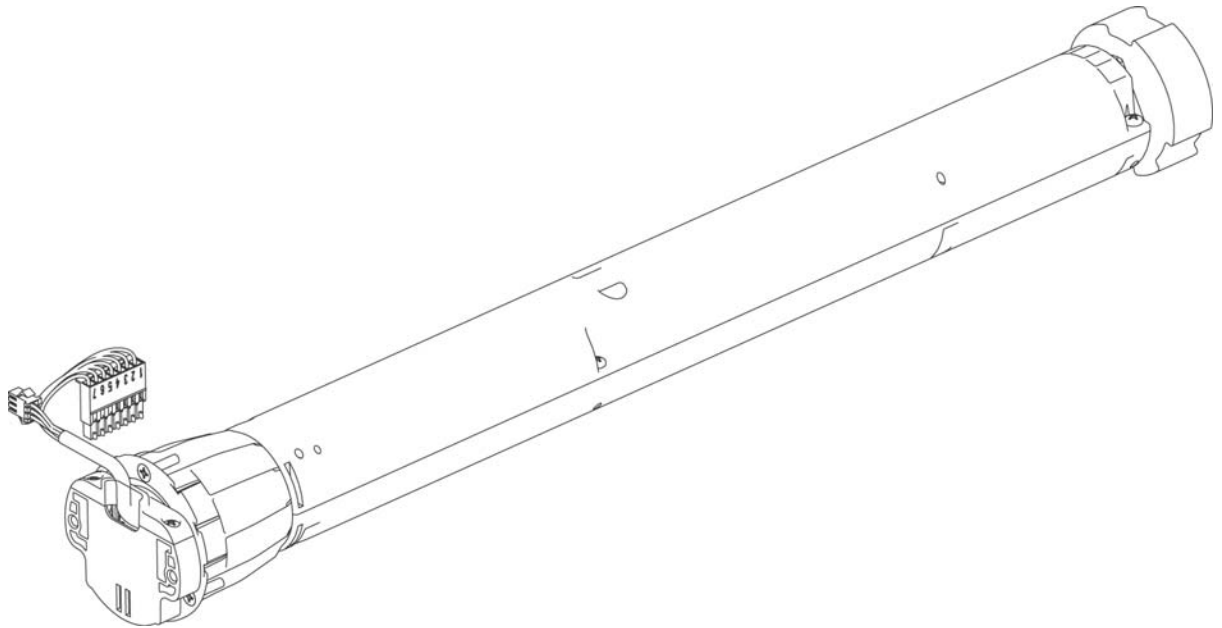


Lutron QED Quiet Motor

Owner's Manual



- TO THE OWNER
- INSTALLATION INSTRUCTIONS
 - OPERATING THE MOTOR
 - MAINTENANCE

Printed in U.S.A.

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Lutron QED Quiet Motor

Owner's Manual

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TO THE OWNER

Congratulations on your purchase of one of the finest optical viewing screen products available anywhere in the world!

Stewart Filmscreen partners with Lutron Electronics Co. Inc. to offer the very first silent retractable projection screen. The QED (Quiet Electronic Drive) technology reduces noise and allows motorized screens to operate in silence. The Lutron Quiet Motor ensures quiet, reliable operation of your screen.

Please take a moment to review this manual; it will help ensure you many years of trouble-free service from your quiet motor.

LUTRON MOTOR COMPONENT OVERVIEW

When you receive the Stewart Filmscreen product that uses the Lutron motor, the motor is already installed in the screen system and configured for use. The installer mounts the screen and transformer, connects the control option (such as the keypad), connects to the AC power, and the system is ready to operate.

This manual provides information on installation and on programming the controls in case there is a future need to make adjustments.

The Lutron motor includes the following components:

- ◆ Motor tube, most of which is typically enclosed in the screen housing
- ◆ Motor connector, connects to the transformer and to the control option
- ◆ IR sensor connector, connects to the IR sensor
- ◆ Transformer, which includes an AC power connector, already connected to the motor by the factory with a 10-foot (3 m) lead.
- ◆ Control option, such as a keypad or IR sensor, or a PSI (Projection Screen Interface) for connection to a video projector trigger or third-party control unit

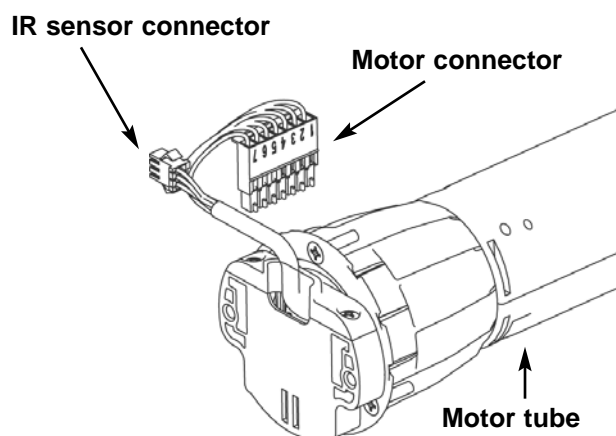


Figure 1. Motor tube

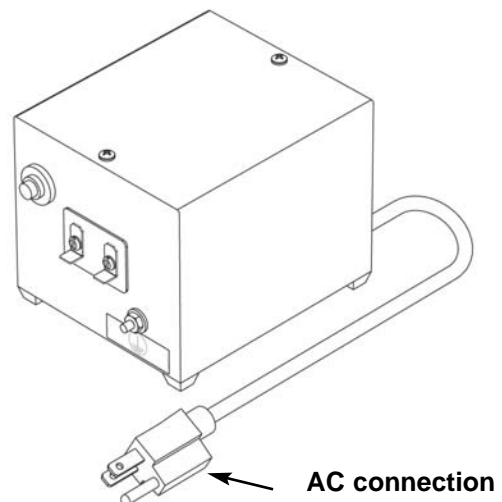


Figure 2. Transformer

Control option overview

The options to control a Lutron motor used with Stewart screens include:

- ◆ Keypad
- ◆ Infrared (IR) transmitters
- ◆ PSI (Projection Screen Interface) to a video projector trigger or third-party control system

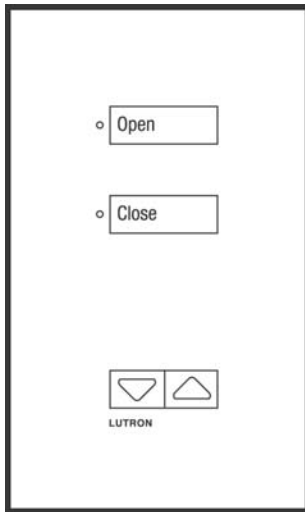


Figure 3. Keypad

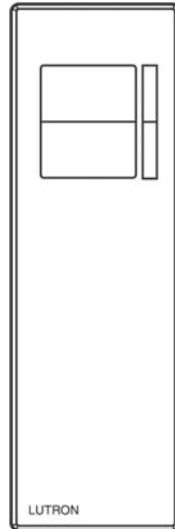


Figure 4. Handheld IR remote

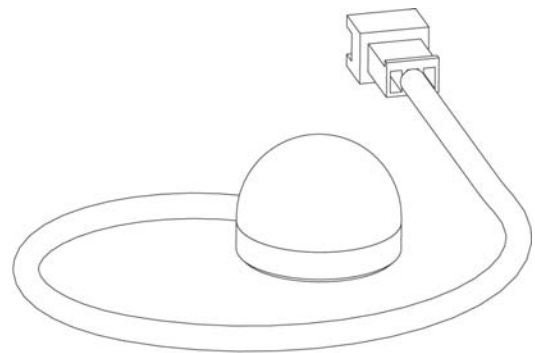


Figure 5. IR sensor

Keypads are wall mounted and provide UP (Open), DOWN (Close), stop, and motor programming functions.

IR transmitters require an IR receiver that is connected to a motor. IR transmitters provide UP (Open), DOWN (Close), stop, and motor programming functions.

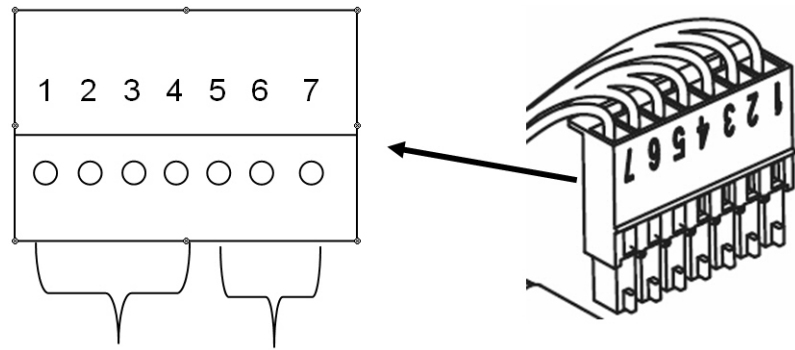
The PSI (Projection Screen Interface) is designed to allow the screen motor to be controlled by video projectors and third-party systems such as Crestron, AMX, Extron or other AV switching network systems.

Lutron motor wiring overview

The diagram below illustrates the wiring of the main connector of the Lutron motor to the transformer and the control option.

- ◆ The connections to the transformer are already made at the factory.
- ◆ Connections to control options such as the keypad are made at the time of installation.

Refer to the step-by-step instructions before proceeding.



Connectors 1 – 4 to switches Connectors 5 – 7 to transformer

| | Color | Connection |
|---|----------------|--------------|
| 1 | Yellow | Common |
| 2 | Blue | 12 Volts |
| 3 | Gray | MUX / Data A |
| 4 | Purple | MUX / Data B |
| 5 | Red | 24 VAC |
| 6 | Red | 24 VAC |
| 7 | Yellow / Green | Ground |

Figure 6. Connection wiring

Caution

Professional techniques need to be used when making any electrical connection. A qualified electrician should perform these procedures.

Be sure to follow all standard safety procedures for installing electrical devices.

Do not disassemble or alter the configuration of the motor or the unit's electrical connections. This may cause injury to you or damage to the product.

The electrical connection should be made only to the type of power source indicated on the marking label.

INSTALLATION SEQUENCE OVERVIEW

- ◆ **Before proceeding with the installation of the screen and motor components, take time to thoroughly read and understand these installation and operation instructions.**
- ◆ **There are no user-serviceable parts contained within the unit.**

This section outlines the sequence of the installation of a screen system that uses the Lutron motor. The detailed steps for installing and programming the motor follow this section.

1. Establish constant AC power for the motor transformer.
2. Mount the screen system as directed in the separate screen manual. Do not follow directions that relate to the motor or control option. For convenience you may disconnect the motor at the transformer and then reconnect it once both the screen and the transformer are mounted.
3. Mount the transformer in a serviceable location, either near the screen or on an equipment rack. Reconnect the cable to the transformer if you disconnected it.
4. Connect all the control options that will be used, such as keypad, IR sensor, or PSI interface.
5. Connect the transformer to the AC power.
6. Test screen operation using a control option.

MOUNTING THE TRANSFORMER

Professional mounting techniques should be used. Stewart Filmscreen Corporation cannot be liable for substandard or faulty installations.

The motor is pre-programmed at the factory, and full UP and full DOWN limits for the screen have been set. If for some reason you need to make adjustments, refer to the section "Programming Control Options" and follow the steps carefully.

Once you prepare the site with AC power near the mounting location, install the screen system.

The Lutron motor is already connected to the transformer with a 10-foot (3m) lead. Mount the transformer. If you need to install the transformer at a distance greater than 10 feet (3m), extend the lead using 3-conductor service cord (14 or 16 ga or SJO wire).

Be sure to install the transformer in a serviceable location. It can be concealed, but should be accessible in case troubleshooting or replacement are needed in the future.

Do not connect the transformer to AC power until you have connected the control option.

CONNECTING THE CONTROL OPTIONS

Once the screen and transformer are mounted, the next step is to connect the control option(s) to be used at the site. There are instructions for each available option. Follow the steps in the appropriate section.

After you have completed installation of the control option, you can connect AC power and test operation.

Connecting the keypad

Connect the four wires from the lead to the keypad as shown in the diagram below. Refer to the wiring diagram in Figure 6 as needed.

Use of 18 - 22 gauge 4-conductor wire is recommended.

- ◆ 1 Yellow Common
- ◆ 2 Blue 12 Volts
- ◆ 3 Gray MUX / Data A
- ◆ 4 Purple MUX / Data B

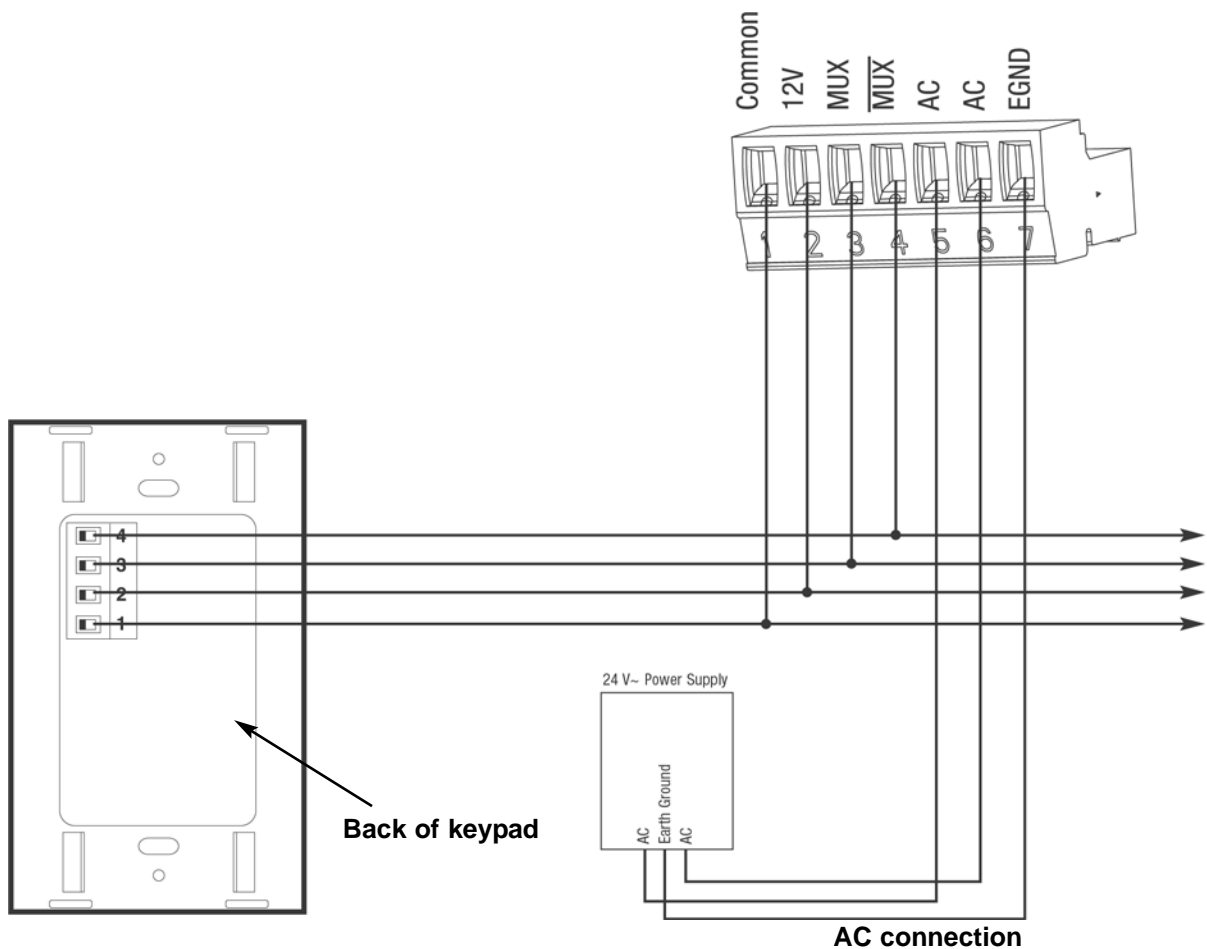


Figure 7. Wiring the keypad

Connecting the IR sensor

Mount the IR sensor near the screen. There must be unobstructed line of sight between the viewer and the sensor.

Use the Velcro provided on the IR sensor to mount it. It should be placed no more than 35 - 40 feet (10.7 - 12.2 m) from where the viewer will use the handheld remote.

Connect the connector on the IR sensor to the connector on the Lutron motor.

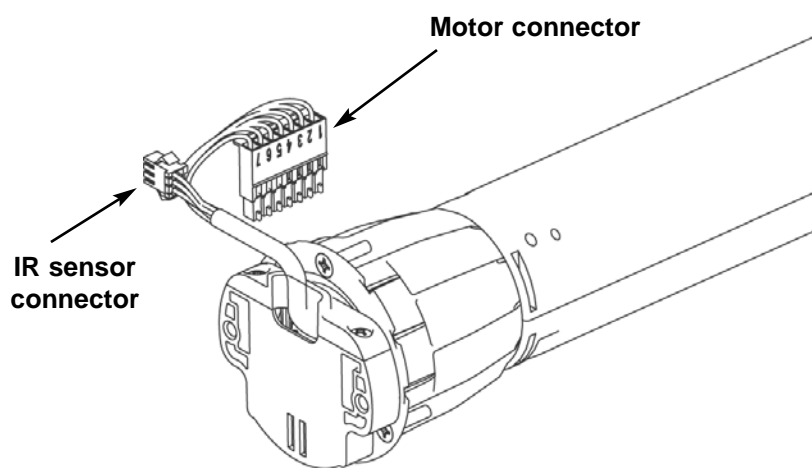


Figure 8. Motor tube with connectors

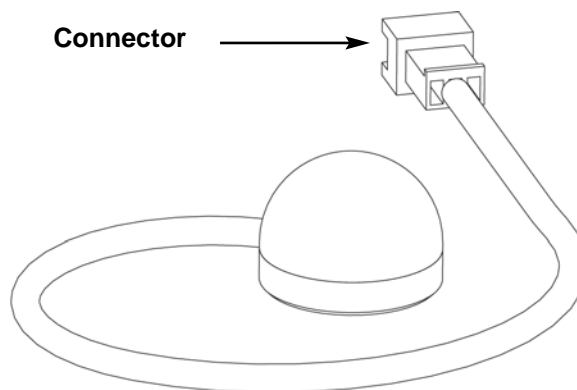


Figure 9. IR sensor

Connecting the PSI

If you are using the PSI, there is a supplemental Lutron document titled "Sivoia QED Installation Instructions / SVQ-PSI Projection Screen Interface" that complements the information in this manual. Lutron refers to the motor as the Sivoia QED or SVQ, and to the interface as the SVQ-PSI.

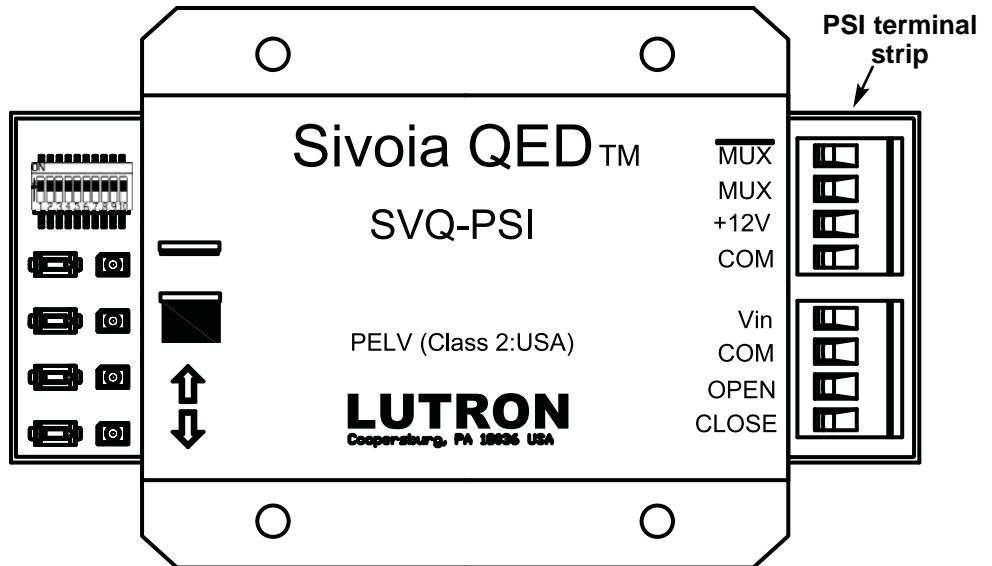


Figure 10. PSI

Mounting the PSI

1. Mark four holes in the mounting surface using the PSI as a template.
2. Drill mounting holes.
3. Mount the PSI using four #8 screws (not supplied).

PSI wiring

The PSI is wired to the motor at the factory. If desired, you can extend the wire to place the PSI at a greater distance from the screen. Refer to Figures 6 and 11 for the PSI wiring scheme. Use 4-conductor 18 – 22 ga wire.

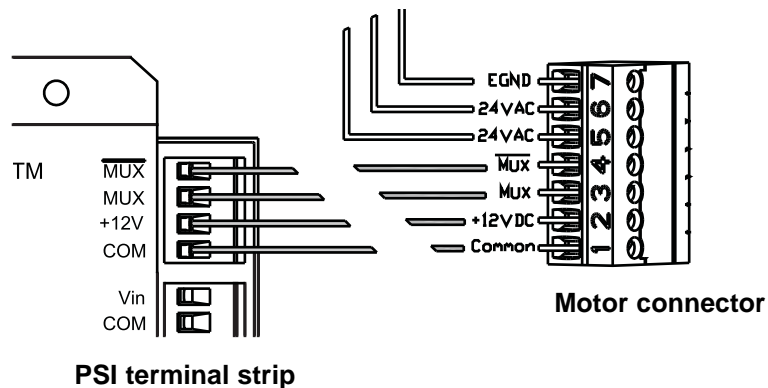


Figure 11. Wiring the PSI

Connecting PSI control options

There are procedures for two PSI control options:

- ◆ 5-24VDC Screen Trigger Input (Maintained)
- ◆ Single Contact Closure Input (Maintained)

For other control options, refer to the supplemental instructions or contact the factory.

5-24VDC Trigger Input (Maintained)

Connect two 14 - 22 ga (1.6mm² - .64mm²) wires from the low voltage trigger output of the Vin and Com of the PSI terminal strip. Refer to Figure 12.

Single Contact Closure Input (Maintained)

Connect two 14 - 22 ga (1.6mm² - .64mm²) wires from the dry contact closure outputs of the projector to COM and CLOSE of the PSI terminal strip. Refer to Figure 13.

The PSI has been pre-programmed at the factory, so it should be ready to use.

At this point, connect the PSI to the video projector trigger or third-party system.

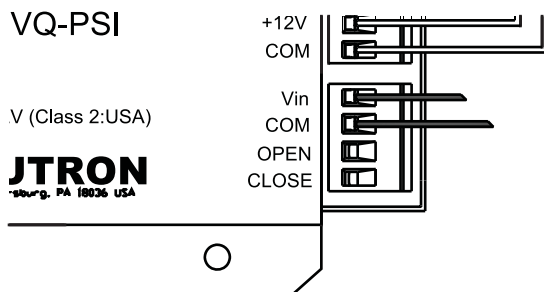


Figure 12. 5-24VDC Trigger Input connections

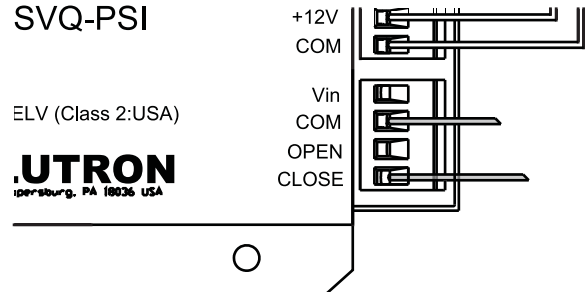


Figure 13. Single Contact Closure Input connections

OPERATING THE MOTOR

Use the installed control option(s) to operate the motor:

- ◆ The **Open** button moves the screen to its **UP** (retracted) position.
- ◆ The **Close** button moves the screen to its **DOWN** (fully extended) position.

When you lower or retract the screen, it will stop at its preset limit. If an obstacle (such as a person or furniture) gets in the path of the screen as it is lowered, you should use the switch control option to stop the screen's motion; it will not automatically stop if it hits an obstacle.

To stop a screen in motion after you have pressed the Open or Close button, press the same key again to stop the motion.

Generally, you should allow the motor to stop before reversing the direction of a motor when it is in motion.

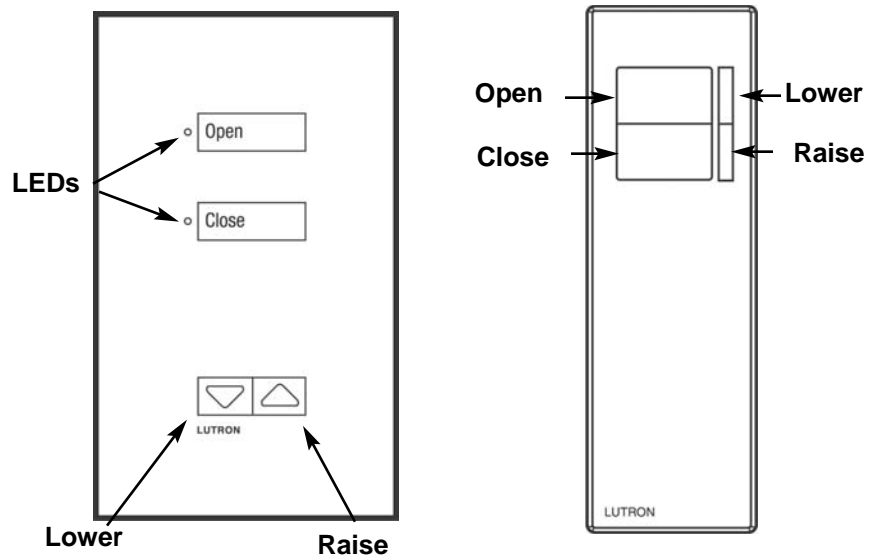


Figure 14. Keypad and handheld infrared remote

Maintenance

There is no user maintenance for the Lutron motor.

Refer to the manual for the screen system for any screen-specific maintenance instructions.

Programming has been performed at the factory before shipment.

The procedure is provided here in case:

- ◆ Programming is lost for some reason
- ◆ A control option is being replaced
- ◆ Initial settings need to be changed for a particular environment

The programming procedures are used to enable communication between the control option and the motor, and to set screen extension (DOWN) and retraction (UP) limits.

Exiting programming mode without making changes

If a control unit mistakenly enters a programming mode, you should perform the steps to try to exit the mode. If no programming steps have been changed, you may not need to reprogram the system.

To exit programming mode from the keypad or infrared remote:

Press the Open and Close buttons simultaneously for 5 seconds.

Programming concepts

The Lutron motor and control devices must go through a process of "addressing" and "assigning" to enable communication. This is particularly important when there are multiple screens and control devices in an area.

Addressing — Concept

Each control option, such as a keypad or handheld IR remote, must have a unique address in order to store presets (such as screen limits). The addressing procedure gives each device a unique address number, allowing components to communicate properly.

Each device is given a unique address automatically, by placing one device (keypad, IR transmitter, or PSI) in "Addressing mode." The device in Addressing Mode will then allocate a unique address to every device.

It is not necessary to enter Addressing mode on more than one device. For convenience, address the system from the component that is easiest to access, such as the keypad.

Setting limits — Concept

The open and close limits must be set for every screen, and are pre-set at the factory. The open and close limits determine how far a screen will travel.

- ◆ The Open (or UP) limit is when the screen is fully retracted.
- ◆ The Close (or DOWN) limit is when the screen is fully extended.

It is essential to use caution when setting these limits, as damage to the screen can result from improperly setting these limits. Refer to the section that starts on page 14.

Assigning — Concept

After the devices have addresses, the motor must be assigned to its keypad, handheld IR remote, or PSI controller.

Note: Entering Assignment Mode causes the motor to move between its Open and Close limits. Make certain that limits have been set appropriately for each screen before entering "Assignment Mode."

Initial programming sequence

If the system has not been pre-programmed, or programming has been lost, the sequence to use is:

- ◆ Address
- ◆ Set the limits
- ◆ Assign

Perform steps carefully

Once you enter programming mode, do not randomly start pressing buttons as this may "confuse" the system.

Carefully follow the steps in these instructions to avoid the necessity to readdress and reassign the components. If you cannot correct errors, contact technical assistance at Stewart Filmscreen or Lutron support.

ADDRESSING

The steps for addressing the system are provided here. Keep in mind that addressing needs to be performed only once, even if more than one control option is used.

Addressing from a keypad

1. To enter Addressing Mode, press and hold the **Open** and **Close** buttons on the keypad simultaneously for 5 seconds. The LEDs next to the Open and Close buttons flash once per second, indicating the keypad is ready to begin addressing.
2. To initiate addressing, press the **Open** button on the keypad.
 - The LED next to the Open button will begin to flash quickly (8 times a second).
 - The LED next to the Close button will turn off.
 - It takes approximately one minute for addressing to complete.
 - When addressing is complete, the Open and Close LEDs on the keypad and motor flash slowly (once per second).
3. To exit Addressing Mode press and hold the **Open** and **Close** buttons on the keypad for 5 seconds.

If you need to set limits, go to the section that starts on on p. 14.

If you need to assign, go to the section that starts on p. 17.

Addressing from the IR handheld remote

1. Aim the IR transmitter at the IR receiver. To enter Addressing mode press and hold the **Open** and **Close** buttons on the IR transmitter simultaneously for 5 seconds. LEDs on the motor flash.
2. Aim the IR transmitter at the IR receiver and press the **Open** button. The LED on the motor will flash quickly (8 times per second). The system is automatically addressed.
 - Wait for addressing to be completed; this will take one minute. The motor LED flashes quickly (8 times per second).
 - When addressing has completed, the LED on the motor flashes slowly (1 per second).
3. To exit Addressing Mode, aim the IR transmitter at the IR receiver, and hold the **Open** and **Close** buttons for 5 seconds.

If you need to set limits, go to the section that starts on p. 14.

If you need to assign, go to the section that starts on p. 17.

Addressing from the PSI

Before beginning, refer to the left side of Figure 15 to locate the following items on the PSI:

- ◆ Dip switches
- ◆ Buttons for motor operation: Open / UP and Close / DOWN, Raise and Lower
- ◆ Status LEDs

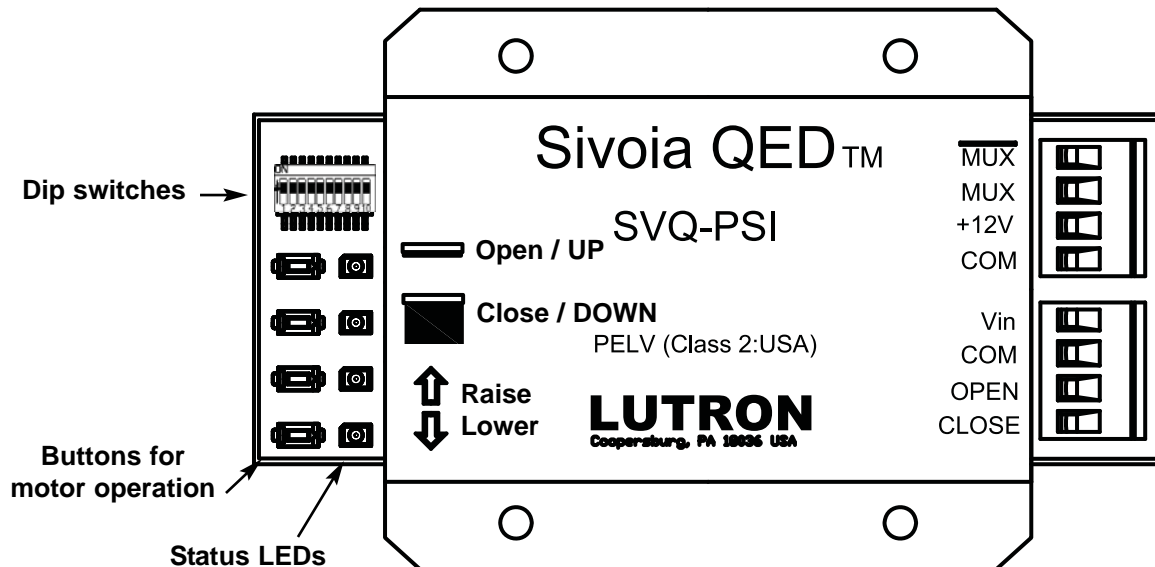


Figure 15. PSI

1. Move dip switches 6 and 9 to off.

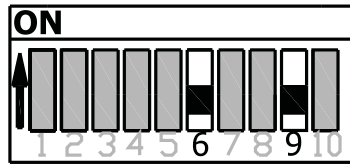


Figure 16. Dip switches

2. Press and hold the **Open** and **Close** buttons for 5 seconds to enter programming. (The buttons are to the left of the icons and LEDs.)
3. The status LEDs will flash, then press the **Open** button to start addressing.
4. Wait one minute and press the **Open** and **Close** buttons for 5 seconds to exit addressing mode. LEDs will stop flashing.

If you need to set limits, go to the section that starts on p. 14.

If you need to assign, go to the section that starts on p. 17.

ADJUSTING SCREEN LIMITS

The extension (DOWN) and retraction (UP) limits have been preset at the factory. In general, we advise you to avoid adjusting these switches.

In some cases, to enable proper alignment of the displayed image on the screen, you may need to adjust the extension of the screen. If adjustment to the extension is necessary, carefully follow these instructions.

The control option you use to set limits should be already addressed and assigned.

Caution

Improper adjustment of the limits can cause irreparable damage to the screen, and voids the factory warranty.

Setting limits from the keypad or IR transmitter

Refer to Figure 14 for the location of the buttons.

Setting the DOWN limit

1. Deploy the screen so that it is about halfway down.
2. Press and hold the **Open** and **Raise** buttons simultaneously for 5 seconds.
3. Press and hold the **Lower** button to move the screen to the desired Close (DOWN) position. Jog between lower and raise if needed to fine tune the exact stopping point.

-
4. Press and hold **Close** button for 5 seconds. The DOWN limit is now set.
 5. Exit limit switch setting mode by pressing **Open** and **Raise** for 5 seconds.

Setting the UP limit

Caution

The screen is fully retracted when the batten is flush with the bottom of the case. We do not recommend adjustments to the UP limit that will further retract the screen. Incorrect adjustment of the limit will cause severe screen damage. Consult the factory if you have any questions.

1. Deploy the screen so that it is about halfway down.
2. Press and hold the **Open** and **Raise** buttons simultaneously for 5 seconds.
3. Use the **Raise** button to move the screen to newly desired **Open** (UP) position. Jog between raise and lower if needed to fine tune the exact stopping point.
 - Do not set the batten too close to the screenroll as screen damage will occur.
 - The batten has to hang freely, a minimum of 1" (2.5 cm) away from the screenroll.
4. Press and hold the **Open** button for 5 seconds. The UP limit is now set.
5. Exit limit switch setting mode by pressing the **Open** and **Raise** buttons for 5 seconds.

Setting limits from the PSI

Setting the DOWN limit from the PSI

Refer to Figure 15 for the location of the buttons.

1. Deploy the screen so that it is about halfway down.
2. Set the program dip switches 6 and 9 to the Off position to enter programming mode. Refer to Figure 16.
3. Press and hold the **Open** and **Raise** buttons simultaneously for 5 seconds. This puts the system into "limit switch adjusting mode."
4. Use the **Lower** button on the PSI to move the screen down to the desired extended DOWN position. Jog between raise and lower if needed to fine tune to the desired stopping point.
5. Press and hold the **Close** button for 5 seconds. The DOWN limit is now set.

-
6. Exit the limit switch setting mode by pressing the **Open** and **Raise** buttons for 5 seconds.
 7. Return the program dip switches 6 and 9 to the On position. The system is now set to normal operation mode.

Setting the UP limit from the PSI

Refer to Figure 15 for the location of the buttons.

Caution

The screen is fully retracted when the batten is flush with the bottom of the case. We do not recommend adjustments to the UP limit that will further retract the screen. Incorrect adjustment of the limit will cause severe screen damage. Consult the factory if you have any questions.

1. Deploy the screen so that it is about halfway down.
2. Set the program dip switches 6 and 9 to the Off position to enter programming mode. Refer to Figure 16.
3. Press and hold the **Open** and **Raise** buttons simultaneously for 5 seconds to enter limit switch adjusting mode.
4. Press and hold the **Raise** button to move the screen up to the desired Open (UP) stop position. Jog between lower and raise as needed to fine tune to the desired stop position.
 - Do not set the batten too close to the screen roll as screen damage will occur.
 - The batten has to hang freely, a minimum of 1" (2.5 cm) away from the screenroll.
5. Press and hold **Open** (light) button for 5 seconds. The UP limit is now set.
6. To exit the limit switch setting mode, press the **Open** and **Raise** buttons for 5 seconds.
7. Return the dip switches 6 and 9 back to the On position. The system is now set to normal operation mode.

After the system has been addressed, it is necessary to assign the motor to control options. If you use more than one control option, such as keypad and IR handheld remote, this procedure is required for each.

Entering Assignment mode causes the screen to move between its Open (UP) and Close (DOWN) limits. Make certain that limits have been set appropriately before entering Assignment mode.

Assigning the motor to the keypad or IR handheld remote

Use the keypad or aim the IR handheld remote at the sensor. Refer to Figure 14 for the location of the buttons.

1. Press and hold **Open** and **Close** buttons for 5 seconds to enter Assignment mode.
2. Press **Close**. The screen will move to its DOWN limit.
 - An unassigned screen moves to its UP (retracted) position.
 - An assigned screen moves to its DOWN (extended) position.
 - If the screen is moving up and down, or is in the UP position, press **Lower** to assign. To be assigned, the screen must go down and stop at its DOWN limit.
3. Exit Assignment mode by pressing **Open** and **Close** buttons for 5 seconds.

Assigning the motor to the PSI

Use the buttons on the PSI to perform these steps. Refer to Figure 15 for the location of the buttons.

1. Press and hold **Open** and **Close** buttons for 5 seconds to enter programming.
2. LEDs will flash. Tap the **Close** button to start assignment.
 - An unassigned screen moves to its UP (retracted) position.
 - An assigned screen moves to its DOWN (extended) position.
 - If the screen is moving up and down, or is in the UP position, tap the **Lower** button as needed. To be assigned, the screen must go down and stop at its DOWN limit.
3. To exit Assignment mode, press and hold **Open** and **Close** buttons. The screen will automatically retract and LEDs will stop flashing.

TROUBLESHOOTING

With reasonable care, you may expect many years of trouble-free use of your Lutron QED Quiet Motor.

If you are using the keypad or IR handheld remote and you mistakenly press buttons that cause the motor to enter programming mode, you can try to exit by pressing the **Open** and **Close** buttons simultaneously for 5 seconds.

If the motor loses its programming, refer to the section “Programming the Control Options” and follow the steps carefully.

Support

If you have problems, you can contact Stewart Filmscreen during normal working hours at 800-762-4999 (toll free) or at 310-784-5300.

You can also contact the Lutron toll-free hotline 24/7 at 800-446-1503 (toll free) 610-282-3800.

PRODUCT WARRANTY

LIMITED ONE (1) YEAR WARRANTY ON STEWART FILMSCREEN CORP PROJECTION SCREENS SYSTEM

STEWART FILMSCREEN CORPORATION (Stewart) warrants its screens to the original purchaser only, to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase by the original purchaser or eighteen (18) months from date of manufacture, as defined in the serial number, provided they are properly operated and maintained according to Stewart instructions and are not damaged due to improper handling or treatment after shipment from the factory.

This warranty does not apply to equipment showing evidence of misuse, abuse, or accidental damage, including neglect caused by improper installation (i.e. proximity to hot lights, exposure to extreme heat or cold, exposure to excessive humidity, etc.) as well as product that have been tampered with or repaired by any person or third party installation, other than authorized Stewart personnel.

Stewart's sole obligation under this warranty shall be to repair or to replace (at Stewart's sole discretion) the defective part of the merchandise. This warranty expressly does not cover any costs of removal, installation, framing, or other costs incident to replacing the screen or returning it to Stewart. Returns for service should be made to your Stewart dealer. If it is necessary for the dealer to return the screen or part to Stewart, transportation (freight) expenses to and from Stewart are payable by the purchaser and Stewart is not responsible for damage in shipment. To protect yourself against damage or loss in transit, insure the product and prepay all transportation expenses.

This warranty is in lieu of all other warranties, expressed or implied, including warranties as to fitness for use and merchantability. Any implied warranties of fitness for use, or merchantability, that may be mandated by statute or rule of law are limited to the one (1) year warranty period. This warranty gives you specific legal rights, and you may also have other rights which vary from state-to-state. In no event will Stewart be liable for sums in excess of the purchase price of the product. No liability is assumed by Stewart for expenses or damages resulting from interruption in operation of equipment, or for incidental, direct, or consequential damages of any nature.

In the event that there is a defect in materials or workmanship of a Stewart Screen, you may contact our Customer Service Department at 1161 W Sepulveda Blvd, Torrance, California 90502-2797 (310-784-5300) Toll free (800-762-4999).

IMPORTANT: This warranty shall not be valid and Stewart shall not be bound by this warranty if the product is not operated and maintained in accordance with Stewart's written instructions.

Stewart Filmscreen Corporation shall not be liable for any and all consequential damage(s) occasioned by the breach of any written or implied warranty pertaining to the sale in excess of the purchase price of the product sold.

Printed in USA. Rev. 12/14/10

PROGRAMMING QUICK REFERENCE

Once you are experienced with the programming procedure, you may find it easier to refer to this quick reference. It refers to the keypad specifically, but the steps are comparable for the handheld remote or PSI.

Addressing

1. Press and hold **Open** and **Close** for 5 seconds.
2. Press **Open** to start addressing.
 - Addressing takes about 60 seconds.
 - Addressing is complete when LEDs flash slowly.
3. Press and hold **Open** and **Close** for 5 seconds to exit.

Setting limits

Be sure you understand the cautions with regard to setting limits.

1. Press and hold **Open** and **Raise** for 5 seconds.
2. Press **Open** to jog the motor to adjust.
3. Use **Raise** and **Lower** to adjust screen position.
4. Press and hold **Open** (UP) or **Close** (Down) for 5 seconds to store the limit. In general, adjust only the Close (Down) limit.
5. Press and hold **Open** and **Raise** for 5 seconds to exit.

Assigning

1. Press and hold **Open** and **Close** for 5 seconds.
2. Press **Close** to start assigning.
 - An unassigned screen moves to its UP (retracted) position.
 - An assigned screen moves to its DOWN (extended) position.
3. **Lower** the screen to assign or **Raise** the screen to unassign.
4. Press and hold **Open** and **Close** for 5 seconds to exit.



800.762.4999 • 310.784.5300 • Fax: 310.326.6870

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