STANDPIPE-PAC™ - WIRING OF EXTERNAL AUDIBLE SIGNALING DEVICES

**IMPORTANT**
REFER TO THIS DOCUMENT BEFORE WIRING SIGNAL HORNS

The purpose of this document is to assist qualified electricians in the specifics for adding signal horns to a STANDPIPE-PAC™. Proper installation can avoid service calls, saving time and expense for the customer.

**Signal Horn:** The signal horn is the required audible indicator to annunciate a standpipe supervisory signal condition. The signal horn will sound when the pressure in the standpipe drops below approximately 7 PSIG or rises above 25 PSIG. This indicates an impairment of the standpipe and will require correction.

**Additional Signal Wiring:** Connect the required additional signal device, and any optional devices, to the notification appliance circuit serving the signal horn on the STANDPIPE-PAC™ unit (Figure A and Figure B). See Step-by-Step Guide, page 2. Additional horns are available from UNITED Fire Systems – P/N 03-100006-201.

**Notification Appliance Circuit**
- Maximum wiring length is 375 feet.
- Minimum wire gauge: 14 AWG (See page 4, ‘Do’s and Don’ts’)
- Operating voltage nominal 13.8 VDC
- Current for all external devices: 1.0 amp
- End-of-line resistor: 2.2K ohms, ½ watt (UFS P/N 03-100005-102)

**IMPORTANT–Boston**
STANDPIPE-PAC™ has been designed to aid in compliance with the requirements in Boston directive FD TCM3-51725 Item 4.4. The law requires a signal horn on site. In addition, a horn with visual signal needs to be installed immediately outside the pressure equipment location and activated upon low pressure in the standpipe.
STEP-BY-STEP GUIDE TO INSTALLING ADDITIONAL SIGNAL HORNS TO STANDPIPE-PAC™

1. Ensure that the STANDPIPE-PAC™ control unit has NOT been powered up, with AC power and batteries disconnected.

2. See Figure 1 and Figure 2. Remove Signal Horn cover from factory installed Signal Horn assembly on STANDPIPE-PAC™.
3. See Figure 3. Visually inspect Signal Horn base-plate connections. Locate positive and negative terminals on base-plate. NOTE: RED wire connects to positive terminal; GRAY wire connects to negative terminal.

4. See Figure 3. Locate end-of-line resistor; factory installed between positive and negative terminals on Signal Horn base-plate.

5. See Figure 4. Disconnect RED and GRAY wires and remove end-of-line resistor from base-plate. IMPORTANT: DO NOT DISCARD END-OF-LINE RESISTOR.

6. See Figure 5. Remove Signal Horn base-plate from back box.
7. See Figure 6. Attach raceway to signal horn box at appropriate knockout. Install raceway from factory installed Signal Horn back box to additional Signal Horn. **NOTE:** See Table 1 for distance limitations.

8. See Figure 7. Run **14 AWG Solid** wires from additional Signal Horn, through raceway and into factory installed Signal Horn back box. **NOTE:** UNITED Fire Systems recommends using **RED**, and **GRAY** or **BLACK** wires for consistency and polarity identification.

9. See Figure 8. Re-install Signal Horn base-plate to back box on STANDPIPE-PAC™.

10. See Figure 8 and Figure 9 and Figure B: **Wiring Diagram**. Strip ends of wire installed in Step 8. Attach wires removed in Step 5 and wires installed in Step 8 to Signal Horn base-plate terminals.
14. See Figure 12 and Figure 13. Replace Signal Horn cover(s). IMPORTANT: Cover(s) MUST be fastened correctly for proper wire contact. Trouble signal will occur if Signal Horn cover(s) is not fastened correctly.
**STANDPIPE-PAC™ - WIRING OF EXTERNAL AUDIBLE SIGNALING DEVICES**

<table>
<thead>
<tr>
<th>Distance Limitations:</th>
<th>Total length of circuit, run from the STANDPIPE-PAC™ to the last additional Signal Horn, cannot exceed 375 feet.</th>
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</thead>
<tbody>
<tr>
<td>Maximum number of Signal Horns:</td>
<td>10 Additional Signal Horns, not including the factory installed horn.</td>
</tr>
<tr>
<td>Recommended Wire Gage:</td>
<td>14 AWG Solid</td>
</tr>
</tbody>
</table>
| Polarity Identification: | **RED** for positive (+)  
**GRAY** or **BLACK** for negative (-) |

**TABLE 1**

**Do’s and Don’ts—How to avoid Service Calls**

- **Do** make sure the Signal Horn covers are clicked firmly into place onto the Signal Horn base plates once wiring is complete.
- **Do** use a minimum of 14 AWG size wire.
- **Do** wire additional devices per Figure B. The end-of-line resistor must be moved to the last device in the circuit per Figure B.
- **Do** use **RED** and **GRAY** wire for (+) and (-) conductors so it is easy to maintain polarity.
- **Do** install the end-of-line resistor on the terminals indicated.
- **Do** ensure additional device(s) are 12VDC.

- **Don’t** wire 115 VAC on this circuit.
- **Don’t** mix up the polarity. Know the polarity at both ends of the wiring. Wire per polarity diagram.
- **Don’t** exceed the current capacity of the circuit when adding additional horns to the STANDPIPE-PAC™. Each additional horn adjusted to FULL VOLUME draws 0.047 amps. As noted on page 1, the current for all external devices, including the factory-installed signal horn, is 1.0 amp.
- **Don’t** branch the signaling circuit. Wire horns in parallel, from one horn to the next. See **Figure B: Wiring Diagram**.