

**Cautions and Warnings**



**READ AND SAVE THESE INSTRUCTIONS-** Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.

**DO NOT INSTALL ANY SIMPLEX® PRODUCT THAT APPEARS DAMAGED-** Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.



**ELECTRICAL HAZARD -** Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of your local Simplex product supplier.

**FCC RULES AND REGULATIONS – PART 15 -** This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**Introduction**

The Color Touchscreen LCD Annunciator for 4007ES panels\* provides remote annunciation of the Fire Alarm Control Panel (FACP) status. Visual status is provided by the touchscreen and by the LEDs. Audible annunciation is provided through a piezo sounder. Access to Annunciator switch functions can be enabled or locked using the keyswitch. A maximum of six color touchscreen annunciators can be installed on a 4007ES panel.

\* 4007ES panels include the 4007ES hybrid panels and the 4007ES panels with IDNAC notification. From this point on, they will be referred to as 4007ES.

**Compatibility**

The 4007ES panel needs to be at revision 3.02.07 or higher to support the Color Touchscreen LCD Annunciator.

The following annunciators, boxes, and brackets are compatible with 4007ES panels:

Part Number	Description
4606-9202	Color Touchscreen LCD Annunciator, Red
4606-9205	Color Touchscreen LCD Annunciator, Platinum
2975-9461	Color Touchscreen LCD Annunciator, Surface Mount Box, Red
2975-9462	Color Touchscreen LCD Annunciator, Surface Mount Box, Platinum
2975-9463	Color Touchscreen LCD Annunciator, Retrofit, Semi-flush bracket, Red
2975-9464	Color Touchscreen LCD Annunciator, Retrofit, Semi-flush bracket, Platinum

**In this publication**

Reference Documents .....	1	Wire Length Tables .....	5
Module Overview .....	2	Communication Wiring Length Tables .....	6
General Mounting Information .....	3	Address Setting .....	6
General Wiring Guidelines .....	3	Mounting Instructions .....	8
Specific Wiring Guidelines .....	3	Verification Procedure .....	8
Wiring .....	4	Remote Annunciator Specifications .....	9

**Reference Documents**

Refer to the following documents for more information on how to program and use the remote annunciator.

Document Number	Title
579-1165	4007ES Operator's manual
579-1167	4007ES Programmer's manual

# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

## Module Overview

Refer to Figure 1 for the remote annunciator front view and to Figure 2 for the back layout.

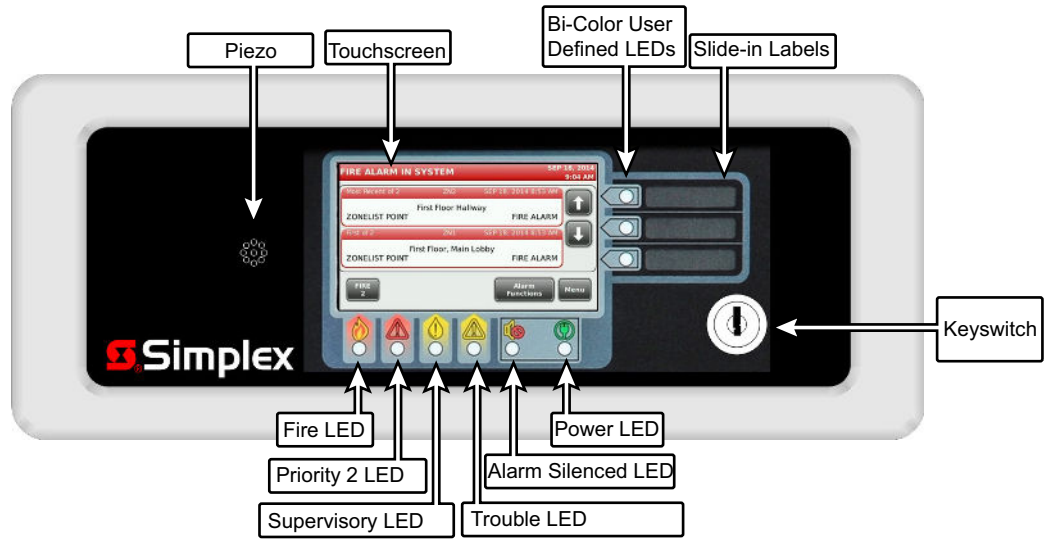


Figure 1. Remote Annunciator Front View

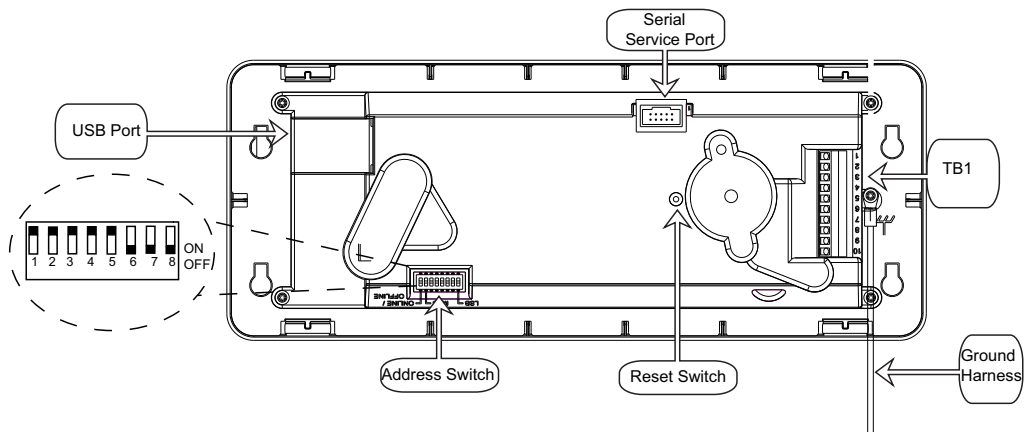


Figure 2. Remote Annunciator Back View

Table 1. Remote Annunciator Main Back Components

Serial Service Port (P2)	Not yet available. Future use.
USB port (P5)	Allows downloading fonts and MsgLib information. To access the USB port, remove the trim plate and then unscrew the annunciator from the back box (see Figure 6). For more information about the thumb drive, refer to the <i>Programmer's Manual</i> , 579-1167.
Address Switch (SW-2)	Sets FACP address and communications online or offline.
Reset Switch (SW1)	Short press (< 5 seconds) to activate a software reset (warm start). Press and hold (> 5 seconds) to force a hardware reset (warm start). Unless the annunciator CPU appears to be locked up, the software controlled reset should be used. A warm start preserves the logs and the disabled status of points in the disabled state.
Service Mode Jumper	To access the service mode jumper, the cover plate needs to be removed. <b>IMPORTANT: Factory use only. Do not remove.</b>

# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

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## General Mounting Information

### Flush-mount annunciators

- In masonry walls or plasterboard walls, use a RACO 944 identify as a 5-gang box (2½ in / 64 mm deep) box or its equivalent.

### Surface mount annunciators

- Use a 2975-9461 box (2½ in/64 mm deep), red.
- Use a 2975-9462 box (2½ in/64 mm deep), platinum.

### Semi-flush-mount annunciators

For mounting to an existing six-gang box, masonry box, 2975-9206 box, or 2975-9217 box:

- Use bracket 2975-9463 (1¾ in/44.5 mm), red.
- Use bracket 2975-9464 (1¾ in/44.5 mm), platinum.

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## General Wiring Guidelines

- All wiring must be copper conductors only.
- Wire lengths in excess of the maximum lengths (see Table 2 through Table 5) are not permitted.
- If shielding is used:
  - Metallic continuity of the shield must be maintained throughout the entire length of cable.
  - The entire length of the cable must have a resistance greater than  $1 \times 10^6$  ohms to Earth ground.
  - The shield must connect to a SHIELD terminal at each annunciator and must be terminated only at the main panel.
- Underground wiring must be free of water.
- Wires must not be run through elevator shafts.
- Wire runs in plenums must be in conduit unless rated for plenum use.
- Splicing is permitted provided that:
  - All such connections are soldered (rosin-core solder), crimped in metal sleeves, or encapsulated with an epoxy resin;
  - When solder or crimped metal sleeves are used, the junction is insulated with a highgrade electrical tape as sound as the original insulating jacket;
  - The shield's continuity is maintained throughout the cable's length.
- Only system wiring can share the same conduit.

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## Specific Wiring Guidelines

- 24V power wiring must be power limited and communication wiring is supervised and power limited.
- The Remote Annunciator cannot be used with wiring that goes outside the building (above or below ground), unless overvoltage suppression is provided at both ends for both the communication and the power wiring. Communication and power wiring must meet the following requirements:
  1. Simplex Model 2081-9044 overvoltage protectors (200 mA or less):
    - There are no restrictions on wire routing, however, the maximum wire length is 2500 feet.
  2. Simplex Model 2081-9027 (200 mA maximum) or Model 2081-9028 (5-amp maximum) isolated loop circuits protectors:
    - For underground wiring, select the appropriate isolated loop circuit protector. The circuit wiring must be run in a separate parallel wiring trough, separated from any commercial power distribution wiring.
    - For overhead wiring, select the appropriate isolated loop circuit protector. The wiring is limited to one contiguous property and the total wire length must not exceed 2500 feet. The circuit wiring must be run on separate poles, separated from any poles supporting commercial power distribution wiring. The circuit wiring must be run in parallel with direct relation to the commercial power distribution. The separation is a minimum distance (whichever is greater) of 100 feet, or the maximum span between any two adjacent poles of either the system's circuit or the commercial power distribution circuit.
- For maximum wire lengths with or without circuit protectors, see Table 2 through Table 5.
- If the interconnected control unit is not used to provide operating power to the annunciator, a regulated power-limited, UL-listed 24VDC power supply for fire protective signaling must be used.
- 12-18 AWG twisted pair wiring is required for RUI communications.
- In accordance with NFPA 70, Article 250, a dedicated Earth ground connection must be provided to the back box.

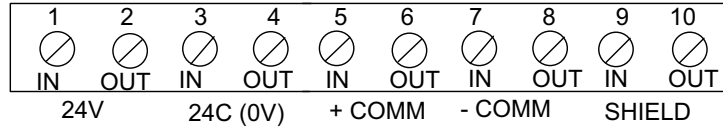
# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

## Wiring

**Note:** To prevent Electrostatic Discharge (ESD), use a wrist strap assembly that connects to ground. Ensure power is OFF before installing or servicing the annunciator.

**To properly install the remote annunciator:**

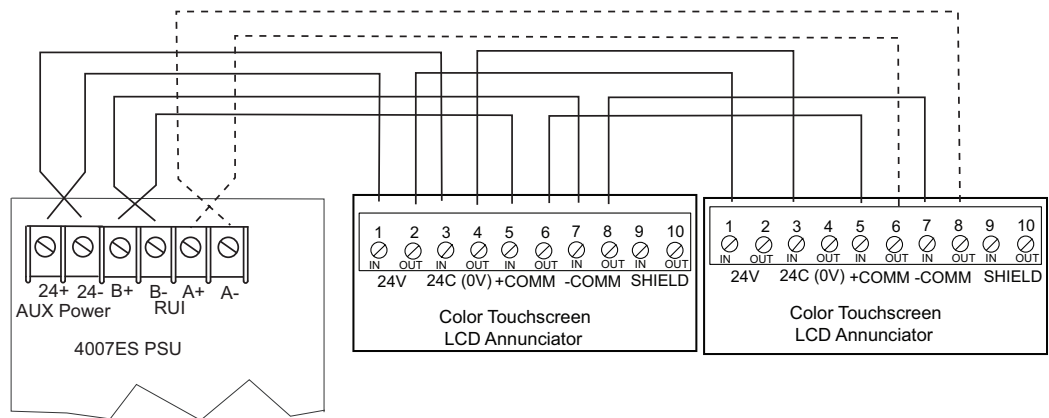
1. Terminate the annunciator's RUI communication and power lines (Figure 3).



**Figure 3. Terminating the COMM and Power Line**

TB1-1: 24V IN from FACP Power Supply or Previous Annunciator	TB1-2: 24V OUT to Next Annunciator
TB1-3: 24C IN from FACP Power Supply or Previous Annunciator	TB1-4: 24C OUT to Next Annunciator
TB1-5: +COMM IN +RUI communications from FACP or Previous Annunciator	TB1-6: +COMM OUT +RUI communications to Next Annunciator
TB1-7: -COMM IN -RUI communications from FACP or Previous Annunciator	TB1-8: -RUI communications to Next Annunciator
TB1-9: SHIELD IN	TB1-10: SHIELD OUT

2. Connect the ground harness (see Figure 2) to the metal back box's Earth ground.
3. Connect the RUI wiring from COMM+ and COMM- on the remote annunciator to RUI terminal on the 4007ES panel power supply (see Figure 4).



**Figure 4. Wiring Diagram**

4. Set Jumper P1 on the 4007ES for Class A or Class B wiring.
5. To power the remote annunciator, connect the cable from 24+ and 24- on the 4007ES power supply to 24V and 24C (0V) on the remote annunciator (Figure 4).

# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

## Wire Length Tables

Table 2 and Table 3 show the maximum wire lengths possible for the power wiring. Table 4 and Table 5 shows the maximum wire lengths for the communication wiring.

- When using multiple annunciators and runs, the total of all runs must not exceed 10,000 ft. (304.8 m) (including T-Taps).
- Four 2081-9044 Overvoltage Protectors or four 2081-9028 Isolated Loop Circuit Protectors are the maximum number permitted on any single communication loop.

## Power Wiring Length Tables

**Table 2. Wire Length with 2081-9044 Overvoltage Protectors**

Total Current (Amps)	12 AWG (3.309 mm <sup>2</sup> )	14 AWG (2.801 mm <sup>2</sup> )	16 AWG (1.309 mm <sup>2</sup> )	18 AWG (0.823 mm <sup>2</sup> )
0.100	2,500 ft. (762 m)	2,500 ft. (762 m)	2,371 ft. (722.68 m)	1,409 ft. (429.46 m)
0.200	2,500 ft. (762 m)	1,782 ft. (543.15 m)	889 ft. (270.96 m)	705 ft. (214.88 m)

**Table 3. Without Transient Suppression (or with 2081-9028 Isolated Loop Circuit Protectors)**

Total Current (Amps)	12 AWG (3.309 mm <sup>2</sup> )	14 AWG (2.801 mm <sup>2</sup> )	16 AWG (1.309 mm <sup>2</sup> )	18 AWG (0.823 mm <sup>2</sup> )
0.100	2,500 ft. (762 m)	2,500 ft. (762 m)	2,500 ft. (762 m)	2,349 ft. (715.97 m)
0.200	2,500 ft. (762 m)	2,500 ft. (762 m)	1,482 ft. (451.71 m)	1,175 ft. (358.14 m)
0.300	2,500 ft. (762 m)	1,980 ft. (603.5 m)	988 ft. (301.14 m)	783 ft. (238.65 m)
0.400	2,361 ft. (719.63 m)	1,485 ft. (452.62 m)	741 ft. (225.85 m)	587 ft. (178.91 m)
0.500	1,889 ft. (575.76 m)	1,188 ft. (362.1 m)	593 ft. (180.74 m)	470 ft. (143.25 m)
0.600	1,574 ft. (479.75 m)	990 ft. (301.75 m)	494 ft. (150.57 m)	392 ft. (119.48 m)
0.700	1,349 ft. (411.17 m)	849 ft. (258.77 m)	423 ft. (128.93 m)	336 ft. (102.41 m)
0.800	1,181 ft. (359.96 m)	743 ft. (226.46 m)	371 ft. (113.08 m)	294 ft. (89.61 m)
0.900	1,049 ft. (319.73 m)	660 ft. (201.16 m)	329 ft. (100.27 m)	261 ft. (79.55 m)
1.000	944 ft. (287.73 m)	594 ft. (181 m)	296 ft. (90.22 m)	235 ft. (71.62 m)
1.100	859 ft. (261.82 m)	540 ft. (164.59 m)	269 ft. (81.99 m)	214 ft. (65.22 m)
1.200	787 ft. (239.87 m)	495 ft. (150.87 m)	247 ft. (75.28 m)	196 ft. (59.74 m)
<b>With 2081-9027 Isolated Loop Circuit Protectors</b>				
0.100	2,500 ft. (762 m)	2,500 ft. (762 m)	2,371 ft. 2,371 ft. (722.68 m)	1,409 ft. (429.46 m)
0.200	2,500 ft. (762 m)	1,782 ft. (543,15 m)	889 ft. (270.96 m)	705 ft. (214.88 m)

# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

**Communication  
Wiring Length  
Tables**

**Table 4. With 2081-9044 Overvoltage Protectors**

12 AWG (3.309 mm <sup>2</sup> )	14 AWG (2.801 mm <sup>2</sup> )	16 AWG (1.309 mm <sup>2</sup> )	18 AWG (0.823 mm <sup>2</sup> )
2,500 ft. (762 m)	2,500 ft. (762 m)	2,450 ft. (746.76 m)	1,650 ft. (502.92 m)

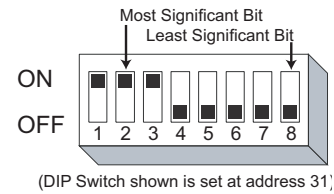
**Table 5. Without Transient Suppression (or with 2081-9028 Isolated Loop Circuit Protectors)**

12 AWG (3.309 mm <sup>2</sup> )	14 AWG (2.801 mm <sup>2</sup> )	16 AWG (1.309 mm <sup>2</sup> )	18 AWG (0.823 mm <sup>2</sup> )
2,500 ft. (762 m)	2,500 ft. (762 m)	2,500 ft. (762 m)	2,349 ft. (715.97 m)
<b>With 2081-9027 Isolated Loop Circuit Protectors</b>			
2,500 ft. (762 m)	2,500 ft. (762 m)	2,450 ft. (746.76 m)	1,650 ft. (502.92 m)

**Address Setting**

Switch SW2 is a bank of eight dip switches. From left to right (see Figure 5) these switches are designated as SW2-1 through SW2-8. The function of these switches is as follows:

- SW2-1. This switch enables communication between the card and the FACP CPU. Set this switch to ON for normal operation.
- SW2-2 through SW2-8. These switches set the card address for the FACP. Refer to Table 6 for a complete list of the switch settings for all of the possible card addresses. Each card must be set to the address assigned in the FACP programmer.



**Figure 5. DIP Switch SW2**

# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

## Address Setting

Table 6. Address Chart

Address	SW 2-2	SW 2-3	SW 2-4	SW 2-5	SW 2-6	SW 2-7	SW 2-8	Address	SW 2-2	SW 2-3	SW 2-4	SW 2-5	SW 2-6	SW 2-7	SW 2-8
1	ON	ON	ON	ON	ON	ON	OFF	61	ON	OFF	OFF	OFF	OFF	ON	OFF
2	ON	ON	ON	ON	ON	OFF	ON	62	ON	OFF	OFF	OFF	OFF	OFF	ON
3	ON	ON	ON	ON	ON	OFF	OFF	63	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	ON	ON	ON	ON	OFF	ON	ON	64	OFF	ON	ON	ON	ON	ON	ON
5	ON	ON	ON	ON	OFF	ON	OFF	65	OFF	ON	ON	ON	ON	ON	OFF
6	ON	ON	ON	ON	OFF	OFF	ON	66	OFF	ON	ON	ON	ON	OFF	ON
7	ON	ON	ON	ON	OFF	OFF	OFF	67	OFF	ON	ON	ON	ON	OFF	OFF
8	ON	ON	ON	OFF	ON	ON	ON	68	OFF	ON	ON	ON	OFF	ON	ON
9	ON	ON	ON	OFF	ON	ON	OFF	69	OFF	ON	ON	ON	OFF	ON	OFF
10	ON	ON	ON	OFF	ON	OFF	ON	70	OFF	ON	ON	ON	OFF	OFF	ON
11	ON	ON	ON	OFF	ON	OFF	OFF	71	OFF	ON	ON	ON	OFF	OFF	OFF
12	ON	ON	ON	OFF	OFF	ON	ON	72	OFF	ON	ON	OFF	ON	ON	ON
13	ON	ON	ON	OFF	OFF	ON	OFF	73	OFF	ON	ON	OFF	ON	ON	OFF
14	ON	ON	ON	OFF	OFF	OFF	ON	74	OFF	ON	ON	OFF	ON	OFF	ON
15	ON	ON	ON	OFF	OFF	OFF	OFF	75	OFF	ON	ON	OFF	ON	OFF	OFF
16	ON	ON	OFF	ON	ON	ON	ON	76	OFF	ON	ON	OFF	OFF	ON	ON
17	ON	ON	OFF	ON	ON	ON	OFF	77	OFF	ON	ON	OFF	OFF	ON	OFF
18	ON	ON	OFF	ON	ON	OFF	ON	78	OFF	ON	ON	OFF	OFF	OFF	ON
19	ON	ON	OFF	ON	ON	OFF	OFF	79	OFF	ON	ON	OFF	OFF	OFF	OFF
20	ON	ON	OFF	ON	OFF	ON	ON	80	OFF	ON	OFF	ON	ON	ON	ON
21	ON	ON	OFF	ON	OFF	ON	OFF	81	OFF	ON	OFF	ON	ON	ON	OFF
22	ON	ON	OFF	ON	OFF	OFF	ON	82	OFF	ON	OFF	ON	ON	OFF	ON
23	ON	ON	OFF	ON	OFF	OFF	OFF	83	OFF	ON	OFF	ON	ON	OFF	OFF
24	ON	ON	OFF	OFF	ON	ON	ON	84	OFF	ON	OFF	ON	OFF	ON	ON
25	ON	ON	OFF	OFF	ON	ON	OFF	85	OFF	ON	OFF	ON	OFF	ON	OFF
26	ON	ON	OFF	OFF	ON	OFF	ON	86	OFF	ON	OFF	ON	OFF	OFF	ON
27	ON	ON	OFF	OFF	ON	OFF	OFF	87	OFF	ON	OFF	ON	OFF	OFF	OFF
28	ON	ON	OFF	OFF	OFF	ON	ON	88	OFF	ON	OFF	OFF	ON	ON	ON
29	ON	ON	OFF	OFF	OFF	ON	OFF	89	OFF	ON	OFF	OFF	ON	ON	OFF
30	ON	ON	OFF	OFF	OFF	OFF	ON	90	OFF	ON	OFF	OFF	ON	OFF	ON
31	ON	ON	OFF	OFF	OFF	OFF	OFF	91	OFF	ON	OFF	OFF	ON	OFF	OFF
32	ON	OFF	ON	ON	ON	ON	ON	92	OFF	ON	OFF	OFF	OFF	ON	ON
33	ON	OFF	ON	ON	ON	ON	OFF	93	OFF	ON	OFF	OFF	OFF	ON	OFF
34	ON	OFF	ON	ON	ON	OFF	ON	94	OFF	ON	OFF	OFF	OFF	OFF	ON
35	ON	OFF	ON	ON	ON	OFF	OFF	95	OFF	ON	OFF	OFF	OFF	OFF	OFF
36	ON	OFF	ON	ON	OFF	ON	ON	96	OFF	OFF	ON	ON	ON	ON	ON
37	ON	OFF	ON	ON	OFF	ON	OFF	97	OFF	OFF	ON	ON	ON	ON	OFF
38	ON	OFF	ON	ON	OFF	OFF	ON	98	OFF	OFF	ON	ON	ON	OFF	ON
39	ON	OFF	ON	ON	OFF	OFF	OFF	99	OFF	OFF	ON	ON	ON	OFF	OFF
40	ON	OFF	ON	OFF	ON	ON	ON	100	OFF	OFF	ON	ON	OFF	ON	ON
41	ON	OFF	ON	OFF	ON	ON	OFF	101	OFF	OFF	ON	ON	OFF	ON	OFF
42	ON	OFF	ON	OFF	ON	OFF	ON	102	OFF	OFF	ON	ON	OFF	OFF	ON
43	ON	OFF	ON	OFF	ON	OFF	OFF	103	OFF	OFF	ON	ON	OFF	OFF	OFF
44	ON	OFF	ON	OFF	OFF	ON	ON	104	OFF	OFF	ON	OFF	ON	ON	ON
45	ON	OFF	ON	OFF	OFF	ON	OFF	105	OFF	OFF	ON	OFF	ON	ON	OFF
46	ON	OFF	ON	OFF	OFF	OFF	ON	106	OFF	OFF	ON	OFF	ON	OFF	ON
47	ON	OFF	ON	OFF	OFF	OFF	OFF	107	OFF	OFF	ON	OFF	ON	OFF	OFF
48	ON	OFF	OFF	ON	ON	ON	ON	108	OFF	OFF	ON	OFF	OFF	ON	ON
49	ON	OFF	OFF	ON	ON	ON	OFF	109	OFF	OFF	ON	OFF	OFF	ON	OFF
50	ON	OFF	OFF	ON	ON	OFF	ON	110	OFF	OFF	ON	OFF	OFF	OFF	ON
51	ON	OFF	OFF	ON	ON	OFF	OFF	111	OFF	OFF	ON	OFF	OFF	OFF	OFF
52	ON	OFF	OFF	ON	OFF	ON	ON	112	OFF	OFF	OFF	ON	ON	ON	ON
53	ON	OFF	OFF	ON	OFF	ON	OFF	113	OFF	OFF	OFF	ON	ON	ON	OFF
54	ON	OFF	OFF	ON	OFF	OFF	ON	114	OFF	OFF	OFF	ON	ON	OFF	ON
55	ON	OFF	OFF	ON	OFF	OFF	OFF	115	OFF	OFF	OFF	ON	ON	OFF	OFF
56	ON	OFF	OFF	OFF	ON	ON	ON	116	OFF	OFF	OFF	ON	OFF	ON	ON
57	ON	OFF	OFF	OFF	ON	ON	OFF	117	OFF	OFF	OFF	ON	OFF	ON	OFF
58	ON	OFF	OFF	OFF	ON	OFF	ON	118	OFF	OFF	OFF	ON	OFF	OFF	ON
59	ON	OFF	OFF	OFF	ON	OFF	OFF	119	OFF	OFF	OFF	ON	OFF	OFF	OFF
60	ON	OFF	OFF	OFF	OFF	ON	ON								

# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

## Mounting Instructions

1. Using the four provided screws, mount the annunciator in its back box (see Figure 6 for semi-flush mounting and Figure 7 for surface mounting).
2. Label the separate user-defined labels with the appropriate designation.
3. Carefully pull the top of the label pocket forward and insert the user-defined labels.
4. Gently push on the trim plate to snap it in place, over the annunciator.

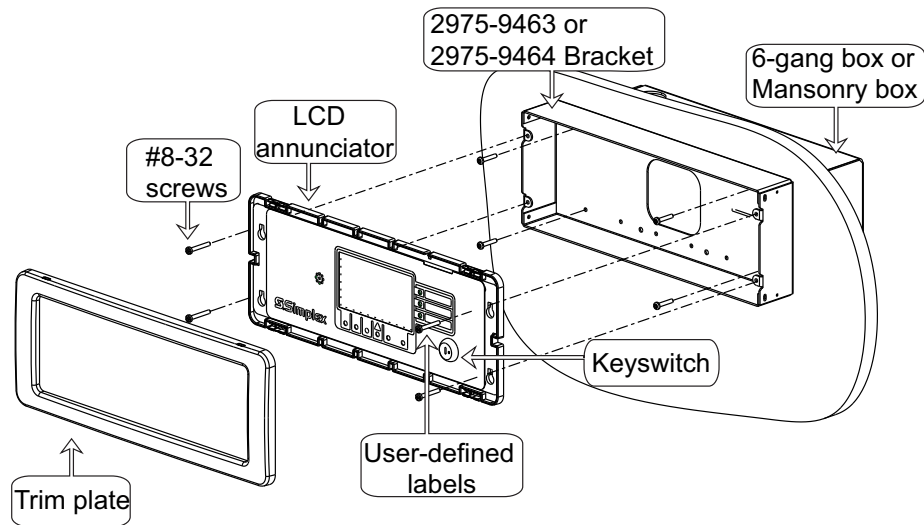


Figure 6. Semi-flush mounting for retrofit installation

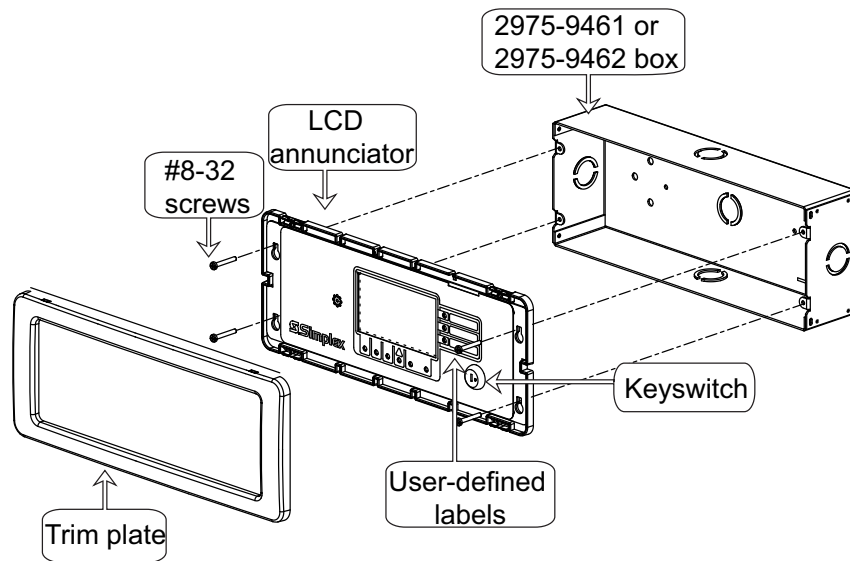


Figure 7. Surface mounting

## Verification Procedure

When the installation is completed, verify that the remote annunciator is working properly. If the annunciator displays the message “Error communicating with Master” or if the annunciator fails to power, check the wiring. If the wiring is correct, call technical support. If the annunciator is not wired properly and is not communicating with the FACP, error messages are displayed and an audible signal is emitted. Also, a card missing trouble is displayed at the FACP. For Programming changes, please refer to the *Programmer’s Manual*, 579-1167.



# Color Touchscreen LCD Annunciator Installation Instructions, *Continued*

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## Remote Annunciator Specifications

**Table 7. Remote Annunciator Specifications**

<b>Operating Conditions:</b>	
Operating Temperature Range	32°F - 120°F (0°C-49°C)
Operating Humidity Range	Up to 93% relative humidity at 100°F (38°C), non-condensing.
<b>Power Supply</b>	24 VDC Nominal/18 VDC minimum at power input terminals of annunciator to allow for wiring losses.
Maximum Current Draw	Backlight ON at 24 VDC: 70 mA
	Backlight dimmed at 24 VDC: 45 mA

