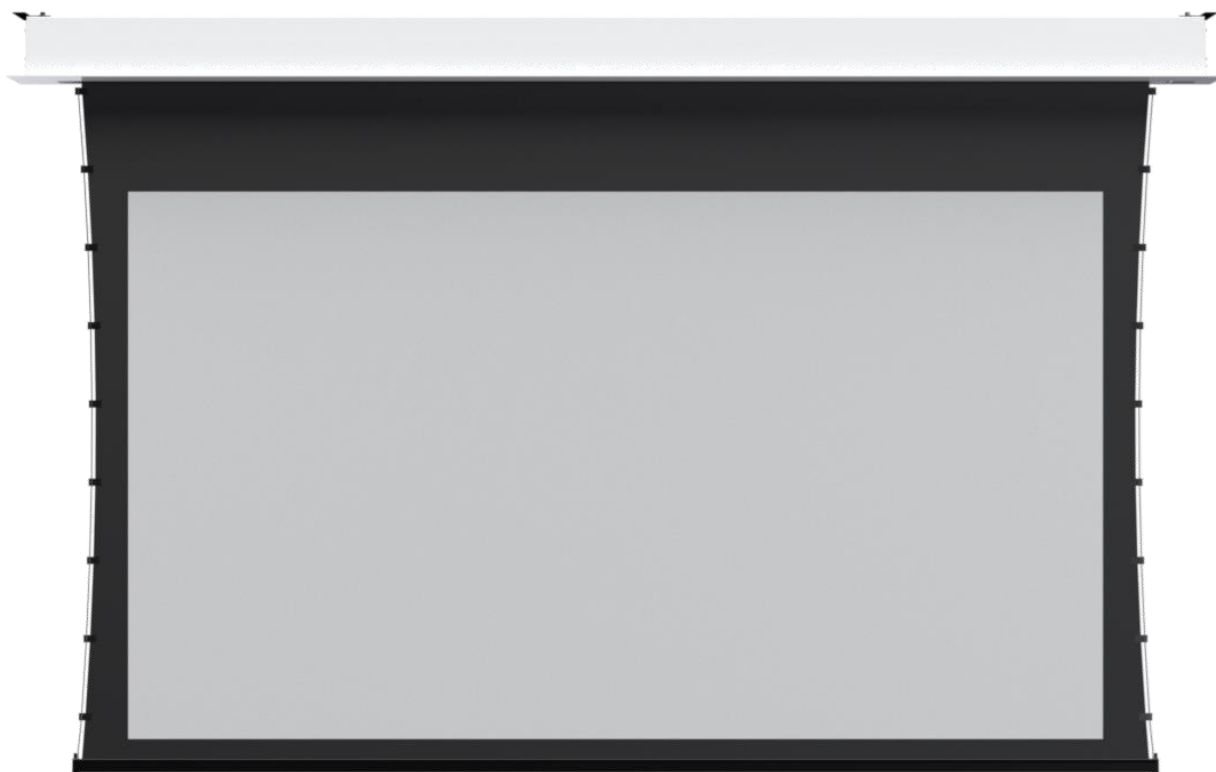


# Cascade G2

Retractable, Above Ceiling Screen System



**Stewart**  
F I L M S C R E E N

The Reference for Stunning™

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# Cascade G2

OWNER'S MANUAL

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## **TO THE OWNER**

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Congratulations on purchasing the finest optical viewing screen in the world.

Your handcrafted Cascade projection screen has been carefully inspected to ensure your optimal viewing experience will last for many years. Please take a moment to review this manual. It will guide you through the installation and the operation of your screen and will also provide you with detailed instructions on how to care for your screen's viewing surface.

From all of us at Stewart Filmscreen, we would like to thank you for choosing Cascade. Should you have any questions, please don't hesitate to contact our customer service department at 1 (310) 784-5300, or toll free at 1 (800) 762-4999. We're here to help.

# ABOUT CASCADE

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The next generation Cascade offers a premium self-finishing above ceiling viewing experience. Newly designed, removable end flanges, makes the Cascade easier to install than ever before. With a winning combination of your choice of both control and mounting options, and with Stewart's world-renowned premium screen materials, this screen is one of our most popular selling, above ceiling screens.

## NOTE

This owner's manual may describe options and features not equipped to the specific screen you have purchased.

## IMPORTANT SAFETY INFORMATION

- Carefully read the instructions
- This screen can be installed by qualified audio video technicians
  - ⚡ An electrician should be consulted when hardwiring the unit to a ceiling j-box
- For supply connections, use wires rated for at least 75 C
- Use copper or aluminum conductors
- For indoor use only
- Do not connect low voltage to line voltage power
- Earth ground terminal connection must be made as shown in wiring diagrams
- Proper short circuit and overload protection must be provided at the circuit breaker distribution panel. You may use up to a 20 amp maximum circuit breaker with adequate short circuit breaking capacity for your installation

## USING THIS MANUAL FOR INSTALLATION

If you are using this manual to install the Cascade screen, you should be aware that it describes procedures for three types of mounting options. You must refer to the section for the type of mounting option you are utilizing.

For the instructions related to your specific mounting, refer to the appropriate page:

- Ceiling Mount (Page 9)
- Threaded Rod Mount (Page 11)
- Wing-Out Mount (Page 13)

For the instructions related to your specific controls, refer to the appropriate page:

- IR remote and receiver (Page 17)
- 12 volt projector trigger (Page 19)
- IR wall switch and receiver (Page 20)
- Decora paddle wall switch (Page 21)
- IBT-100 for RS-232C interface (Page 22)
- E-Node Internet Protocol (IP) adaptor (Page 23)

# **PREPARING THE INSTALLATION**

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Before proceeding with the installation of this screen, take time to thoroughly read and understand these installation instructions. **Failure to comply with the instructions contained in this manual may result in voiding your warranty.**

## **SPECIFICATIONS**

Specifications regarding the individual screen dimensions, weight, etc., are provided by the factory when the unit is ordered.

### **Before beginning the installation**

- Check the size and weight of the screen to be installed so that you can plan for the number of people required for installation.
- You will need at least two people to mount a small screen. More are needed for larger, heavier screens.
- Read everything before you do anything!

### **What's inside the box?**

Inside your Cascade unit box, you will find everything needed to get started enjoying your Stewart screen:

- Cascade unit preassembled and prewired
- Cascade end flanges and access panels
- Two mounts, specific to your order
- Packing material
- IR remote and IR receiver (standard control)
- Two RJ45 male connectors and two 3.5 mm trigger male connectors
- Cascade Quick Start Guide

### **You will need**

- A level
- A drill
- A drop cloth
- Tools for tightening fasteners
- Ladders for the personnel supporting the screen during the mounting process
- Fasteners appropriate for the surface on which the screen is being mounted

## PREPARING THE INSTALLATION (CONTINUED)

**Note:** Bolts and other fasteners for the screen are standard gauges and are sizes that are used in the U.S., regardless of the installation country. For this reason, sizes are expressed in inches rather than metric measurements.

### **⚠ CAUTION**

Do not stand on the screen case or store it on its end. This will cause screen damage. If you are not going to install the screen immediately, make sure it remains horizontal during storage. **Note: Failure to comply with the instructions and guidance contained in this manual may result in voiding your warranty.**

### **Unpacking**

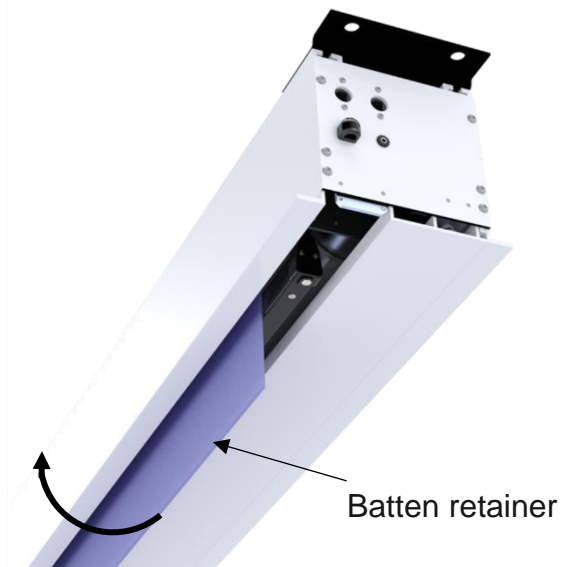
Be sure to unpack carefully in a clean area. Use special care when handling the screen so that it does not become soiled or damaged. If you plan to repack your screen and hardware for transportation to another location, you may want to photograph or make a note of how it was packed. Retain the packing material for future use, if desired.

**The Cascade screen has a special wrap retaining the batten to the case. This wrap may be left in place until after the screen has been mounted. The wrap consists of a foam piece attached to the batten and wrapped behind the case with tape (see Figure 1).**

**IMPORTANT:** Cascade ships without the end flange and access panel attached to the case. These two pieces need to be installed after installation of unit to ceiling. Refer to page 15 to see instructions on how to install the end flanges to the unit.

### **⚠ CAUTION**

Remove the batten retainer prior to activating the unit. Failure to do so will cause damage to the screen material. **Note: Failure to comply with the instructions and guidance contained in this manual may result in voiding your warranty.**



**Figure 1.** Cascade bottom view with batten retainer installed

## PREPARING THE INSTALLATION (CONTINUED)

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The following three mounts are all available options when ordering your screen. The option that you ordered will be included in the Cascade box. Refer to the correct mount below, on how to install your Cascade unit.



**Figure 2.** Ceiling Mount

### Ceiling Mount

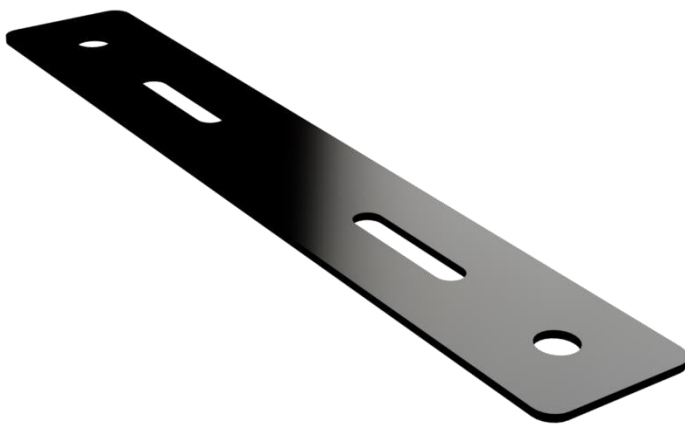
If you selected Ceiling Mount, then you will receive two ceiling mounts that can be mounted to the top of the cascade unit's top rail. Each mount has two holes pre-drilled to ensure that the unit is securely mounted at each corner (see Figure 2).

### Threaded Rod Mount

If you selected the Threaded Rod Mount, then you will receive two threaded rod mounts that can be mounted to the top of the cascade unit's rail. Each mount has two holes pre-drilled to accommodate threaded rods so that your cascade unit can be suspended from a ceiling (see Figure 3). **Note:** The threaded rods, themselves, are not included.



**Figure 3.** Threaded Rod Mount



**Figure 4.** Wing-Out Mount

### Wing-Out Mount

If you selected Wing-Out Mount, then you will receive two wing-out mounts that can be mounted to the top of the cascade unit's rail. Each mount has two holes pre-drilled to accommodate mounting from the front and rear of the cascade unit, when viewed from audience front. This mount allows to "float" the unit left and right to accommodate ceilings with fewer ceiling joists (see Figure 4).



# CEILING MOUNT

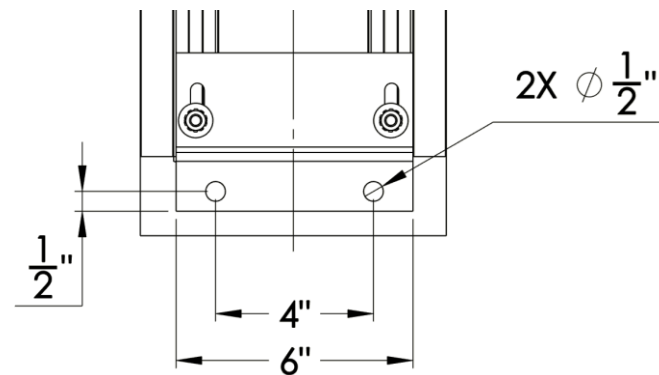
Professional mounting techniques should be used. Stewart Filmscreen cannot be liable for substandard or faulty installations. **Failure to comply with the instructions and guidance contained in this manual may result in voiding the warranty.**

## **⚠ CAUTION**

During installation, do not place the unit on an unstable cart, stand, table or ladder. The unit may fall, causing injury to you or others as well as cause possible damage to the unit.

Do not mount to drywall only. There must be wood joists behind the drywall to secure the screen.

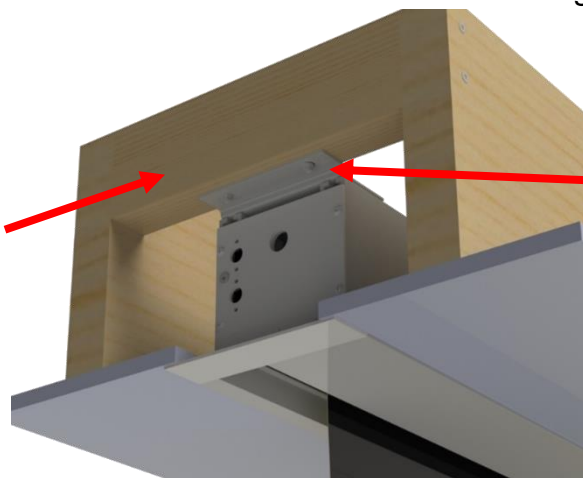
1. Use a magnetic stud finder, or similar appropriate means, to identify the location of solid ceiling joists. If the joists or rafters are parallel to the screen case, blocking is required between structural elements.
2. Ensure Ceiling Mount is installed on the top rail of the Cascade unit (see Figure 5).
3. Mounting hardware must be mounted into solid wood. If no joists are available then the ceiling must be blocked.
4. Lift the case up to the ceiling and screw the Ceiling Mount into the joists on both ends of the case (see Figure 6).



**Figure 5.** Ceiling Mount on top of Cascade unit

5. Ensure that all four mounting holes are being utilized to maximize mounting strength.
6. For the minimum clearance dimensions for Ceiling Mount, (see Figure 7).

**Warning:**  
There must be structural support where the unit will be mounted.



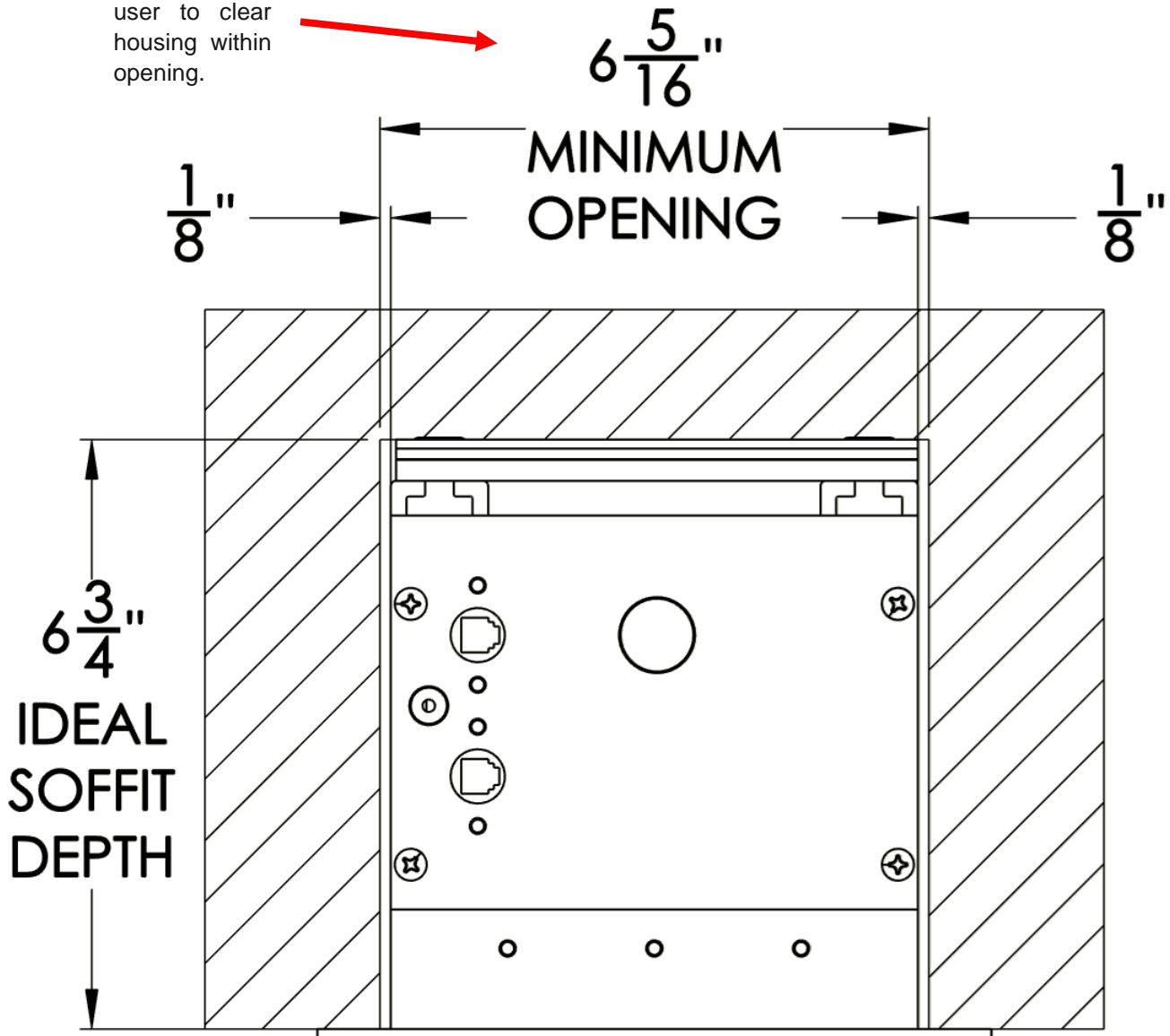
#10 x 1-1/2"  
minimum

**Figure 6.** Cascade mounted to ceiling joists with Ceiling Mount

## CEILING MOUNT (CONTINUED)

**Warning:**

This dimension is critical for user to clear housing within opening.



**Figure 7.** Ceiling Mount detail with minimum clearance

# THREADED ROD MOUNT

Professional mounting techniques should be used. Stewart Filmscreen cannot be liable for substandard or faulty installations. **Failure to comply with the instructions and guidance contained in this manual may result in voiding the warranty.**

## **⚠ CAUTION**

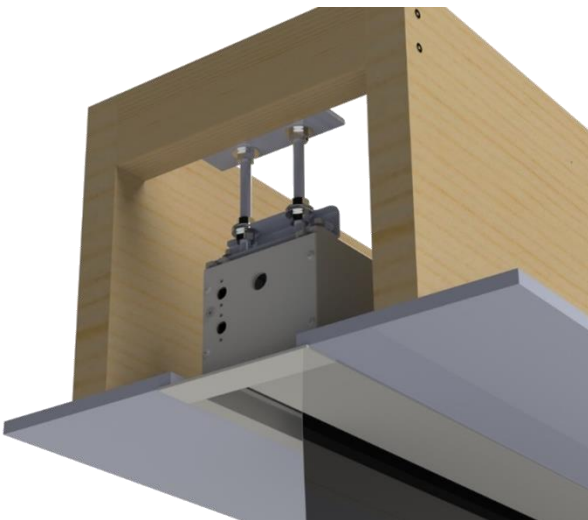
During installation, do not place the unit on an unstable cart, stand, table or ladder. The unit may fall, causing injury to you or others as well as cause possible damage to the unit.

Do not mount to drywall only. There must be wood joists behind the drywall to secure the screen.

1. Raise the screen into the ceiling.
2. Fasten the mounting brackets to the threaded rods or beams above the ceiling (see Figure 9).

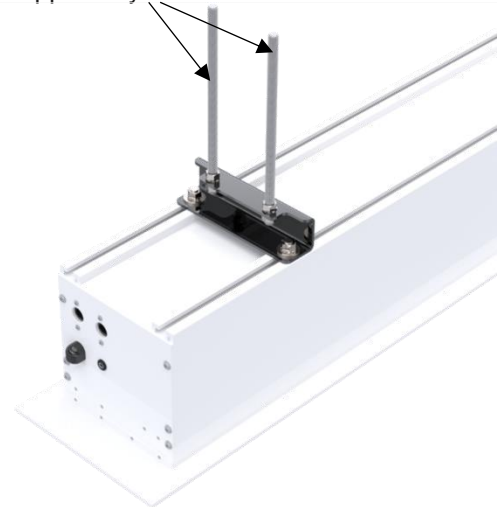
**Note:** The unit is typically suspended, as show in figure 8, but it can be secured to the ceiling using bolts or other appropriate fasteners as well.

3. Mounting hardware must be mounted into solid wood. If no joists are available then the ceiling must be blocked.
4. Make sure the case is level by adjusting the threaded rod fasteners.
5. Make sure the bottom is flush with the finished ceiling.



**Figure 9.** Cascade mounted on ceiling with Threaded Rod Mount

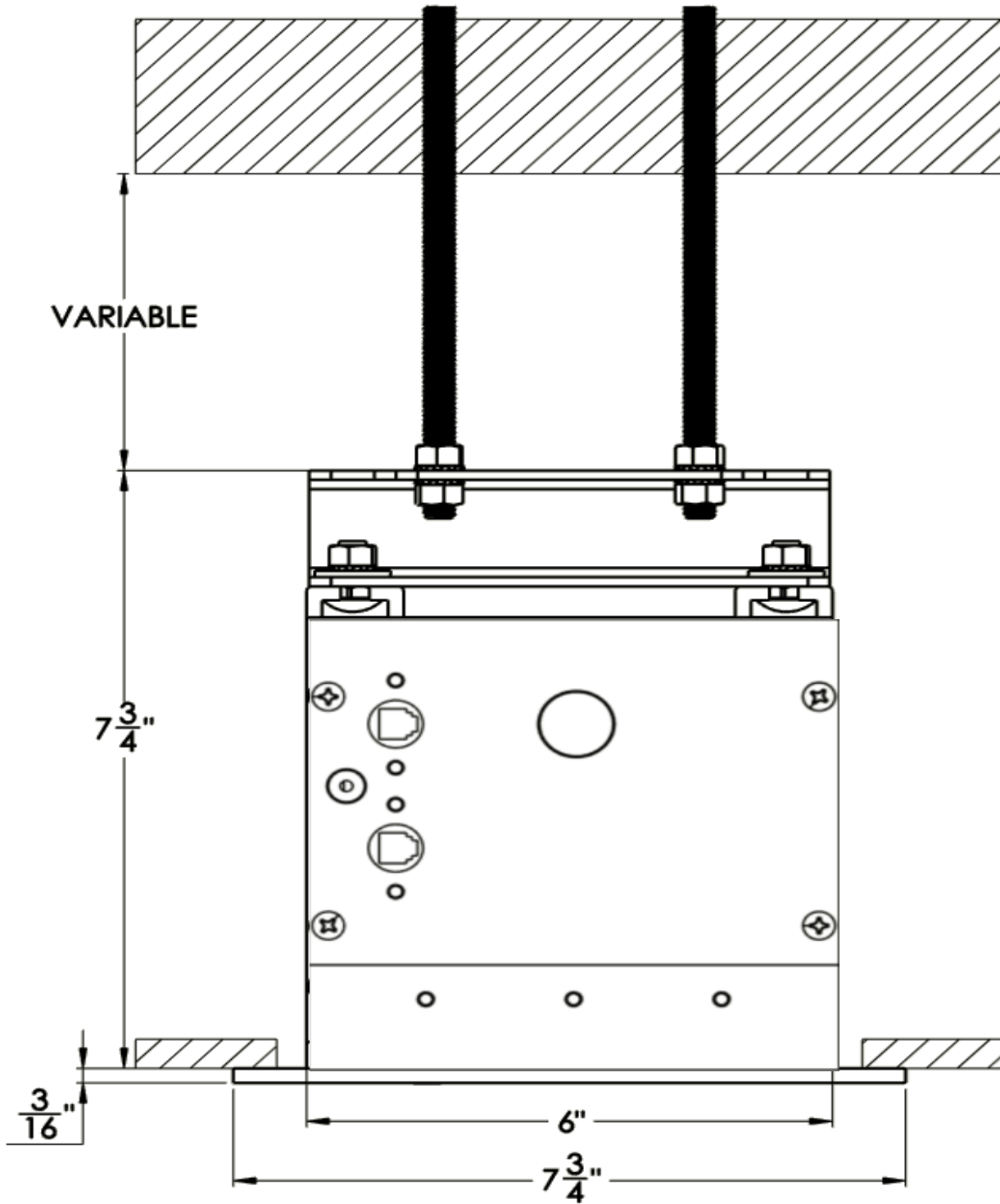
The threaded rods, themselves, are not supplied by Stewart Filmscreen.



**Figure 8.** Threaded Rod Mount on top of Cascade unit

6. For the minimum clearance dimensions for Threaded Rod Mount, (see Figure 10).

# THREADED ROD MOUNT (CONTINUED)



**Figure 10.** Threaded Rod Mount detail with minimum clearance

# WING-OUT MOUNT

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Professional mounting techniques should be used. Stewart Filmscreen cannot be liable for substandard or faulty installations. **Failure to comply with the instructions and guidance contained in this manual may result in voiding your warranty.**

## **⚠ CAUTION**

Be careful not to touch or scratch the viewing surface.

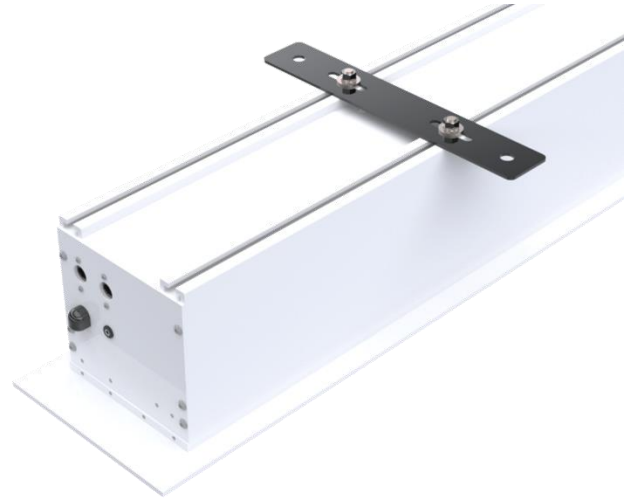
Ensure wall surface is level and free of undulations. Use shimming if necessary.

The Wing-Out Mount is best used in applications when ceiling joists are parallel to the screen. This allows the case to be mounted on front and rear ceiling joists (see Figure 11).

1. Raise screen into the ceiling.
2. Mounting hardware must be mounted into solid wood. If no joists are available then the ceiling must be blocked.
3. Lift the case up to the ceiling and screw the Wing-Out Mount into the joists on both sides of the case (see Figure 12).



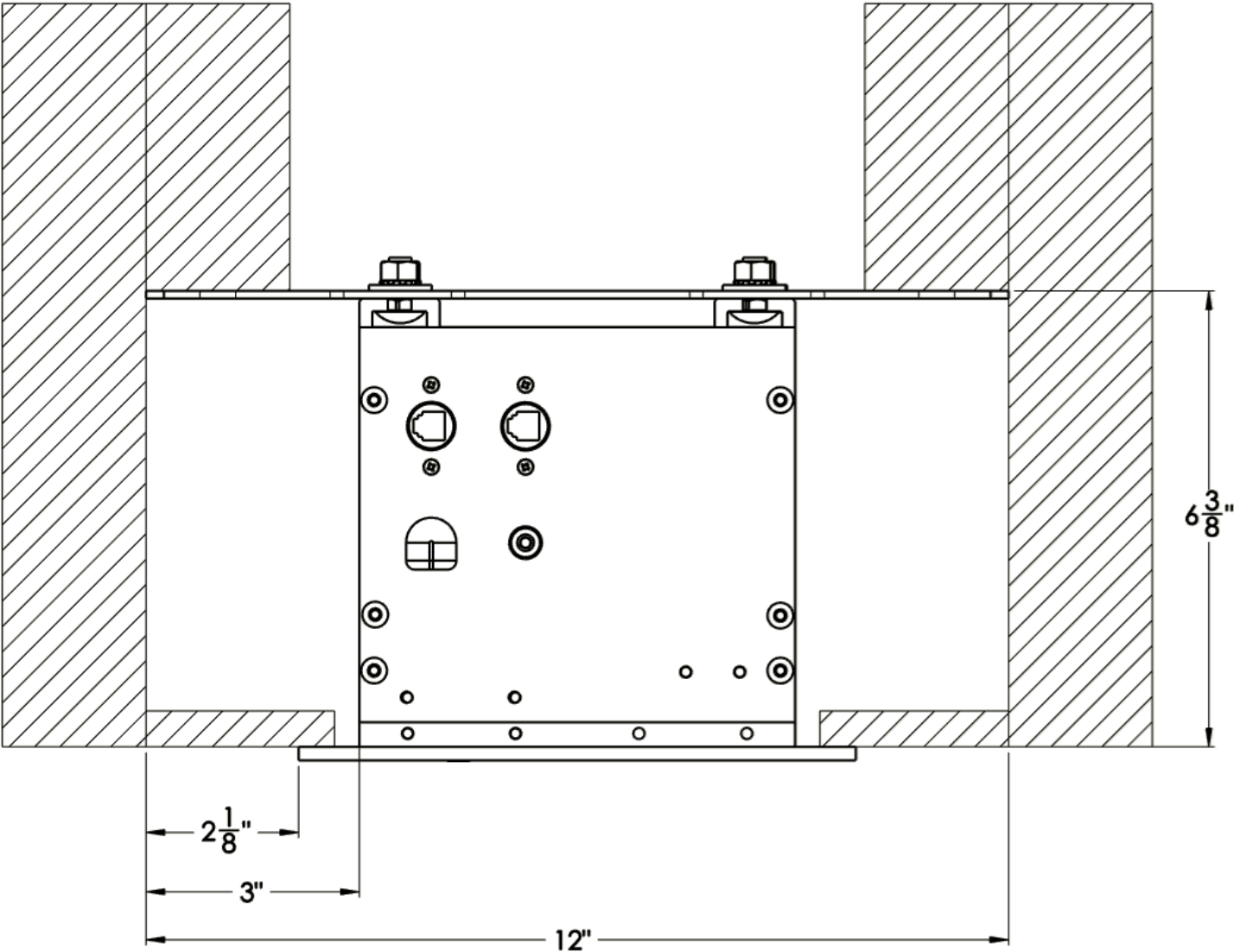
**Figure 12.** Wing-Out Mount installed on beams that are parallel to Cascade unit



**Figure 11.** Wing-Out Mount installed on top of Cascade unit

7. Ensure that all four mounting holes are being utilized to maximize mounting strength.
8. For the minimum clearance dimensions for Wing-Out Mount, (see Figure 13).

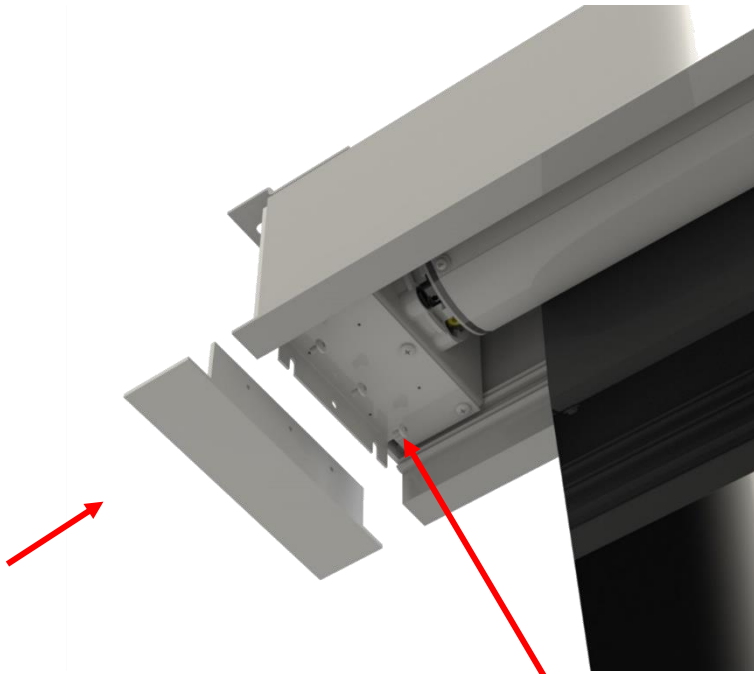
# WING-OUT MOUNT (CONTINUED)



**Figure 13.** Wing-Out Mount detail with minimum clearance

# FASCIA END PIECE AND DUSTCOVER INSTALLATION

Cascade now offers a modular construction that allows the end flange to come off for an easier installation. This greatly improves installation fit and finish while also improving the ability to access mounting points in the future. To install the end flange:



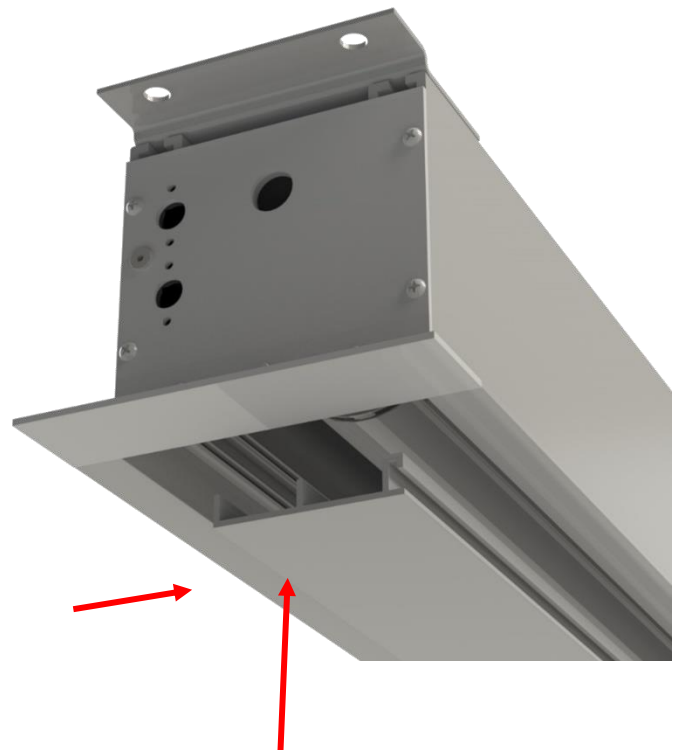
**Figure 14:** Render of Cascade G2 with end flange being installed.

## Fascia End Pieces

The end flanges on cascade G2 are to be installed after the unit has been mounted, to hide access to the mounting holes in the situation that you are mounting with ceiling mounts. Three simple Phillips screws are screwed in, from the inside before you install the dust cover.

## Dust Cover

Cascade G2 has a modular design in that it allows you to build out the casing with minimum amount of fasteners. In the case for the dustcover, it requires no fasteners and can be easily installed by lifting and hooking the metal extrusion onto the main body. This allows for an ease of serviceability with an unobstructed view of the internal workings from below.



**Figure 15:** Render of Cascade G2 with end flange installed and dust cover being installed.

# ELECTRICAL

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The Cascade screen system can be controlled through several remote control devices (IR and RF), keypads, dry contact outputs, internet protocol (IP), and low-voltage trigger outputs.

## CAUTION

Cascade is to be installed and used within the scope of the appropriate electrical codes and regulations. Failure to do so may cause malfunctioning or damage to the screen.

**Note:** This manual refers to AC (electrical alternating current) to represent electrical power. Your location may use 120 V, 220 V, or other electrical power. Screen systems are manufactured using the electrical power type specified for the location. Use appropriate power sources for your location.

## MOTOR WIRING

The Cascade screen system's motor is prewired at the factory. No additional motor wiring is required.

The following pages will outline standard and optional control types for Cascade.

## CAUTION

Cascade has two female RJ45 inputs on audience left of case. Neither port is to be used with POE (power over Ethernet). Improper use of ports will cause irreversible damage to IMC control board and may void your warranty.

## Connections

The following Stewart Filmscreen accessories, plug into the smart port (they also have RJ25 male connections). These accessories can also plug into the RJ45 female smart port as well:

- IR receiver
- IR wall switch
- IBT-100 serial adaptor
- E-Node Internet Protocol (IP) adaptor



## IMC WITH IR RECEIVER AND REMOTE (STANDARD)

A 3-button IR (infrared) remote control (see Figure 17) is supplied for the IMC (see Figure 18). The IMC control board comes ready to be operated via IR and projector trigger, right out of the box. You may visit [StewartFilmscreen.com](http://StewartFilmscreen.com) for a full list of IR Hex codes if you want to program the IR to another remote.



Figure 17. IR remote



Figure 18. IMC control board

### GETTING STARTED

#### Making the Connections

1. Connect the IR eye with RJ25 end to the motor side endplate of Cascade on the smart port with RJ45 as shown (see Figure 19).
2. Place the IR eye anywhere in the room, making sure that there are no obstructions between the eye and the screen.

**Note:** Cascade comes with two RJ45 female inputs. The maximum length of the RJ45/RJ25 cable plugged into the unit shall not exceed 50'. Dry closure modules from any home automation system can be interfaced, utilizing up/down/common type terminations only on the dry contact port and maximum length of cable shall not exceed 250'.

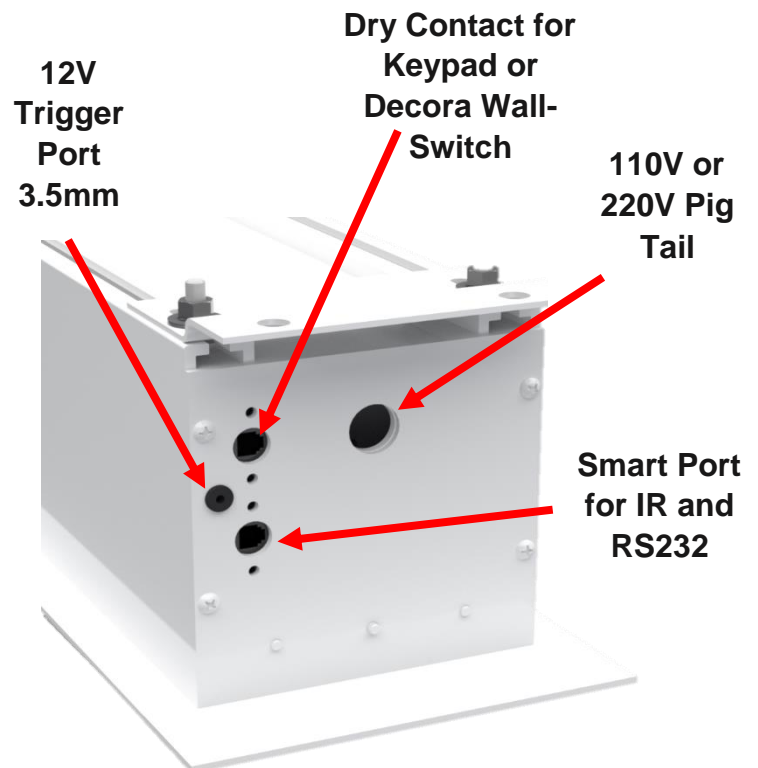


Figure 19. Audience left of case with power pig tail port, two RJ45 ports and a 3.5 mm trigger port

## **IMC WITH IR RECEIVER AND REMOTE (CONTINUED)**

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### **OPERATION**

Important note: **After the screen has been properly mounted, make sure that the batten retainers have all been removed. *Failure to remove the batten retainers before operating the screen will cause irreparable damage to the screen's projection surface.*** Using the IR remote, press the “down” button and the Cascade screen will automatically extend fully to its preset limit and will power itself off. Press the “up” button once and the Cascade screen will automatically retract back into the case and power itself off. If a custom position is desired, simply press the “stop” button at any time during the screen's deployment or retraction.

**Note:** See the section, “Limit Switch Adjustment” (see Page 29), for information regarding the default limits to which the screen can be adjusted up or down from the factory preset.

## 12 VOLT PROJECTOR TRIGGER (STANDARD)

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Two male, mono, 3.5mm auxiliary plugs are supplied so they can be used with the standard 12 volt projector trigger feature of the IMC. Since Stewart Filmscreen cannot be certain how long of a cable will be needed for every single application, the trigger cable will have to be assembled by the installer.

### GETTING STARTED

#### Making the Connections

#### PROJECTOR TRIGGER

1. Connect the straight, male, 3.5 mm (see Figure 20) projector trigger cable to the projector. Two male pieces, straight, and 90 degrees will be supplied for the installer to make a cable.
2. Connect the 90 degree, male, 3.5 mm (see Figure 21) trigger cable to the Cascade unit's female 3.5 mm aux trigger port (see Figure 19).
3. Make sure to properly set up your projector to send a trigger signal. (Some projectors require action steps within the onscreen menu to activate trigger functionality. Please refer to your projector's owner's manual for more information.) The screen should automatically roll down and roll up when the projector is powered on and powered off.



**Figure 20.** Straight 3.5mm mono plug



**Figure 21.** 90 degree 3.5mm mono plug

#### HOW IT WORKS

When a trigger-signal equipped projector is turned on or off, voltage is either supplied or withdrawn via a class II two-conductor wire (3.5mm aux cable) connected to the screen. The projector delivers between 5 and 12 volts when it is powered. The screen control (IMC) interprets this voltage as a prompt to deploy the screen. If there is a sudden change in voltage, the motor is paused for  $\frac{1}{2}$  of a second before reversing direction. This is to prevent strain on the motor mechanism and to prevent damage to any material controlled by the motor. When the projector and screen are energized, the control system relay is also energized. In the retracted position, relays are automatically de-energized after 120 seconds of operation to reduce power consumption.

## IR WALL SWITCH AND REMOTE (IF EQUIPPED)

A 3-button IR (infrared) remote control (see Figure 17) is supplied in conjunction with the 3 button IR (infrared) wall switch (see Figure 22) for the IMC (see Figure 18). The IMC control board comes ready to operate via the IR and projector trigger, right out of the box. You may visit [StewartFilmscreen.com](http://StewartFilmscreen.com) for a full list of IR Hex codes if you want to program the IR to another remote. Instead of receiving an IR receiver eye, you will receive a wall switch with the eye built in.

### GETTING STARTED

#### Making the Connections

1. Connect the RJ25 cable to the back of the IR wall switch (see Figure 23).
2. Connect the IR wall switch cable with RJ25 end to the motor side endplate of Cascade on the smart port with RJ45 as shown (see Figure 19).
3. Install the IR wall switch anywhere in the room, making sure that there are no obstructions between the eye and the screen.
4. Keep note that you may want to hide the cable inside your wall to ensure a clean install.

**Note:** Cascade comes with an RJ45 female smart port. The maximum length of the RJ45/RJ25 cable plugged into the unit on the smart port shall not exceed 50’.

### OPERATION

**After the screen has been properly mounted, make sure that the batten retainers have all been removed. Failure to remove the batten retainers before operating the screen will cause irreparable damage to the screen’s projection surface.** Using the IR remote, press the “down” button and the Cascade screen will automatically extend fully to its preset limit and will power itself off. Press the “up” button once and the Cascade screen will automatically retract back into the case and power itself off. If a custom position is desired, simply press the “stop” button at any time during the screen’s deployment or retraction.

**Note:** See the section, “Limit Switch Adjustment” (see Page 29), for information regarding the default limits to which the screen can be adjusted up or down from the factory preset.



Figure 22. Front of IR wall switch



Figure 23. Rear of IR wall switch with RJ25 input

## DECORA PADDLE WALL SWITCH (IF EQUIPPED)

A three position momentary wall switch (see Figure 24) can be equipped with the standard IMC control. The IMC control board comes ready to operate via the Decora paddle wall switch, right out of the box.

### GETTING STARTED

#### Making the Connections

1. Connect the RJ45/RJ25 cable to the motor side endplate of the Cascade case on the dry contact RJ45 port (see Figure 19).
2. Cut the other end of the wire and expose the four conductors.
3. Connect your wires to the Decora wall switch (see Figure 25).
4. For RJ45 pinouts (see Figure 31).

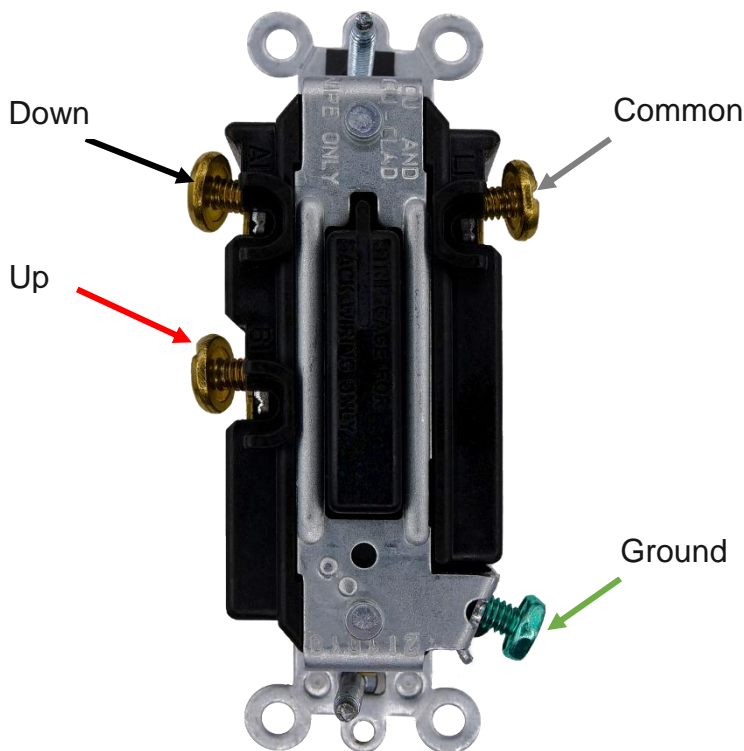


Figure 25. Rear of Decora wall switch



Figure 24. Front of Decora wall switch

### **⚠ CAUTION**

Decora wall switch is to be wired through the dry contact port **only**. The dry contact port is low voltage. **Do not wire the wall switch through a high voltage line.**

## **IBT-100 for Serial (RS-232C) CONNECTIVITY (IF EQUIPPED)**

An IBT-100 can be equipped to plug in through the smart port on the audience left side of the Cascade case. This unique piece of hardware combined with its integrated firmware and optional ancillary software can be used to interface CS-Bus controllers with external RS-232C networks to enable seamless bi-directional control and feedback.

### **GETTING STARTED**

#### **Making the Connections**

1. Connect the RJ25 cable to the motor side endplate of the Cascade case on the smart port with RJ45 (see Figure 19).
2. Connect the other side of the RJ25 cable to the RJ25 female port on the IBT-100 (see Figure 26).
3. Connect your third party RS-232C connection to the female RS-232C port on the IBT-100.



**Figure 26.** IBT-100, showing RJ25 port



# E-NODE FOR INTERNET PROTOCOL (IP) CONNECTIVITY (IF EQUIPPED)

An E-Node can be equipped to plug in through the smart port on the audience left side of the Cascade case. This unique piece of hardware is designed to enable wired or wireless (Ethernet) control of your Cascade unit. The E-Node provides an Internet Protocol (IP) data stream that can be connected over the internet to any remote system, operator or application that can address the internet. For support manuals and software to operate the E-Node, follow this [link](#). For example of E-Node diagram, (see Figure 28).

## GETTING STARTED

### Making the Connections

1. Connect the RJ25 cable to the motor side endplate of the Cascade case on the smart port with RJ45 (see Figure 19).
2. Connect the other side of the RJ25 cable to the RJ25 female port on the E-Node Port 0 (see Figure 27).
3. Connect your third party RJ 45 connection to the female RJ45 port (LAN Connection) on the E-Node (see Figure 27).
4. Download E-Node software [here](#). For login information, contact Stewart Tech Support team at (310-784-5300).
5. Follow instructions on the E-Node Manual [here](#) to set up your E-Node on your network.

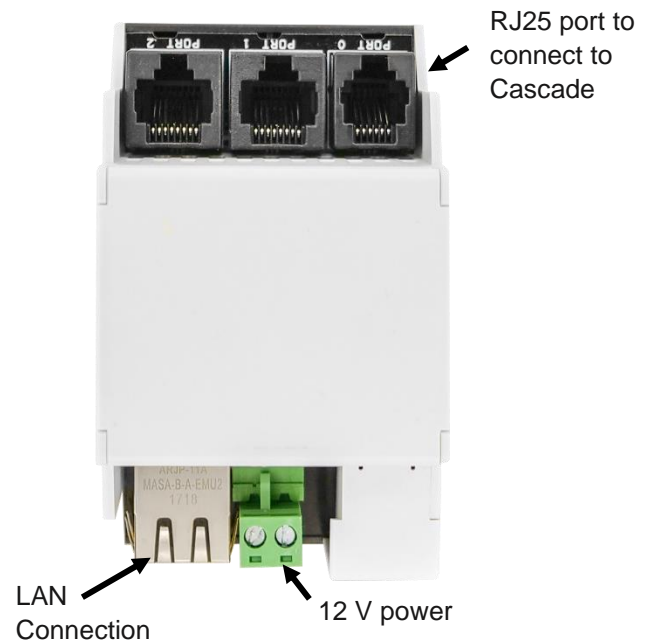


Figure 27. E-Node, showing connections

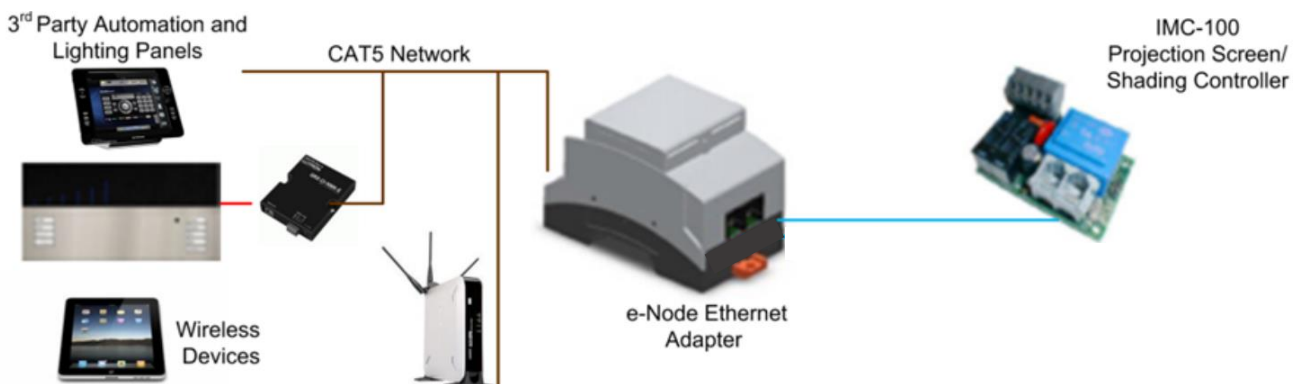


Figure 28. E-Node diagram

## OPERATING THE SCREEN

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The method you use to raise and lower the screen depends on the type of control system and motor you have installed.

### CAUTION

Be careful not to touch or scratch the screen's viewing surface.

**Note:** When you lower or retract the screen, it will stop at its preset limit. If an obstacle, such as a person or any furniture, is in the path of the screen as it is lowered, use the switch control to stop the screen's motion. *The screen 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, i.e., 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 it in the fully retracted position to protect the screen's surface. **It is best practice however, to deploy the screen for extended periods. Periodic deployment on a regular basis will maximize the flatness and uniformity of the screen's surface. The screen will benefit from frequent and extended periods of deployment.**

### CAUTION

If the unit emits any smoke, heat, abnormal noise or unusual odor, the unit is most likely damaged in some way — such as damage from a water leak or power surge. *Do not operate the motor if any of these situations occur. Call a qualified service person for assistance.*

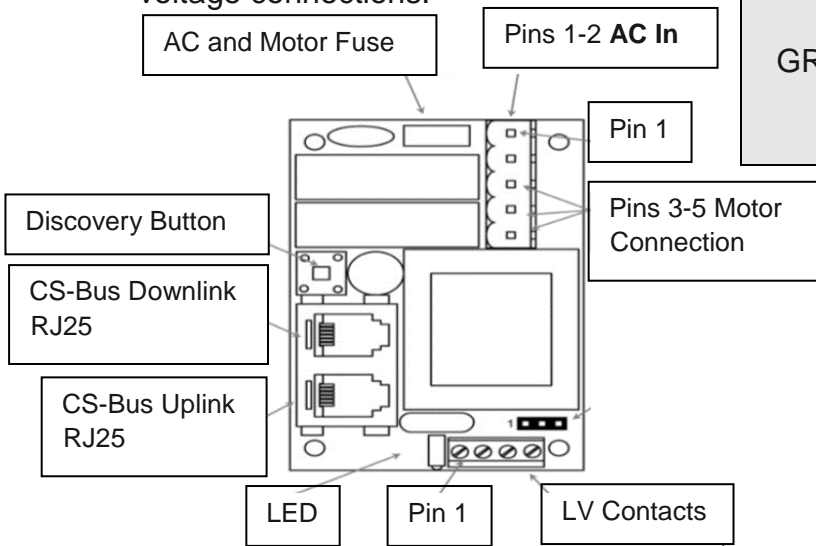


# INTELLIGENT MOTOR CONTROL (IMC) WIRING

The IMC is a low voltage screen control that allows for switching conductors to be run in Class II (small wire, exposed, no conduit) and will interface with outboard video switching systems.

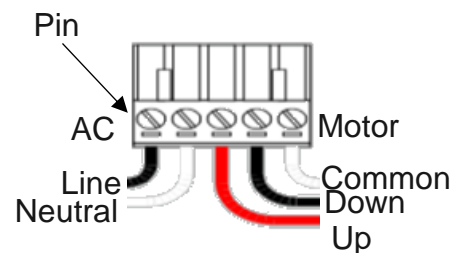
The IMC has the capability of being operated through a wall switch, infrared remote, radio frequency remote, internet protocol (IP) control system, and a screen trigger through a projector. The IMC is the most robust controller offered for Cascade. For a detailed look at what the IMC has on board, please see below (see Figure 29).

The IMC comes prewired from the factory to the motor and to the power cable. For your reference, in the case of servicing, we broke down the pin layout for the high voltage side of the connections (see Figure 30). Always have a qualified electrician handle high voltage connections.



**Figure 29.** IMC control board schematic

AC load side	IMC 100	Motor Power Connectors
BLACK	Pin 1	AC Line +
WHITE	Pin 2	AC Neutral
NC	Pin 3	Motor RED Line
NC	Pin 4	Motor BLACK Line
NC	Pin 5	Motor Neutral
GREEN	NC	Connect Ground to "Grounding" lug on IMC housing. Also connect ground wire from motor housing to same lug

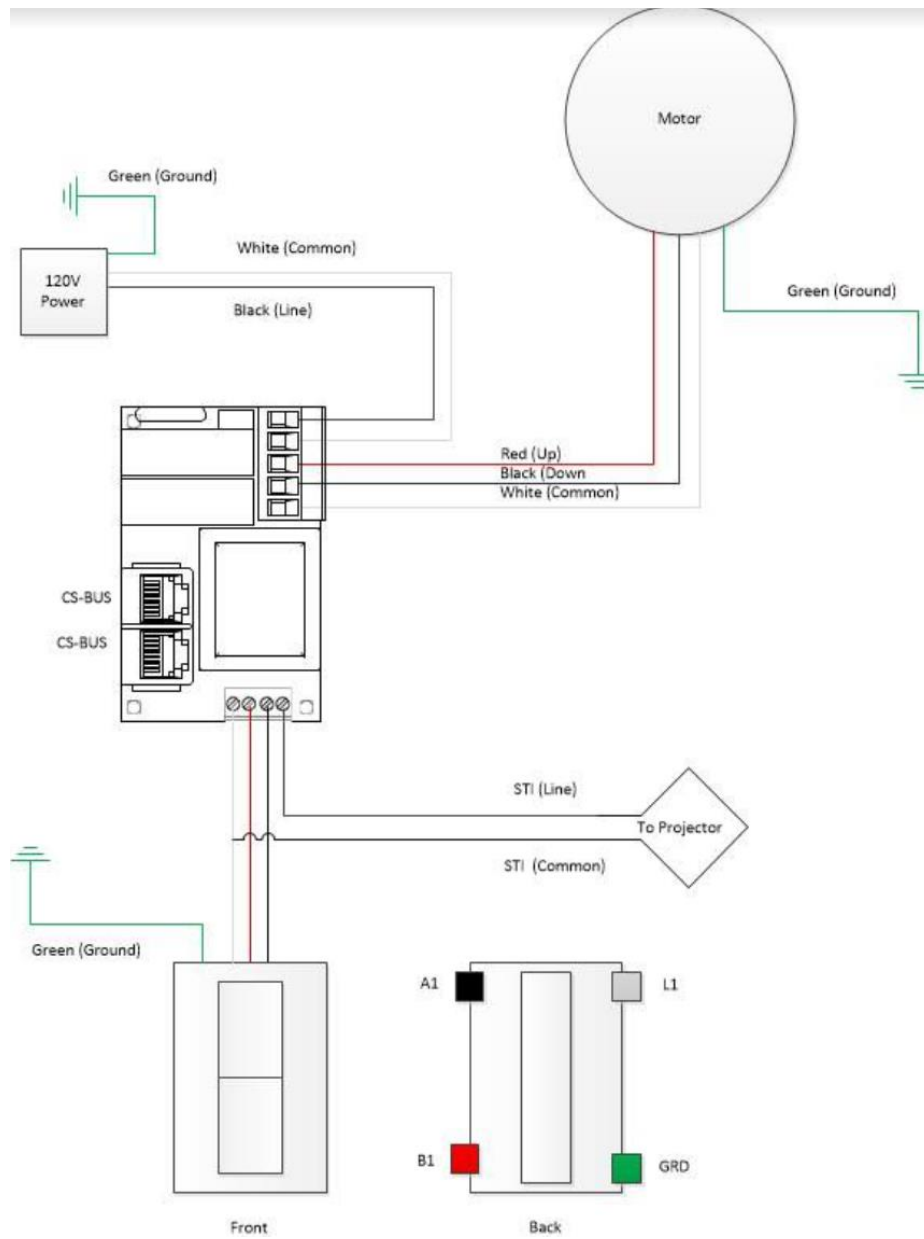


**Figure 30.** High voltage pin schematic

LVC Contacts	IMC 100	COMMANDS
COMMON	Pin 1	COMMON
CHANNEL 1 INPUT	Pin 2	UP
CHANNEL 2 INPUT	Pin 3	DOWN
SCREEN TRIGGER INPUT	Pin 4	TRIGGER 3-15 VDC w/ COMMON

# INTELLIGENT MOTOR CONTROL (IMC) WIRING (CONTINUED)

The IMC can be wired to any dry contact wall switch (see Figure 31). If you would like one from Stewart Filmscreen, you may order as an option, directly from us.



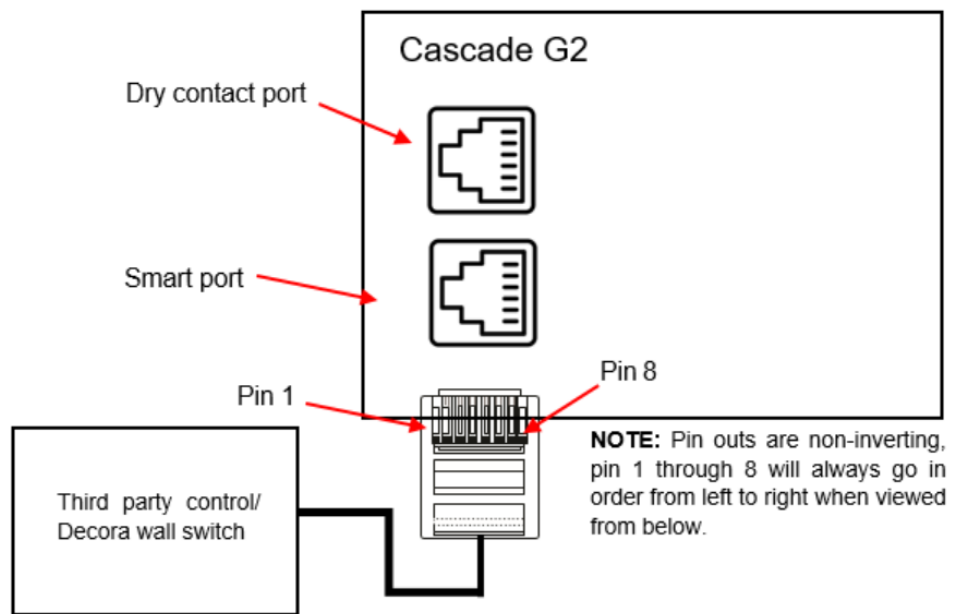
**Figure 31.** IMC wiring diagram

## IMC RJ45 PINOUTS FOUND ON SIDE OF CASE

All Stewart Filmscreen’s “smart port accessories” that are RJ25 will plug into the RJ45 smart port on the motor side of the Cascade case (see Figure 19). In the box you will find two spare RJ45 connectors. These are provided for the ease of making or extending wires for use with dry contact port. If you need to interface your Cascade to a third party control or to a Decora wall switch, you must connect to the dry contact port (see Figure 19). Any dry contact connections must match the RJ45 pinout diagram (see Figure 32).

### 8 Pin RJ45 for Low Voltage Dry Contact Connector

Pin	Signal
1	Not used
2	Not used
3	DOWN
4	UP
5	COMMON
6	TRIGGER
7	Not used
8	Not used



**Figure 32.** RJ45 pinout diagram

### **⚠ CAUTION**

Do not plug in any POE (power over Ethernet) devices into either the smart port or dry contact port. *Irreversible damage to the IMC board will occur and your warranty will be void.*

## IMC SPECIFICATIONS

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Network (IP) Connection	Through separate (single) e-Node
RS-232c Connection	Through separate (single) IBT-100
Compliance	ETL Listing to UL 325 , FCCA, CE, RoHS
Dimensions	.78" x 2.75" x 1.1"

# LIMIT SWITCH ADJUSTMENT

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## CAUTION

Please read and understand the following information. Improperly adjusted motor limit switches can result in irreparable damage to the projection screen or motor and will void your warranty.

Stewart Filmscreen uses tubular Somfy motors in many of our projection screens. Users may require adjusting the limit switches at some point in time.

Tool required: 4 mm hex key or 5/32" hex driver. You can also use an electrician's 1/8<sup>th</sup> inch flat blade screwdriver.

**Note: Never use an electric drill or powered screwdriver to adjust Somfy motor limit switches as this will damage the internal timing assembly in the motor. The switches are designed for manual (by hand) incremental adjustment only.**

## CAUTION

We set the masking limits at the factory. However, if you feel that some slight adjustments need to be made to the top masking, please follow the outlined steps below:

## ADJUSTING THE SCREEN'S DEPLOYED (DOWN) STOPPING POSITION

This adjustment will be made using the "white" limit switch (see Figure 33). It is important to remember that you cannot reduce the screen's deployment setting when the screen is currently stopped at its full "down" setting. You must use the control switch to raise the screen up a foot or so before attempting a motor limit switch adjustment. If the screen is operated by a screen trigger, you must reduce this "white" limit switch when the screen is stopped in its fully retracted, "up" position. Turn the "down" motor limit switch clockwise to reduce top masking settings (see Figure 33).

Turning the motor limit switch counterclockwise will increase or extend the screen's deployed stopping position. Switches are sensitive. Go slowly and do quarter turns at all times with the 5/32" hex driver to prevent damage to the motor and to the screen. **Do not extend the screen so far that the aluminum roller tube becomes exposed. There must be at least one full wrap of the screen left on the roller tube when the screen is resting at its final deployed setting.** If you turn this limit switch too much (clockwise) and the screen is now stopping short of where you want it, simply turn it in the opposite direction (counterclockwise) and the screen will automatically drop in increments as you rotate the switch.

## LIMIT SWITCH ADJUSTMENT (CONTINUED)

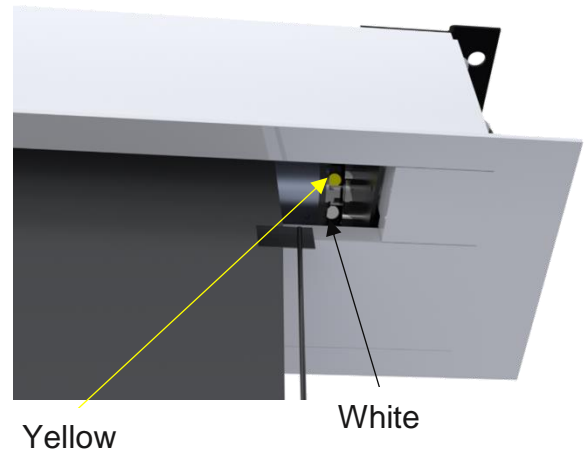
### ADJUST THE SCREEN'S RETRACTED (UP) STOPPING POSITION

CAUTION: Making adjustments to the yellow switch can inadvertently damage the screen or the motor if the fully retracted stopping position is set too high into the housing. This will cause the screen's batten bar to impact the screen roll and may cause optical damage to the screen. Improper adjustment can also cause the batten to jam into the housing which obstructs it from deploying when the "down" command is sent. Left in this position, the motor will fail due to overrun. Only qualified, experienced technicians should attempt to make adjustments to the "up" yellow limit switch (see Figure 33).

**NOTE: Failure to follow these directions may result in voiding your warranty.**

In the fully "up" retracted stopping position, the screen's batten bar must hang freely underneath the screen roller tube. **The batten bar cannot contact or press against the projection screen roll. Make sure to check and correctly adjust the yellow or "up" limit switch to avoid screen damage from a compacted batten bar.** Switches are sensitive. Go slowly and do quarter turns at all times with the 5/32" hex driver to prevent damage to the motor and to the screen.

Counterclockwise adjustments of this switch will raise the batten bar and clockwise adjustments will lower the batten's top setting. Lowering the batten's top stopping position is valuable when trying to align the screen's batten with the bottom of the Cascade case.



**Figure 33.** Undercarriage, back view, audience left side of Cascade. Motor with yellow and white adjustment limits

### **⚠ CAUTION**

Please remember that improperly adjusted motor limit switches will cause damage to your projection screen or motor. Make sure that both of the motor limit switches have been properly adjusted, allowing the projection screen to stop correctly at both the retracted and deployed positions.

## CARING FOR AND CLEANING THE SCREEN

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

### GENERAL MAINTENANCE

The surface of your screen is delicate, so we encourage you to keep your screen clean. Special attention to these instructions should be followed when cleaning.

#### **⚠ CAUTION**

- > Oils and grease from hands can easily transfer to screen material.
- > Be careful not to touch or scratch the viewing surface.

- ▶ Avoid getting any foreign objects on the screen as cleaning may prove very difficult. It may not be possible to remove scratches, paint, ink, etc.
- ▶ 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 (see Figure 34).
- ▶ For tougher spots, you can make a cleaning solution using a water-based detergent and warm water. To make the solution, mix one part Simple Green, 409, or other water-based industrial cleaner with three parts warm water. Moisten a clean cotton cloth or cotton swab with this solution, moisten the stained area, and gently lift off the stain. Never use an aggressive scrubbing action as you could damage the screen surface by removing the optical coating. Remoisten the area with clean water and dab dry with a clean sponge or cotton cloth. Any residual watermarks will evaporate on their own within minutes.
- ▶ Contact the factory if you have questions about removing difficult spots.
- ▶ If brushed aluminum endcaps were selected instead of painted endcaps, you may notice slight tarnishing of aluminum surface over time. If this happens, take a high quality microfiber towel and hand buff the tarnish away.



**Figure 34.** Stewart Filmscreen Cleaning Kit

#### **⚠ CAUTION**

Do not use cleaners containing alcohol as they can damage the optical surface of the screen fabric.

# TROUBLESHOOTING

Refer to the following guidelines if you encounter any difficulty in the operation of your Stewart screen. Problems related to electrical or motor function may require a qualified service person or electrician. Should you have a problem that is not addressed below, please call Stewart Filmscreen at 1 (310-784-5300) or toll free 1 (800-762-4999) for assistance.

Problem	Cause	Action Steps
The screen won't operate	No AC power available	Check to see if the circuit breaker has switched off. Reset if needed. Check the outboard switching apparatus. Check voltage availability. Contact an electrician
The screen won't roll up or down (even though power is available)	Bad connection at the switch. Polarity of IMC line may be bad	Have an electrician or qualified service person check control board connections
The 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 hookups including outboard wiring
The unit hums in "up" mode	The screen batten is retracting too far into the case. Failure to correct can damage the motor and the screen. Do not use the unit until this problem is resolved	Have a qualified service person adjust the yellow UP limit switch
The screen drops when "up" direction is activated	Could be a drop in voltage	Screen motor requires full voltage. Have an electrician or qualified service person check available voltage
The screen continues past bottom stop position	"White" limit switch is out of adjustment	Readjust the "white" down limit switch. See the section on Adjusting Screen Deployment of this manual (Page 24)
The batten retracts too far into case	"Yellow" limit switch is out of adjustment. Failure to correct can damage motor and screen. Do not use the unit until the problem is resolved	Have a qualified service person adjust the "yellow up" limit switch



<p>The motor shuts off. The motor has been in use for more than 2 minutes</p>	<p>The motor is designed for short operations (lowering and retracting), not continuous duty. Longer operation causes the motor to overheat and shut off</p>	<p>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</p>
<p>Dirt, fingerprints, marks, etc., on the screen surface</p>	<p>Improper handling of screen</p>	<p>Lightly brush off or use a mild water-based detergent solution with a clean rag or cotton swab</p>
<p>Indentations appear on screen surface</p>	<p>Debris or particles adhering to screen due to static cling</p>	<p>Check back of screen; gently brush debris away with a soft brush</p>

## **ONE (1) YEAR LIMITED WARRANTY**

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STEWART FILMSCREEN CORPORATION (Stewart) warrants all products to the original purchaser only. Stewart products are guaranteed 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. Additionally, all products must be properly operated and maintained according to Stewart instructions and cannot be 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.).

Stewart on-site warranty repair services are not available for this product. 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 incidental 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. Stewart is not responsible for damage in shipment. To protect 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 or merchantability. Any implied warranties of fitness for use or merchantability, which 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 Filmscreen product, you may contact our customer service department at 1161 W Sepulveda Blvd, Torrance, CA 90502- 2797, or call us at 1 (310) 784-5300, or toll free at 1 (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 of a Stewart Filmscreen product in excess of the purchase price of the product sold.



The Reference for Stunning™

[www.StewartFilmscreen.com](http://www.StewartFilmscreen.com)

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