Reference Studio 4K Tab-Tensioned Motorized In-Ceiling Screen User Manual

Part List

Reference	Name	Picture	Quantity
A1	Ceiling brackets		2
A2	Screen brackets		2
A3	Plastic covers		2
A4	Screws		8
A5	Threaded mounting rods		2
A6	Self tapping screws		10
A7	Wall plugs		10
A8	Anchor bolts		5
A9	Adjustment tool		1
	Wall control		1
	IR remote		1
	RF remote		1
	AAA batteries	"AAA"	2
C1	Power cord		1

General Notes

1. Thank you for choosing our projection screen for your home or business. Please read the user manual carefully before proceeding. Follow the provided instructions to complete installation quickly and safely and keep in a safe place for future reference.

2. Do not attempt to service or modify this unit without professional assistance.

3. Only use attachments and accessories approved by the manufacturer.

4. Please ensure there are no other objects such as power switches, outlets, furniture, and windows occupying the space designated to hang the screen.

5. Make sure that the proper mounting anchors are used and the weight of the screen is supported. If you are unsure whether your mounting method can support your screen, please consult a home improvement specialist.

6. To avoid damaging the screen, do not fold the screen or touch the screen directly with your hands, tools, or any other abrasive/sharp object.

7. When not in use, retract the screen to protect the optical surface from dirt, dust, grime, or any other impurities.

8. When cleaning, use a soft damp cloth with warm water or diluted liquid detergent to remove any marks on the casing or on the screen surface. Never attempt to use any solutions containing corrosive chemicals or abrasive cleaners on the screen surface.

9. Do not use in a wet environment.

10. Do not run the screen continuously for over 4 minutes as the motor has an anti-overheating function and will shut down. If this happens, let the motor cool down for 5-20 minutes and continue use.

11. Unplug the projection screen when not in use for extended periods of time.

12. Curvature will appear in the edge of fabric when fabric is extended completely. This is a common phenomenon and the curvature will gradually disappear after you hang the screen for about ten minutes.

13. Spare parts should be stored out of reach of small children in accordance with household safety.

14. Refer all servicing to a qualified service personnel. Servicing is required when this unit has been damaged in ways such as: power supply cord or plug damage, spilled liquid on/in the unit, fallen objects into this unit, this unit has been dropped, or this unit has been exposed to direct rain/moisture. Do not operate if the above damage has occurred.

15. We will not be responsible for damages done due to user error or false operation.

Safety Guide

1. Have two people present when installing the screen.

2. Do not stand underneath the screen when mounting or hanging. Expansive bolts should be firmly attached and fixed into the wall or ceiling.

3. Be sure the ground wire is connected with the power cable to avoid electric shock.

Installation Notes

- An electric drill with drill and driver bits as well as a level are necessary for installation.
- Install the screen away from direct sunlight to keep screen material exposure to UV at a minimum.
- Install in a room without excess humidity.
- Only install the screen if it is in an electrically stable environment.
- Keep the screen away from devices (heaters, etc.) that cause large changes in temperature and humidity.
- Handle screen with care, avoid vibrations and drops.

Preparing Installation

Measure the length of the trim panel (A) and make an opening in your ceiling of the following size: (A - 20mm × 140mm).
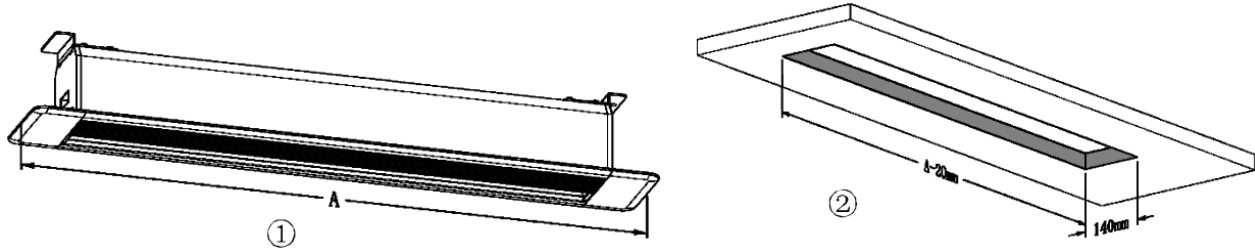
The length of the opening will be the length of the trim panel with 20mm subtracted. The width will be 140mm.

The distance between the two ceiling brackets will be the length of your trim panel (A) subtract 120mm.
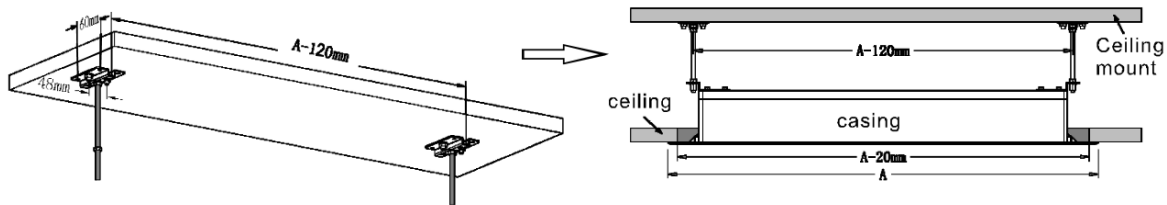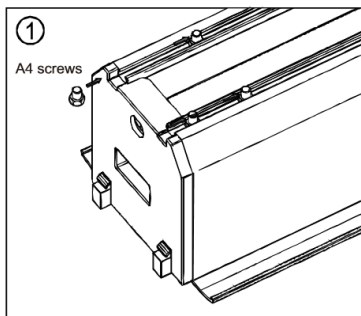

There is 48mm between the right and left screw holes on the ceiling bracket.
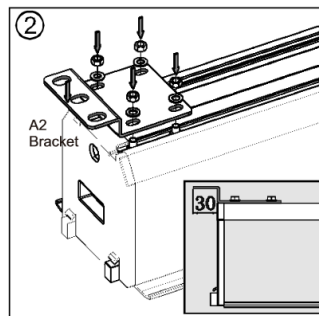*There is 60mm between the front and rear screw holes on the ceiling bracket.*

Note: Expansion screws/anchors are needed depending on the ceiling material. Always ensure that the ceiling can support the weight of the screen.
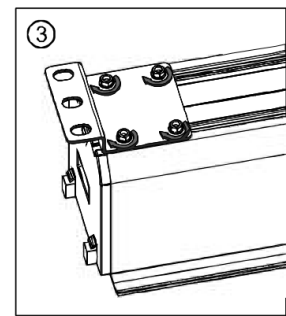
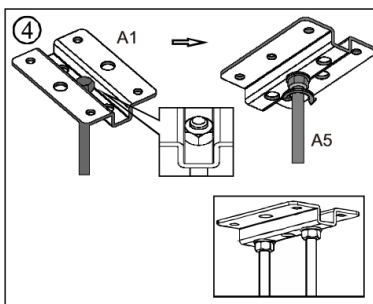# Assemble the Components

Slide 4 of the screws (A4) into the rail located on top of the screen.

Install the screen bracket (A2) while leaving 30mm out from the edge of the screen.

Tighten the bracket nuts. This will ensure the screen does not slide or vibrate during installation.

Attach the threaded mounting rod (A5) to the ceiling bracket (A1) on the top and bottom of the bracket using the M10 nuts and washers provided.
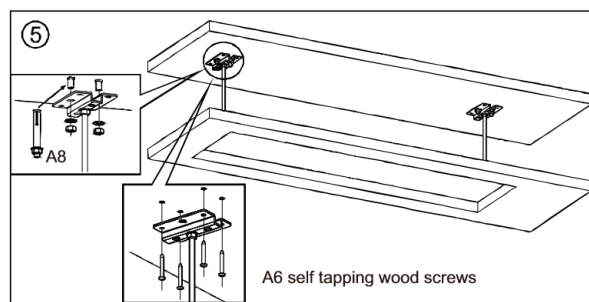

Use the A8 anchor bolt for a concrete ceiling or the A6 self tapping screws for a wood ceiling. Attach the A1 bracket to the ceiling in the desired location. It is highly recommended that you provide your own ceiling screws and other hardware that suits your mounting method.
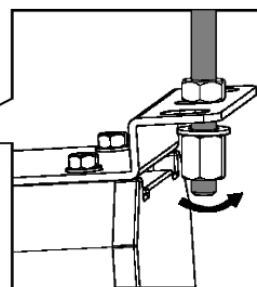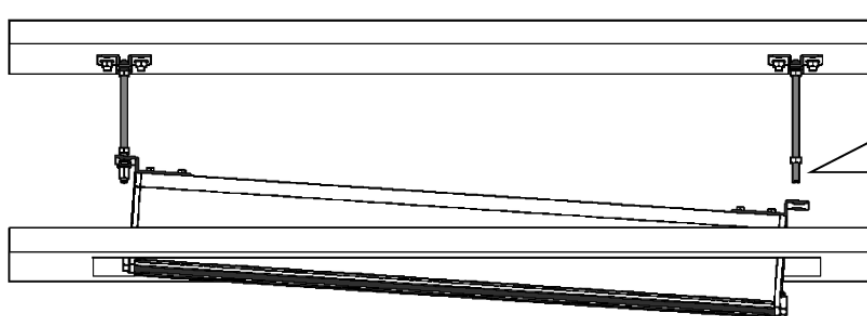
⑥
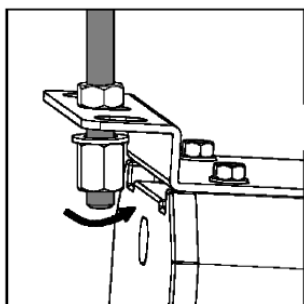
Attach the end of the mounting rod (A5) to the Screen Bracket (A1) using the M10 nut for the top of the bracket and the longer nut for the bottom.
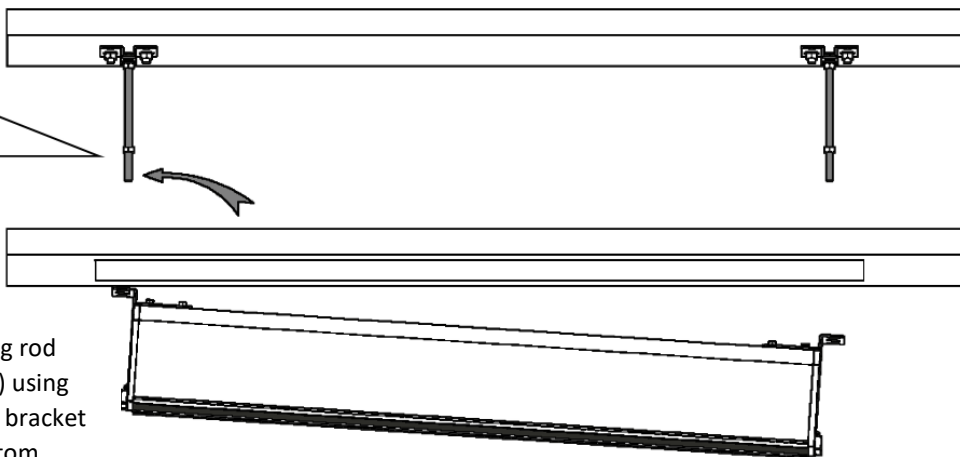
Be sure to leave enough space so the bracket can move when installing the other end.
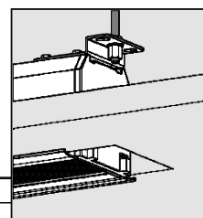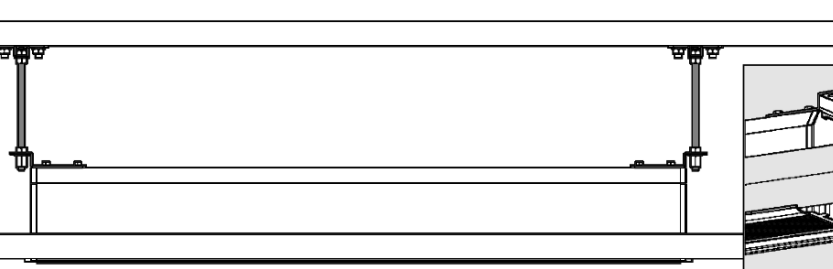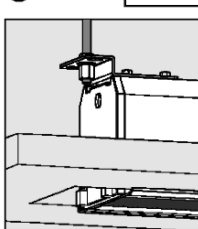
⑦

Use the same method to install the other end of the screen.

⑧

Adjust the position of the screen after hand tightening all the nuts. Leave as little gap as possible.

⑨

The screen should be parallel with the ceiling after the installation.

⑩
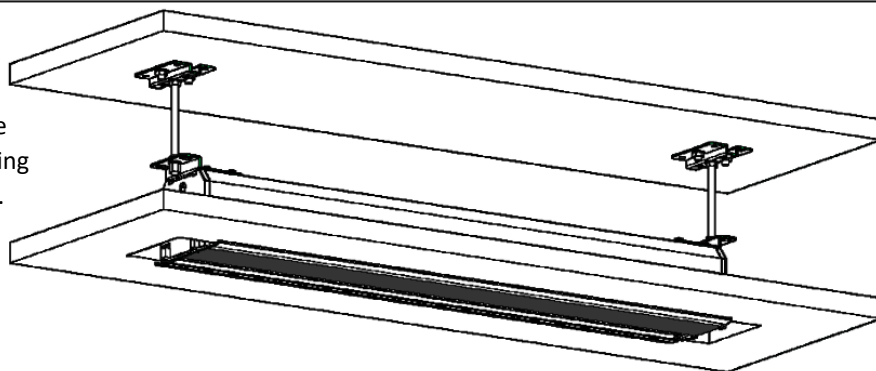
Clip in the plastic covers as shown.
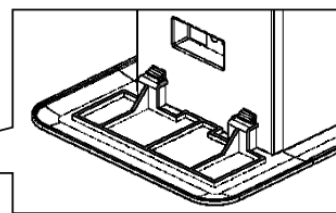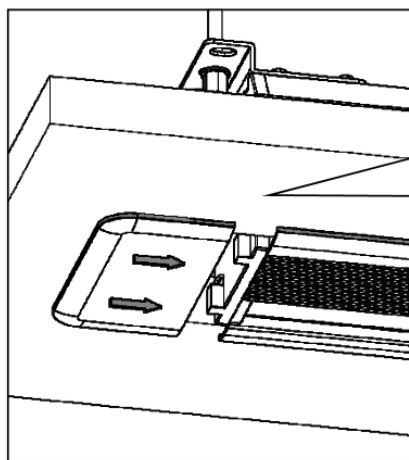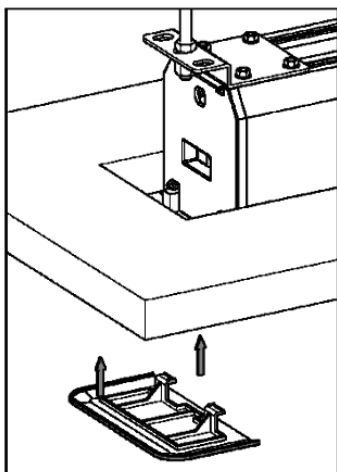
Slide the cover to attach to the end of the screen.

⑪
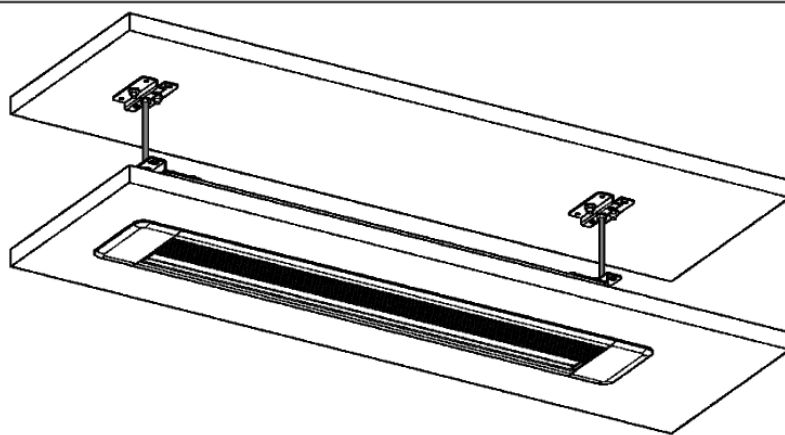
The screen installed should leave no gaps in the ceiling as shown.

Note: Make sure all connections are compatible and properly connected.

Screen Setup

Control Wiring Diagram

12V trigger

External IR Receiver

Wall Control

IR Receiver

Power Connections

Always use the correct connections and power voltage
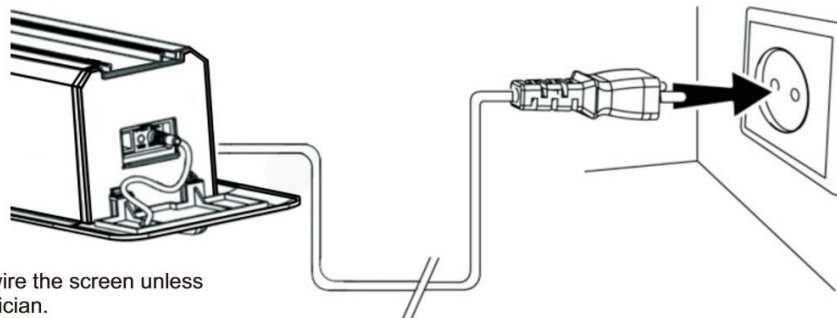
* Do not attempt to hard-wire the screen unless done by a certified electrician.

PAIRING THE IR REMOTE CONTROL

The IR remote control has been set up at the factory and should work right away. If this is not the case, you will need to use the learn function to program the remote. Connect the wall control to the screen to assure it's working properly. Press the learn button (stop button) on the wall control and hold for 5 seconds. An LED will flash which indicates pairing mode has been entered. Point the IR remote directly at the receiver and press the stop button. When the LED stops flashing and turns solid, the remote pairing function is complete.

Up

Stop

Down

PAIRING THE RF REMOTE CONTROL
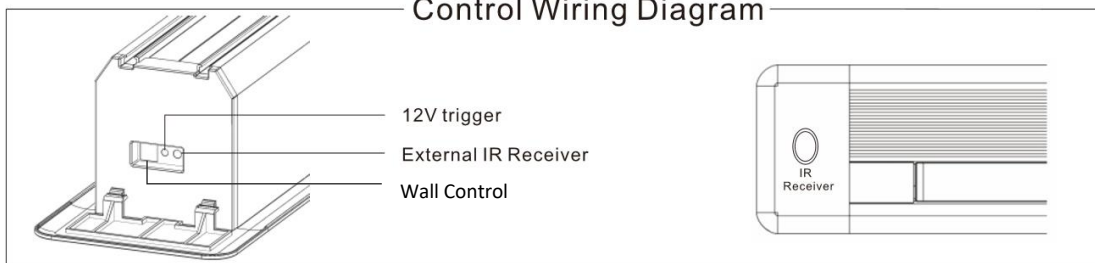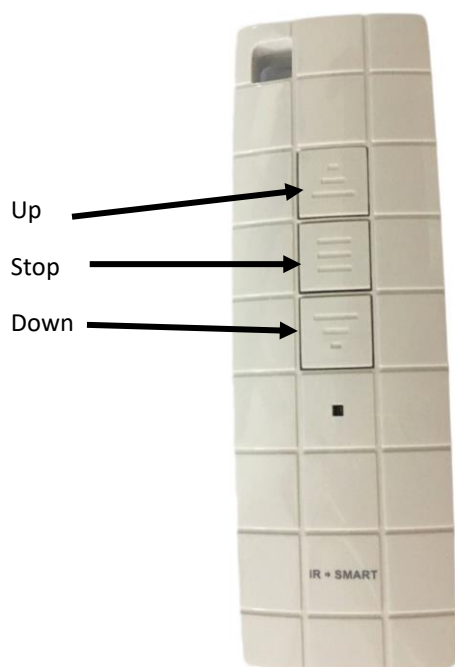
The RF remote control has been set up at the factory and should work right away. If this is not the case, you will need to use the learn function to program the remote. Press the learn key on the housing and hold until the screen goes up and down once (around 3-5 seconds). Press and hold the up button for 3-5 seconds on the remote so the screen goes up and down again. The remote is now paired to the screen.
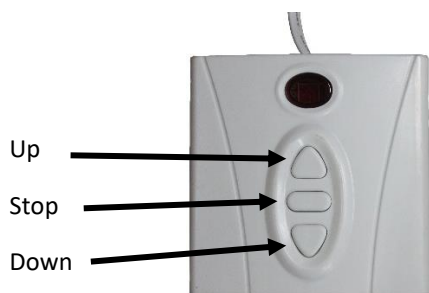

Up

Stop

Down

RESETTING THE REMOTE CONTROL

To reset the remote control, repeat the pairing process. If the above steps don't work, press the stop button on the remote control and hold for 10 seconds. The LED on the remote will flash which indicates the remote has been reset and can be re-programmed.
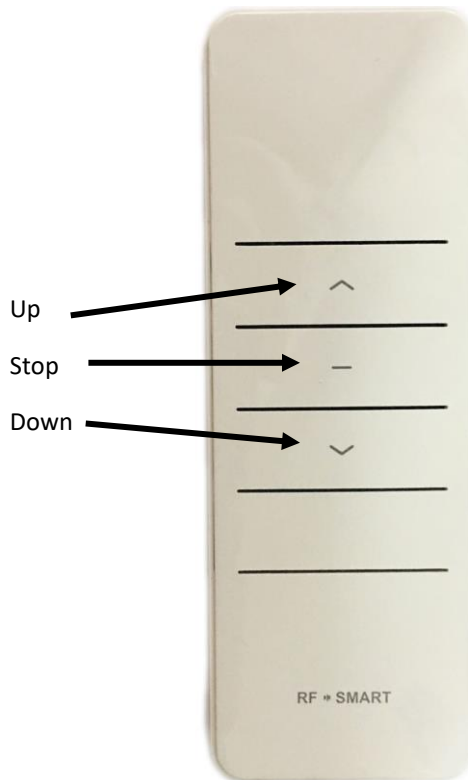
RESETTING THE REMOTE CONTROL

To reset the remote control, hold the learn key for 7 seconds to make the screen go up and down twice. Stop pressing the learn key when that is completed and press the learn key again to reset the remote. Follow the steps above to reconnect the remote.

WALL CONTROL INSTALLATION

Insert the wall control cable into the port shown on the previous page.

Up

Stop

Down

WIRED TRIGGER INSTALLATION

The wired trigger is an optional feature. Plug the cable into the wired trigger port pictured on the previous page and attach the wires to the chosen device.

ADJUSTING THE TENSION CORD

The tension cord keeps the screen flat and under a moderate amount of tension horizontally. If the projection screen has ripples, then the tension cord may need to be adjusted. Wait 10 minutes with the screen extended and if the ripples are still present, then follow the steps below to adjust the tension cord. The tension cord is loosened when turned counter clockwise and tightened when turned clockwise. Slowly tighten the tension cord with the adjustment tool. If the ripples worsen, loosen the tension cord. A moderate amount of tension is ideal.
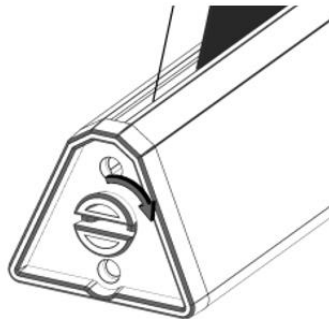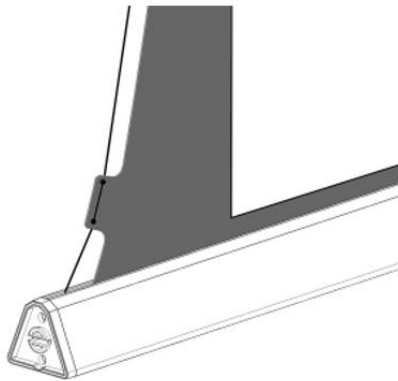
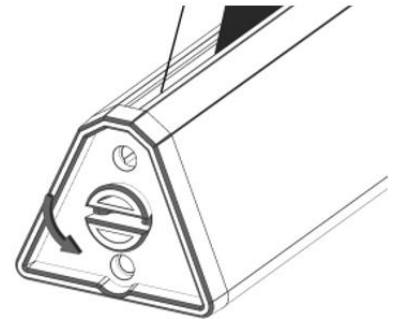more tension   less tension

Screen Operation

Operating the screen with the wall control, RF remote, and the IR remote have the same controls. The IR remote should be pointed at the IR receiver which is located at the left side of the housing.

LOWERING THE PROJECTION SURFACE
Press the bottom button on the control unit and the projection surface will lower itself. When it is fully extended it will stop automatically.

RETRACTING THE PROJECTION SURFACE
Press the top button on the control unit and the projection surface will retract into its case. When it is fully retracted it will stop automatically.

STOPPING THE PROJECTION SURFACE
Press the middle button on the control unit to stop manually at an intermediate position.

Overheat Protection

The motor used in this screen has an overheat protection feature. When the motor runs for an extended period, the motor will stop working to prevent overheating which would cause damage to the motor. If this happens, wait 15-20 minutes for the motor to cool off and continue use.

Fuse Replacement

There is a fuse located on the screen's circuit board to prevent additional electrical damage to the unit in an electrically unstable environment. If the screen appears to have no power while the outlet provides power, the fuse may be blown. It is the user's responsibility provide an electrically stable environment for the unit, and to replace the fuse if required.

Remove the side of the housing with the power cable and take off the side covering. Carefully pull out the side of the housing while ensuring no wires are damaged. Remove the screws (circled right) and remove the circuit board carefully. Turn the circuit board over and locate the fuse case. Open the fuse case (circled far right) and see if the fuse is blown. If this is the case, remove the fuse from the plastic casing using tweezers or a lever to remove. Replace the fuse with the same model as the one removed. The model will be labelled on the fuse. Replace the fuse cover, put the circuit board back in its original location and replace the side cover.
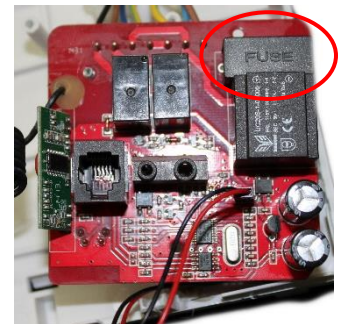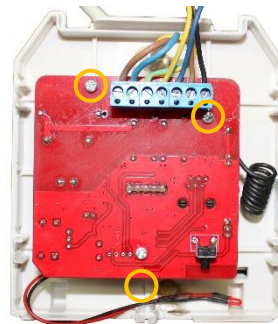
Adjusting Limit Switches

Limit switches are located on the left side of the screen and inside the housing. The limit switches should only be adjusted with the provided adjustment tool (A9).
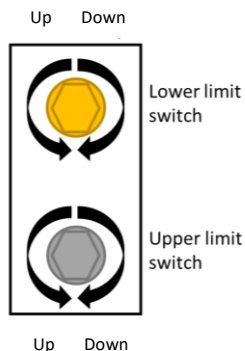
Lower Limit Switch

Upper Limit Switch

The limits that are set determine the point where the screen will stop lowering or retracting. By initially adjusting the lower limit, the screen will stop at the perfect location automatically for maximum convenience.

UPPER LIMIT
The upper limit switch is grey and does not need to be adjusted as it is pre-set from the factory. If absolutely necessary, turning the grey upper limit switch counter-clockwise will cause the upper limit to be closer to the housing and clockwise will make the upper limit further away from the housing.

Up   Down

Lower limit switch

Upper limit switch

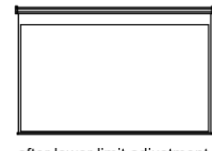Adjustment tool

Up   Down

LOWER LIMIT
The lower limit switch is yellow and can be adjusted for increasing or decreasing the amount of upper black drop on your screen.

REDUCING BLACK DROP
To decrease the amount of black drop, first lower the screen and turn the yellow lower limit switch clockwise twice. Retract the screen then lower the screen again and where it stops is the new lower limit. Repeat until the desired height is reached.
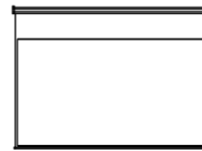
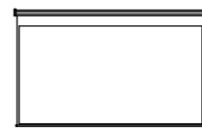before lower limit adjustment   after lower limit adjustment
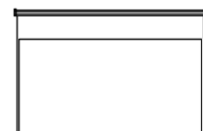
The first time the lower limit is being adjusted, it may take a few cycles for the screen to move up. This is normal and be patient as to not damage the screen. If the screen pauses during adjustment, wait 5 minutes for the motor to cool and continue adjusting.

INCREASING BLACK DROP
To increase black drop, lower the screen so it is fully extended. Using the adjustment tool, turn the yellow limit switch counter-clockwise and the screen will drop in small increments without needing to cycle the screen. Continue rotating until the screen is in the desired position.

before lower limit adjustment   after lower limit adjustment