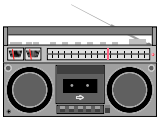
4606-9101 Remote LCD Annunciator Installation Instructions

Cautions and Warnings







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 Simplex.

ELECTRICAL HAZARD - Disconnect electrical power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex Representatives.

RADIO FREQUENCY ENERGY - This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

STATIC HAZARD - Static electricity can damage components. Therefore, handle as follows:

1. Ground yourself before opening or installing components (use the 553-484 Static Control Kit).
2. Keep uninstalled component wrapped in anti-static material at all times.

Overview

The 4606-9101 Remote LCD Annunciator (Figure 1) provides remote annunciation of the Fire Alarm Control Panel (FACP) status. Visual status is provided by a liquid crystal display and LEDs. Audible annunciation is provided through a piezo sounder. Earth fault detection is provided by the system providing power to the 4606-9101 Remote Annunciator. Access to the functions of the annunciator can be limited through the use of the keyswitch provided.

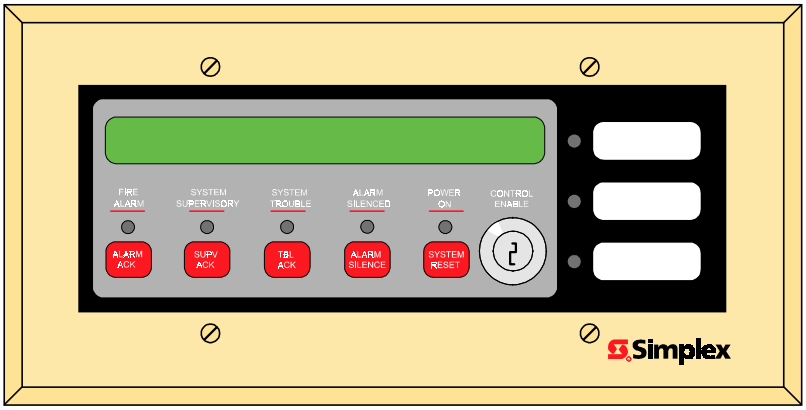


Figure 1. 4606-9101 Remote LCD Annunciator

In this Publication

This publication discusses the following topics:

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Requirements

Installation Requirements

The 4606-9101 Remote LCD Annunciator has the following installation requirements:

- The 4606-9101 Remote LCD Annunciator can be flush-mounted or surface-mounted.
- A maximum of six annunciators can be connected to a 4010 FACP.
- When wiring an annunciator, at least 18 AWG twisted wire (or wire in conformance with local code) is required. 18 AWG twisted-shielded pair is recommended.
- If twisted-shielded pair wire is used, the shield must be properly insulated throughout and grounded at one location (usually in the FACP).

Note: Refer to *4010 Field Wiring Diagrams* (842-058) for all wiring requirements.

Wiring Precautions

The following wiring precautions should be observed when wiring the Remote LCD Annunciator.

- All wiring must be installed in accordance with the manufacturer's recommendations and the specifications and standards approved by the authority having jurisdiction. The installation of all wiring, cable, and equipment must be in accordance with NFPA 70, National Electrical Code and specifically with Article 760, Fire Alarm Protective Signaling Systems; Article 770, Optical Fiber Cables; and Article 800, Communication Circuits, National Electrical Code, where applicable, Optical Fiber Cables must be protected against mechanical injury in accordance with Article 760.
- For N2 communications wired in a "bus" fashion, the maximum line distance is 4,000 ft. For N2 communications wired in a T-Tapped configuration, the maximum distance to any N2 device is 2,500 ft, with maximum total wire distance not to exceed 10,000 ft on the T-Tapped lines. The maximum cable capacitance is .58 uf between conductors and/or 35 Ohms total line resistance, inclusive of the added transient.
- If shielding is used, you must observe the following:
  - The entire length of cable must have a resistance greater than 1 Megohm to Earth ground.
  - N2 communications' shields are to be connected to Earth ground at one end of the entire N2 line only (typically at the FACP).
  - Continuity of the shield must be maintained throughout the N2 line. (Pins 1 and 2 of TB1 provide a location to Common up the shield.)
  - The shields should be insulated to ensure they do not short to the annunciator cover or the mounting box.
- Underground wiring must be free of water.

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Requirements, *Continued*

Wiring Precautions
(Continued)

- Wiring other than that connected to elevator cab(s) must not be run in elevator shafts (Refer to NFPA 70, Article 620-37).
- Splicing is permitted. Conductors must be spliced or joined with approved splicing devices or other approved methods.
- A system ground must be provided for Earth detection and transient suppression. This connection must be made to an approved dedicated Earth connection in accordance with NFPA 70, Article 250.
- Only system wiring can share the same conduit.
- When wiring leaves the building, overvoltage protectors must be used. Use one Simplex Model 2081-9044 Overvoltage Protector where the wiring leaves the building and one where the wiring enters the next building.

  Note: A separate suppressor is needed for power and N2 communications if each leave the building.

- If the Remote LCD Annunciator is the last device on the N2 bus (Non-T-Tapped), or the furthest device (T-Tapped) terminate across N2+ out and N2 - out using a 733-974 (100Ω, 1/2W) resistor harness.

  Note: Only one remote device can be terminated for each system.

Continued on next page

Requirements, *Continued*

Available Back Boxes

The Remote LCD Annunciator can be flush-mounted or surface-mounted. The following back boxes are available for mounting the annunciator:

- To flush-mount in masonry walls, use a listed RACO 965 (3-1/2 inches deep) box using any of the conduit knock-outs that are 2-1/2 inches from the front. The RACO 960 (2-1/2 inches deep) box can only be used with the conduit knock-outs on the top or bottom.
- To flush-mount in plasterboard walls, use a listed RACO 590 (3-1/2 inches deep) box using the conduit knock-outs that are 2-1/2 inches from the front. The RACO 600 (3-1/2 inches deep) box can only be used with the conduit knock-outs on the sides, or when using the armored cable clamps on the top or bottom.
- To surface-mount, use listed WIREMOLD™ "Surface Metal Raceways" (1-3/4 to 2-3/4 inches deep).

Power Requirements

The Remote LCD Annunciator has the following power requirements.

- **Voltage**

24VDC Power Supply: 24VDC nominal (18.9VDC to 32.0VDC)

- **Current**

Maximum Current Draw	with LCD Backlight OFF at 24VDC: 65.0mA
Maximum Current Draw	with LCD Backlight ON at 24VDC: 110.0mA
Maximum Current Draw	with LCD Backlight ON and Piezo ON at 18.0VDC: 140mA

Environmental Limitations

The Remote LCD Annunciator has the following environmental limitations.

- **Temperature**
  - Operating Range: 0°C to 49°C (32°F to 120°F)
- **Humidity**
  - The equipment operates normally under non-condensing humidity conditions up to 93% relative humidity at 38°C (100°F).

Switches and Indicators

Switches

The Remote Annunciator card has the following switches:

- **SW1 (a two position DIP switch)** - used to set the N2 communications baud rate and to take the card off-line.
- **SW2 (an eight position DIP switch)** - used to set the card address of the Remote Annunciator.

LED Indicators

Table 1 lists the Remote Annunciator LED indicators.

Table 1. LED Indicators

Designation	Location
Fire Alarm	Above ALARM ACK
System Supervisory	Above SUPV ACK
System Trouble	Above TBL ACK
Alarm Silenced	Above ALARM SILENCE
Power ON	Above SYSTEM RESET

Note: The three LEDs to the right of the LCD display window are user-defined LEDs and can be labeled as needed.

Installation

Related Documentation

The following is a list of additional documentation that may aid you in the installation of the Remote Annunciator.

- *4010 Field Wiring Diagram* 842-058
- *4010 Installation Instructions*..... 574-052
- *4010 Front Panel Programming Instructions* 574-054

Unpacking the Annunciator

1. Place the shipping container near where the installation is to take place.
2. Carefully remove the packing material from the shipping container and remove the annunciator unit, and face plate, from the shipping container.
3. Place them where they can be reached while the installation is taking place.

Wiring the Annunciator

1. Connect a properly grounded Static Ground Strap Assembly to your wrist.
2. Ensure power and N2 communications wiring are OFF (not powered) before installing or servicing the annunciator. Terminate the annunciator's power and communications lines on the electronics assembly using the information in Table 2. Shields should be insulated to ensure that they do not short the annunciator cover or mounting box. Refer to the Field Wiring Diagrams (842-058) and Figure 2.

Table 2. Power and Communications (TB1)

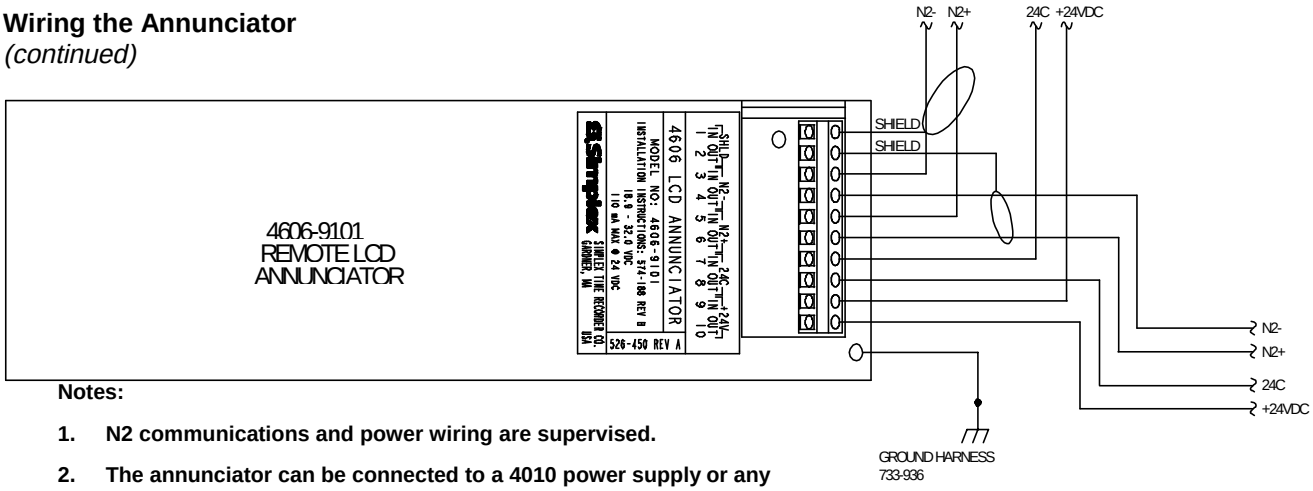
Terminal Block #	Description
TB1-1	Shield from 4010 or previous annunciator
TB1-2	Shield to next annunciator
TB1-3	N2- from 4010 or previous annunciator
TB1-4	N2- to next annunciator or terminating resistor*
TB1-5	N2+ from 4010 or previous annunciator
TB1-6	N2+ to next annunciator or terminating resistor*
TB1-7	From 24C of 4010 power supply or 24C from previous annunciator
TB1-8	To 24C of next annunciator
TB1-9	From +24V of 4010 power supply or +24V from previous annunciator
TB1-10	To +24V of next annunciator

*** If it is the last device on an N2 line.**

3. Connect the ground harness (733-936) to Earth ground

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Wiring the Annunciator
(continued)



Notes:

1. **N2 communications and power wiring are supervised.**
2. **The annunciator can be connected to a 4010 power supply or any electrically compatible power-limited power supplies that are UL listed for fire protective signaling use.**

Figure 2. Power and N2 Communication Wiring to TB1

Setting the Baud Rate

The baud rate must be set before the electronics assembly is mounted in the back box. To set the baud rate do the following:

1. Locate switch SW1 (Figure 3).

Note:

DIP switches SW1 and SW2 are located at the top left corner of the electronics assembly

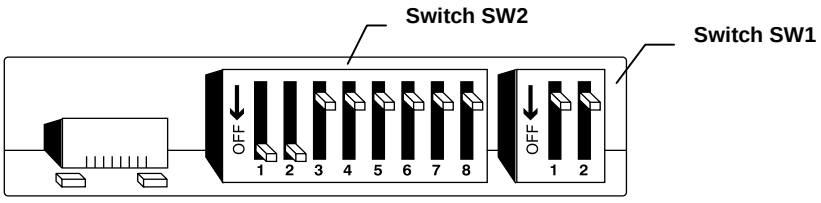


Figure 3. DIP Switches SW1 and SW2

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Setting the Baud Rate
(Continued)

2. Refer to Table 3 and set the baud rate so that the annunciator can communicate with the FACP.

Table 3. Switch SW1 Baud Rate Settings

Baud Rate	SW1-1	SW1-2
OFF LINE	ON	ON
9,600	OFF	ON
19,200	ON	OFF
38,400	OFF	OFF

Note: If either a 4010 Network Interface Card (565-818/19) or a 4010 DACT (565-798/860) is present in the 4010 FACP, the entire system must be set to 9600 baud.

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Setting the Card Address

The available addresses for the Remote LCD Annunciator are (9-14). When the FACP is programmed (refer to the *4010 Fire Alarm Front Panel Programming Instructions*, Part No. 574-054 to add the LCD Annunciator to the 4010) it assigns one of the available addresses to the annunciator. Set the card address on the Remote LCD Annunciator to match that assigned by the programmer. To set the card address do the following:

1. Locate switch SW2 (Figure 3) in the upper left corner of the annunciator.

2. Refer to Table 4 (Card Address Settings) and set the address to match that assigned to the annunciator by the FACP Programmer.

Table 4. Card Address Settings

	Switch	1	2	3	4	5	6	7	8
Address									
9		ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10		OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11		ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12		OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13		ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14		OFF	ON	ON	ON	OFF	OFF	OFF	OFF

Mounting the Electronics Assembly

Follow Steps 1 through 6 and refer to Figure 4 to mount the electronics assembly.

Note: The card address must be set before the electronics assembly is mounted in the back box.

1. Place the electronics assembly on the back box. The back box should have already been installed by the site contractor or equivalent personnel.



CAUTION: Ensure that you do not pinch any wiring behind the electronics assembly when mounting as damage may occur to the equipment.

2. Align the two holes on the back box with the two holes on the electronics assembly.

3. Insert two slotted screws (Part No. 412-059) into the holes in the back box.

4. Ensure that the four slotted holes in the electronics assembly are aligned with the four holes in the back box to allow installation of the face plate. Securely tighten the two screws that were inserted into the holes in the back box (refer to Figures 4 and 5).

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5. Label the User-Defined LED labels with the appropriate designations.
6. Carefully pull the top of the label pocket forward and insert the user-defined LED labels.

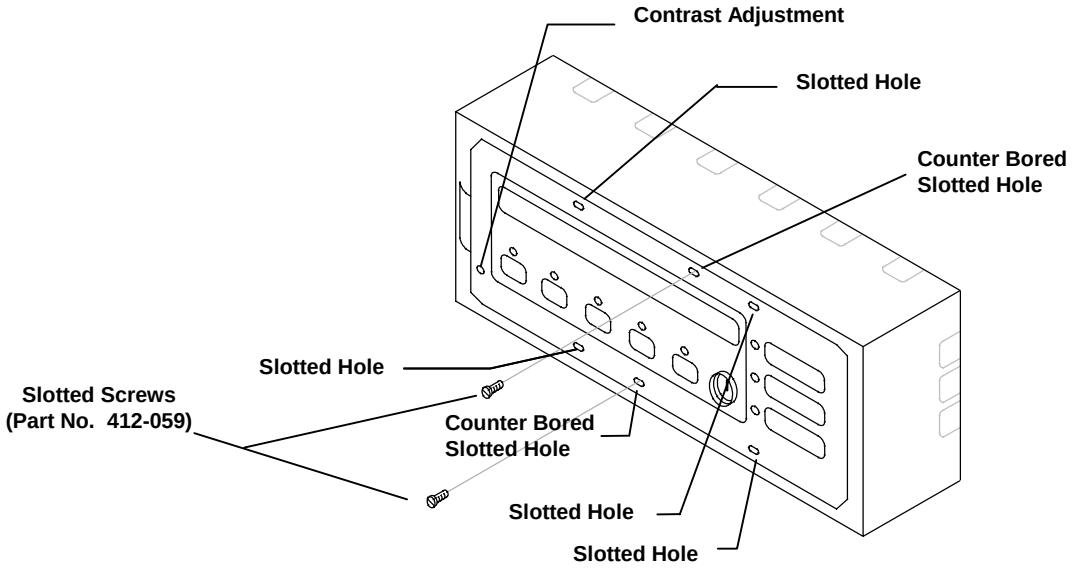


Figure 4. Mounting the Electronics Assembly

Adjusting the Contrast

The contrast of the LCD display should be adjusted before the face plate is mounted. The potentiometer for adjusting the contrast is located inside the box, on the left side of the electronics assembly. Follow Steps 1 through 3 and refer to Figure 4 to adjust the contrast.

1. Using a small screw driver, carefully turn the potentiometer and observe the LCD display.
2. If the contrast is getting better, keep turning the potentiometer until the contrast is set where you want it.
3. If the contrast is not getting better, turn the potentiometer in the opposite direction and keep turning until the contrast is set where you want it.

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Mounting the Face Plate

Follow Steps 1 through 4 and refer to Figure 5 to mount the annunciator's face plate.

1. Place the face plate over the electronics assembly.
2. Align the four holes in the face plate with the matching holes in the back box.
3. Insert four oval head screws (Part No. 411-701) or four slotted screws (Part No. 411-702) into the holes in the face plate (see Figure 5).
4. Securely tighten these screws.

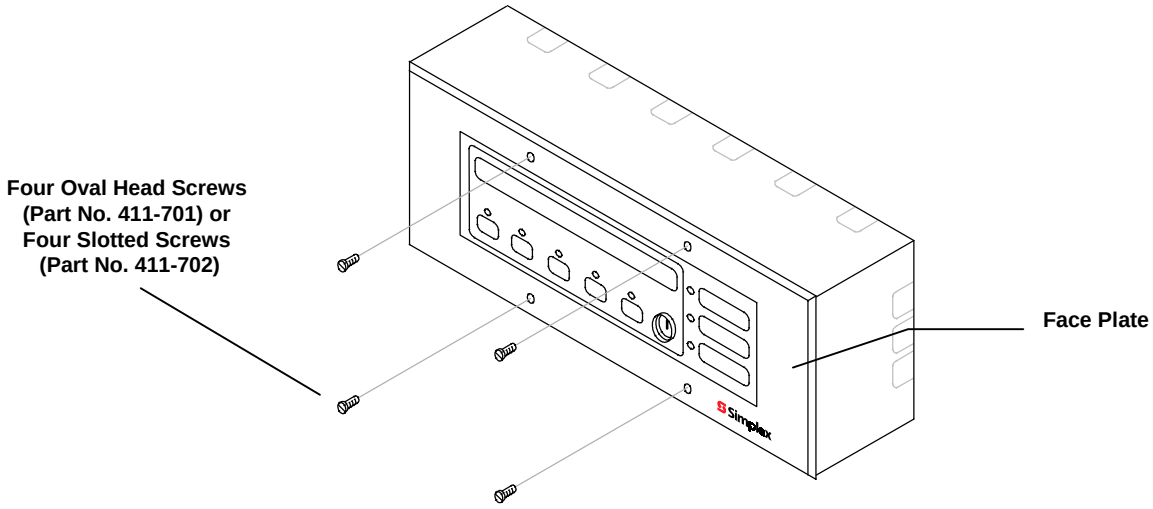


Figure 5. Mounting the Face Plate

Installation Checkout

Checkout Procedure

When the installation is complete, verify that the remote annunciator is working properly by performing the following steps:

1. Verify that the LEDs and LCD are working. Do so by turning the keyswitch OFF and then immediately ON. This process causes the remote annunciator to execute a self test which checks each LED and the LCD.

2. Verify that the annunciator is wired properly and that it is communicating with the FACP. Verify this by observing the remote annunciator. 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.

Note: For programming changes please refer to your panel's programming manual.