



**ELITE SCREENS**

Electric Wall/Ceiling Projection Screen

## Starling 2 Series

User's Guide

### **Important Safety & Warning Precautions**

**Make sure to read this user's guide and follow the procedures below.**

**Caution:** The screen's Black Top Drop is already set to its maximum drop distance. There is **NO** extra Black Top Drop in the roller. Please be aware of this as it will void your warranty with Elite Screens. Unapproved changes or modifications (except for cutting the power cord for hardwire installations) to this unit are prohibited and will void your warranty. For more information, please contact our Technical Support Dept. at [techsupport@elitescreens.com](mailto:techsupport@elitescreens.com).

- Please retain this user's guide for future reference.
- To avoid damaging the unit, do not use with any unauthorized accessories not recommended by the supplier.
- Handle the unit carefully during transportation to avoid any damages.
- To ensure safe and reliable operation, direct connection to a properly grounded power source is advised.
- The power outlet supplying power to the unit should be close to the unit and easily accessible.
- Do not install the unit on uneven or inclined surfaces.
- Do not put heavy objects on the power cord and position it properly to avoid creating a trip obstacle.
- Never overload the power cord to prevent an electric shock or fire due to a loose contact or a short circuit.
- There are not user serviceable parts in this unit. Do not attempt to disassemble this unit by yourself. No one except authorized technicians can open and make repairs to this unit.
- Make sure the power source this unit is connected to has a continuous power flow.
- If there is need to use an extension cord, make sure the cord has an equal rating as the appliance to avoid overheat.
- Do not handle the power plug when your hands are wet or your feet are in contact with water.

### **Do not use this unit under the following circumstances.**

- Disconnect the power cord under the conditions of heavy rain, wind, thunder or lightning.
- Avoid direct Sunshine, rain shower and moisture.
- Keep away from fire sources and high temperature to prevent this device from overheating.
- Cut off the power supply first before transportation or maintenance.
- Fully disconnect from the power supply when the unit is not in use for a long period of time, as should be done with any other electric household appliance.
- To avoid possible injury and/or an electric shock, do not attempt to use the screen if there is obvious damage or if there are any evident broken parts.

## Pre-Installation

1. Carefully unpack the screen.
2. Always handle the screen in a leveled position on a clean surface.
3. In order to protect the screen from exposure to stains, keep the screen out of contact with foreign particles such as dust, sawdust, and/or liquids.

## Installation Warning

**The instructions provided in this user's guide are for reference only. Please consult a professional installation company for further installation and safety advice. The installer must insure that proper mounting hardware is used to provide adequate strength suitable for the installation. Elite Screens is not liable for any faulty installations.**

Individual modifications to this product are prohibited and will void the warranty with the supplier. Please contact Elite Screens Customer Service for any questions.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that the interference will not occur on a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

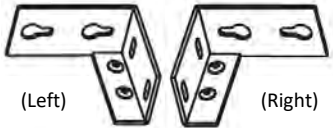

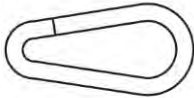
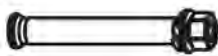




- ✓ **Reorient or relocate the receiving antenna of the device which may be causing the interference.**
- ✓ **Increase the separation between the screen and the device's receiver.**
- ✓ **Connect the equipment into a different power outlet other than the device.**

## Note

Regardless of the mounting method, the screen should be securely supported so that the vibration or pulling on the viewing surface will not cause the casing to become loose or fall. The installer must insure that the fasteners used are of adequate strength and suitable for the installation location.

## Hardware Parts List for the Starling Series

**Please make sure all parts listed below are included before proceeding with the installation.**

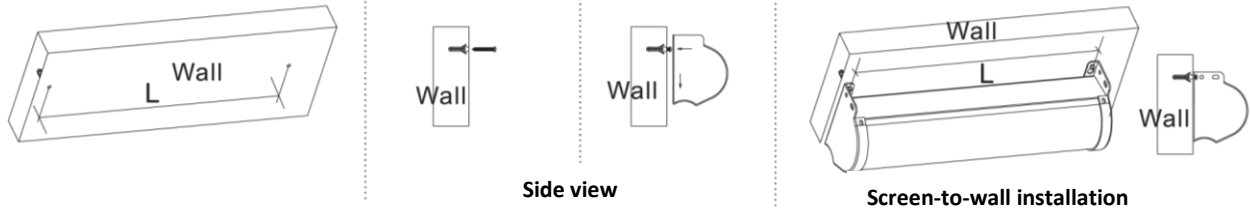
<p><b>A. Pair of Brackets x1</b></p>  <p>(Left) (Right)</p>	<p><b>B. Steel Expansion Concrete Anchor Hook x 2</b></p> 	<p><b>C. Spring SnapLink x 2</b></p> 	<p><b>D. Steel Expansion Concrete Anchor x 4</b></p> 
<p><b>E. ST5x40 Self-drilling screws x 4</b></p> 	<p><b>F. Plastic expansion dry-wall anchor x 4</b></p> 	<p><b>G. M6x16 screw x 4</b></p> 	<p><b>H. M6 nut</b></p> 

# Installation Instructions

## A. Wall Mount

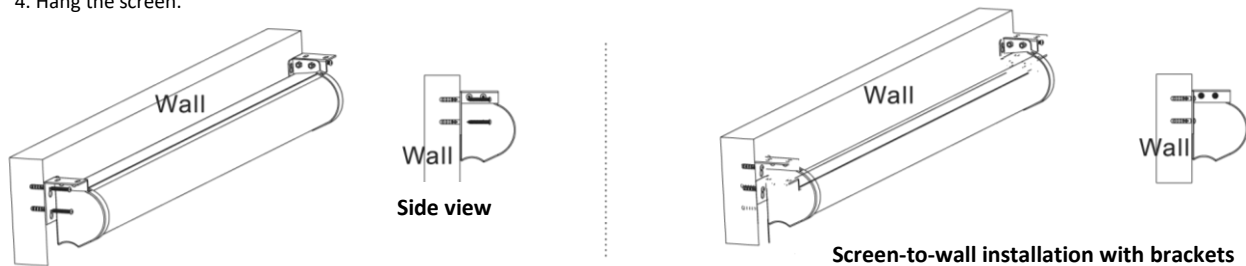
### I. Flush mount using end caps

1. Measure and mark the distance between the keyholes on each side's end cap.
2. Drill a hole on each side and insert screws into wall
3. Hang the screen



### II. Flush mount using brackets

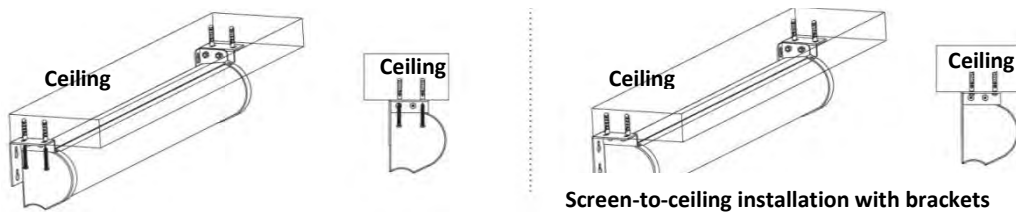
1. Attach the brackets to the end caps with the M6x16 screws and M6 nuts
2. Measure and mark the distance between each bracket's top screw hole
3. Drill a hole for each top and bottom screw hole and insert screws into wall.
4. Hang the screen.



## B. Ceiling Mount

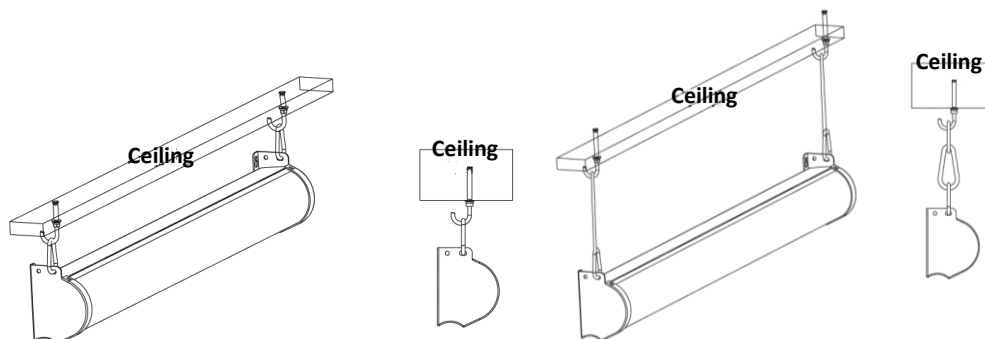
### I. Flush ceiling mount using brackets

1. Attach the brackets to the end caps with the M6x16 screws and M6 nuts
2. Measure and mark the distance between each bracket's screw hole
3. Drill a hole for each screw hole
4. Secure the screen by inserting the screw into each bracket hole to complete your installation.

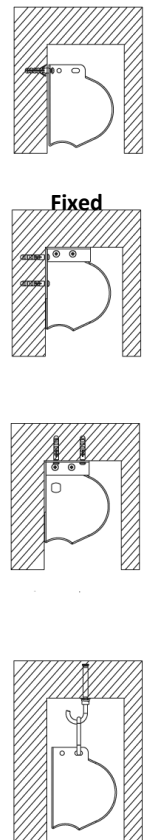


### II. Suspended





1. Low ceilings
2. High ceilings



### C. Hidden Mount Examples



## Standard Accesories for Starling Series

A. RF remote	B. IR remote	C. Extended IR sensor	D. 5-12 volt tirtgger
			

## Operation

**Electric current:** The screen operates on AC110V at 60hz

**Caution:** The screen's motor is equipped with a thermal heat protector which will cause the motor to stop running and prevent overheating if it is in continuous use for more than four minutes. When this occurs, please allow the motor to cool down and use again after 15 minutes.

1. Plug the screen's power cord to a power outlet.
2. Once the screen has power you'll be able to control it with the Infared or Radio Frequency remote.

## Control System

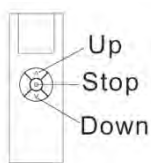
The *Starling 2 Series* has **Infrared** and **Radio Frequency** receivers. You can control the screen's **UP/STOP/DOWN** positions utilizing either the IR (Infrared) or RF (Radio Frequency) remotes.

1) **IR remote control:** The IR remote control requires line-of-sight to the IR sensor. Make sure to point the IR remote directly to the **extended IR sensor** (see step 3 for installation).

*Note:* a. The IR remote has a range of 15 feet.

- b. The IR sensor must not be covered or blocked.

2) **RF remote control:** The RF remote does not require line-of-sight and can be used up to 50ft.



Press the **Down** button to Drop the screen

Press the **Stop** button to Stop the screen

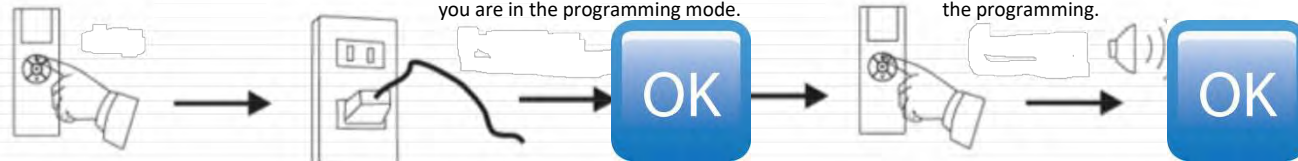
Press the **UP** button to Retract the screen

## How to program your RF remote to your screen

Press and hold the UP button for more than 3 seconds.

Stop pressing the UP button upon hearing a beeping sound. This indicates you are in the programming mode.

The receiver will beep three times to confirm the programming.



Plug the screen's power cable into a power outlet.

Press the UP button

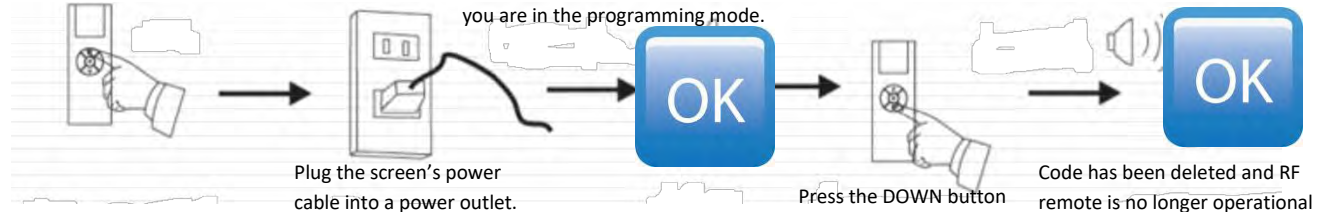
RF remote is ready to be used.

## How to deprogram the RF remote and delete the code

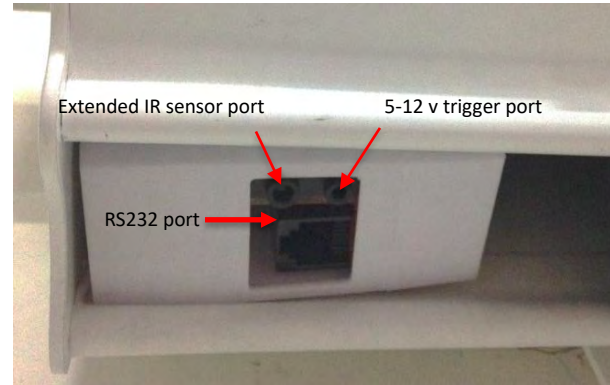
Press and hold the UP button for more than 3 seconds.

Stop pressing the UP button upon hearing a beeping sound. This indicates you are in the programming mode.

The receiver will beep three times.

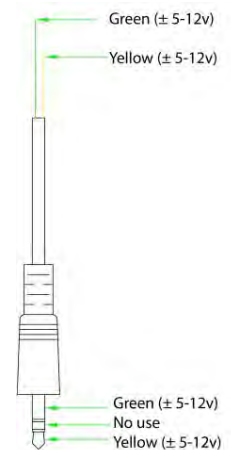


3. **Extended IR sensor:** Plug the extended IR sensor into the port located on the left side of the screen's lower part next to the weight bar. (see below image for precise port location)

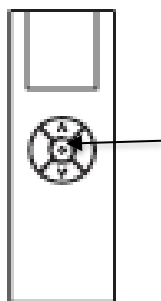


4. **5-12 volt trigger:** Connect the mini jack plug end to the 5-12 volt trigger port (see image above) and the other end to your projector's output port to synchronize the projector's power cycle to your screen. Connection to the projector's trigger port is not included. Refer to the diagram below for wiring instructions. Contact your projector's manufacturer for proper 5-12 volt trigger cable information.

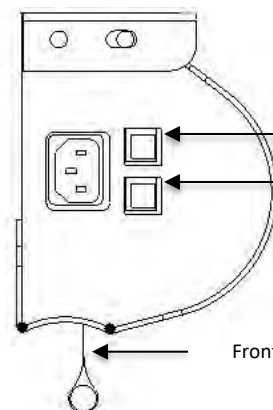
The screen should automatically DROP when the projector is turned ON and RETRACT when the projector is turned OFF. You can test the operation using a 9-volt battery.



5. **UP/DOWN manual control buttons** (located on left side end cap)



Press the STOP button first on the remote prior to using the manual control buttons.



Press and hold the UP button to retract the screen

Press and hold the Down button to deploy the screen

Front side of screen

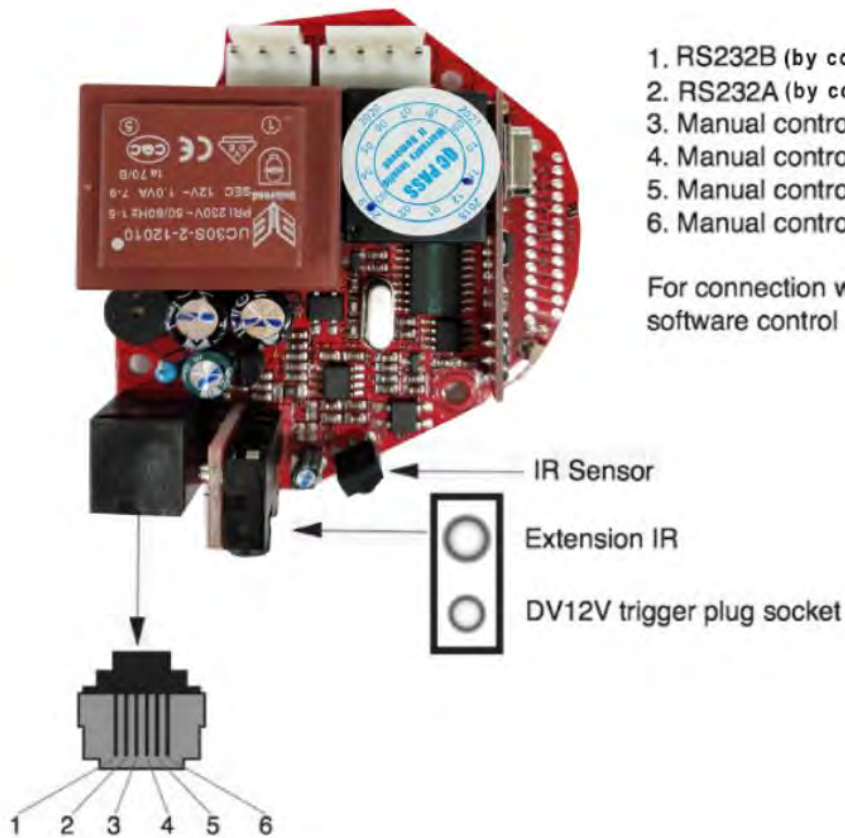
## 6. RS232 Diagram

### A. RS232 Part Setting

1. Baud rate: 2400
2. Data length: 8
3. Parity: N
4. Start position: 1
5. Stop position: 1

### B. Control Code

1. Instruction for (up): 0xFF 0xAA 0xEE 0xEE 0xDD
2. Instruction for (stop): 0xFF 0xAA 0xEE 0xEE 0xCC
3. Instruction for (down): 0xFF 0xAA 0xEE 0xEE 0xEE



1. RS232B (by converter) or RS485B
2. RS232A (by converter) or RS485A
3. Manual control switch (up)
4. Manual control switch (Stop)
5. Manual control switch (down)
6. Manual control switch public line

For connection with computer and software control

For a local Elite Screens contact or Technical Support, please visit [www.elitescreens.com](http://www.elitescreens.com)