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:** If additional signal horns are required, connect these 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 gage: 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 -- NYC**
UNITED Fire Systems recommends that all devices connected to the Notification Appliance Circuit (NAC) of the STANDPIPE-PAC™ unit be audible ONLY. Local Law 64 / BC 3303.8.1 requires only audible notification. Visual indicators, such as strobes, can easily be mistaken for fire alarm signal horns. Signals from the STANDPIPE-PAC™ unit are NOT fire alarm signals. NYC does not require additional signal horns for STANDPIPE-PAC™.
STANDPIPE-PAC™ - WIRING OF EXTERNAL AUDIBLE SIGNALING DEVICES

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™.

(Figure B) Signaling Devices Wiring

End-of-line Resistor

Figure 1

Figure 2
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.
11. See Figure 10. Connect wires at additional Signal Horns. **IMPORTANT! Do not branch Signal Horn circuit. Run circuit from the first Signal Horn to the second Signal Horn, then the second Signal Horn to the third, and so on.**

12. Repeat steps 5 through 10 for each additional Signal Horn. **NOTE:** See Table 1 for distance limitations and maximum number of additional devices.

13. See Figure 11. Install end-of-line resistor, retained from Step 5, at last Signal Horn, between positive and negative 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.
**Distance Limitations:**
Total length of circuit, run from the **STANDPIPE-PAC™** to the last additional Signal Horn, cannot exceed 375 feet.

**Maximum number of Signal Horns:**
10 Additional Signal Horns, not including the factory installed horn.

**Recommended Wire Gage:**
14 AWG Solid

**Polarity Identification:**
- **RED** for positive (+)
- **GRAY** or **BLACK** for negative (-)

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**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 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.