

25500539 Rev. A0 0219

Safety Message to Installers of Sound/Light Systems

▲ WARNING

People's lives depend on your proper installation and servicing of Federal Signal products. It is important to read and follow all instructions shipped with this product. In addition, listed below are some other important safety instructions and precautions you should follow:

Before Installation

Qualifications

- To properly install an electronic siren, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment. Always refer to the vehicle's service manuals when performing equipment installations on a vehicle.

Sound Hazards

- Your hearing and the hearing of others, in or close to your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure."
- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sound and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound.
- Federal Signal siren amplifier/relay modules and speakers are designed to work together as a system. Combining a siren and speaker from different manufacturers may reduce the warning effectiveness of the siren system and may damage the components. You should verify or test your combination to make sure the system works together properly and meets federal, state and local standards or guidelines.

During Installation

- Do NOT get metal shavings inside the product. Metal shavings in the product can cause the system to fail. If drilling must be done near the unit, place an ESD approved cover over the unit to prevent metal shavings from entering the unit. Inspect the unit after mounting to be sure there are no shavings present in or near the unit.
- Do NOT connect this system to the vehicle battery until ALL other electrical connections are made, mounting of all components is complete, and you have verified that no shorts exist. If wiring is shorted to vehicle frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.
- Be sure the siren amplifier/relay module and speaker(s) in your installation have compatible wattage ratings.
- In order for the electronic siren to function properly, the ground connection must be made to the NEGATIVE battery terminal.

Pathfinder 17 Button Remote

- Sound output will be severely reduced if any objects are in front of the speaker. If maximum sound output is required for your application, you should ensure that the front of the speaker is clear of any obstructions.
- Install the speaker(s) as far forward on the vehicle as possible, in a location which provides maximum signaling effectiveness and minimizes the sound reaching the vehicle's occupants. Refer to the National Institute of Justice guide 500-00 for further information.
- Mounting the speakers behind the grille will reduce the sound output and warning effectiveness of the siren system. Before mounting speakers behind the grille, make sure the vehicle operators are trained and understand that this type of installation is less effective for warning others.
- Sound propagation and warning effectiveness will be severely reduced if the speaker is not facing forward. Carefully follow the installation instructions and always install the speaker with the projector facing forward.
- Do NOT install the speaker(s) or route the speaker wires where they may interfere with the operation of airbag sensors.
- Installation of two speakers requires wiring speakers in phase.
- Never attempt to install aftermarket equipment, which connects to the vehicle wiring, without reviewing a vehicle wiring diagram available from the vehicle manufacturer. Insure that your installation will not affect vehicle operation and safety functions or circuits. Always check vehicle for proper operation after installation.
- Do NOT install equipment or route wiring or cord in the deployment path of an airbag.
- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.
- Locate the Handheld so the vehicle, controls, and microphone can be operated safely.
- When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged. All drilled holes should be deburred and all sharp edges should be smoothed. All wires going through drilled holes should be protected by a grommet or convolute/split-loom tubing. Additionally, all exterior drilled holes must be sealed with Motorcraft seam sealer T-A-2-B or equivalent to prevent the potential exposure to carbon monoxide or other potentially harmful fumes. Failure to observe this warning could cause serious injury or death.

After Installation

- After installation, test the siren and light system to ensure that it is operating properly.
- Test all vehicle functions, including horn operation, vehicle safety functions and vehicle light systems, to ensure proper operation. Ensure that installation has not affected vehicle operation or changed any vehicle safety function or circuit.
- After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.
- File these instructions in a safe place and refer to them when maintaining or reinstalling the product.

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

RETAIN AND REFER TO THESE MESSAGES

Pathfinder 17 Button Remote, PF200S17

This publication has instructions for the Pathfinder with the 17 button control head. Select a mounting location that allows the vehicle, controls, and microphone to be operated safely under all driving conditions. To identify safe mounting areas for equipment inside the vehicle, consult the vehicle manufacturer's guidelines. To avoid driver distraction and unreliable switch activation, the mounting location must not allow any movement of the unit. Installer-supplied mounting hardware is required to mount the siren.

NOTE: For additional electrical installation instructions, refer to the Installation and Maintenance Instructions packed with the Pathfinder.

Unpacking the Kit

After unpacking the kit, inspect it for damage that may have occurred in transit. If it has been damaged, do not attempt to install or operate it. File a claim immediately with the carrier, stating the extent of damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them. Ensure that the parts in the Kit Contents List are included in the package. If you are missing any parts, contact Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT).

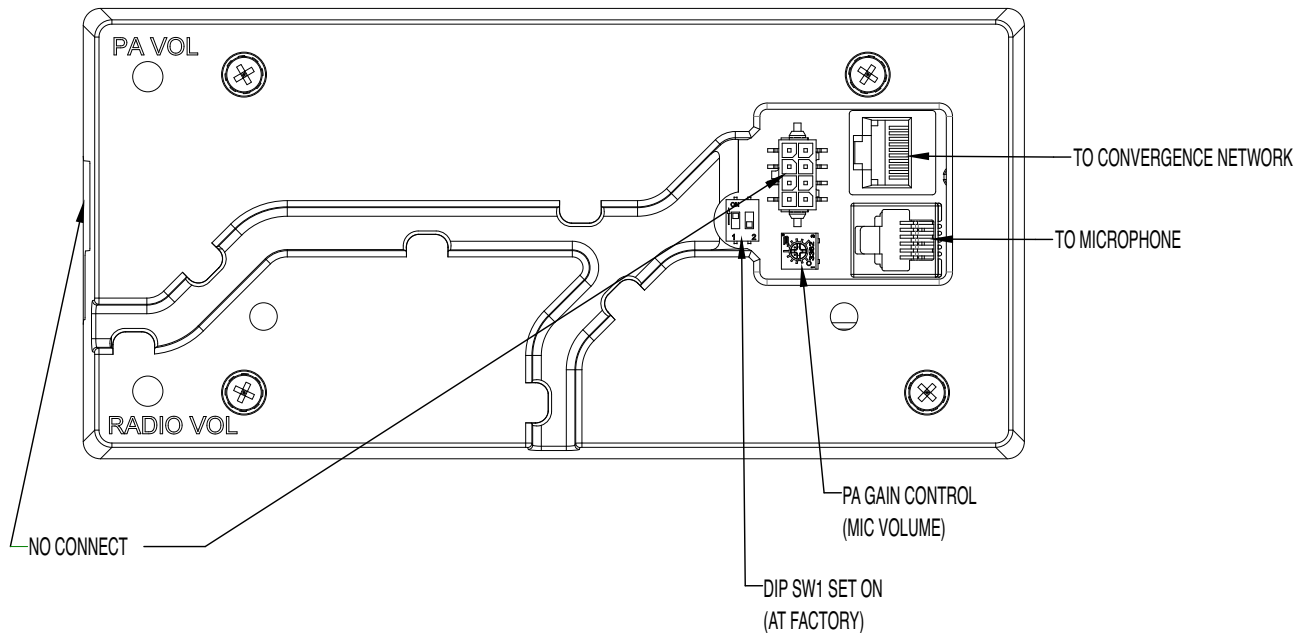
Table 1 Model PF200S17 Kit

| Qty. | Description | Part Number |
|-------------|---|--------------------|
| 1 | 100/200-Watt Amplifier, Pathfinder | 862302662 |
| 1 | Control Head, Remote, PF200S17 | 853600632-PF |
| 1 | Keypad Legend Stickers | 8572294 |
| 1 | Dynamic Microphone with Mod | 258B577-03 |
| 1 | Bracket, Bail, Pathfinder | 862302132 |
| 2 | Bracket, Mtg. Control, Smart | 85361065 |
| 1 | Cable Assy, RS485, 25ft | 1751357-02 |
| 1 | Wire Assy, Relay, Pathfinder | 17501359 |
| 1 | Wire Assy, I/O, Pathfinder | 17501360 |
| 1 | Cable, USB 2.0, A male to Mini-B | 17501813 |
| 1 | Kit, Hardware, Pathfinder | 77700765 |
| | Siren Mounting Kit Contains: | |
| 2 | Bolt, Carriage, 1/4-20, SS | 7004A020-12 |
| 2 | Nut, Ext Keps, 1/4-20, Stl | 7058A005 |
| 2 | Washer, Flat, 1/4 | 7072A028 |
| 2 | Screw, Pan, Sems, M4 | 70000451-06 |
| 2 | Lockwasher, Int Tth, 1/4 | 7075A016 |
| 2 | Terminal, #8, 6 AWG | 19001363 |
| 1 | Kit, Hardware, Control Head, Pathfinder | 77700992 |
| | Control Head Kit Contains: | |
| 2 | Screw, 6-32, Pan HD, Phil | 7000A404-05 |
| 2 | Bolt, Cap, 1/4-20, Stl Zn, Clear | 7002A000-12 |
| 2 | Screw, #10 Typ B, Pan Torx, Stl, Blk Zn | 7011246-08 |
| 2 | Lockwasher, Split Stl #6 Screw | 7074A001 |
| 2 | Lockwasher, Ext Tth, 1/4 | 7075A007 |

Connecting the Control Head

The only connections required for the control head are the 25-foot Convergence Network cable and the Federal Signal Microphone (P/N 258B8577-03). No connections are required to the 8 pin connector at the back of the keypad. Do not connect anything to the Ethernet port on the side of the keypad. For proper operation, DIP SW position 1 should be set to the ON position. (See Figure 1)

Figure 1 Control Head Connections and DIP SW position



Mounting the Control Head

The control head comes with two mounting brackets and mounting hardware.

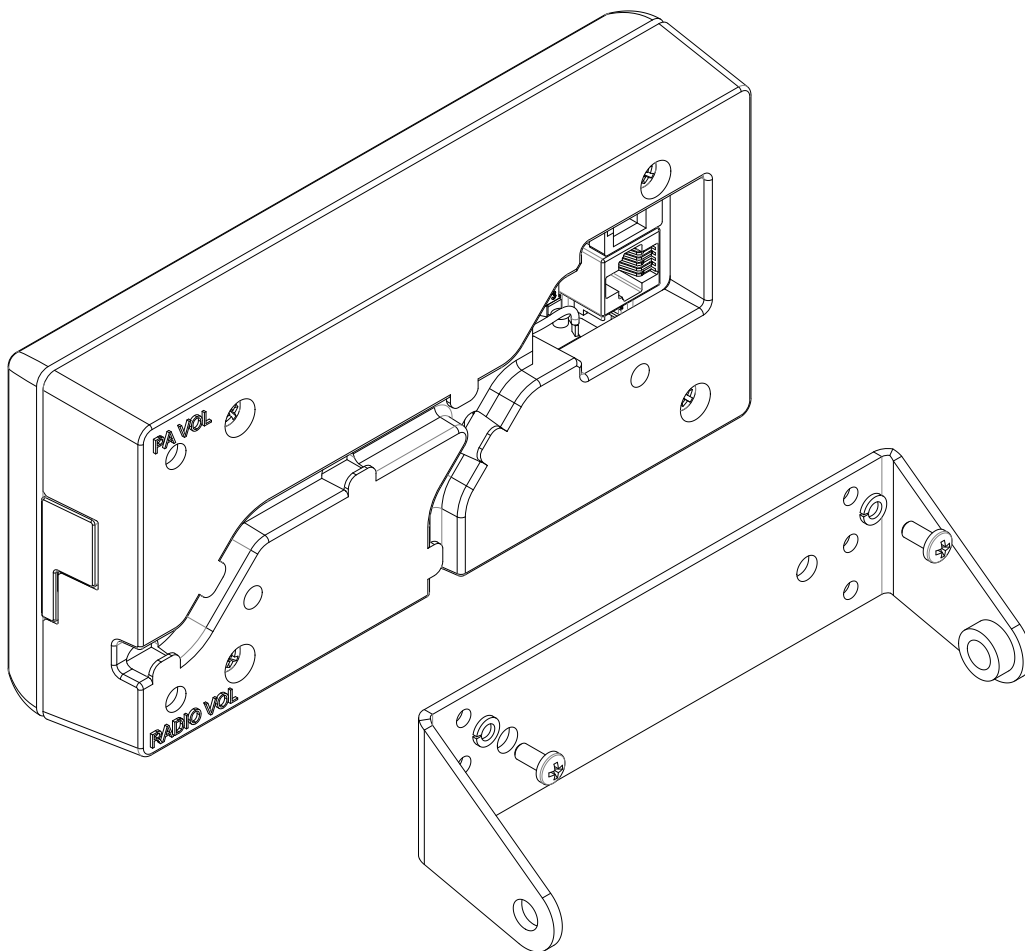
Tools needed:

- Drill with 11/64 drill bit
- Phillips screwdriver
- 7/16" nut driver
- Pencil or felt-tip pen for marking drill position locations

To mount the control head:

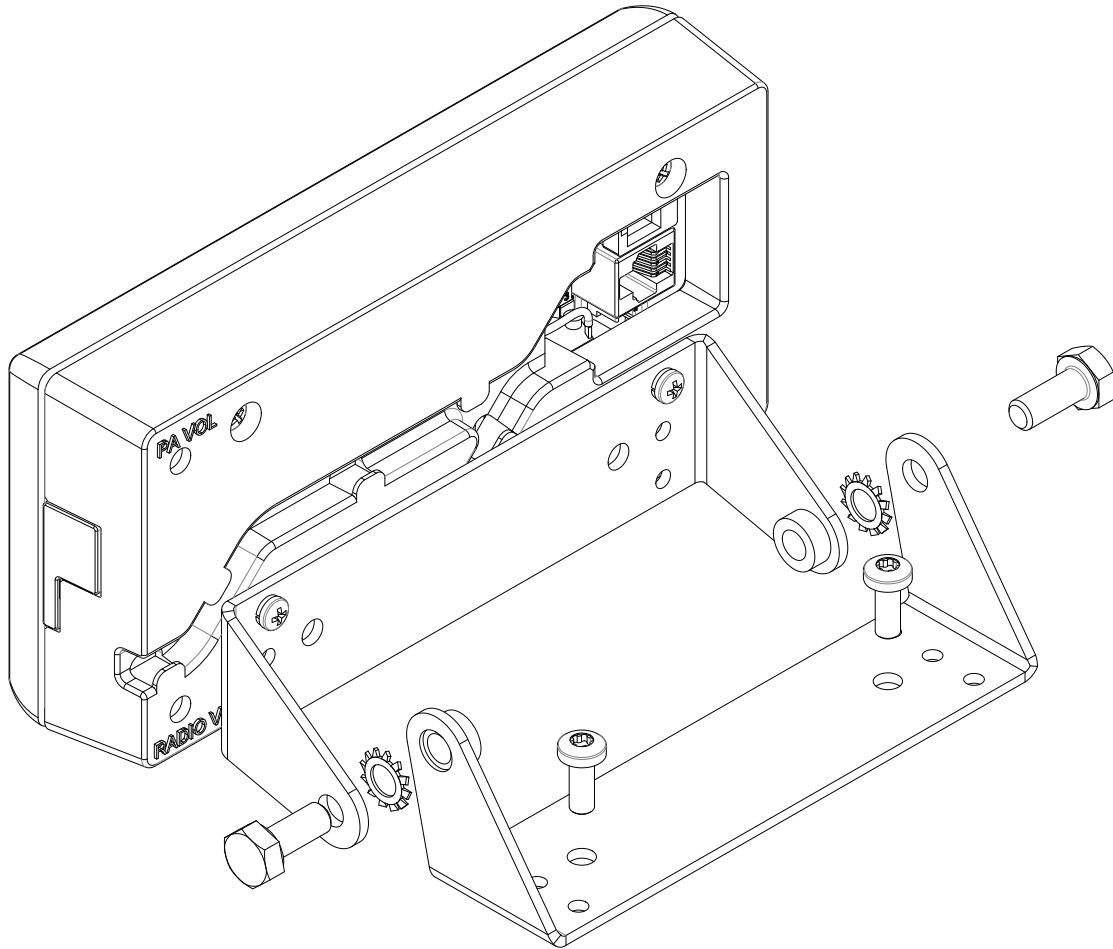
1. Secure a bracket to the control head with the 6-32 x 1/4 Phillips screws and #6 lock washers (Figure 2).
2. Using a 7/16" nut driver, secure the other bracket to the control head/bracket assembly with the 1/4-20 x 3/4 hex head screws and 1/4" lock washers (Figure 2).
3. Use the mounting bracket as a template and scribe two drill position marks at the selected mounting location.

Figure 2 Bracket attached to back of control head



4. Drill two pilot mounting holes at the drill position marks.
5. Secure the mounting bracket to the mounting surface with the #10 thread-forming screws (Figure 3).
6. To adjust the angle of the control head, loosen the hinge screws, tilt the control head forward or backward, then securely tighten the screws.

Figure 3 BRKTS2 Brackets attached to control head and mounting surface



Keypad Default Functions

See Fig and 4 Table 2

Figure 4 Button Layout

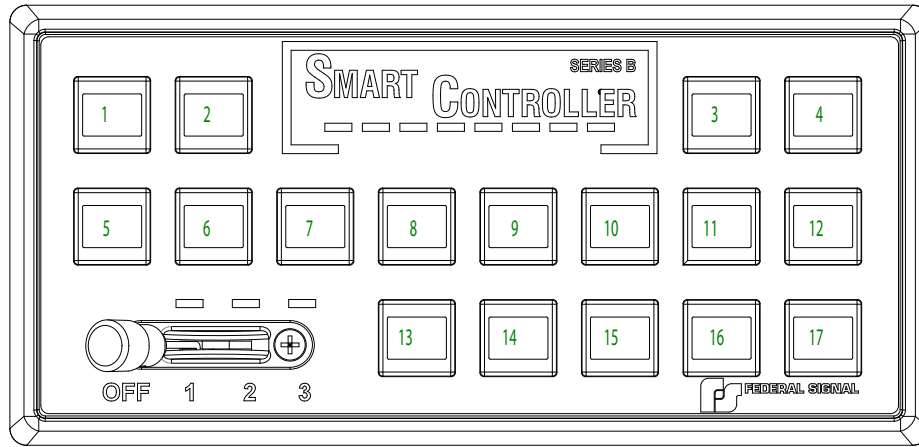


Table 2 Button Default Programming

| Button | Default Function |
|----------------|---|
| BTN1 | Signal Master Step LRCO (Lightbar) |
| BTN 2 | Signal Master Step Warn 1-4 (Lightbar) |
| BTN 3 | Lightbar Rear Cut |
| BTN 4 | Dim (Lightbar)–Disabled if BTN 3 is active |
| BTN 5 | Siren Standby |
| BTN 6 | Radio Re-Broadcast |
| BTN 7 | Relay 9 ON |
| BTN 8 | SSP Wail (Active with BTN 3) |
| BTN 9 | SSP Yelp (Active with BTN 3) |
| BTN 10 | SSP Priority (Active with Slide Switch 3) |
| BTN 11 | Manual (Peak and Hold SSP Wail) |
| BTN 12 | SSP Air Horn |
| BTN 13 | Lightbar Left Alley Relay 6 ON |
| BTN 14 | Lightbar Takedown Relay 7 ON |
| BTN 15 | Lightbar Right Alley Relay 8 ON |
| BTN 16 | Intersection Lightbar Pattern 22 (8 Seconds) |
| BTN 17 | Gun Lock Relay 10 ON (8 Seconds) |
| Slide Switch 1 | Lightbar–Pattern 10, Front Cutoff Relay 1 ON |
| Slide Switch 2 | Lightbar–Pattern 26 Horn Ring Transfer Relays 1-3 ON |
| Slide Switch 3 | Lightbar–Pattern 27, Flash White Enable Horn Ring Transfer Siren Enabled (SSP Wail) Relays 1-5 ON |

Table 3 Input Default Programming

| Input | Default Function | Polarity |
|--------------|--|-----------------|
| Ignition | System Enable, Immediate system shutdown (no delay) ignition off | BAT |
| Park | Siren Mute White Light Cutoff (Lightbar) | GND |
| Input 1 | Remote Slide Switch 1 Activation | GND |
| Input 2 | Remote Slide Switch 2 Activation | GND |
| Input 3 | Remote Slide Switch 3 Activation | GND |
| Input 4 | Remote BTN 14 Activation | GND |
| Horn Ring | When Slide Switch 3 is active, scrolls through Wail/ Yelp/Priority When Slide Switch 2 or Siren Standby is active, SSP Air Horn When in park, SSP Air Horn | GND |

Table 4 Global/Misc Default Programming

| Global | Default Function |
|---------------|-------------------------|
| Audible | All buttons |
| Dim level | 10 |
| Battery Level | No action defined |

Refer to the Installation and Maintenance Instructions packed with the Pathfinder to complete the installation.

Getting Technical Support and Service

Federal Signal Corporation will service your equipment or provide technical assistance with any problems that cannot be handled locally. Any product returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization number. The RMA number can be obtained from your local distributor or Federal Signal. Please provide a brief explanation of the service requested or the nature of the malfunction. Contact your local dealer/distributor for replacement parts availability or contact the Federal Signal Service Department (7 a.m. to 5 p.m., Monday through Friday, Central Time) at:

Service Department
 Federal Signal Corporation
 2645 Federal Signal Drive
 University Park, IL 60484-3167
 800-433-9132
 www.fedsig.com

Returning a Product to Federal Signal

Before returning a product to Federal Signal, call 800-264-3578, 800-433-9132, or 800-824-0254 to obtain a Returned Merchandise Authorization number (RMA number). To expedite the process, please be prepared with the following information:

- Your Federal Signal customer or account number.
- The purchase order number under which the items were purchased.
- The shipping method.
- The model or part number of the product being returned.
- The quantity of products being returned.
- Drop ship information as needed.
- Any estimate required.

When you receive your RMA Number:

- Write the RMA number on the outside of the box of returned items.
- Reference the RMA number on your paperwork inside of the box.
- Write the RMA number down, so that you can easily check on status of the returned equipment.

Send all material with the issued RMA Number to:

Federal Signal Corporation
2645 Federal Signal Drive
University Park, IL 60484-3167
Attn: Service Department
RMA: # _____



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