

2562341B REV. B 109

## Differences Between the 640000-CPD/CPD2 and 640000 Sirens

Models 640000-CPD and 640000-CPD2 sirens were created to operate with a LEGEND® lightbar. With the custom harnesses, it is essentially plug and play.

Models 640000-CPD and 640000-CPD2 are the same as Model 640000 with the following exceptions:

- The slide switch operates when the vehicle's ignition is on or off. Without ignition power, the siren tone is disabled and relays A, B, C, E and F cannot be activated.
- To reduce standby current to 17 mA nominal, the siren goes into sleep mode when the ignition is turned off. When not in sleep mode, the buttons for the manual siren and air horn tones are functional.
- The siren automatically turns on Relay D to provide the ignition input to the lightbar. Relay D cannot be controlled by the operator.
- The relay panel power harness for the PA640 provides power to the siren. It is fused at 20 A. This fuse also provides protection for the lightbar's interface box control leads.

### **⚠ WARNING**

#### **CURRENT OVERLOAD**

**Because of the 20 A fuse and the gauge of the power cable, adding more equipment may overheat the wires and/or blow the fuse.**

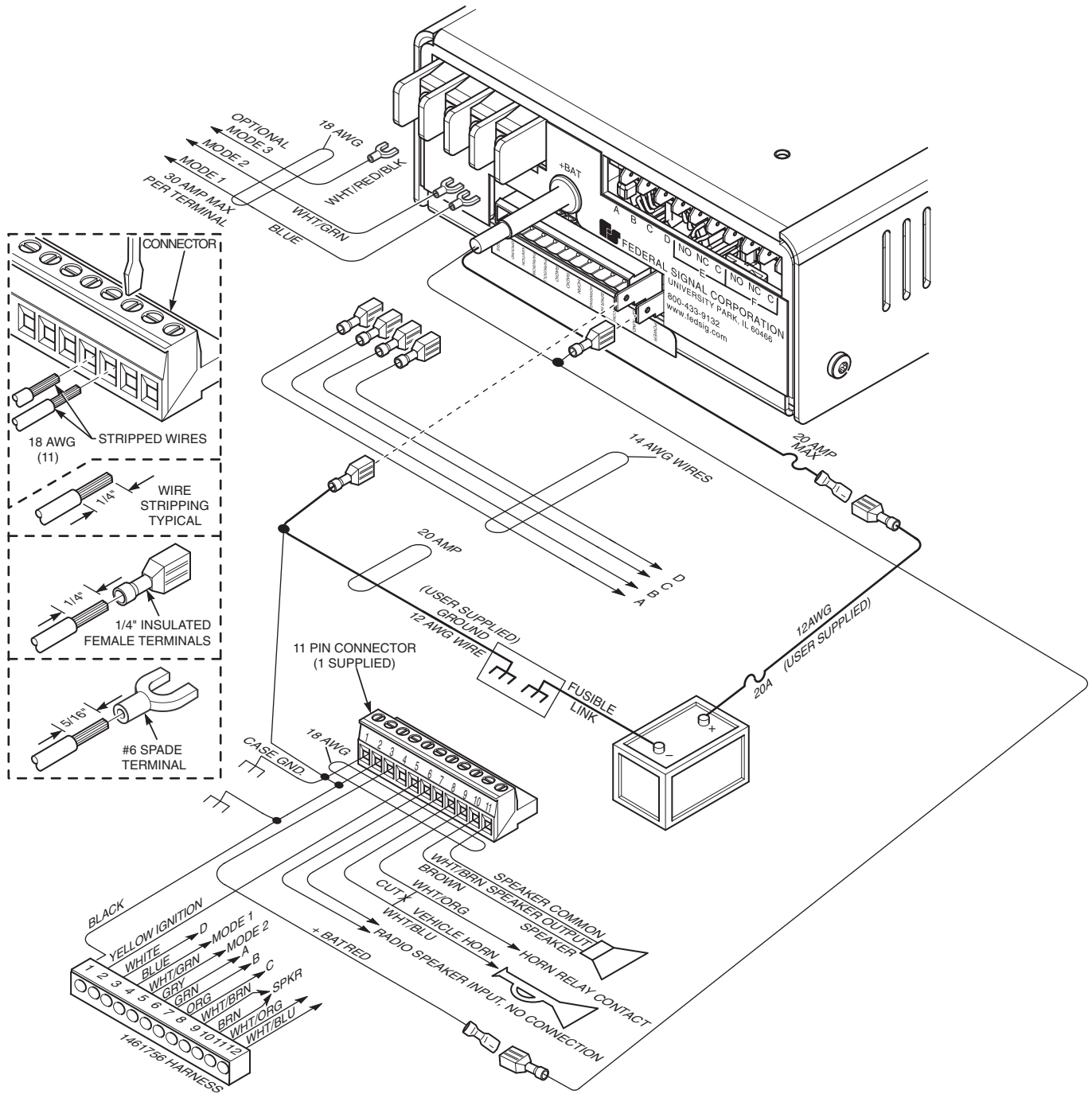
- The harness (PN 1461756) connects the 11-position connector on the siren to the 12-position connector on the interface cable (PN 1751412).
- The Park-Siren Deactivator feature has been removed.
- Model 640000-CPD2 sounds a brief chirp every time the slide switch is put in positions 1 through 3 (Modes 1–3). The chirp also sounds every 10 seconds when any output function is active.

## Connecting the PA640 Siren

Plug the 11-position connector into the back of the PA640 siren. Plug the 12-position plug on the other end of the cable into the 12-position connector on the interface module's harness (*Figure 1* on page 2).

The siren harness (PN 1461756) is wired and connects to the siren as follows (*Table 1* on page 3):

1. Install a 2 A fuse in the ignition line. Connect ignition to pin 2 on the 12-position connector.
2. Connect ground using 12 AWG wire (minimum) to the two ground leads on the interface cable (Black and Black/White).
3. Connect ground to position 1 on the 12-position connector.
4. Connect the quick-disconnect ground on the harness to the ground input spade on the siren.
5. Connect the relay outputs, horn ring circuit, and speaker as shown *Table 1*.
6. With 12 AWG wire fused (20 A) at the source, connect 12 Vdc power to the fused main power lead labeled +BAT on the PA640 siren amplifier.
7. Connect the +BAT cable from the siren to position 3 on the 11-position connector and the power input spade on the siren.



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Figure 1: Siren Connections

Table 1: Siren Connections

11-Position Plug	12-Position Plug	Function
1: Black	1: Black	Ground QD plugs into siren ground
2: Black	1: Black	Ground
3: Red		+BAT QD plugs into siren +BAT cable
4: Not connected		
5: Yellow	2: Yellow	Ignition
6: Not connected		
7: Not connected		
8: White/Blue	12: White/Blue	Vehicle horn
9: White/Orange	11: White/Orange	Horn relay contact
10: Brown	10: Brown	Speaker
11: White/Brown	9: White/Brown	Speaker common
	3: White	Relay D: lightbar ignition
	4: Blue	Slide switch position 1 (Mode 1): Pattern 11, Rear enable
	5: White/Green	Slide switch position 2 (Mode 2): front enable
	6: Gray	Relay A: Takedown lights
	7: Green	Relay B: Left alley light
	8: Orange	Relay C: Right alley light
<b>Notes:</b>		
For the lightbar's front/rear enable feature to function properly, turn ON dipswitch 1 on the Serial Interface Module.		
For flash takedown and alley lights, plug the White/Red/Black wire with the fork terminal into slide switch position 3 (Mode 3).		

## Slide Switch Operation with the Ignition Off

See *Table 2* on page 3 for the auxiliary relay functions.

- Slide switch position 1 (Mode 1) operates the rear of the lightbar in pattern 11.  
Relays A, B, C, E, and F are inactive.  
Relay D is on.  
The air horn and manual siren tones are active.
- Slide switch position 2 (Mode 2) operates the front and rear of the lightbar in pattern 11.  
Relays A, B, C, E, and F are active.  
Relay D is on.  
The air horn and manual siren tones are inactive.
- Slide switch position 3 (Mode 3) operates the front and rear of the lightbar.  
Siren tone is disabled.  
Relays A, B, C, E, and F are inactive.  
Relay D is on.  
The air horn and manual siren tones are active.  
With the White/Red/Black wire connected, the takedown and alley lights flash alternately when 12 Vdc is applied.

## Slide Switch Operation with the Ignition On

See *Table 2* below for the auxiliary relay functions.

- Slide switch position 1 (Mode 1) operates the rear of the lightbar in pattern 11.  
Relays A, B, C, E, and F are functional.  
Relay D is on.  
The air horn and manual siren tones are active.
- Slide switch position 2 (Mode 2) operates the front and rear of the lightbar in pattern 11.  
Relays A, B, C, E, and F are functional.  
Relay D is on.  
The air horn and manual siren tones are active.
- Slide switch position 3 (Mode 3) operates the front and rear of the lightbar.  
Siren tone is generated when the rotary switch is in the WAIL, YELP or PRIORITY position.  
Relays A, B, C, E, and F are functional.  
Relay D is on.  
The air horn and manual siren tones are active.  
With the White/Red/Black wire connected, the takedown and alley lights flash alternately when 12 Vdc is applied.

*Table 2: Auxiliary relay functions*

Relay	Function
A	Takedowns
B	Left Alley
C	Right Alley
D	LEGEND ignition input to the Serial Interface Module
E	Unused
F	Unused

## Sleep Mode

With the ignition and slide switch off, the PA640 goes into a low-power sleep mode to reduce the current drain to 17 mA nominal on the battery. If the slide switch is put into a mode of operation, the PA640 wakes up and performs the switch function.

