

# Stealth Trapdoor Electriscreen

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Owner's Manual



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



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# Stealth Trapdoor Electriscreen

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Owner's Manual

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## TO THE OWNER

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

Please take a moment to review this manual, it will help ensure you many years of trouble-free service from your new Stewart Electriscreen product.

### **About your Stealth Trapdoor Electriscreen**

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Your Stealth Trapdoor Electriscreen offers the most technologically advanced trapdoor roller screen in the world. The hingeless door is powered by its own motor. Sound dampers ensure quiet operation.

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## INSTALLATION INSTRUCTIONS

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- ◆ **Before proceeding with the installation of this screen, be sure to thoroughly read and understand all the installation and operating instructions.**
- ◆ **All electrical wiring installations must conform to local and national codes and should be performed by qualified service personnel.**
- ◆ **There are no user-serviceable parts contained within the unit.**

### **Preparing the installation**

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Specifications regarding the individual screen dimensions, weight, mounting type, and controls are provided by the factory when the unit is ordered. Before beginning the installation:

- ◆ Check the specifications for the type of mounting and switch control to be used.
- ◆ Ensure that the mounting area and electrical connection are prepared.
- ◆ Check the size and weight of the screen to be installed so that you can plan for the number of people required for the mounting procedure. You need at least two people to mount the smaller screens; more are needed for larger, heavier screens.
- ◆ On the screen housing, note the removable Image Centerline sticker. Use the sticker to help you accurately position the screen. Be sure to remove this sticker after installation.

You will need:

- ◆ Enough ladders for the personnel supporting the screen during the mounting process
- ◆ A level
- ◆ Fasteners appropriate for the surface on which the screen is being mounted

## STEP 1. HANGING THE CASE

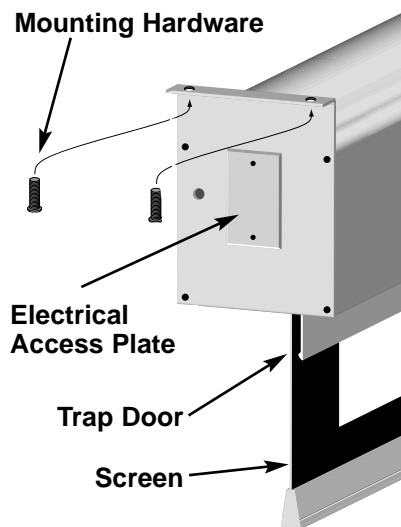
**Professional mounting techniques should be used. Stewart Filmscreen Corporation cannot be liable for substandard or faulty installations.**

Make sure that you mount the screen so that the electrical box is on the left side (audience left).

In the standard configuration, the unit is installed on the ceiling. As an option, it can also be installed on a wall.

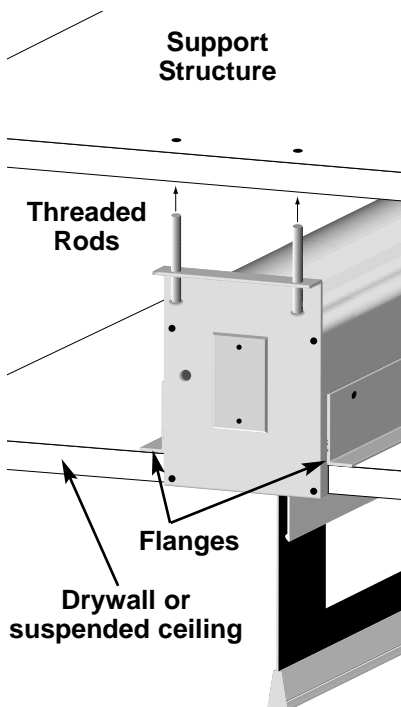
### Caution

**During installation, do not place the unit on an unstable cart, stand, table, or ladder. The unit may fall, causing injury to a child or adult and damage to the unit.**



**Figure 1:** Position of electrical access on Electriscreeen

There are two types of ceiling or top mount: recessed or suspended. Follow the procedure for the specified type of mounting.



**Figure 2:** Recessed or concealed mount

### Ceiling or top mount installation

The Stealth Trapdoor Electriscreeen is ready to install into the ceiling or soffit. A false ceiling is not intended to support the weight of a Stealth Trapdoor Electriscreeen.

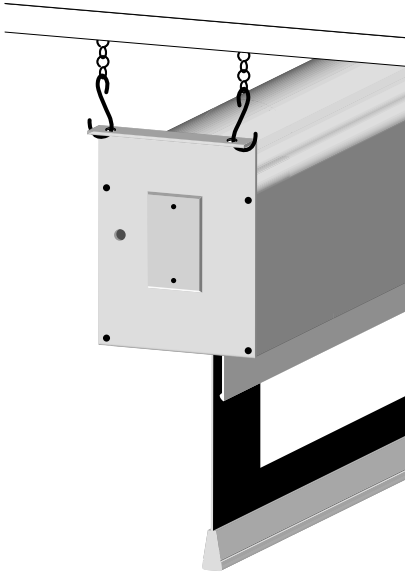
Make sure that you mount the screen so that the electrical box is on the left side (audience left). Refer to Figure 1.

If the unit is to be mounted to plaster, drywall, masonry, or other type of surface, use an appropriate fastener. (These might include toggle or molly bolts or similar fasteners.)

### Recessed or concealed mount (standard)

You can install the screen so that the motor is recessed and the bottom is flush with dry wall or a suspended ceiling.

1. Install the unit onto the support structure making sure that the bottom of the case is flush with the finished ceiling.
2. Make sure the unit is level.
3. Drywall or other ceiling material may be screwed directly to the ceiling flanges (plaster "ears") on the case. Refer to Figure 2.



**Figure 3:** Suspended installation

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### Suspended installation

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1. Suspend the unit from the holes in the end plates on the unit using "S" hooks, chains, cables, Unistrut, threaded rod, or turnbuckles. Refer to Figure 3.
2. Make sure the unit is level.



**Figure 4:** Wall mount using optional brackets

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### Wall installation (optional)

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**Note:** When the wall installation option is ordered, wall mount brackets are provided with the screen unit.

1. Mount screen through the holes in the wall mount brackets. Refer to Figure 4.
  - If mounting onto a wood substructure, #12 screws may be used.
  - If the unit is to be mounted to plaster, drywall, masonry, or other-type of surface, use an appropriate fastener. (These might include toggle or molly bolts or similar fasteners.)
2. Make sure the unit is level.

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## STEP 2. ELECTRICAL HOOK-UP

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

### Caution

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.

The motor requires standard AC input (unless an alternate voltage has been specified). All connections are made to the electrical box on the side of the Stealth Trapdoor unit (audience left).

In addition to the standard high-voltage 3-position switch, there are optional switch controls available for the Stealth Trapdoor Electriscreen. Follow the installation procedure for the type of switch control you will install.

General suggestions for wiring:

- ◆ Soldering is recommended.
- ◆ The use of wire nuts is acceptable.
- ◆ On models not provided with armored whip, a romex connector should be installed in the appropriate electrical KO (Knock Out).

Refer to Figure 5 for an illustration of the electrical connection box on the side of the screen.

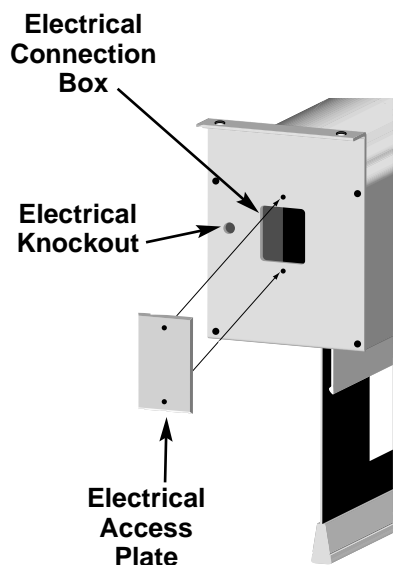


Figure 5: Electrical connection box

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## **Installing the high voltage switch control (standard)**

A standard 3-position wall switch is supplied. The high-voltage control is connected to the electrical source. It alternates directions of screen motion by means of the hot lead, using the 3-position switch.

### **Preparing the connection**

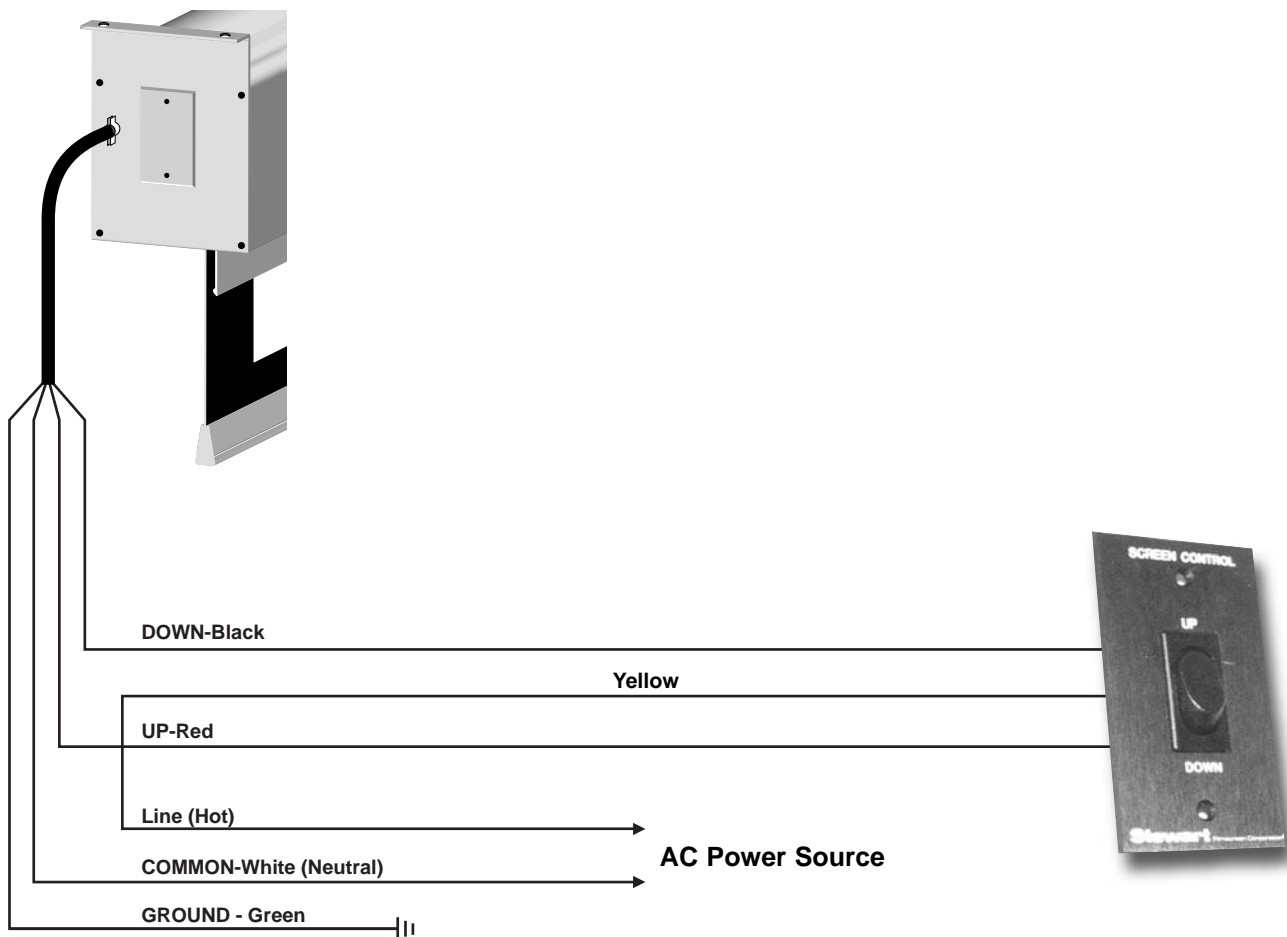
Before making the electrical connections, you need:

- ◆ An available AC constant power source
- ◆ A 4-conductor romex or motor connector cable

### **Making the connections**

The diagram in Figure 6 illustrates the connections.

1. Connect the wall switch to the AC constant power source.
2. Connect the wall switch to the screen's electrical box.



**Figure 6:** High voltage control wiring diagram



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## Installing the screen trigger interface option

The optional 12V screen trigger interface enables up and down operation of the screen in conjunction with a projector, tuner, VCR, cable box, or switched AC outlet.

Once the AC power outlet is installed near the screen, an electrician is not needed to connect the screen trigger interface to the power source.

**Note:** An optional 12V DC transformer is supplied. It is used if there is no 12V power source from the projector or AV control center.

### Preparing the connection

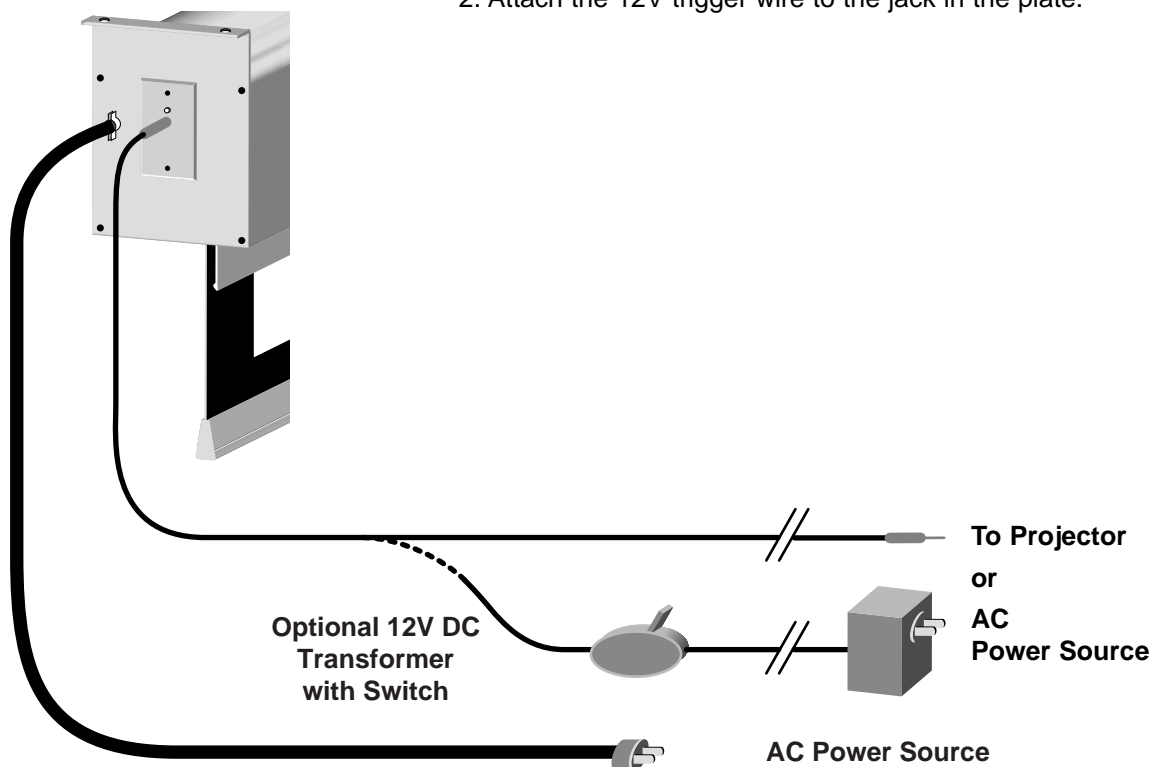
Before making the electrical connections, you need:

- ◆ An available AC constant power source installed near the screen

### Making the connection

The electrical diagram in Figure 7 illustrates the connection.

1. Plug the AC power cord into the AC outlet.
2. Attach the 12V trigger wire to the jack in the plate.



**Figure 7:** Screen trigger interface connection

## Installing the low-voltage 3-button switch option

The optional Stewart Filmscreen low-voltage control allows the use of low-voltage wire to connect to the supplied 3-position 24V momentary wall switch.

### Preparing the connection

Before making the electrical connections, you need:

- ◆ An available AC constant power source
- ◆ A 4-conductor switch hook-up cable (4-conductor bell wire or category 5 cable is typically used for long runs)
- ◆ Cat 5, multi-conductor unshielded, or similar type electronic cable can be used to connect the 3-button switch to the LVC. The recommended wire gauge is 20 to 24 AWG. Use plenum-rated cable when required.

### Making the connection

Refer to the diagram that is located on the white label inside the steel housing, and in Figure 8.

1. Mount the low-voltage control box near the screen.
2. Connect the low-voltage control box to the screen by connecting the screen motor power leads to the power strip terminal block located on the circuit board of the control box.
3. Connect the low voltage control box to the AC power source by connecting the AC line voltage to the power strip terminal block located on the circuit board of the control box.
4. Connect the switch to the low-voltage control box.

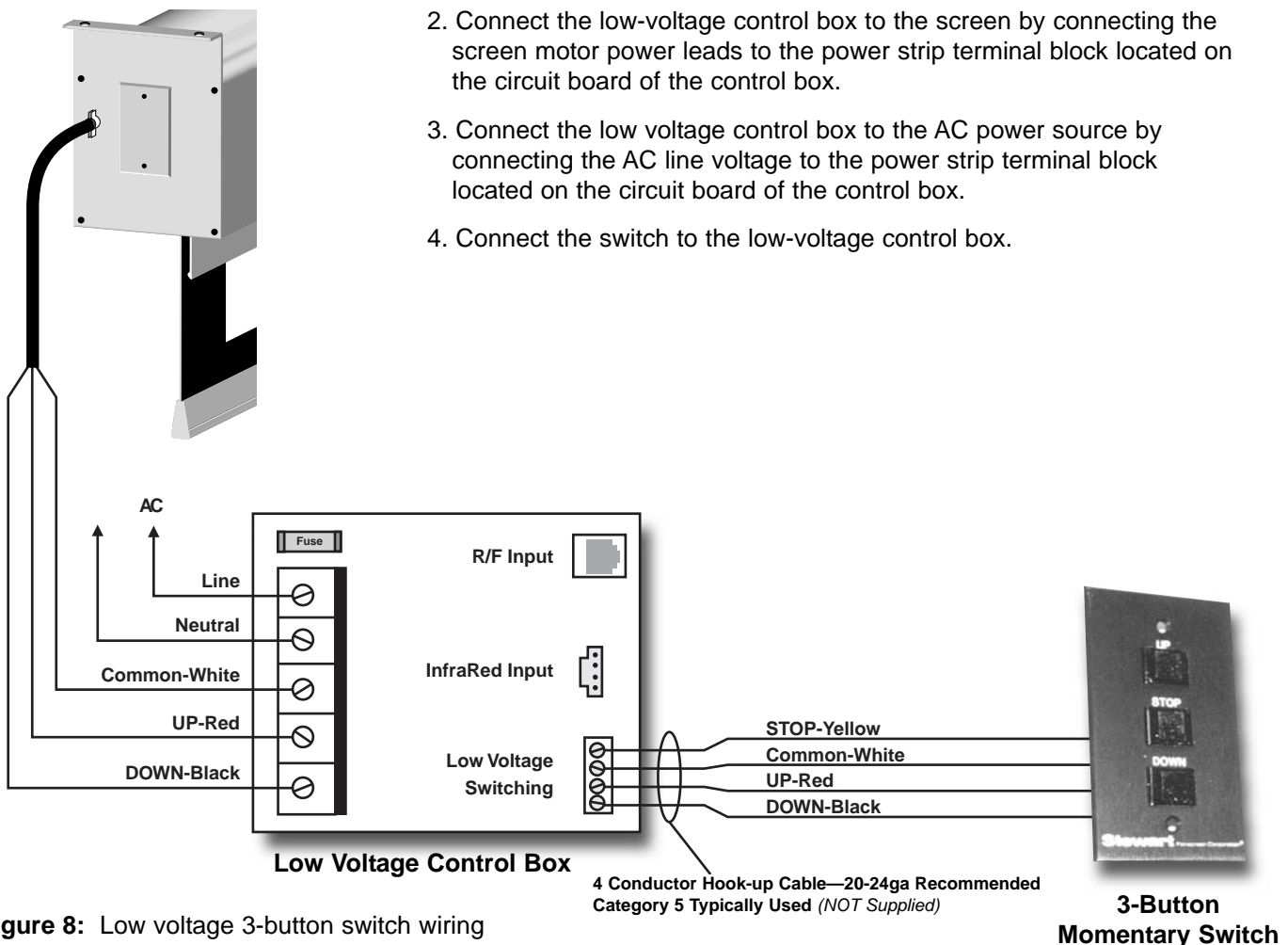


Figure 8: Low voltage 3-button switch wiring

## Installing the infrared remote control option

The optional Stewart Filmscreen infrared remote control allows control of the screen from anywhere in the room.

**Note:** The distance between the hand-held remote control and the receiver can be up to 50 feet / 15 m. It is necessary to have uninterrupted line-of-sight between the remote and the receiver.

### Preparing the connection

Refer to the previous section “Installing the low-voltage 3-button switch option.”

### Making the connection

Refer to the diagram that is located on the white label inside the steel housing, and in Figure 10.

1. Mount the low-voltage control box near the screen.
2. Mount the infrared (IR) eye sensor near the screen.
3. Connect the low-voltage control box to the screen by connecting the screen motor power leads to the power strip terminal block located on the circuit board of the control box.
4. Connect the IR eye sensor to the small black plug in module located next to the switch input on the circuit board.
5. Connect the low voltage control box to the AC power source by connecting the AC line voltage to the power strip terminal block located on the circuit board of the control box.
6. Connect the switch to the low-voltage control box.

The method you use to raise and lower the screen depends on the type of switch control device you have selected.

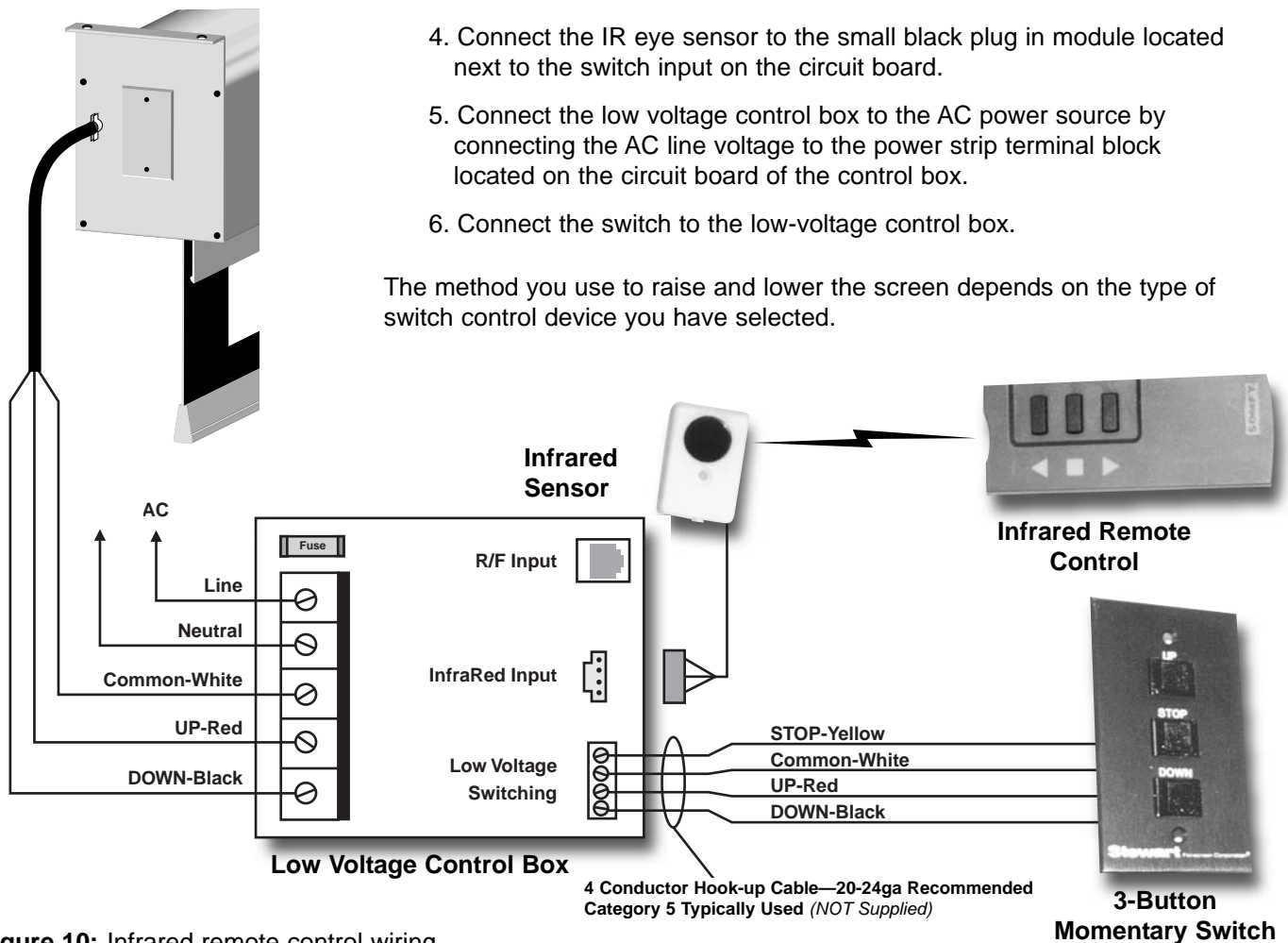


Figure 10: Infrared remote control wiring

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## Installing the wireless remote control option

The optional Stewart Filmscreen wireless remote control allows control of the screen from anywhere in the room.

**Note:** The distance between the hand-held remote control and the receiver can be up to 50 feet / 15 m. It is not necessary to have uninterrupted line-of-sight between the remote and the receiver, but there should be no metal objects between them. The override switch on the bottom of the receiver can be used instead of the remote control.

### Preparing the connection

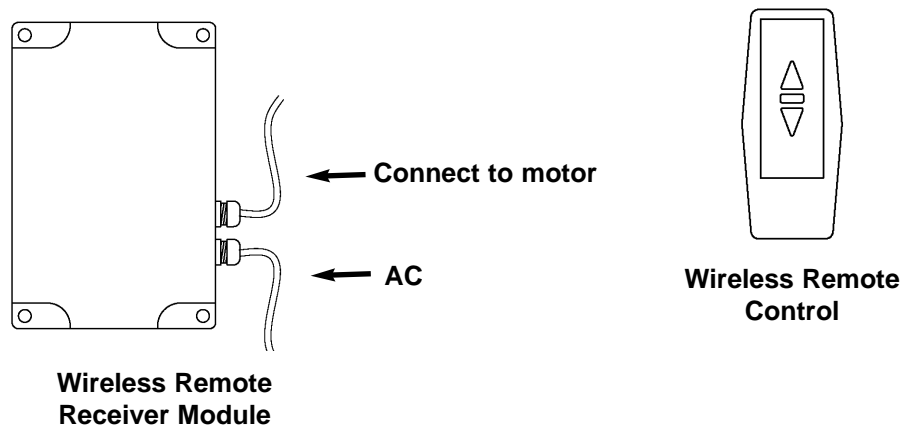
Before making the electrical connections, you need:

- ◆ An available AC power source installed near the screen

### Making the connection

The electrical diagram in Figure 11 illustrates the connection.

1. Connect the 4-conductor cable to the receiver module.
2. Open the wireless remote receiver module and connect motor wires according to the labels inside.
3. Plug the receiver module into the constant AC power source.



**Figure 11:** Wireless remote control connection

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## OPERATING THE SCREEN

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When you lower or retract the screen, it will stop at its preset limits. 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 to stop the screen's motion; it will not automatically stop if it hits an obstacle.

The motor is designed to be used for short operations such as lowering the screen in preparation for viewing. The motor is not designed for continuous duty. If the motor operates continually for more than a few minutes, it may automatically shut off to prevent damage from overheating. If the motor occasionally needs to be run more than normal, for example during initial setup and positioning, allow time for the motor to cool down.

In general, when the screen is not in use, you should store the screen in the fully retracted position.

### **Caution**

**Do not operate the motor when any of the following occurs:**

- ◆ **The unit emits any smoke, heat, abnormal noise or unusual odor.**
- ◆ **The unit is damaged in some way, such as damage from a water leak.**

**If any of these situations occur, call a qualified service person.**

## ADJUSTING THE SCREEN EXTENSION

### Caution

**Improper adjustment of the limit switches can cause irreparable damage to the screen itself, resulting in voiding the factory warranty.**

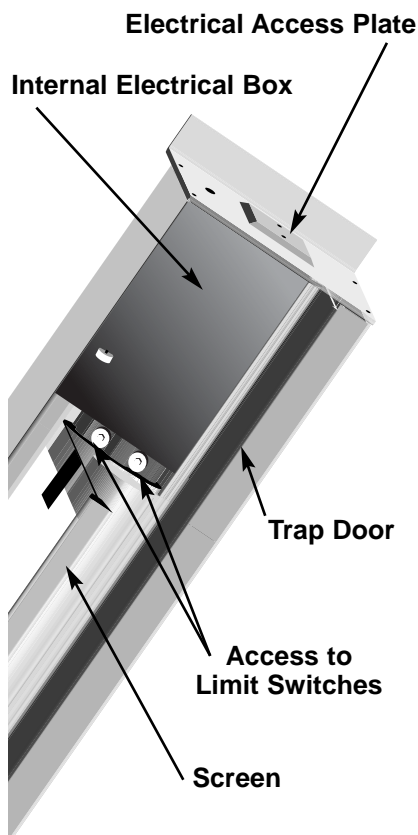
The extension and retraction limit switches have been preset at the factory. In general, we advise you to avoid readjusting these switches.

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.

### Warning!

**The screen is fully retracted when the trapdoor closes. Do not attempt adjustments with the yellow retraction (UP) limit switch that will further retract the screen into the case. Incorrect adjustment of the switch will cause severe screen damage. Please consult the factory if you have any questions.**

### Modifying the extension of the screen



**Figure 12:** Underside view of Electriscreen

You can increase the extension of the screen up to 3" / 7.6 cm past the factory preset stop, or you can decrease the extension by approximately 4-6" / 10-15 cm from the factory preset stop. Do not attempt to modify the screen extension beyond these recommended amounts.

The limit switches are located on the left side of the screen roller tube inside the case, as shown in Figure 12.

To adjust the screen's fully extended (screen down) stop position:

1. Lower the screen to its current fully extended position.
2. Locate the white extension (DOWN) limit switch located on the left side of the screen tube. Use a screw driver to turn the switch in the appropriate direction:
  - To *decrease* the screen extension, turn the switch clockwise.
  - To *increase* the extension, turn the switch counterclockwise.

**Note:** One complete turn of the switch will make approximately a 1/2" / 1.3 cm change in the screen height.

3. Raise the screen, and then lower it again. It should stop at the new position.

Once you have made the adjustment, whenever you lower the screen, it will automatically stop at the new position.

**Note:** It is recommended that you make a note of any changes made to the factory preset.

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## SCREEN CARE AND CLEANING

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With reasonable care, you may expect many years of trouble-free use of your Stewart projection screen.

We encourage you to keep your screen clean. To protect your screen when it is not in use, store it in the fully retracted position.

Avoid getting any foreign material on the screen, as cleaning may prove very difficult. It may not be possible to remove scratches, paint, ink, etc.

### **General maintenance**

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The screen surface on your screen is delicate. Special attention to these instructions should be followed when cleaning.

- ◆ A draftsman-style brush may be used to lightly whisk away any loose dirt or dust particles. (This type of brush is usually available at office supply stores.) Stewart Filmscreen has an optional screen cleaning kit that contains the proper type of brush. Contact your dealer if you would like to obtain this cleaning kit.
- ◆ Particles left on the screen when it is retracted into the case may form an impression on the screen surface. Periodically wipe the back of the screen with a clean damp cloth.
- ◆ For tougher spots, use a solution of mild detergent and water. Rub lightly using a sponge. Blot with a damp sponge to absorb excess water. Residual water marks will evaporate within a few minutes. Let the screen air dry completely before retracting.

Do not use any other cleaning materials on the screen. Contact the factory if you have questions about removing difficult spots.

### **Replacement parts and service**

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No user-serviceable parts are contained within the unit. Contact your dealer or the factory if you require part replacement or service.

## TROUBLESHOOTING

Refer to the following guidelines if you encounter a difficulty in the operation of your Stewart Electriscreen. Problems related to electrical or motor function may require a qualified service person or electrician.

Should you have a problem that is not addressed here, call the Stewart Filmscreen Corporation.

Problem description	Probable cause	Action to take
Screen won't operate.	No AC power available.	Check to see if the circuit breaker has switched off. Reset if needed.  Check voltage availability. Contact an electrician.
Screen won't roll up or down (even though power is available).	Bad connection at switch.	Have an electrician or qualified service person check the connection as follows: <ul style="list-style-type: none"> <li>• If you have a <i>high voltage control</i> switch, check switch-line connections.</li> <li>• If you have a <i>low voltage control</i> unit, check switch-line connections.</li> <li>• If you have a <i>screen trigger interface</i>, contacts may be sticking. Tap relay to free contacts.</li> </ul>
Screen roller chatters when power is activated.	Can be caused by voltage drop, bad connections, or a defective switch.	Have an electrician or qualified service person check all the hook-ups including all outboard wiring.
Unit hums in up mode. (Screen has already retracted.)	The screen batten is retracting too far into the case. <b>Failure to correct can damage motor and screen. Do not use the unit until this problem is resolved.</b>	Have a qualified service person adjust the yellow UP limit switch. Turn the adjusting screw clockwise.
Screen drops when up direction is activated (grinding noise occurs).	Drop in voltage.	Screen motor requires full voltage. Have an electrician or qualified service person check available voltage.
Screen continues past bottom stop position.	White limit switch is out of adjustment.	Readjust the white DOWN limit switch. Turn the adjusting screw clockwise.



Problem description	Probable cause	Action to take
Batten retracts too far into case.	Yellow limit switch out of adjustment. <b>Failure to correct can damage motor and screen. Do not use the unit until this problem is resolved.</b>	Have a qualified service person readjust the yellow UP limit switch. Turn the adjusting screw clockwise.
Motor shuts off. Motor has been in use for more than 2 minutes.	Motor is designed for short operations (lowering and retracting), not continuous duty. Longer operation, such as during setup and positioning, causes the motor to overheat and shut off.	Allow the motor to cool down. Complete cooling can take an hour or more. Heat gain is cumulative and takes time to dissipate. If motor use is initiated before it has cooled completely, the motor will shut down again when it reaches maximum temperature.
Any controller (e.g., STI, LVC, etc.) fails to operate motor.		
Dirt, finger prints, marks, etc. on screen surface.	Improper handling of screen.	Brush off or use a mild detergent solution with clean rag or cotton swab.
Indentations appear on screen surface.	Debris or particles adhering to screen due to static cling.	Check back of screen; gently brush debris away by hand.

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## PRODUCT WARRANTY

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### **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.**

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