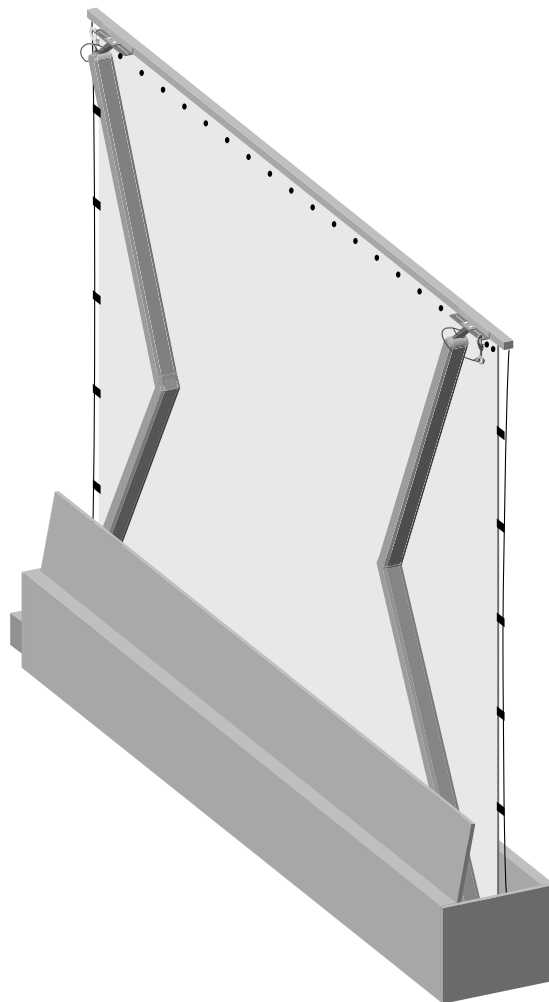


AVS Automatic Vertical Screen

Owner's Manual



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

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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 Filmscreen product.

About your Automatic Vertical Screen (AVS)

The AVS screen enclosure is below the image position, and can be concealed in a sideboard, credenza, or in the floor. When the screen is activated, the trap door mechanism automatically opens and the screen ascends on spring-loaded arms to its full position.

The trap door face plate can be painted or laminated to perfectly match the decor of the installation environment.

Model options

The AVS is available in three models:

- ◆ With adjustable stands and casters for ease in portability
- ◆ Floor recessed, when a completely hidden screen is required
- ◆ Wall mount

An auto anti-keystone tilt feature is available as an option for all systems; this feature must be preset at the factory.

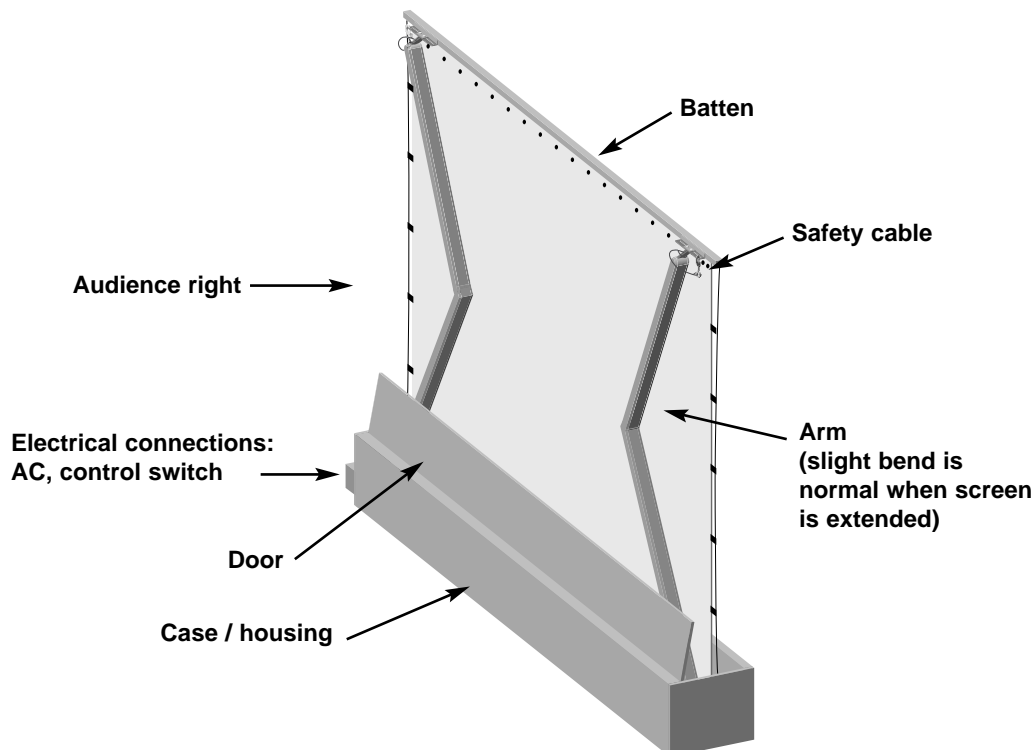


Figure 1. AVS components, back view

PREPARING THE INSTALLATION

Note: This manual refers to “AC” 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.

Preparation

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

- ◆ Check the specifications for any options.
- ◆ Prepare the location for the AC power.
- ◆ Ensure site has clearance for the screen when it is fully extended, and that there are no obstructions in its path.
- ◆ Check the size and weight of the screen to be installed so that you can plan for the number of people required to move it. You need at least two people for the smaller screens; more are needed for larger, heavier screens.

You will need:

- ◆ A level
- ◆ Electrician tools for connecting the low-voltage control switch

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.

Installing the AVS

- ◆ Position the case so that the motor connection is at audience right. Do not attach any items to the batten or screen assembly, the door assembly, or the arm assembly.
- ◆ Ensure that the case is level and plumb.
- ◆ If the screen is large, secure the case (for example, bolt to the floor). Attach L-angle mounts to the end plates, if required. Do not drill into front or back sides of housing to attach mounting hardware.

Caution

Do not make any adjustments to the steel cables.

Do not remove or loosen any bolts on the case or spring arms.

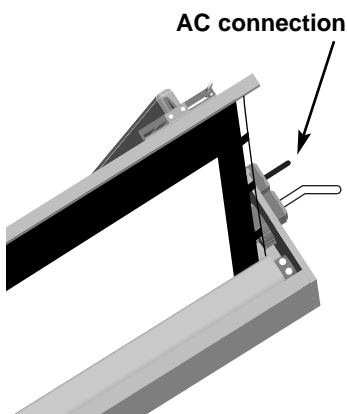


Figure 2. AC connection

AC electrical hook-up

The motor requires standard AC power, hardwired using a Romex connection. The connection is made to the J-box on the side of the unit (audience right).

General suggestions for wiring:

- ◆ Soldering is recommended.
- ◆ The use of wire nuts is acceptable.

Installing the low-voltage 3-button switch on the wall

The Stewart Filmscreen low-voltage control allows the use of Class 2 low-voltage wire to connect to the supplied 3-position momentary wall switch or auxiliary AV switching systems.

The switch control plate is connected to the unit's J-box at the factory. You can use the switch temporarily in this position to test the AC connection. Remove the switch from the J-box and connect it at an appropriate wall location.

Note: If an IR option has been ordered, the sensor is already connected to the low voltage control box inside the case. The wire is passed through the J-box with the low voltage switch control wiring. Position the sensor appropriately for the location.

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, communication 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

The AVS has two J-boxes located on the audience right side of the case: one is for AC power, and the other is for the switch control. Figure 3 illustrates the connections.

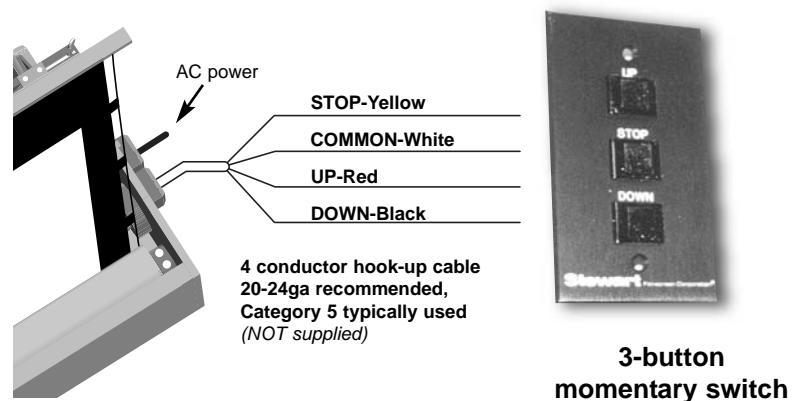


Figure 3. Low voltage 3-button switch wiring

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1. Connect the switch to the J-box on the side of the case (audience right). Do NOT leave the switch installed in the case.
 2. A parallel connection to an outboard audio-visual switching network can be made at this time (optional). Use only momentary switches for this option.
 3. Use the switch to test the operation. Refer to the next section for cautions.

Connecting the Screen Trigger Interface (STI) option

The optional low-voltage STI enables 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. Attach the 12 V trigger wire (2 conductor 20-24 gauge) to the jack in the J-box as shown in Figure 4.

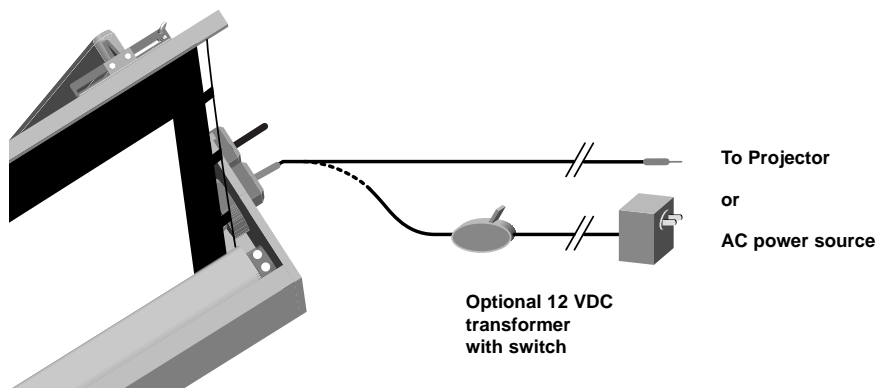


Figure 4. Connecting the STI

OPERATING THE SCREEN

WARNING!

When operating the screen:

- ◆ **Stand clear from the screen when it is in motion.**
- ◆ **Supervise children and animals when the screen is in motion.**
- ◆ **Keep hands and limbs away from the door and arm assemblies when the unit is in operation.**

Use the switch or remote control to activate the screen. Do not block the path of the door or screen when in motion.

When you lower or retract the screen, it will stop at its factory preset limit and the door will close.

The motor is designed to be used for short operations such as raising 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 a screen is not in use, you should store it 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

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

In rare cases, to enable proper alignment of the displayed image on the screen, you may need to adjust the extension of a screen. If adjustment to the extension is necessary, carefully follow these instructions. Keep in mind that incorrect adjustment can cause faulty operation.

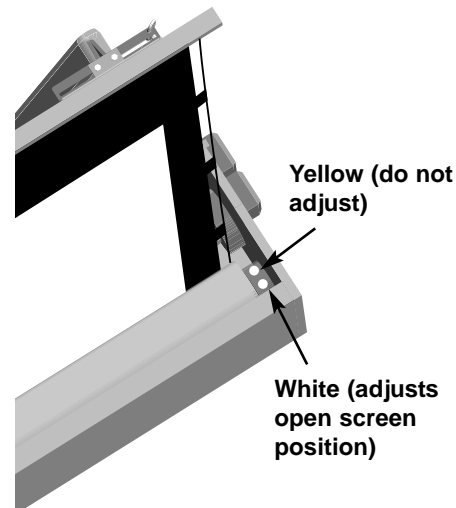


Figure 5. Limit switches

Modifying the extension of the screen

It is possible to *decrease* the preset extension of a screen up to 3" (7.6 cm). Do not attempt to modify a screen extension more than this recommended amount. Do not increase the extension.

The limit switches are located on audience right of the case.

- ◆ The white limit switch adjusts the extended (open) screen position.
- ◆ The yellow limit switch adjusts the fully retracted (closed) position. Do not adjust this switch.

Caution

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

The yellow limit switch retracts the screen further into the case. Adjusting it is not advised.

Incorrect adjustment of the limit switch can cause the arms to lock.

Be sure the screen retracts fully or the door will close on it, and damage the screen.

To decrease the screen extension:

1. Ensure that the screen is in its fully retracted position, but with the door open to access the limit switches.
2. Locate the white limit switch located on the audience right side of the case. Use a screwdriver to turn the switch in a clockwise direction.

Note: One complete turn of the switch will make approximately a 3/4" (2 cm) change in the screen's stop position.

3. Activate the screen until it reaches the newly reduced stop position.

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

SCREEN CARE AND CLEANING

With reasonable care, you can 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

The surface of 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.

Caution

- ◆ **Do not use chemicals or solvents to clean the fabric.**
- ◆ **Do not allow debris or particles to fall into the screen housing.**

Replacement parts and service

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 Filmscreen. 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 will not operate. Door will not operate.	No AC power available. Outboard switching problem.	Check to see if the circuit breaker has switched off. Reset if needed. Check outboard switching apparatus. Check voltage availability. Contact an electrician.
Screen will not roll up or down (even though power is available).	Bad connection at switch. Polarity of STI line may be bad.	Have an electrician or qualified service person check the connection as follows: <ul style="list-style-type: none"> • If you have a <i>low voltage control</i> unit, check switch-line connections. • If you have a <i>screen trigger interface</i>, check line connections, or the mini-plugs at the screen input or projector output. Check 12V DC line for correct polarity.
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 hook-ups including all outboard wiring.
Unit hums in retract mode.	The screen batten is retracting too far into the case. Failure to correct can damage motor and screen. Do not use the unit until this problem is resolved.	Have a qualified service person adjust the yellow limit switch. Turn the adjusting screw clockwise.
Screen drops when retracted (grinding noise occurs).	Drop in voltage.	Screen motor requires full voltage. Have an electrician or qualified service person check available voltage.
Screen continues past fully extended stop position.	White limit switch is out of adjustment.	Readjust the white limit switch. See p. 8 of this manual.
Batten retracts too far into case.	Yellow limit switch out of adjustment. Failure to correct can damage motor and screen. Do not use the unit until this problem is resolved.	Have a qualified service person readjust the yellow limit switch. See p. 8 of this manual.
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. See p. 10 of this manual.
Indentations appear on screen surface.	Debris or particles adhering to screen due to static cling. Debris or particles may have fallen into the housing.	Check back of screen; gently brush debris away by hand. See p. 10 of this manual.

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.

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