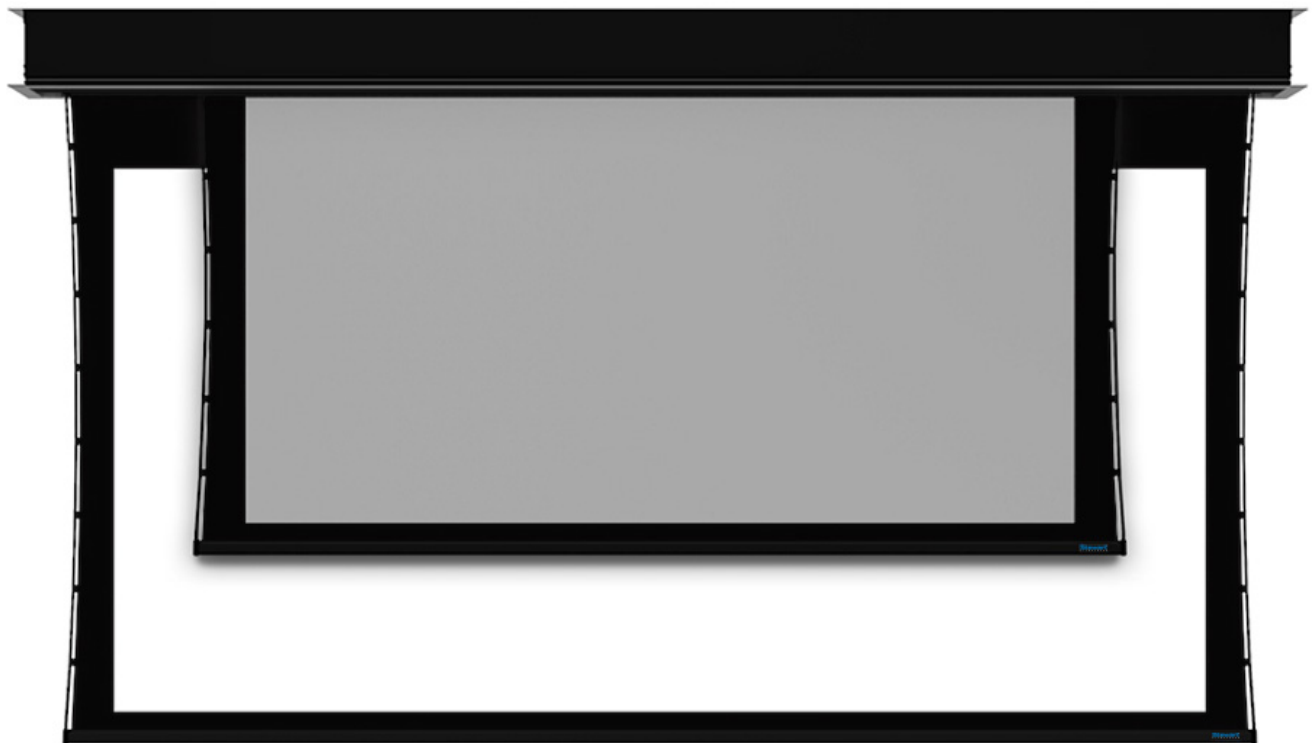# Gemini

Retractable, Above Ceiling, Dual Screen System

Stewart
F I L M S C R E E N

The Reference for Stunning™

Gemini

OWNERS MANUAL

Contents

TO THE OWNER

Congratulations on purchasing the finest optical viewing screen available anywhere in the world!

Your hand crafted screen has been carefully inspected, and tested to fully 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 operation of your screen. It will also provide you with detailed instructions on how to care for your new Stewart Filmscreen Gemini projection screen.

From all of us here at Stewart Filmscreen, we'd like to thank you for choosing Stewart. Should you have any issues please don't hesitate to contact our customer service department. We're here to help.

Mary Stewart | Owner and CEO

ABOUT GEMINI

The Stewart Filmscreen Gemini is a custom projection screen product. It contains 2 indivdual screens in one housing. One important cautionary note about this product is that it is not advisable to deploy both screens at the same time. This screen operation method will protect the back screen from receiving strike marks from the front screen in the event of the front screen colliding into or contacting the back screen. We strongly urge that you adhere to this advisement to preserve the optical integrity of the back screen. The onboard control system contains the Stewart Dual IMC set. It provides the ability to connect to any type of switching apparatus to control the screens.

IMPORTANT SAFETY INFORMATION

Carefully read all instructions. This screen must be installed by a qualified electrician. 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.

Check with your local electrical inspector for compliance with local / national codes and wiring practices. 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 can use a 20A maximum circuit breaker which is typically found in most residential and commercial sites.

PREPARING THE INSTALLATION

Before proceeding with the installation of this screen, take time to thoroughly read and understand these installation instructions.

INSTALLATION

The Gemini projection screen is ready to install when first removed from its shipping crate. Remove outer paper that surrounds the housing. You will notice that there are (4) mounting holes located at the upper corners of the housing. You can use All Thread, lag screws, chain or other hardware fasteners as necessary to secure the Gemini to the sub structure.

Professional mounting techniques and appropriate rated hardware must be used to secure the Gemini screen to its mounting location. Stewart Filmscreen cannot be held liable for faulty or sub-standard installation practices.

Ensure that the housing is level and plumb once secured / mounted. The screens must be level for normal / best operation.

After the Gemini is installed, make sure to remove any remaining packing materials or batten retaining clamps. Failure to do this will cause screen failure during first time activation.

ELECTRICAL CONNECTIONS

The Gemini control system can be accessed by removing the hex nuts that secure it to the electrical internal end of the Gemini. Alternate connectivity provisions can be made or altered as needed. See photo on next page for controller access.

Perform all necessary switch wiring connections before power is applied to the control box. The supplied AC power cord can be plugged into a standard AC outlet or the cord's plug can be removed and then the power cable can be hard wired directly into a J-box.

Connect the dual channel keypad to Port 0 on the screen board and trigger cable (if required) to the controller's low voltage switching input. Also at this time make any other necessary connections as required. These could be third party or serial control connections.

DUAL IMC SCREEN CONTROLLER

The Intelligent Motor Control Dual IMC is a state of the art AC motor control for projection screens and masking panels. Its small size allows easy mounting in electrical junction boxes and tight locations. It is the standard motor controller for the Stewart Cabaret series electric screen. It contains a built in micro-processor to allow individual addressability as well as more sophisticated triggering and sequencing of any number of additionally linked IMC controllers from switches, screen trigger inputs, home auto-mation systems, serial or Internet Protocol (IP). The IMC controller can also be controlled via infrared and RF. Theoretically the IMC controller can be controlled by virtually anything the industry has to offer. Stewart Filmscreen has linked two of these devices into one junction box for the Gemini dual motor control.
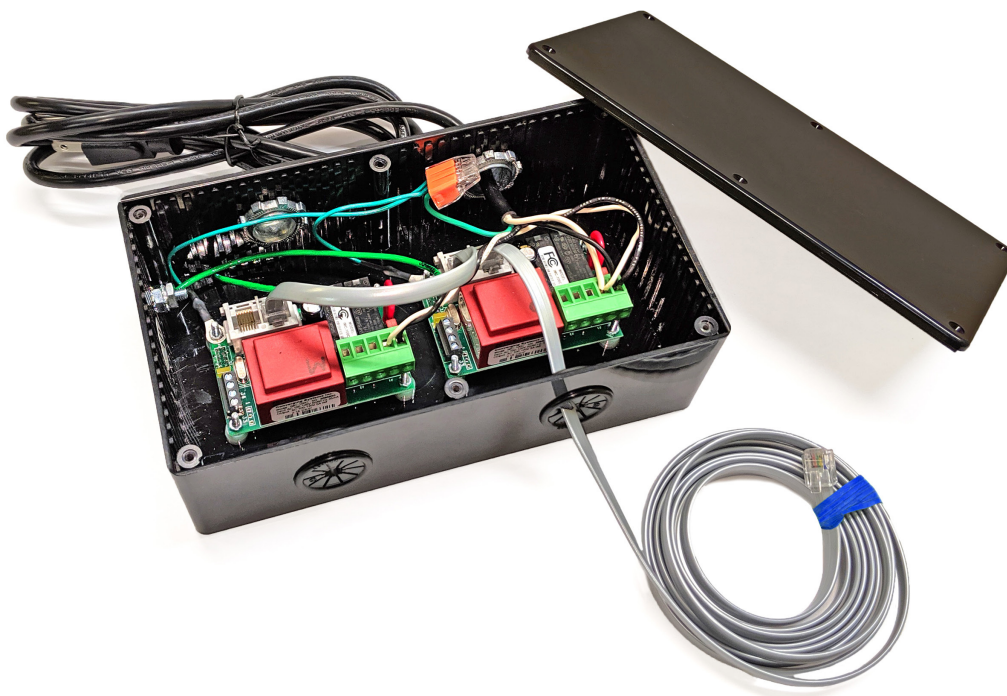
CONTROLLER OPTIONS

1. Contact Closure Switching (Momentary)

Third party control systems such as Crestron or AMX can easily connect to this Dual IMC using the LV (low voltage) switch input. A SPDT switch can also be used to control each controller. Please see the switch wiring on page 9 for connection to the LV switch input.

2. Dedicated 5 Button Wall Keypad

The IMC controller can also be switched via the dedicated 5-button wall keypad. The 5 button keypad will come standard for some dual motor control situations if IR control has been specified the IR eye sensor is contained within the keypad. The 5-button keypad will then connect to the RJ-25 active port (Port 0) located on the screen IMC board. The keypad uses digital signaling to transmit IR and screen commands to the IMC control board. The use of this switch also features a "stop" command. In this fashion, one could stop the motors while they are in motion. The hookup cable required for the dedicated keypads is a standard Telecommunication 6 - conductor type in which only 4 of the conductors are used for connectivity at the keypad's terminal.

3. IR (Infrared) Control – optional

Use the hand held dual channel IR transmitter to control the screen and masking. Aim the transmitter in the general direction of the screen or keypad so that the IR signal can be seen by the eye sensor. You can use this transmitter to "learn" the IR codes to other universal IR controllers. IR control of the motors will duplicate the functionality of the 5-button wall keypad. You will have control of motor down, motor up and stop. An optional IR eye sensor can be plugged directly into the IMC control board in lieu of using the wall keypad's sensor. Do not use other manufacturer's IR eye sensors as they are not compatible with the Dual IMC controller.

4. STI (Screen Trigger Interface) Control

You can also operate this control from a 1 to 30 volt dc trigger source. Most projectors today contain a 12 VDC trigger output that can be connected directly to the Dual IMC controller. Simply connect the positive trigger output lead to LV pin # 4 and connect the negative to Pin # 1 on the screen board. The trigger input and LV switch will function simultaneously. In this fashion, both the trigger and the LV switching   input will operate the motors in a "selective switching" mode. Should one wish to retract the motors while the projector's trigger is activated a press of the "up" button on the wall switch will retract the screen. You can also deploy each motor without activating the screen trigger by pressing the respective "down" button on the wall switch.

CONTROLER OPTIONS (CONTINUED)

5. RF (radio frequency) Control

An optionally available RF module will plug directly into the RJ control port on the IMC control board. The motors will then be controlled via small hand held RF transmitter. The transmitter contains a small electronic battery that will require future replacement. RF control can be used in conjunction with LV switch terminals to allow "selective switching".

6. Serial Connectivity – IBT 100 Serial Converter

By using the optional IBT-100 Serial Converter, the system can be controlled via RS-232 serial commands. In this fashion, the serial commands will duplicate the same functionality as the dedicated 5 button wall keypad. Use a dual RJ-25 4 conductor patch cable to connect the IBT-100 to Port "O" of the screen board. The IBT-100 can now be connected to your computer or other serial device via the standard DB-9 connector.

OPERATING THE GEMINI DUAL IMC CONTROLLER

Plug in the main AC power cord or activate the circuit breaker to "on". The control boards are now active and ready for use. Pressing Channel A on the wall switch in the "down" mode will deploy the first screen. The screen will automatically stop at its motor's deployment setting. Or, you can stop the motor by pressing the red "Stop" button. Pressing the Channel A wall switch to the "Up" mode will retract the screen. Once the first screen is retracted, press Channel B "Down" to deploy the second screen.

During first time deployment it is advisable to slowly and incrementally lower the screen. Use the stop function repeatedly. While doing this, visually inspect the screen as it deploys making sure it does not get restricted in any manner. Once the screen has fully deployed and stopped, normal operation can resume.

If the trigger wire has been connected, the projector will activate the motors to deploy when it is energized. Conversely, when the projector (trigger) is switched off, the motors will retract. When using this trigger feature, **never** suddenly reverse the direction of the motors while they are operating. Exercise patience to allow the motors to fully cycle and stop before changing directions.

IMC TECHNICAL INFORMATION - LOW VOLTAGE WIRING

The Dual IMC controller has both low-voltage connections as well as CS-Bus connections. Refer to following diagram for location of Pin 1 on all connectors.

IMC Control Board

Low Voltage Contacts
1 - Common
2 - Up
3 - Down
4 - Trigger +
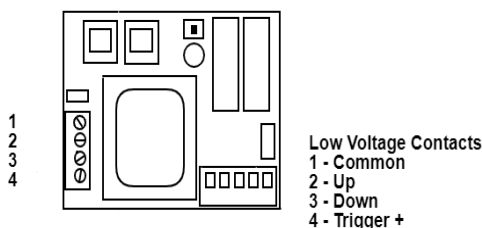
Low-Voltage Switch and Voltage Trigger Interface (STI) Connections

Low Voltage Connector (on IMC-100T Controller) (see figure 10)	SPST Latched relay switch (UP)	SPST Latched relay switch (Down)	5V to 12V Screen Trigger Interface
Pin 1 (left) Common	Pin 1 (Common)	Pin 1 (Common	-12 VDC
Pin 2 input	Pin 2 (UP direction)		
Pin 3 input	Pin 3 (DOWN direction)		
Pin 4 Screen Trigger Input			+3 - 15 VDC 10ma (min)

The 5-button intelligent wall keypad (BSKP-5) plugs directly into the active port (Port 0) on the screen board. Please keep in mind that this switch is a "dedicated" digital control therefore other manufacturer's switches cannot be plugged into the IMC control Port.

Warning! Do not plug any other types of switches into the control ports as damage to the unit's microprocessor and resulting control failure may occur. The control port only receives RS-485 & IP interfaces. Improper use of the control ports will void the product warranty.

An optionally available IR eye sensor can be plugged into Port 0 if required (not Port 1). Please contact your dealer if you need to acquire the optional IMC IR eye sensor.

An optionally available RF module can be plugged into Port 0 if desired (not Port 1). Please contact your dealer if you need to acquire the optional IMC RF Module with hand held transmitter.

IMC DUAL CONTROLLER SPECIFICATIONS

Motor Control (X 2)	Control of a single 1/3 hp. 2.1 amp
Voltage Power Requirement	Bi-directional AC motor with surge suppression.
Relay Capacity	Up to 5 amps current draw with on board fuse protection.
External LV Control	Low voltage connection interfaces with dry contact relays and keypads or third party SPDT switches.
Screen Trigger Interface	1 – 30 VDC, 10 ma. 12 VDC is typical
Addressability	Multiple IMC controls can be linked together on the CS-Bus with individual addresses.
IR Control	Yes – connect to RJ-25 control Port 0
RF Control (optional)	Yes – connect optional RF module to RJ-25 Port 0
IP Control (optional)	e-Node modem plugs into RJ-25 control port.
Control board size	1.75" w. x 2.72" h. x 1" d.
Weight	4 oz.
Safety	ETL Listed & conforms to UL STD 325 – IMC 100T 120 VAC version.
Emissions	FCC Class B
Manufacturing	Made in the USA
Specifications subject to change as required and without notice.	

ADJUSTING SCREEN DEPLOYMENT SETTINGS

How to Adjust Gemini Screen Motor Limit Switches

Caution! Please read and understand the following information. Improperly adjusted motor limit switches can result in irreparable damage to the projection screen or motor.

Stewart Filmscreen uses in-tube Somfy motors in many of their 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 even use an electrician's 1/8th inch flat blade screw driver (tweaker).

Never use an electric drill or powered screw driver to adjust Somfy motor limit switches as this will damage the internal timing assembly in the motor. The switches are designed for manual hand-adjustment only.

 Adjust screen's deployed (down) stopping position

This is the number 1 adjustment that users will need to make. A projection screen may typically require the deployed stopping position to be re-adjusted from the factory setting.

This adjustment will be made using the "white" limit switch (see Fig. 1 on next page). 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 either use the control switch to raise the screen up a foot or so before attempting a 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" limit switch "clockwise" to reduce settings. Turning the switch "counter-clockwise" will increase or extend the screen's deployed stopping position. Do not extend the screen so far that the aluminum roller tube becomes exposed. There must be at least one full wrap of 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 (counter-clockwise) and the screen will automatically drop in increments as you rotate the switch.

ADJUSTING THE SCREEN MOTOR LIMIT SWITCHES

We typically don't advise users to make adjustments of this switch because they can inadvertently damage the screen and or 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 over run. The "Up" limit switch is the "Yellow" adjuster in fig. 1

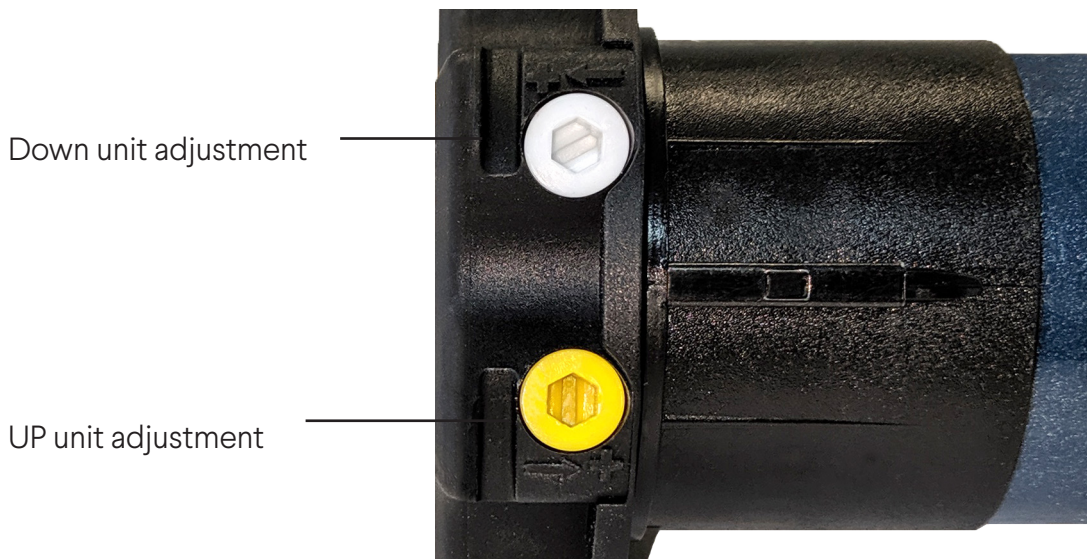Down unit adjustment

UP unit adjustment

Fig. 1

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. Counter-clockwise adjustments of this switch will "raise" the batten bar and clock-wise 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 a finished ceiling slot.

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

Contact the factory if you have any questions or concerns regarding the use of your projection screen limit switches.

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.

▸ 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.

▸ 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 Q-Tip with this solution, lightly 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 in a few minutes.

▸ Contact the factory if you have questions about removing difficult spots.

⚠ **CAUTION**

▸ Do not use any other cleaning materials on the screen.

▸ Do not use chemicals or solvents to clean the screen. Use only commercially available, water-based de-greaser.

▸ Do not use chemicals, solvents, or liquid cleaners to clean the VeLux covering.

▸ Do not fold or crease the screen.

REPLACEMENT PARTS & 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 Gemini. 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 Stewart Filmscreen (310)784-5300 or Tool free: (800) 762-4999.

Problem	Cause	Action Steps
Screen won't operate.	No AC power available.	Check to see if the circuit breaker has switched off. Reset if needed. Check outboard switching apparatus. Check voltage availabilty. Contact an electrician.
Screen won't roll up or down (even though power is available).	Bad connection at connectors. Polarity of STI signal may be reversed.	Reverse 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 outboard wiring.
Unit hums in up 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 UP limit switch.
Screen drops when up direction is activated.	White DOWN limit switch is out of adjustment.	Re-adjust the White DOWN limit switch See the section on Adjusting the Screen.
Batten retracts too far into case.	Yellow UP 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.

Problem	Cause	Action Steps
Motor shuts off.	Motor is designed for short operations (lower and retracting), not continuous duty. Continuous operation, 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.
Dirt, fingerprints, marks, etc. on screen surface.	Improper care or handling of screen.	Lightly brush off using an brush (horse-hair brush only) or use a mild detergent solution with a clean rag or cotton swab.
Indentations appear on screen surface.	Debris or particles adhering to screen due to static cling.	Check the back of screen; gently brush debris away with a soft brush.

LIMITED ONE YEAR WARRANTY

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, 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 Filmscreen product, 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 of a Stewart Filmscreen product in excess of the purchase price of the product sold.

Stewart Filmscreen

MAINTENANCE NOTES

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