ball (if necessary).
5. Slowly back up the tow vehicle to align the hitch ball under the coupler.

Figure 12 Trailer ball under the coupler

6. Remove the safety latch pin and open the coupler's locking mechanism.
7. Turn the jack counterclockwise to lower the coupler onto the trailer ball.
8. Squeeze the sides of the coupler to close it, and then rotate the latch back to move the sleeve forward. Replace the safety latch pin. In the engaged position, the locking mechanism securely holds the coupler to the hitch ball.

Figure 13 Coupler on the trailer ball

Connecting the Safety Chains

9. Twist the safety chains to shorten them. Attach the safety chains to the tow vehicle.

⚠ WARNING

Follow the following precautions for safety chains:

- Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury if the trailer uncouples from the tow vehicle.
- Do not fasten the chains to any part of the hitch unless the hitch has holes or loops specifically for that purpose.
- Never fasten the breakaway lanyard to the safety chains.
- Never let your safety chains drag to the ground. However, permit enough slack to permit turning and to hold the tongue up if the trailer comes loose.

Figure 14 Safety chains attached to the tow vehicle

Connecting the Electrical Connector

10. Connect the multi-pin electrical connector to the tow vehicle to enable the brake lights on the trailer. Observe polarity when making your connection.

Figure 15 Multi-pin electrical connector connected to the tow vehicle

Connecting the Breakaway Cable

11. Attach the breakaway cable on the trailer to the back of your tow vehicle. The following example shows the breakaway cable on the notch behind the cotter pin.

NOTE: A breakaway cable is a safety cable that attaches the brake system on the trailer to the back of your tow vehicle. The cable is in place in case your trailer uncouples from your tow vehicle. If the trailer unhooks, the pin pulls out from the box, activating the trailer brakes.

Figure 16 Breakaway cable connected to the tow vehicle

12. Remove the red/black handle pin and turn the jack horizontally to store the jack on the trailer's tongue. Reinsert the red/black handle pin.

Figure 17 Front outrigger in the stowed position

13. If your outriggers are deployed, break down your outriggers. See "Storing the Outriggers" on page 80.

14. Pick up each support pad and store them in the Storage Cabinet.

15. Pick up the wheel chocks and store them in the Storage Cabinet.

16. Close each cabinet.

Figure 18 Cabinets closed

17. Place the cabinet's handles in the down position.

Figure 19 Cabinets with handles down

18. Disconnect the shore power. The outlet for shore power is located on the side of the Trailer Control Cabinet.

Figure 20 Shore power

19. Ensure that the electric brakes and all of the lights on your trailer are operating properly before towing the trailer.

Pre-Tow Checklist

Before towing, check the following:

- ☐ Ensure that the electric brakes and all of the lights on your trailer are operating properly.
- ☐ Ensure the coupler is secure and locked.
- ☐ Ensure the safety chains are properly rigged to the tow vehicle.
- ☐ Ensure the breakaway cable is fastened to the tow vehicle.
- ☐ Ensure all tires are properly inflated.

Deploying the Trailer

Before using the trailer, see “Appendix A Operation Checklist” on page 86.

When using the trailer on a grass surface with firm ground, the trailer is rated for wind loads up to 100 miles per hour using cables and ground anchors. When using the trailer on a concrete surface, the trailer is rated for wind loads up to 50 miles per hour.

⚠ DANGER

TIPPING or CRUSHING HAZARD: Ensure that the trailer is on firm, level ground.

The following procedure describes deploying the trailer.

⚠ DANGER

Anyone who plans to dig should call 811 or go to their state 811 center’s website to request the approximate location of buried utilities be marked. Hitting a buried line while digging can disrupt utility service, cost money to repair, or cause serious injury or death.

1. Drive the trailer to the operating area.

   NOTE: You need at least a 6-foot perimeter to set up the outriggers. Use a 10-foot perimeter for safety.

2. Remove the wheel chocks from the Storage Cabinet. Set down the wheel chocks securely in front and back of the tire. Place them around a wheel on each side of the trailer to keep the tires from rolling.

Figure 21 Wheel chocks in front and back of the tire

⚠ WARNING

Precautions for using wheel chocks:

- ***WHEEL CHOCKS PRECAUTIONS: Do not disconnect the trailer from the tow vehicle until the wheels are chocked to prevent the trailer from rolling and possibly injuring persons.***
- ***WHEEL CHOCKS PRECAUTIONS: Always consider the surface/terrain and environment around the vehicle. Soft soil and wet or slippery terrain can affect the usability of wheel chocks and/or cause a potential for failure.***
- ***WHEEL CHOCKS PRECAUTIONS: Always position the wheel chock against the wheel so that it is making contact.***
- ***WHEEL CHOCKS PRECAUTIONS: Always use a minimum of two (2) wheel chocks.***

Grounding the Trailer

811 is the national call-before-you-dig phone number. Anyone who plans to dig should call 811 or go to their state 811 center's website before digging to request that the approximate location of buried utilities be marked with paint or flags so that you do not unintentionally dig into an underground utility line. Typically, it takes about three days for the utility operator to come to the site and locate the wires.

Grounding Rods

Grounding rods are not provided. The National Electrical Code (NEC) recommends that grounding rods be at least eight feet long and 5/8 inches in diameter and manufactured for the sole purpose of providing electrical grounding. Consider a semi-permanent or permanent grounding rod installation.

NOTE: Trailer grounding is recommended for lightning protection.

To ground the trailer:

3. Locate the grounding stud and bar on the trailer. Ensure that the paint is removed from the bonding point. Metal-to-metal contact is needed.

Figure 22 Location of Grounding Stud and Bar

Figure 23 Location of Grounding Stud and Bar

NOTICE

Ground in accordance with the National Electrical Code (NEC) recommendations and/or local code.

⚠ DANGER

ELECTROCUTION HAZARD: Buried utilities must be marked. Death or serious injury could result if electrical power lines or energized parts are contacted. Maintain safe distances from energized electrical power lines and parts.

NOTE: The NEC requires only one grounding rod if this is not a permanent installation. We recommend using two grounding rods if this will be a permanent or semi-permanent installation.

4. Ensure the location is clear of underground utility lines before driving the ground rod. Ensure the rod is driven straight to guarantee effective grounding. Follow directions with the grounding rod packaging.
5. Connect a grounding wire to the top of the grounding rod using a grounding clamp.

Deploying the Front Outrigger

6. Remove the red/black handle pin. Rotate the jack to a vertical position. Reinsert the red handle pin.
7. Center the support pad under the outrigger jack. The support pads are stored in the Storage Cabinet. These pads provide a firm, level surface on which you can perform your lift safely.
8. Remove the locking pin to adjust the leg if necessary.
9. Rotate the jack handle clockwise so that the adjustable jack base pad is firmly against the center of the support mat.
10. Remove the safety latch pin on the coupler and open the clamp by moving the latch forward.
11. Rotate the jack handle clockwise to raise the hitch's head to clear the trailer ball. This disconnects the trailer from the tow vehicle.
12. Replace the safety latch pin on the coupler by moving the latch back. (This is outrigger number 1. See "Figure 26 Outriggers numbered" on page 41.)

Disconnecting Trailer from the Tow Vehicle

13. Disconnect the breakaway cable from the tow vehicle. If you placed the breakaway cable behind the cotter pin, be sure to reattach the cotter pin.
14. Disconnect the multi-pin electrical connector and safety chains. Wrap these around the trailer's tongue.

Figure 24 Outrigger #1 deployed

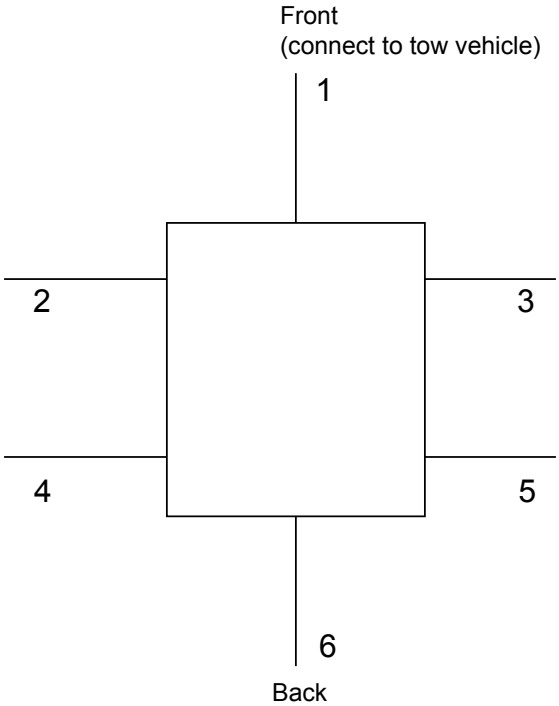
15. Move the tow vehicle forward several feet before parking.
16. Lock the trailer's hitch.
17. Level the outrigger. Check the bubble level located on the tongue of the trailer. The bubble should be centered. Adjust the legs if necessary.

Deploying Outriggers 2 through 5

18. Outriggers 2, 3, 4, and 5 are deployed the same way. See Figure 26. Begin with outrigger number 2.

Figure 25 Outrigger #2

Figure 26 Outriggers numbered



19. Rotate the spring-loaded safety latch into the notch.

Figure 27 Spring-loaded safety latch

20. Pull the outrigger outward to the marked stopping point.

21. Release the spring-loaded safety latch and rotate the handle. The spring will push the safety latch in place. The sticker should be visible.

Figure 28 Pull outrigger outward to the marked stopping point

⚠ CAUTION

TIPPING HAZARD: If outriggers are not used, the trailer may be unstable, resulting in an unsafe condition for personnel and bystanders.

Figure 29 Marked stopping point

22. Rotate the jack handle clockwise to extend the support base until the outrigger is flush against the trailer frame (that is, until you feel tension).

Figure 30 Outrigger Flush against the trailer

23. Center the support pad under the outrigger jack. The support pads are stored in the Storage Cabinet.

Figure 31 Support pad under the outrigger

24. Unhook the retainer on the locking pin.

Figure 32 Locking pin unhooked

25. Hold the adjustable leg with one hand and pull out the locking pin. Lower the adjustable leg to align the locking pin holes so the foot pad is as close to the ground as possible.

Figure 33 Leg lowered to the ground

26. Reinstall the locking pin and secure it with the retainer.

Figure 34 Locking pin secured

27. Rotate the jack handle clockwise so that the adjustable jack base pad is firmly against the center of the support mat.

28. Return the jack handle to the stowed (vertical) position.

Figure 35 Jack handle in the stowed position

29. Level the outrigger. Check the bubble level located on the tongue of the trailer. The bubble should be centered. Adjust the legs if necessary.

NOTES:

- It is only necessary to level after deploying outrigger 1 and then again after all five (outriggers 2-6) outriggers are deployed.
- If necessary, use the appropriate outrigger mats under the outrigger pads to level the unit and help distribute the load on softer terrain.

Figure 36 Bubble level centered

30. Repeat the procedure for outriggers 3, 4, and 5. Review “Figure 26 Outriggers numbered” on page 41 for the numbering of the outriggers.

Deploying the Back Outrigger

Figure 37 Back outrigger (#6) in the stowed position

31. Remove the cotter pin.

32. Remove the red/black handle pin.

33. Rotate the jack to a vertical position. Reinsert the red/black handle pin.

Figure 38 Spring loaded safety latch

34. Rotate the spring-loaded safety latch into the notch.

Figure 39 Spring-loaded safety latch rotated

35. Pull the outrigger outward to the marked stopping point.

36. Release the spring-loaded safety latch and rotate the handle. The spring will push the safety latch in place. The sticker should be visible.

⚠ CAUTION

TIPPING HAZARD: If outriggers are not used, the trailer may be unstable, resulting in an unsafe condition for personnel and bystanders.

Figure 40 Marked stopping point

37. Center the support pad under the outrigger jack.

Figure 41 Support pad under outrigger #6

38. You may need to remove the locking pin to lower the adjustable leg as close to the ground as possible. (The leg may already be in this position.)

39. Reinstall the locking pin and secure it with the retainer.

40. Rotate the jack handle clockwise so that the adjustable jack base pad is firmly against the center of the support mat.

41. Return the jack handle to the stowed (vertical) position.

42. Once all six outriggers are in place, recheck the bubble level. The bubble should be centered before attempting to raise the siren.

NOTE: If necessary, use the appropriate outrigger mats under the outrigger pads to level the unit and help distribute the load on softer terrain.

Figure 42 Bubble level centered

⚠ CAUTION

TIPPING HAZARD: Failure to level the unit and/or distribute the load adequately under the outrigger pads may result in the unit tipping over. Failure to adhere to this instruction may cause trailer instability, resulting in an unsafe condition for personnel and bystanders.

Figure 43 Outriggers deployed on a grass surface

Turning on Power

43. In the Battery Cabinet, prop the door open with the latch.

Figure 44 Battery Cabinet

44. Turn the main battery switch to the ON position. This switch controls the power to the siren equipment and lift, which includes the UVTD Controller Cabinet and the Trailer Control Cabinet.

Figure 45 Siren master switch on

45. Close the Battery Cabinet and rotate the handle to close the door.

46. In the Trailer Control Cabinet, turn on power switch #3. Switch #3 controls the lift scissor mechanism. The light on the switch illuminates.

Figure 46 Power switches

Opening the Siren Head Restraint

47. Open the siren head restraint by removing the lock.

Figure 47 Siren with head restraint with lock

48. Open the siren's hasp latch.

Figure 48 Siren's latch open

49. Flip the siren restraint over.

Figure 49 Siren with unlatched siren restraint

Raising Siren to a Vertical Position

50. In the Trailer Control Cabinet, raise the siren from its stowed position to a vertical position by turning the rotating switch labeled Down/Up Siren Head a quarter turn clockwise until the siren head is completely vertical.

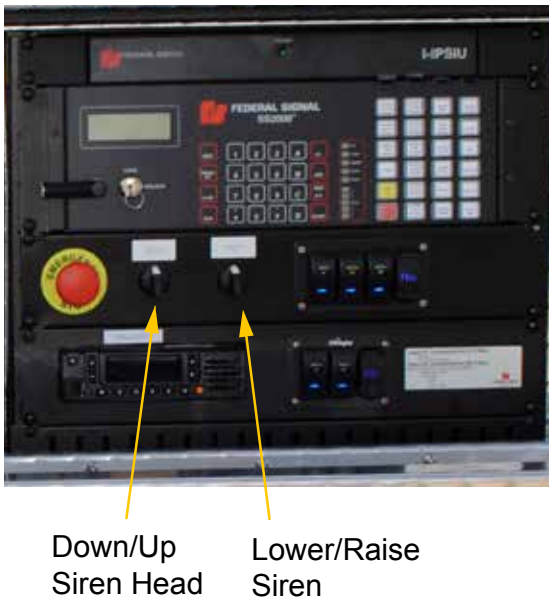
⚠ DANGER

ELECTROCUTION HAZARD: Before raising the scissor lift mechanism, ensure there are no overhead lines or obstructions.

NOTICE

EQUIPMENT DAMAGE: Do not raise the siren without removing the siren head restraint because structural damage may occur.

Figure 50 Rotating switches



NOTICE

The alarm sounds when the siren's head is in motion.

Figure 51 Siren in vertical position

Figure 52 Siren in a vertical position on a grass surface

If wind loads are under 50 miles per hour and you are not using cables and ground anchors, proceed to “Elevating the Siren” on page 59.

Attaching Cables to the Siren Platform

NOTICE

Use cables for setting up the trailer to withstand a wind load up to 100 miles per hour. If wind loads are under 50 miles per hour, cables are not needed.

⚠ WARNING

If deploying the trailer on a grass surface and using cables and ground anchors, call 811 to request the approximate location of buried utilities be marked. Hitting a buried line while digging can disrupt utility service, cost money to repair, or cause serious injury or death.

⚠ DANGER

TIPPING or CRUSHING HAZARD: Ensure that the trailer is on firm, level ground.

Ensure the anchors can go into the ground before going through all of the steps in case the ground is not soft enough or there is rock.

NOTICE

Ensure that you can dig into the ground to position the anchors.

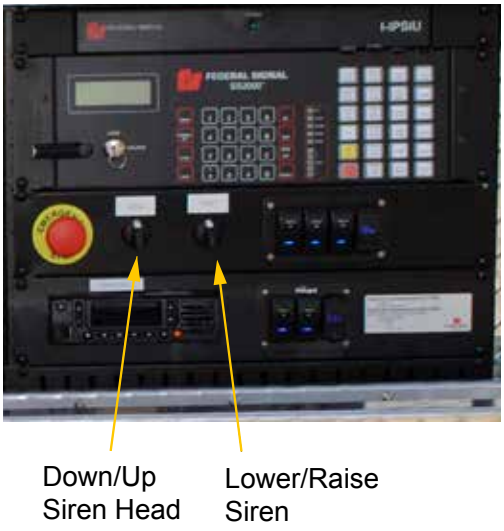
⚠ WARNING

SOUND HAZARD: The output level of this siren is capable of causing permanent hearing damage. Therefore, ALWAYS wear hearing protection when performing maintenance or operating the siren.

To prevent the siren from sounding, always turn off the power to the siren at the disconnect switch and remove any DC power being supplied by the battery box before inspecting or maintaining the siren.

51. Using the Lower/Raise Siren rotating switch in the Trailer Control Cabinet, raise the scissor lift up slightly until all the four D-rings are visible, which is about 12 inches above the Trailer Control Cabinet. “Figure 52 Siren in a vertical position on a grass surface” on page 54.

Figure 53 Rotating switches



52. Remove the restraint equipment provided:

- Long and short cables
- 1/2-inch and 3/4-inch shackles
- Turnbuckles
- Ground anchors

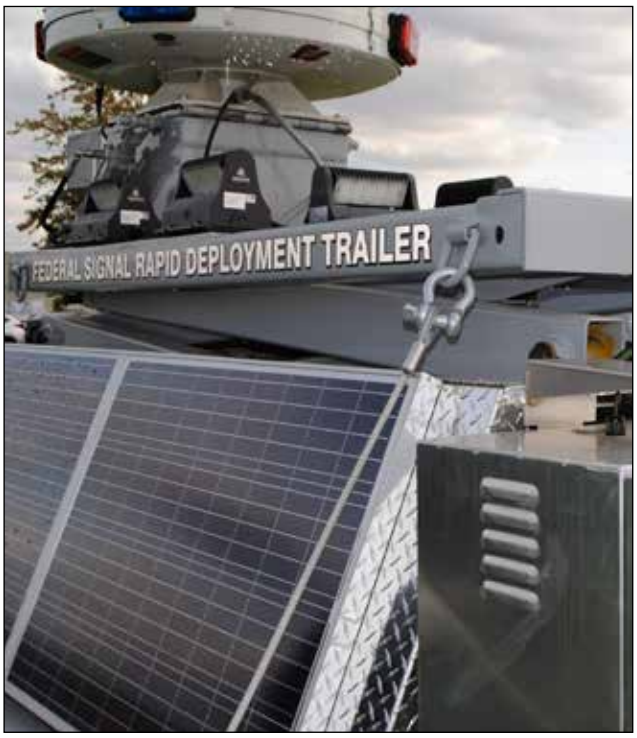
53. Roll out the cables in front of each D-ring. Line up with outriggers 2, 3, 4, and 5. Restraint equipment is stored in the Storage Cabinet. There are long and short cables. Roll out the long cables first.

Figure 54 Restraint equipment

54. Attach the larger shackle to the long cable.

55. Attach the shackle to the D-ring on the siren platform.

Figure 55 D-rings with a shackle attached

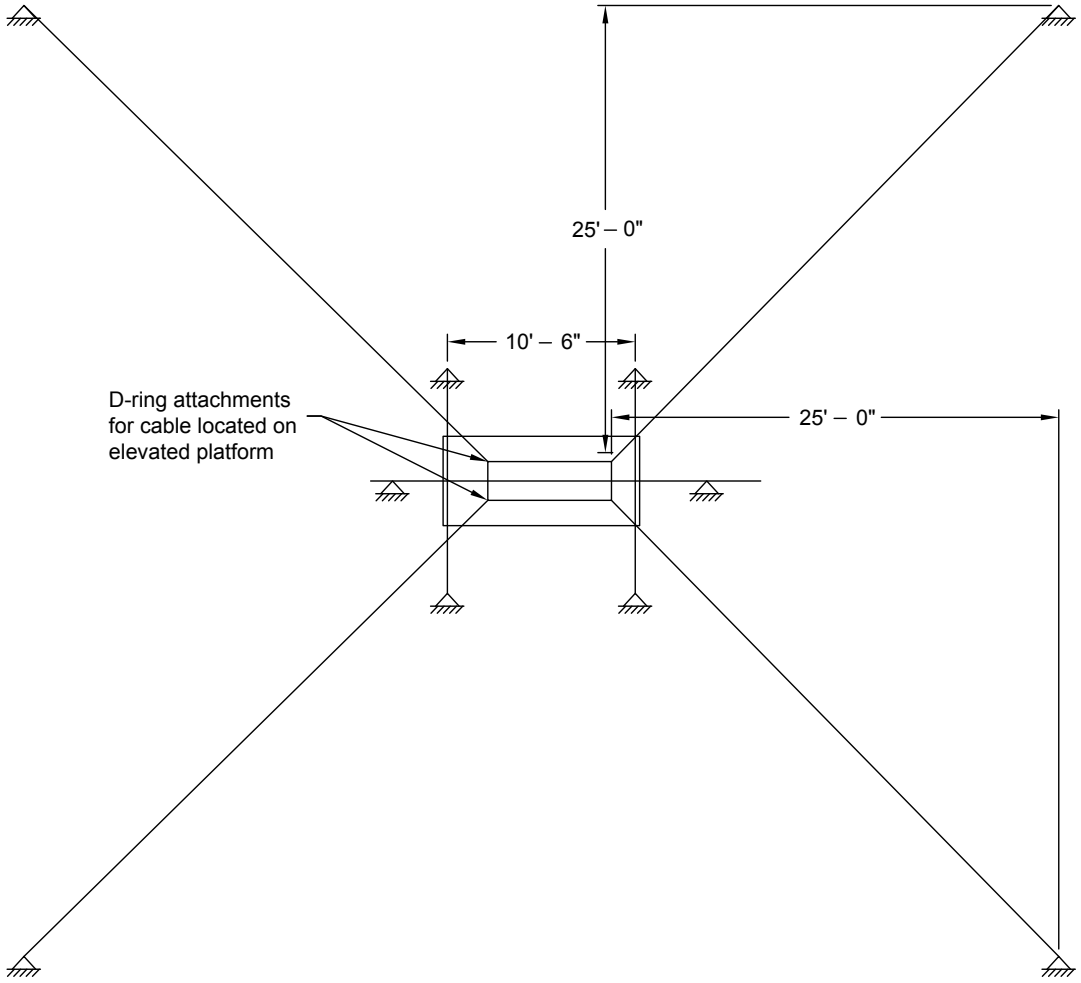


56. Attach the other end of the cable to the turnbuckle.

57. Attach the turnbuckle to the short cable.

58. Attach the short cable to the smaller shackle.

Figure 56 Anchor locations



Elevating the Siren

59. With the siren head vertical, turn the rotating switch labeled Lower/Raise Siren a quarter turn clockwise until the siren head is fully elevated.

⚠ DANGER

CRUSHING HAZARD: Keep clear of lowering the boom structures. Serious injury or death may occur.

NOTICE

EQUIPMENT USAGE: The siren will only sound when the scissor lift is fully raised.

EQUIPMENT DAMAGE: Ensure the restraint cables are clear of any catch points before raising the siren. Monitor all four cables as the scissor lift expands.

Figure 57 Siren fully raised without cables

For Deployment on Grass Surface only

If setting up the trailer on concrete or if wind loads are under 50 miles per hour and you are not using cables and ground anchors, proceed to “Inserting the Locking Pins” on page 62.

⚠ CAUTION

TIPPING HAZARD: Guyed wires are required if the wind or gusts exceed 50 mph. All four cable restraints must be in place before the scissor lift can be raised.

Failure to anchor or distribute the load adequately under the ground anchors may result in the unit tipping over.

Failure to adhere to this instruction may cause trailer instability, resulting in an unsafe condition for personnel and bystanders.

⚠ DANGER

TIPPING HAZARD: Overtightening cables on one side of the lift could cause the lift to tip over.

Figure 58 Siren fully elevated with cables

Placing Ground Anchors into the Ground

Before you dig, buried utilities must be marked. 811 is the national call-before-you-dig phone number. Anyone who plans to dig should call 811 or go to their state 811 center's website before digging to request that the approximate location of buried utilities be marked with paint or flags so that you do not unintentionally dig into an underground utility line. Hitting a buried line while digging can disrupt utility service, cost money to repair, or cause serious injury or death.

⚠ CAUTION

SOUND HAZARD: Drilling equipment may be loud. Take appropriate precautions, including wearing adequate hearing protection. Do NOT exceed the maximum sound level exposure limits specified in OSHA 29 CFR 1910.

Figure 59 Impact Wrench

60. Drill into the ground.

NOTE: You may want to use a shovel to dig the top layer of sod off.

61. Place a ground anchor at a 45-degree angle from the platform's base to the designated anchor point.

62. Twist the ground anchor into the ground until the anchor eye is just above soil level. See "Figure 56 Anchor locations" on page 58 for details on the distance from the D-ring on the trailer to the ground anchor.

63. Attach the smaller shackle to the ground anchor.

Figure 60 Cable attached to the ground anchor

NOTE: Only the eye of the ground anchor is above ground.

Inserting the Locking Pins

⚠ DANGER

CRUSHING HAZARD: Proceed with caution when inserting the locking pin. Follow directions exactly. Serious injury or death may occur.

64. Fully insert the locking pin into the tube. The tube is located directly behind the scissor lift wheel on the base of the lift. It blocks the wheel on the scissor lift.

65. Repeat for the other side.

66. Verify that the locking pins are flush with the tubes.

⚠ DANGER

CRUSHING HAZARD: Do not attempt to remove locking pins before raising the scissor lift back to maximum height.

Figure 61 Placement of locking pins

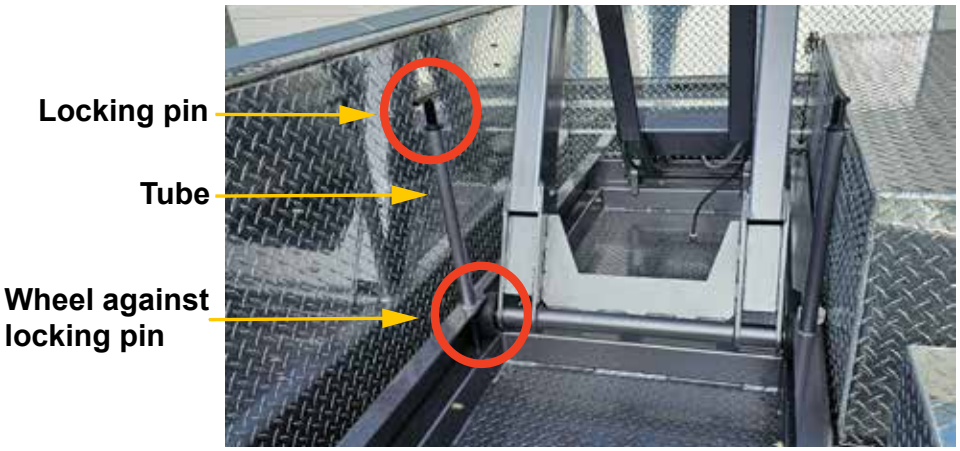


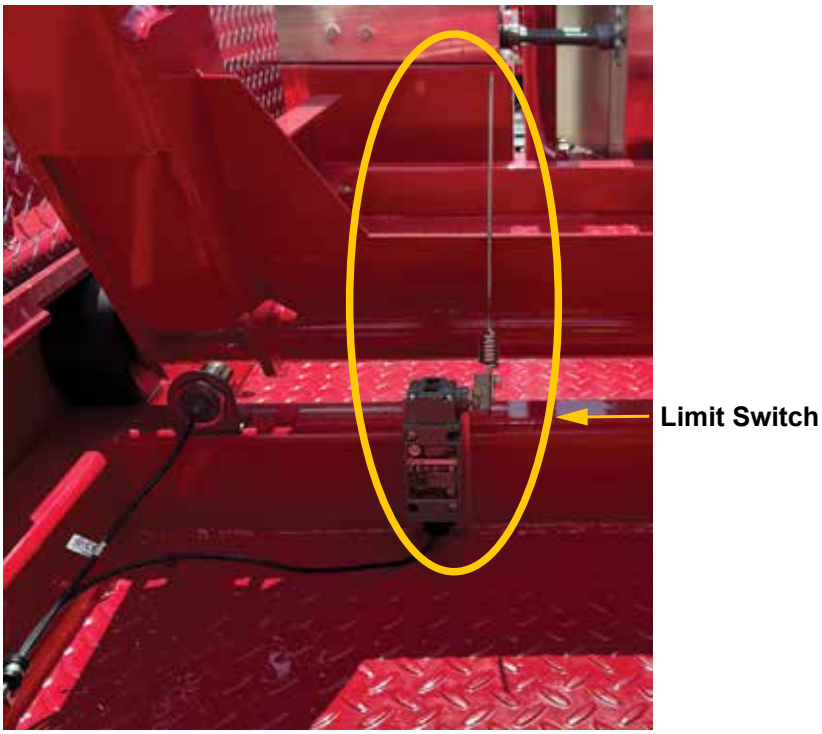
Figure 62 Verify pins are flush with tubes

67. Once the locking pins are in place, lower the scissor lift until the wheels are resting against the locking pins.
68. Tighten the turnbuckles so an even amount of pressure is placed on all four cables. Turn the turnbuckle clockwise to tighten the tension of your supports or counter-clockwise to release tension.
69. Repeat these steps for all four siren platform/ground anchor restraint points.

Using the Limit Switch Sound Disconnect

When the siren is fully elevated, the limit switch connection is closed.

Figure 63 Limit Switch



Testing a Function

⚠ WARNING

SOUND HAZARD: The sound output of speakers is capable of causing permanent hearing damage. Ensure people are not exposed to sounds exceeding 120 dB– post warnings where applicable.

After the trailer is fully deployed and scheduled to be set up for a length of time, run a test on one of the functions to verify that the siren is working correctly.

Operating the Siren

⚠ WARNING

SOUND HAZARD: The sound output of speakers is capable of causing permanent hearing damage. Ensure people are not exposed to sounds exceeding 120 dB– post warnings where applicable.

Before operating the siren, perform the tasks on the Operation Checklist. See “Appendix A Operation Checklist” on page 86.

Activating your customized trailer depends on the options available to you. This section includes all possibilities.

To activate the siren:

- Use the local control functions in the UVTD Control Cabinet.
- Use the SS2000+ in the Trailer Control Cabinet. Optionally, use CommanderOne® LE software. (A cellular network is required to use CommanderOne® LE.)
- Use Commander® software on the provided laptop, your own laptop, or your mobile app.

Using Local Control Functions

Use the manual activation switches to activate siren functions. Switches are located on the front panel of the UV+ controller card located inside the UVTD Control Cabinet.

Figure 64 UV+ Controller Card Switches

NOTE: The following table shows standard functions on the UV+ Controller. CODE 1 through 7 are configurable per customer's requirements.

Table 6 Manual Activation Switches on UV+ Controller Card

Function Switch	Function
CODE 1	PA MOD4016
CODE 2	Wail 3-Minutes
CODE 3	Steady 3-Minutes
CODE 4	Cancel
CODE 5	Test Message MOD4016
CODE 6	Test End Message MOD4016
CODE 7	Westminster Chimes
STOP	Master Reset

NOTE: At any time during a sounding function, push the STOP button to halt all output immediately.

See the UltraVoice® manual (part number 255354) at www.fedsig.com for more information.

Using the SS2000+ (optional)

To activate a siren:

1. In the Trailer Control Cabinet, place the power switch #1 in the on position.

Figure 65 Power switches

2. Press one of the buttons on the keypad to activate the siren.

Figure 66 HotKeys on the SS2000+ keypad

Table 7 HotKey Functions on SS2000+ keypad

HotKey Number	Function
1	Test Message MOD4032
2	Test End Message MOD4032
3	PA MOD4032
4	Westminster Chimes
5	Cancel All
6	Master Reset

HotKey Number	Function
7	Test Message MOD4016
8	Test End Message MOD4016
9	PA MOD4016
10	Test Message MOD2008
11	Test End Message MOD2008
12	PA MOD2008
13	Steady 3-Minutes
14	Severe Weather
15	Lightning Warning
16	Tornado Warning
17	Evacuate
18	All Clear Message
19	National Anthem
20	Reveille
21	Taps
22	Army Song
23	Navy Song
24	Air Force Song

See the SS2000+ Series C manual (part number 25500606) at www.fedsig.com for more information.

Using Commander Software (optional)

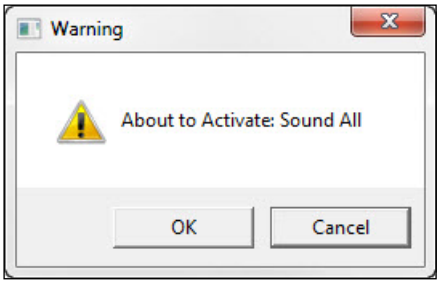
If a cellular network is available, use Commander® software on the provided laptop, your own laptop, or use CommanderOne® on your mobile app. The Commander® manual is available inside of the software.

To activate Hotkeys in Commander®:

1. Select Activate > Hotkey.

   The Activation Hot Keys dialog box appears.

2. The five columns of ten buttons are the activation Hotkeys. To send a preprogrammed activation sequence to the site(s), click a Hotkey. A message box appears to warn that the selected sirens are about to sound.



3. Click Cancel to terminate activation or OK to continue. This is the final confirmation.

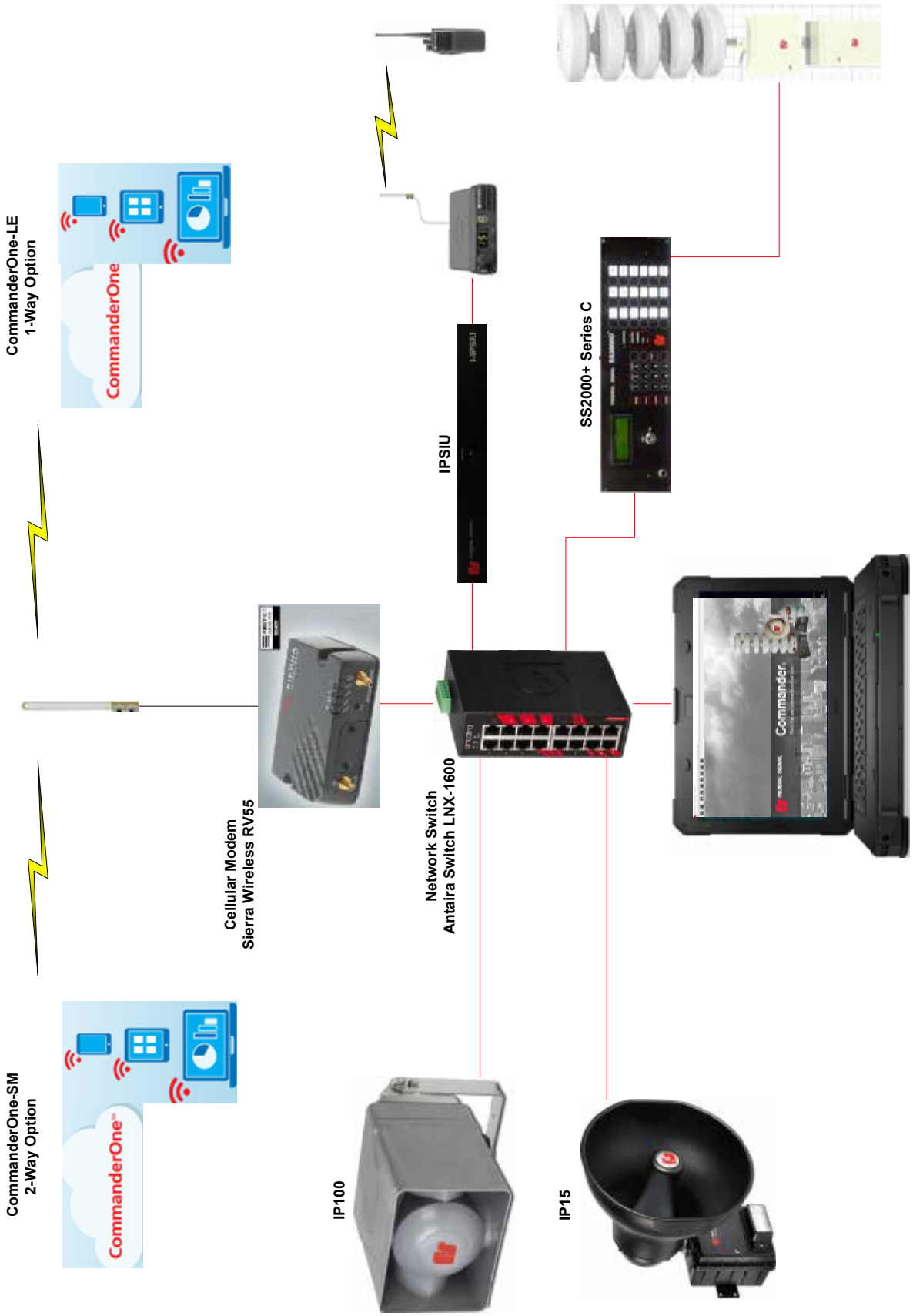
   NOTE: Some activation Hotkeys may be unavailable. This means the user logged in does not have access rights to these Hotkeys.

Table 8 HotKey Functions in Commander

HotKey Number	Function
1	Test Message MOD4032
2	Test End Message MOD4032
3	PA MOD4032
4	Test Message MOD4016
5	Test End Message MOD4016
6	PA MOD4016
7	Test Message MOD2008
8	Test End Message MOD2008
9	PA MOD2008
10	For future use
11	Test Message IP100
12	Test End Message IP100
13	Public Address IP100
14	Test Message IP15
15	Test End Message IP15
16	Public Address IP15
17	Test Message IPSIU
18	Test End Message IPSIU
19	Public Address IPSIU
20	For future use
21	Obstruction Light ON
22	Obstruction Light OFF
23	Quadraflare ON
24	Quadraflare OFF
25	For future use
26	For future use
27	For future use
28	For future use
29	For future use
30	For future use
31	Steady 3-Minutes
32	Severe Weather
33	Tornado Warning
34	Lightning Warning
35	Chemical Release
36	Lockdown
37	Evacuate
38	All Clear Message
39	Westminster Chimes
40	For future use

HotKey Number	Function
41	National Anthem
42	Reveille
43	Taps
44	Army Song
45	Navy Song
46	Air Force Song
47	Marine Corp Song
48	For future use
49	Cancel All
50	Master Reset

Figure 67 Activation Options



Putting the Trailer Away

The following procedure describes how to break down the trailer parts and store them away.

If you did not use cables, proceed to the “Raising Siren off Locking Pins” section.

If Using Cables

If you set up the trailer using cables and ground anchors:

1. Loosen the turnbuckle until fully extended. (Leave about an inch of thread showing.)
2. Disconnect the shackle from the ground anchor.

Figure 68 Cable attached to the ground anchor

3. Disconnect the turnbuckle from the longer cable. (You may want to keep some of the restraint equipment assembled if there is room in the Storage Cabinet.)

Raising Siren off Locking Pins

To lower the siren, you must safely raise the scissor lift off of the locking pins.

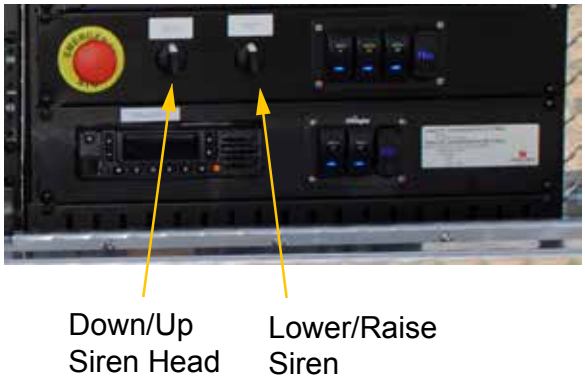
To raise the siren off of the locking pins:

4. Turn the keyed override to the ON position located in the Hydraulic and Electrical Cabinet.
5. Press and hold the red Override Push Button and rotate the Lower/Raise Siren switch a quarter turn clockwise very briefly (less than one second). You only need to raise the scissor lift a small amount to remove the weight to allow the wheels resting on the locking pins to move back slightly.

   NOTE: Move back just enough so the wheels are not resting on the locking pins.

Figure 69 Key in the ON position

Figure 70 Lower/Raise siren head rotating switch



6. Turn the keyed override to the OFF position.

Figure 71 Key in the OFF position

Removing the Locking Pins

⚠ DANGER

CRUSHING HAZARD: Proceed with caution when removing the locking pin. Follow directions exactly. Serious injury or death may occur.

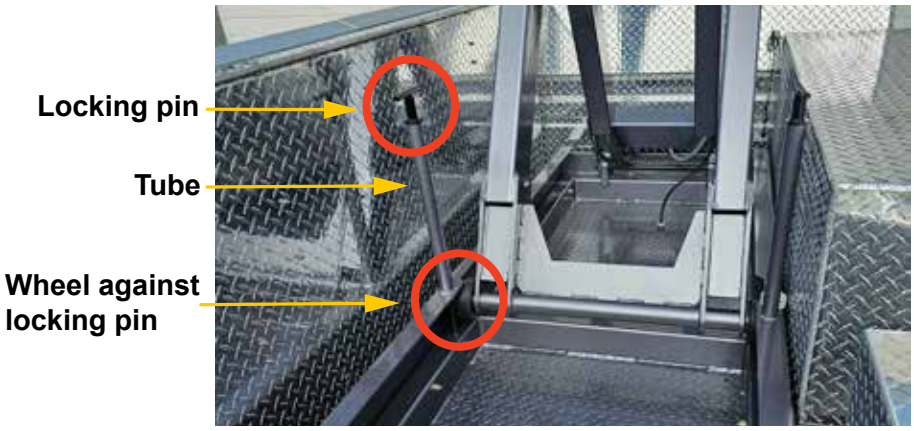
7. Remove the locking pins located directly behind the scissor lift wheels on the base of the lift.

8. Repeat for the other side.

⚠ DANGER

CRUSHING HAZARD: Do not attempt to remove locking pins before raising the scissor lift back to maximum height.

Figure 72 Locking pins



9. Store locking pins in the Storage Cabinet.

Lowering the Siren

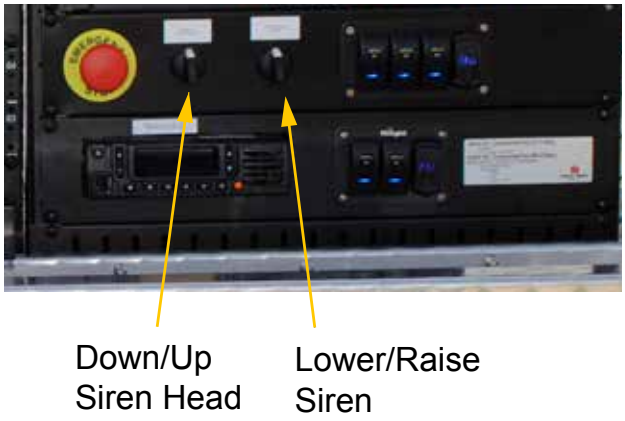
If Not Using Cables

10. In the Trailer Control Cabinet, turn the rotating switch labeled Lower/Raise Siren a quarter-turn counterclockwise until the siren is completely lowered.

⚠ DANGER

CRUSHING HAZARD: Keep clear of lowering the boom structures. Serious injury or death may occur.

Figure 73 Lower/Raise siren head rotating switch



If Using Cables

11. Using the Lower/Raise Siren rotating switch in the Trailer Control Cabinet, lower the scissor lift until all four D-rings are 12 inches above the Storage Panel.

NOTE: Ensure that the cables are not caught in the scissor lift when lowering the siren.

12. Remove the shackle from the D-ring.

Figure 74 D-rings visible

13. Repeat these steps for all four siren platform/ground anchor restraint points.

Lowering Siren to a Horizontal Position

14. In the Trailer Control Cabinet, lower the siren from its vertical position to a stowed position by turning the rotating switch labeled Down/Up Siren Head.

Figure 75 Toggle switch Down/Up siren head

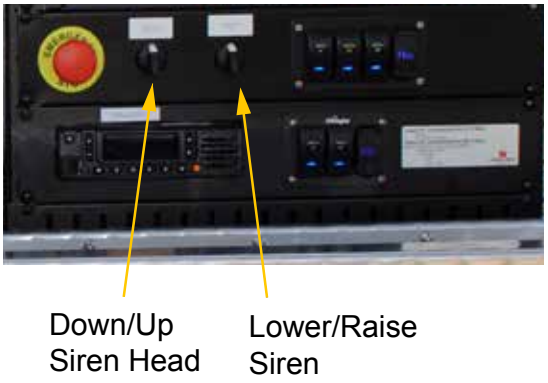


Figure 76 Siren in the stowed position

Restraining the Siren Head

15. Engage the siren restraint, latch the clamp, and flip the siren restraint over.

16. Close the siren head restraint by engaging the lock.

Figure 77 Siren head with lock

Turning off the Power

17. In the Trailer Control Cabinet, place the power switch #3 in the off position. The light on the switch turns off.

Figure 78 Power switches

18. In the Battery Cabinet, turn the siren master switch to the off position.

Figure 79 Siren master switch off

Storing the Outriggers

Storing the Back Outrigger

To store the back outriggers:

19. Begin with the back outrigger (number 6), then break down outrigger 2 through 5. See “Figure 26 Outriggers numbered” on page 41.

20. Rotate the jack handle counterclockwise to raise the outrigger’s leg off the ground.

21. Remove the cotter pin and the red/black handle pin.

22. You may need to remove the locking pin to raise the adjustable leg back into its highest position.

23. Rotate the outrigger horizontally.

24. Reinsert the red/black handle pin.

25. Pull back the spring-loaded safety latch and rotate a quarter-turn counterclockwise.

26. Slide the outrigger leg towards the trailer.

27. Adjust the spring-loaded safety latch in place.

28. Place the jack handle in the stowed position.

Figure 80 Back outrigger (#6) in the stowed position

Storing Outriggers 2 through 5

To store the outriggers 2 through 5:

29. Rotate the jack’s handle clockwise to raise the leg off of the ground.

30. Remove the locking pin.

31. Raise the leg up off the ground.

32. Reinsert the locking pin and secure it with the retainer.

33. Place the jack handle in the stowed (vertical) position.

Figure 81 Outrigger's leg raised

34. Pull back on the spring-loaded safety latch and rotate a quarter turn counterclockwise to lock it in the notch.

Figure 82 Spring-loaded safety latch rotated

35. Slide the outrigger towards the trailer.

36. Release the spring-loaded safety latch so it holds the leg.

37. Repeat this procedure for each of the outriggers.

38. Pick up each support pad and store them in the Storage Cabinet.

39. Pick up the wheel chocks and store them in the Storage Cabinet.

40. Close each cabinet.

Figure 83 Cabinets closed

41. Place the cabinet's handles in the down position.

Figure 84 Handles down

42. Connect the trailer to the tow vehicle. See "Connecting Trailer to Tow Vehicle" on page 30.

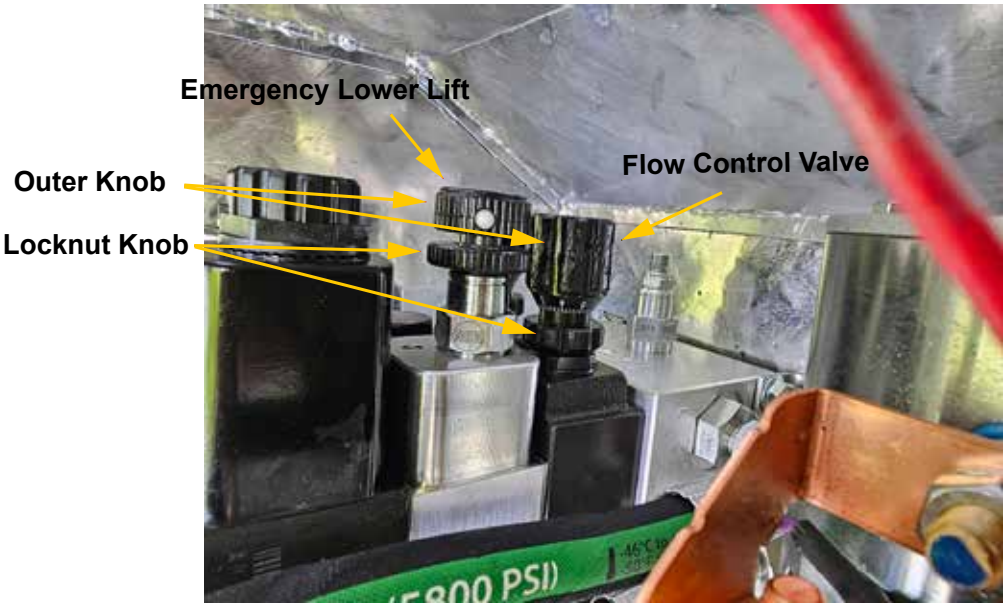
Troubleshooting

Operating the Emergency Lower Lift

To operate the Emergency Lower Lift:

1. Loosen the Locknut Knob closest to valve block.
2. Turn the Outer Knob clockwise until the lift descends at the selected speed.

Figure 85 Location of Emergency Lower Lift and Flow Control Valve



3. Once the lift is fully retracted, turn the Outer Knob counterclockwise until it stops.
4. Re-tighten the locknut to prevent the Outer Knob from turning.

NOTICE

DO NOT lower the lift too quickly, as the flow check valves will set, and the lift will no longer lower until the check valve is released.

Operating the Flow Control Valve

The Flow Control Valve levels have been preset at the factory.

To operate the Flow Control Valve:

1. Loosen the Locknut Knob closest to valve block.
2. Turn the Outer Knob clockwise until the lift function moves at the selected speed.
3. Once the lift function is at its preferred speed, re-tighten the Locknut Knob to prevent the Outer Knob from turning.

NOTICE

If either function is set too quickly in the down positions, the safety flow check valves will be set, and the lift will not go down until the flow valve is released.

Using the Override Button

If, for any reason, a sensor fails and the siren head and scissor lift are unable to move, use the Override Push Button to bypass the failed sensor and continue operation. The Override Push Button is located in the Hydraulic and Electrical Cabinet.

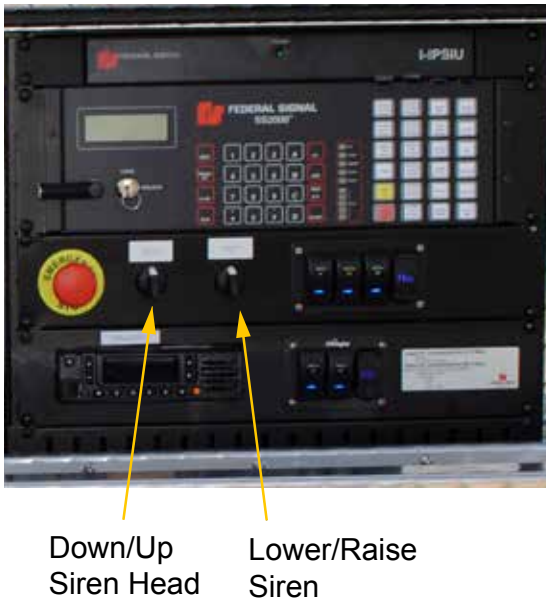
To use the Override Push Button:

1. Turn keyed override to the ON position and press the red Override Push Button.

Figure 86 Override Push Button

2. Use the rotation switches in the Trailer Control Cabinet to complete the desired function(s).

Figure 87 Rotating switches



Getting Technical Support and Service

For technical support, contact:

Federal Signal
Technical Support
Phone: 800-524-3021 or 708-534-4790
Email: techsupport@fedsig.com
www.fedsig.com

For customer support, contact:

Federal Signal
Customer Support
Phone: 800-548-7229 or 708-534-3400 extension 367511
Email: customersupport@fedsig.com
www.fedsig.com.

Appendix A Operation Checklist

Before Operating

Before operating the trailer:

- ☐ Check tire air pressure before transporting the unit and before deployment; all tires are properly inflated.
- ☐ Check the hydraulic and electrical cabinet for leaks.
- ☐ Check for burnt or loose wiring or any visual signs of tampering.
- ☐ Check for any visual signs of tampering.
- ☐ Visually inspect the scissor lifts hydraulic system for leaks.
- ☐ Verify that the fire extinguisher is in place and fully charged.
- ☐ Verify warning and safety labels are in place and legible.
- ☐ Verify that the five outriggers are fully extended, with latches locked in place and on flat ground with outrigger pads.
- ☐ Verify that the tongue jack is placed on flat ground and is centered on the outrigger pad. (Outrigger #1)
- ☐ Verify outrigger pads have not settled into the ground, causing the trailer to become unlevel.
- ☐ Verify four safety cables are secured and tight when using guyed wires.
- ☐ Verify that the scissor lift is resting on locking pins.
- ☐ Visually verify trailer is level; trailer should not be leaning more to one side or the other, front or back.
- ☐ Check all scissor lift pins and retaining clips.
- ☐ Check engine oil level in the generator. (See the owner's manual for a maintenance schedule.)

Visual inspection of the scissor lift:

- ☐ Frame
- ☐ Hardware
- ☐ Siren head
- ☐ Antenna
- ☐ All cables and wiring

Visual inspection of the trailer:

- ☐ Frame
- ☐ Hardware
- ☐ Welds
- ☐ Trailer Control Cabinet

- ☐ Hydraulic and Electrical Cabinet
- ☐ Storage Cabinet

After Operating

After operating the trailer:

- ☐ Connect the trailer to a standard wall outlet (120 Vac) to maintain a battery charge. The battery charger plug-in is located on the side of the Trailer Control Cabinet. For a picture, see “Figure 20 Shore power” on page 35.
- ☐ Inspect structure and equipment for defects and overall condition per the inspection list.

Appendix B Maintenance Checklist

The Operator must maintain the trailer as instructed in this manual, including proper storage as detailed in Long Term Storage.

NOTE: Always dispose of machine fluids under the guidance of all applicable local, regional, and/or federal law. Federal Signal encourages recycling when allowed. For additional information, consult the container label of the fluid in question.

Refer to Federals Signal's manuals for additional maintenance information. Visit www.fedsig.com.

Before Operating

Before using, perform the following tasks.

- ☐ Check tire air pressure before transporting the unit and before deployment; all tires are properly inflated.
- ☐ Check the hydraulic and electrical cabinet for leaks.
- ☐ Check for burnt or loose wiring or any visual signs of tampering.
- ☐ Check for any visual signs of tampering.
- ☐ Visually inspect that trailer tires are properly inflated.
- ☐ Visually inspect scissor lifts hydraulic system for leaks.
- ☐ Verify that the fire extinguisher is in place and fully charged.
- ☐ Verify warning and safety labels are in place and legible.
- ☐ Verify that the five outriggers are fully extended, with latches locked in place and on flat ground with outrigger pads.
- ☐ Verify outrigger pads have not settled into the ground, causing the trailer to become unlevel.
- ☐ Verify four safety cables are secured and tight.
- ☐ Verify that the scissor lift is resting on locking pins.
- ☐ Visually verify trailer is level; trailer should not be leaning more to one side or the other, front or back.
- ☐ Check all scissor lift pins and retaining clips.
- ☐ Clean the solar panels on the Solar Charging Systems and ensure panels have a line-of-site to direct sunlight.
- ☐ Check engine oil level in the generator. (See the owner's manual for a maintenance schedule.)
- ☐ Check and lubricate locks if needed.
- ☐ Check all trailer lights and electrical connections.

Visual inspection of batteries:

- ☐ Check the battery's voltage. The minimum level for use is 22 Vdc.
- ☐ Check the batteries for leaks.
- ☐ Check the battery's terminals for corrosion and clean if needed.
- ☐ Clean and lubricate connectors and terminals if necessary.

Maintain or replace the battery as recommended by its manufacturer's operating instructions. Obey local or state laws governing the disposal of lead-acid batteries.

Some batteries are equipped with a built-in hydrometer. Use the following table to read the hydrometer.

Table 9 Hydrometer

Color Code	Description
Green	Battery is charged
Dark	Battery needs charging
Light	Battery is low on fluid and needs to be inspected for leaks

Visual inspection of scissor lift:

- ☐ Frame
- ☐ Hardware
- ☐ Siren head
- ☐ Antenna
- ☐ All cables and wiring

Visual inspection of trailer:

- ☐ Frame
- ☐ Hardware
- ☐ Welds
- ☐ Trailer Control Cabinet
- ☐ Hydraulic and Electrical Cabinet
- ☐ Storage Cabinet

Quarterly

Each quarter, perform the following tasks.

- ☐ Grease siren head hydraulic rams.
- ☐ Inspect hydraulic fluid and check level. If the hydraulic fluid becomes contaminated or endures excessive heat, change the hydraulic fluid. Replace fluid with Dexron Automatic Transmission Fluid only.
- ☐ Check engine oil level and clean/replace the air filter in the generator. (See the owner's manual for a maintenance schedule.)

Yearly

Each year, perform the following tasks.

- ☐ Test all batteries for CCA (Cold Cranking Amps). Federal Signal recommends replacing any battery that tests out below 550 CCA.
- ☐ Replace the batteries on the Solar Charging System every 3 to 5 years.
- ☐ Change oil, replace spark plug, clean arrestor, perform valve clearance adjustment for the generator. (See the owner's manual for a maintenance schedule.)

Long Term Storage

For long-term storage, perform the following tasks.

- ☐ Ensure the power switch is in the off position.
- ☐ Connect the trailer to a standard wall outlet (120 Vac) to maintain a battery charge.
- ☐ Keep tires out of direct sunlight.
- ☐ Ensure that your tires are clean and dry. Use wheel blocks or tire cradles. (Putting something between your tires and the ground or pavement can help keep your tires in good condition.)
- ☐ Inspect hydraulic fluid and check level. If the hydraulic fluid becomes contaminated or endures excessive heat, change the hydraulic fluid. Replace fluid with Dexron® Automatic Transmission Fluid only.
- ☐ Add fuel stabilizer to the gas tank.
- ☐ For storing the generator, see the owner's manual.

Appendix C Wiring Diagrams

Figure 88 Ethernet Switch Shelf Wiring

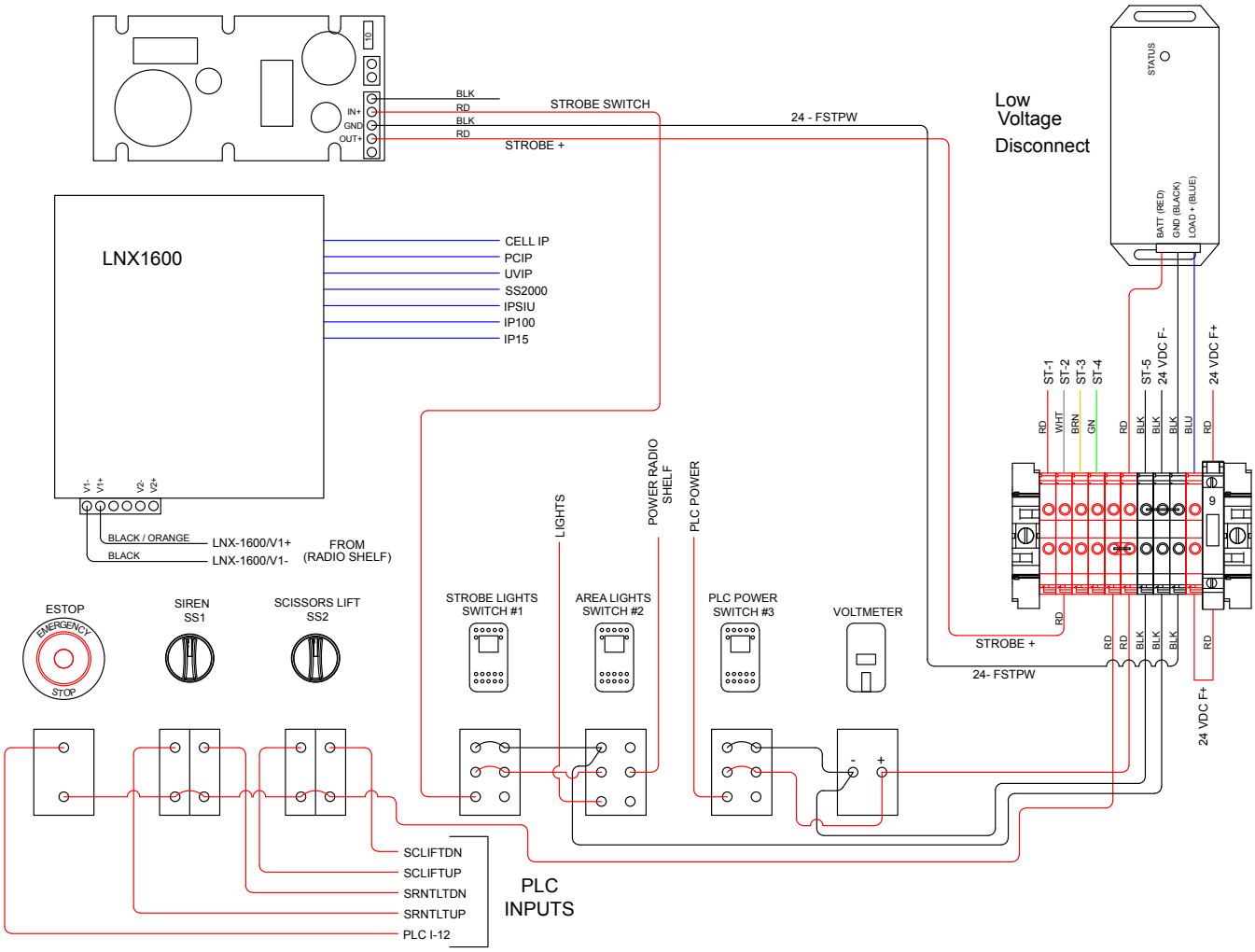


Figure 89 Electrical Schematic 1

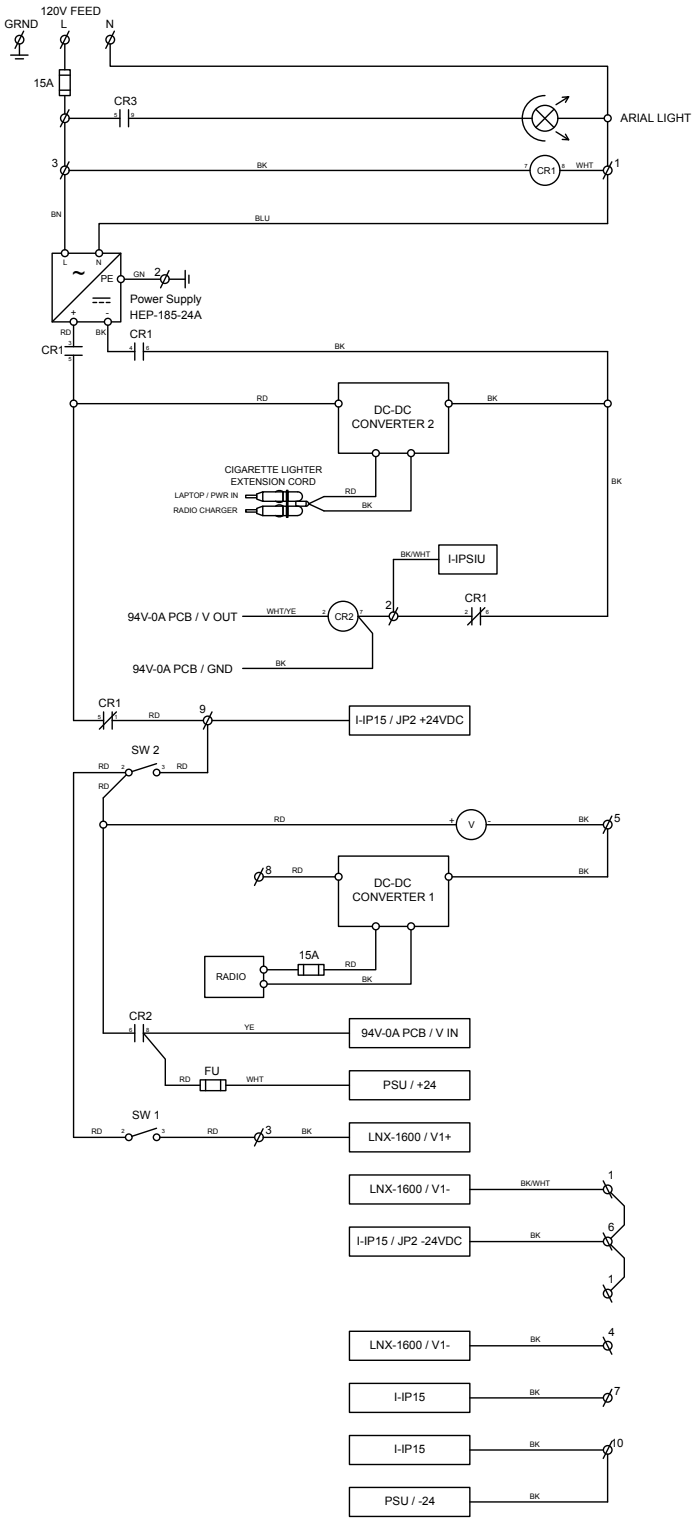


Figure 90 Electrical Schematic 2

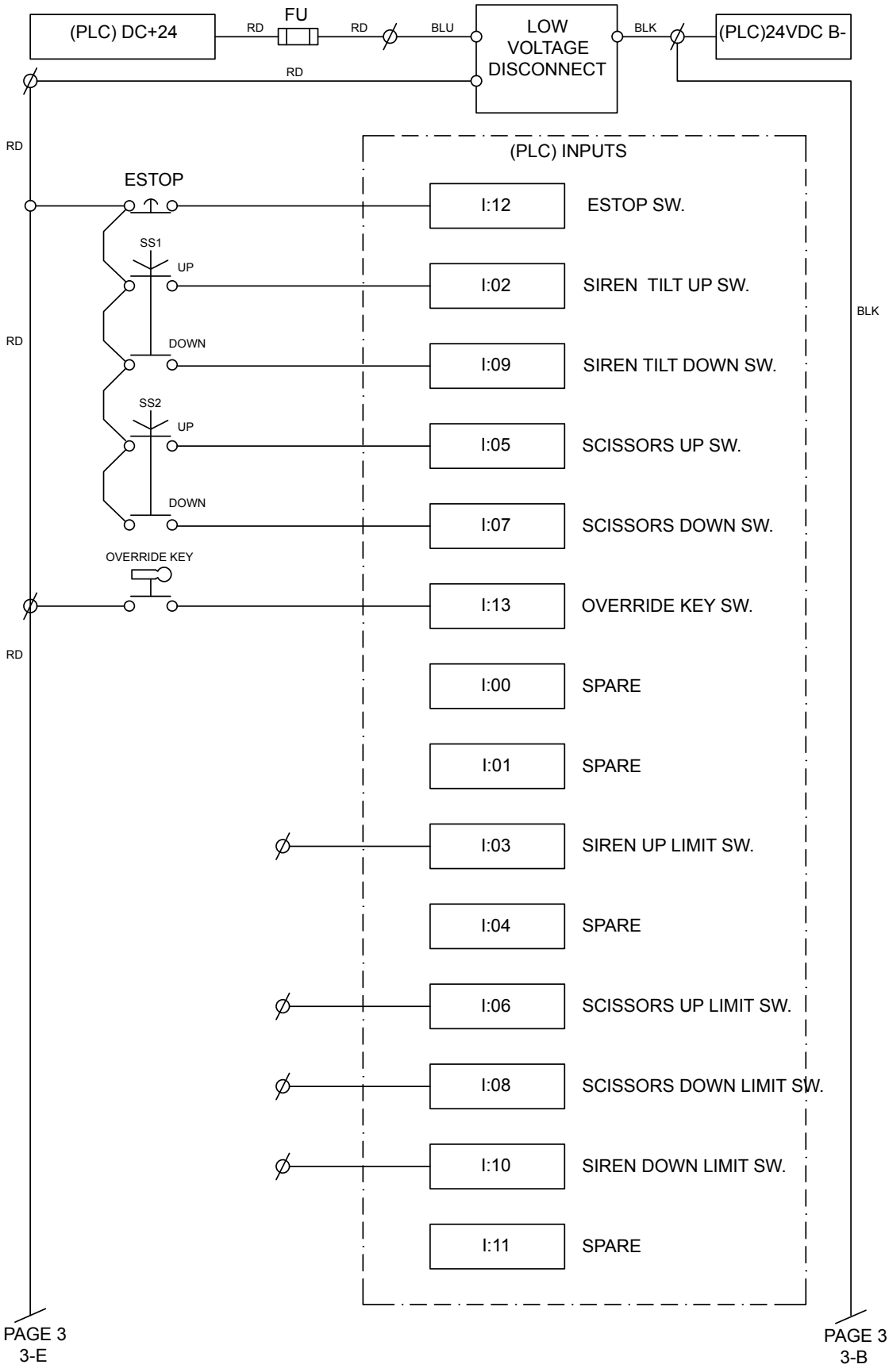


Figure 91 Electrical Schematic 3

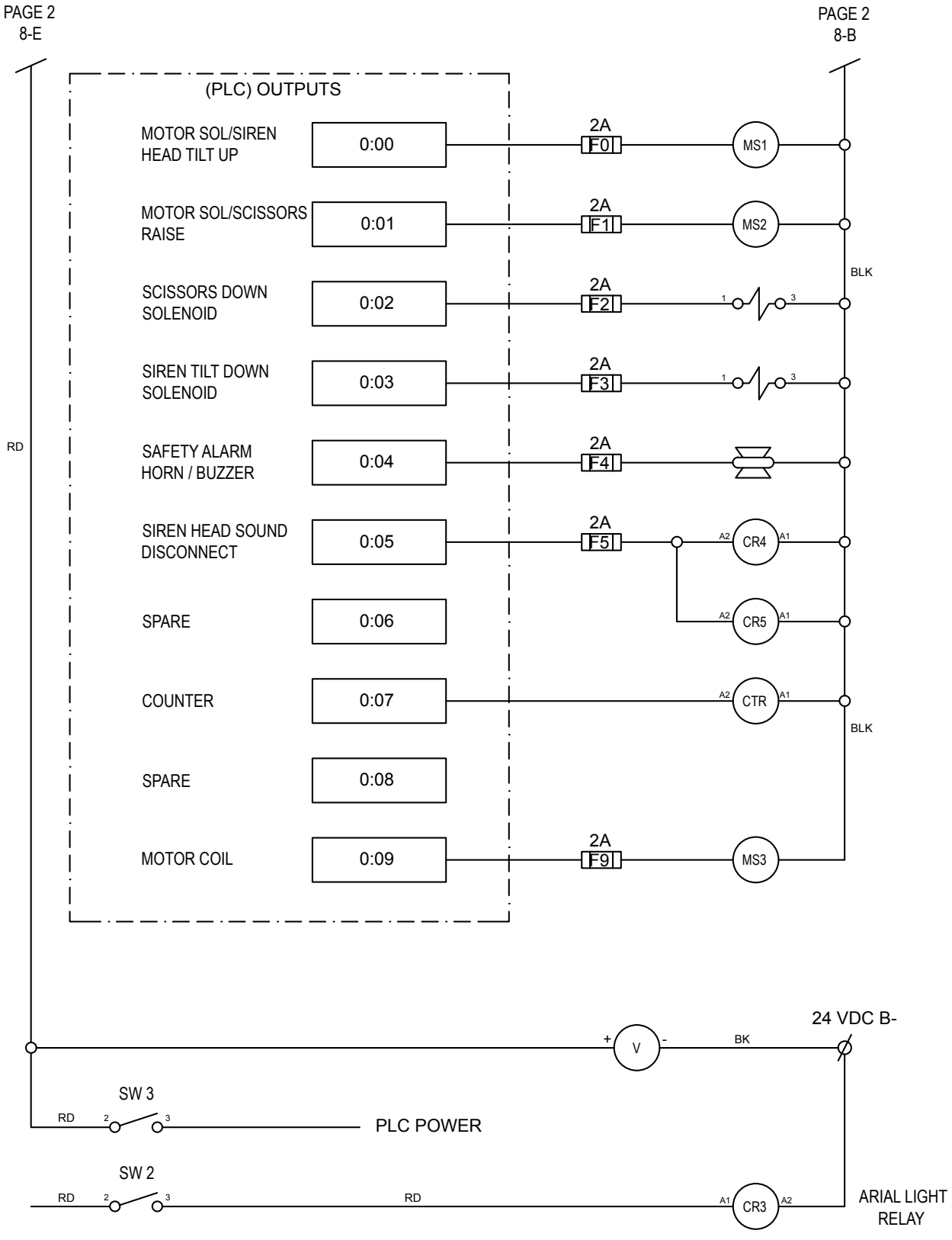


Figure 92 Electrical Schematic 4

See the Ethernet Switch Shelf Wiring Diagram.

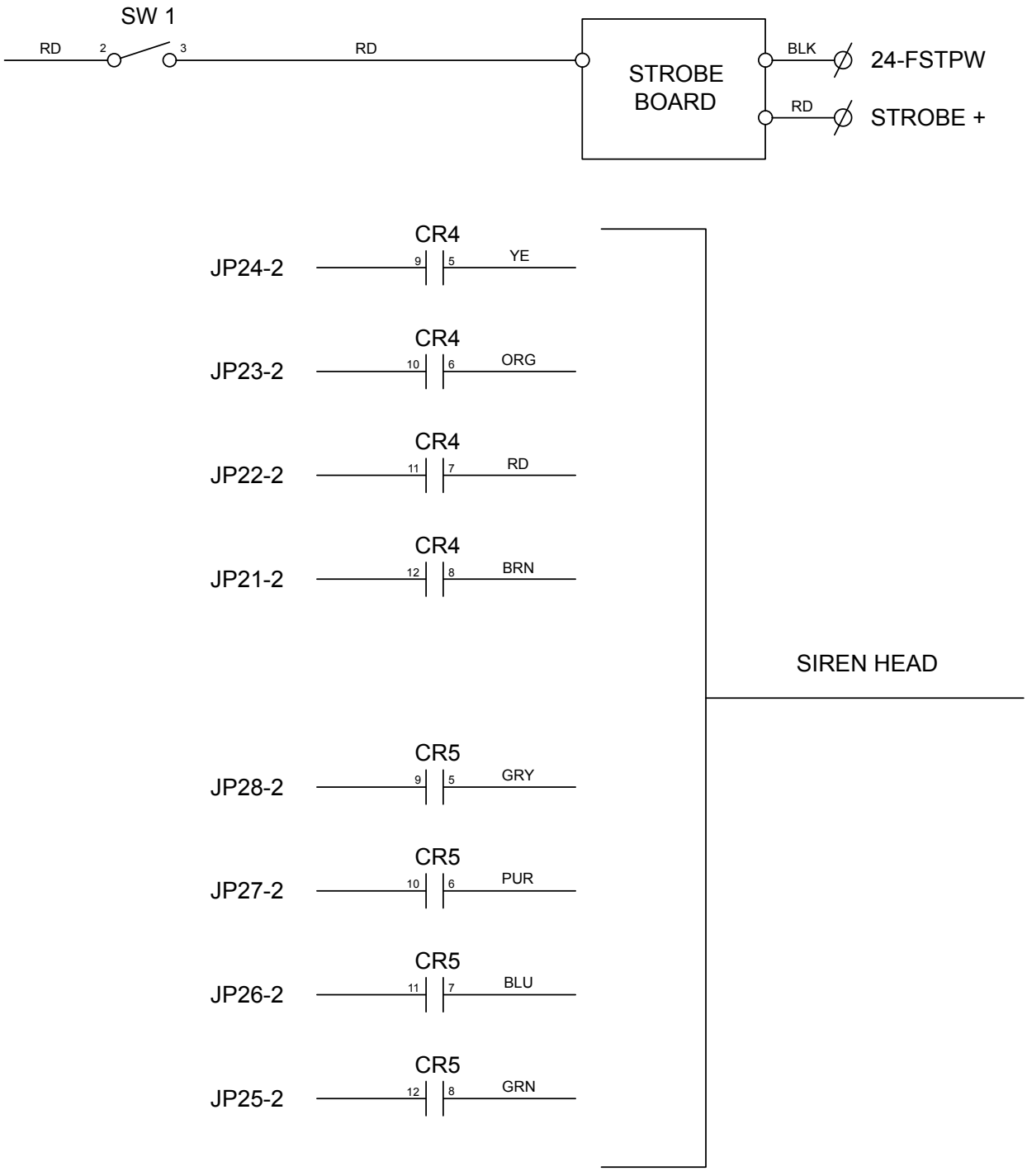


Figure 93 Hydraulic Box Termination Wiring

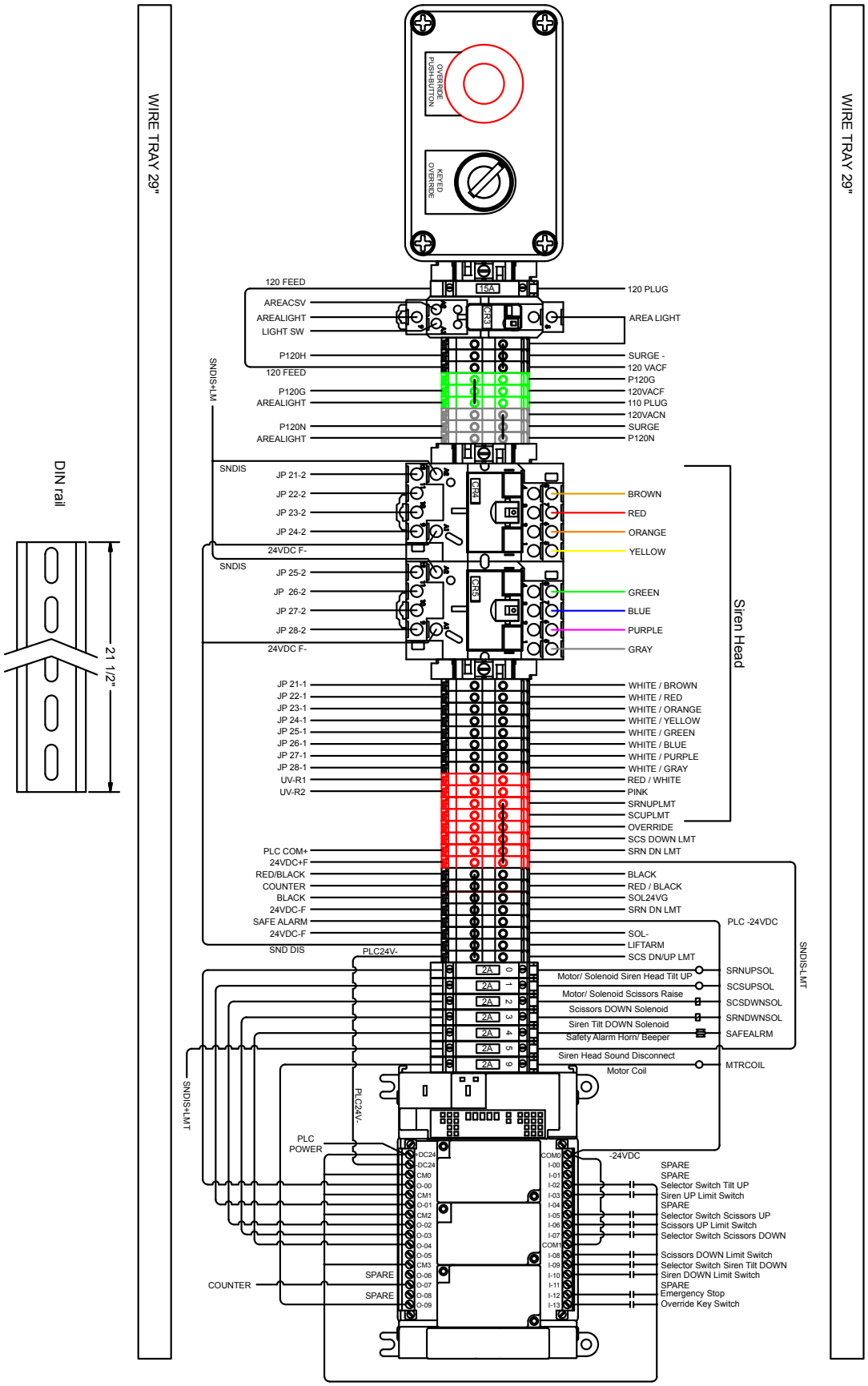


Figure 94 Hydraulic Schematic

ITEM	QTY.	PART NUMBER	DESCRIPTION	MFR.
1	1	M-304	Pump/ Motor/ Reservoir Unit	Bucher Hydraulics
2	1	RPEC-LAN	Relief Valve	Sun Hydraulics
3	1	AD03P022S/S	D03 Two Station Manifold	Daman
4	2	HD-3C4-G02-DL-B24VDC	D03 4/3 Valve, 24vdc	Power Valve
5	2	PMP-02W05	D03 Sandwich Flow Control	Power Valve
6	2	PMS-02WY	D03 Sandwich PO Check Valve	Power Valve
7	1	2140GXB3000	Gauge 0-3000 PSI	Valley Instruments
8	1	28001-503-3.5	Inline Velocity Fuse	Vonberg

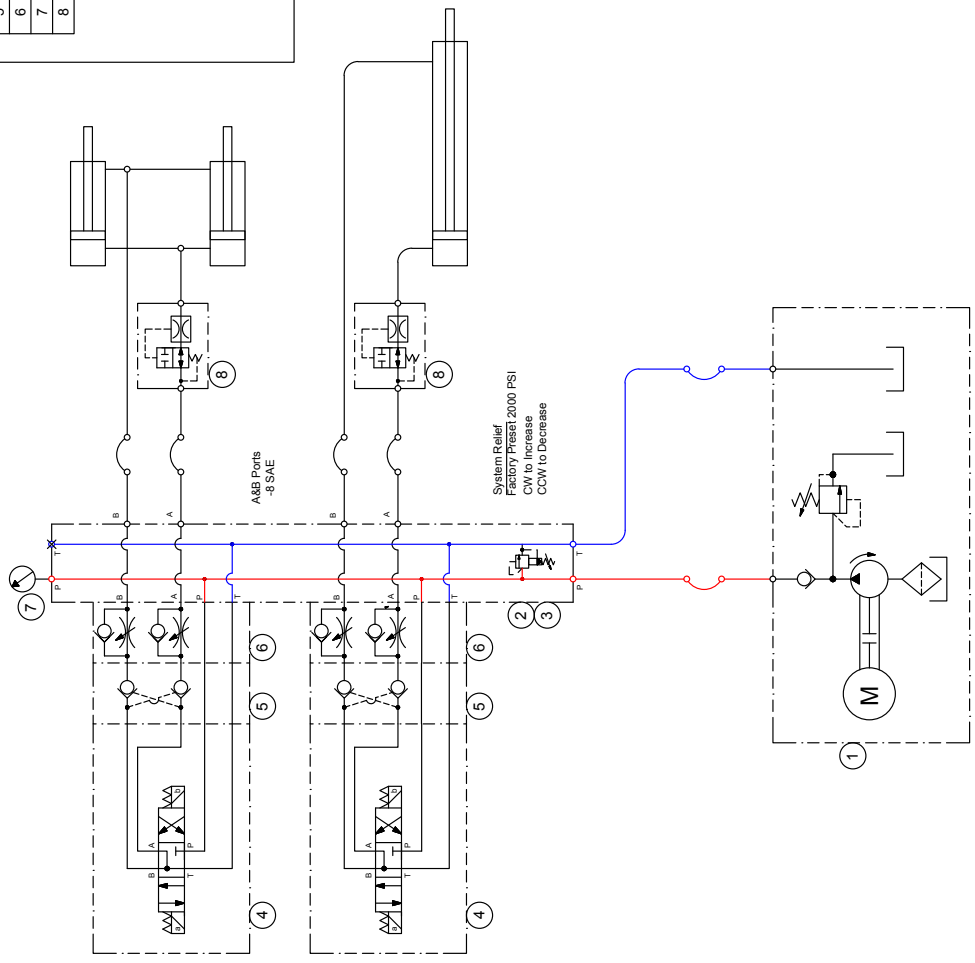


Figure 95 Radio Shelf Wiring

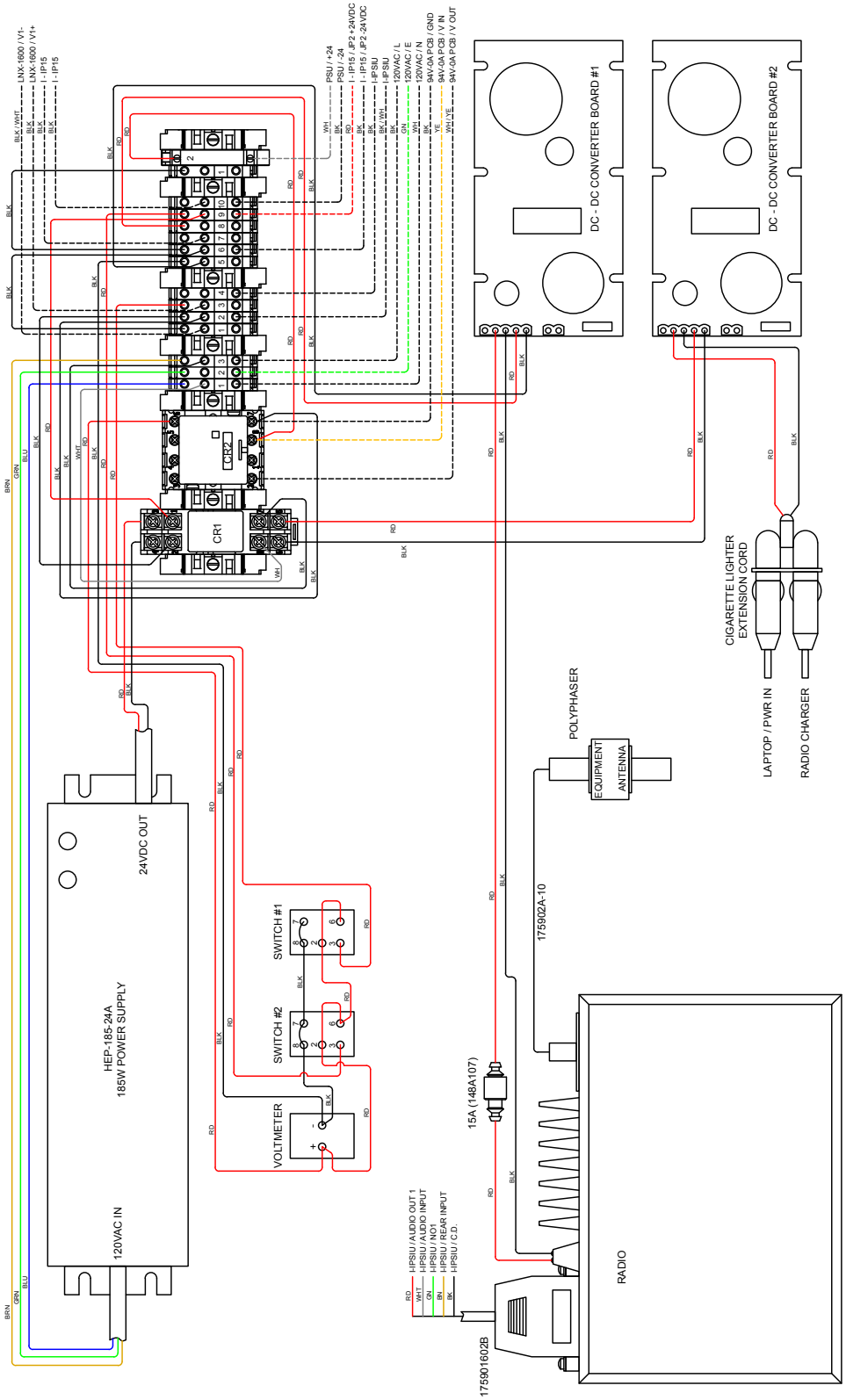
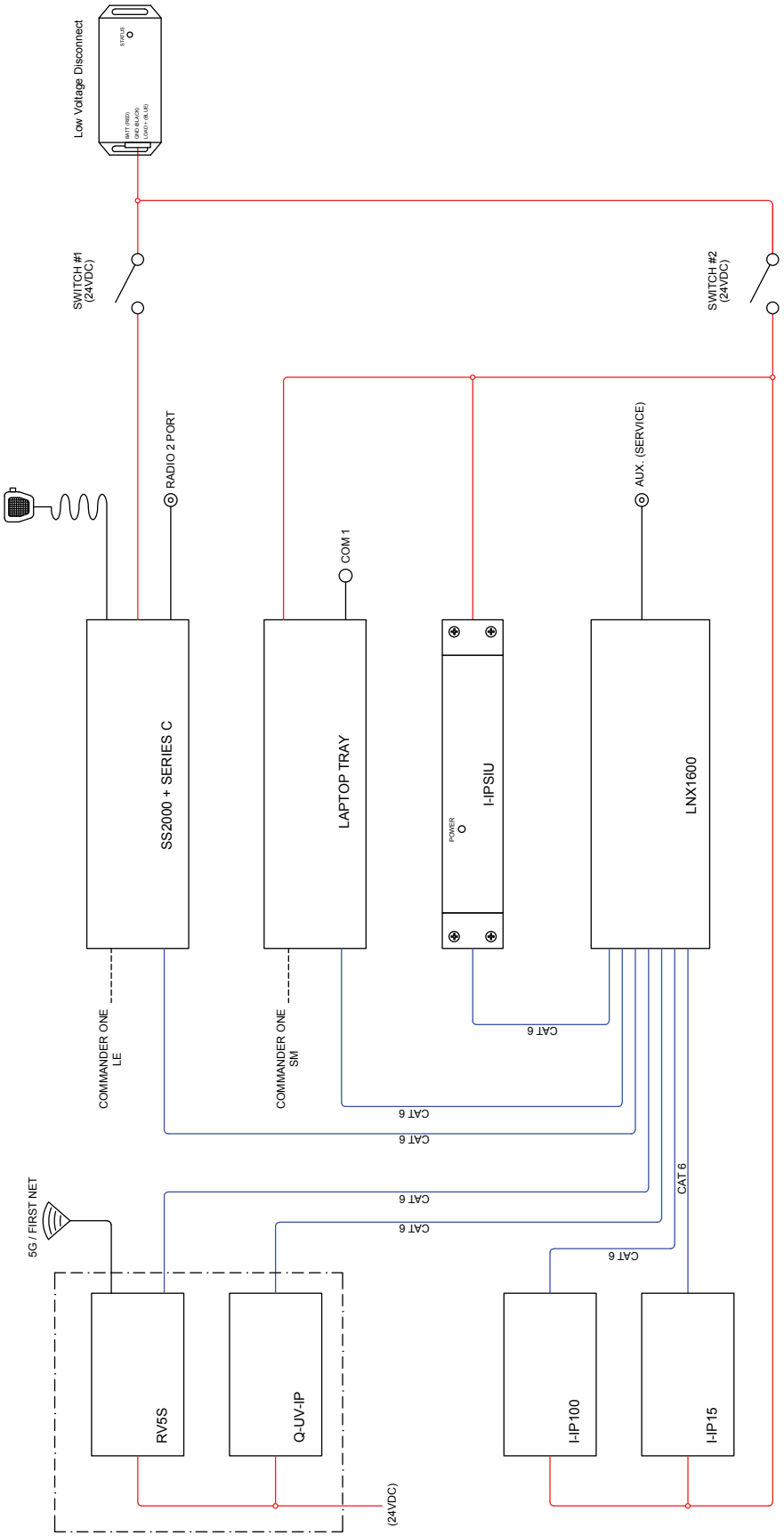


Figure 96 Tray Connections



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