

SolidPix™ Fixed-Framed TheaterCurve X-Mask Ultimate 4-Way Installation Manual

Revision A 2007.02.26



SCREEN Home Theater Systems

RESEARCH

FOREWORDS: Typographic Convention

So that our manuals are easy to read and understand, we have adopted the following typographic convention:

Iconography



Indicates additional information concerning the subject.



Indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert unsafe practices.



Emphasis an important point which must not be ignored.

Action: W: Written R: Page revised A: Page added D: Page deleted C: Rewritten completely					
Date	Rev. N°	Action	Rev. Pages	New Pages	Reason for Revision
2007.02.26	A	W			- New installation manual.

1. Presentation Of Your TheaterCurve X-Mask Ultimate 4-Way	11
About TheaterCurve X-Mask Different Masking Systems	13
X-Mask Ulitmate 4-Way (16:9)	13
X-Mask Ulitmate 4-Way (2.35)	14
X-Mask Supreme Widescope	14
X-Mask Supreme Cinescope	14
Screen Size And Image Ratio	15
Masks Fabric	15
Frame Finish	15
Projection Surface Material	15
Black Backing	15
Warranty	15
Warning And Safeguards	16
Power Source	16
Power Cord	16
Temperature And Hydrometrie	16
Workspace	16
Lightning	16
Replacement Part	16
Before The Installation	17
Prepare Your Worskpace	17
Tools Needed	18
Unpacking	19
Contents Of Shipping Boxes	19
Keep Your Packing Materials	19
What's Next?	19
TheaterCurve X-Mask Ultimate 4-Way Characteristic	
20	
X-Mask Frame Structure	
20	


2. How To Assemble Your TheaterCurve X-Mask Ultimate 4-Way?**21**

Assemble The Frame Structure	23
Attach The Frame Stiffeners	26
Attach The Projection Material	27
Install The Lateral Masks	29
Install The Top And Bottom Masks	31
Install The Electrical Connexions	40
Check The Masks End Stops	42

3. Maintenance And Troubleshooting**45**

Clean The Screen	47
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A Package Content**49****B Legal Information****57**



Presentation Of Your TheaterCurve X-Mask Ultimate 4-Way

This chapter provides basic information about your TheaterCurve X-Mask.

Read this chapter to learn about:

- TheaterCurve X-Mask Different Masking Systems
- Warning And Safeguards
- What To Do Before The Installation
- Unpacking
- TheaterCurve X-Mask Ultimate characteristics



1



About TheaterCurve X-Mask Different Masking Systems

Congratulations on your purchase of the best no-compromise projection screen!

We want to help you to get the best results from your new product and to operate it safely. This manual contains information on how to do that; please read it carefully before operating.

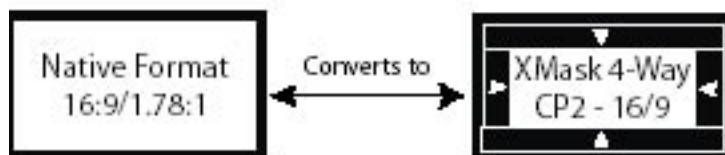
Your TheaterCurve X-Mask is a projection screen integrated into a fixed frame which is produced at standard sizes and native format 16:9 or 2.35. Its innovative motorized masks frame your image with the black border it deserves, no matter what its format, and significantly improve the contrast and perceived image quality.

Screen Research does its utmost to respond to particular product needs. To ensure that our screen fits perfectly your environment we provide a range of customization options such as the X-Mask Supreme Ultimate 4-Way (16:9 or 2.35), the X-Mask Supreme Widescope (16:9), the X-Mask Supreme Cinescope (2.35).

Native Image Format	16/9 (1.78)		2.35:1	
Masked format	2.35	4/3	16/9	2.35
4-Way (16/9)	x	x		
4-Way (2.35)			x	x
Widescope		x		
Cinescope			x	x

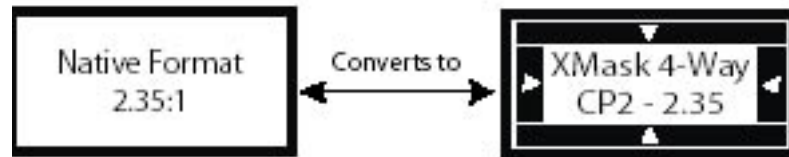
X-Mask Ultimate 4-Way (16:9) With Top/ Bottom And Lateral Masking System

The X-Mask Supreme Ultimate 4-Way Masking Home Theater System is a fixed frame in a native 16:9 format with both vertical and horizontal masking panels. The screen combines four horizontal and vertical masks for maximum compatibility with all image formats, enabling the viewer to obtain any aspect ratio. The masking panels are controlled by three separate motors, allowing maximum control and adjustability.



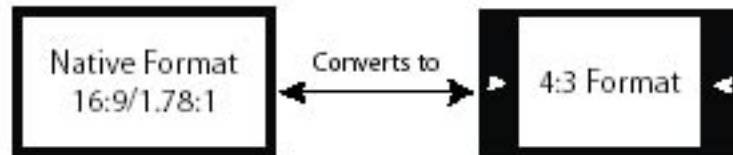
X-Mask Ultimate 4-Way (2.35)
 With Top/ Bottom And
 Lateral Masking System

The X-Mask Supreme Ultimate 4-Way Masking Home Theater System is a fixed frame in a native 2.35 format with both vertical and horizontal masking panels. The screen combines four horizontal and vertical masks for maximum compatibility with all image formats, enabling the viewer to obtain any aspect ratio. The masking panels are controlled by three separate motors, allowing maximum control and adjustability.



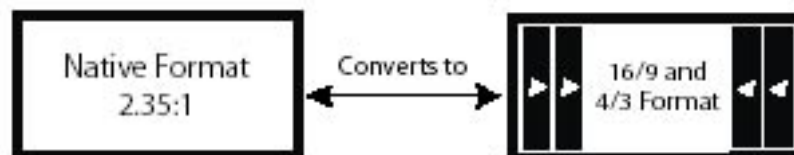
X-Mask Supreme Widescope
 With Lateral
 Masking System

The X-Mask Supreme Widescope Masking Home Theater System is a fixed frame in a native 16:9 format. The screen combines lateral masking panels enabling the viewer to obtain a 4/3 aspect ratio.



X-Mask Supreme Cinescope
 With Lateral
 Masking System

The X-Mask Supreme Cinescope Masking Home Theater System is a fixed frame in a native 2.35 format. The screen combines lateral masking panels enabling the viewer to obtain a 16:9 and 4/3 aspect ratio.



Screen Size and
Image Ratio

TheaterCurve X-Mask are produced at standard sizes and aspect ratio. Custom intermediate sizes are available upon request, as are custom aspect ratio.

Masks Fabric

Side masks are acoustically transparent fabric.

Frame Finish

The TheaterCurve X-Mask ships standard with a black velvet finish.

Projection Surface
Material

The TheaterCurve X-Mask frame is available with our SolidPix1 and THX and ISF certified ClearPix2 projection surface material.

Warranty

Screen Research's warranty covers defects in workmanship and materials provided.

The TheaterCurve X-Mask has been installed in a normal environment and maintained according to the written instructions.

Frame, projection surface material and assembly hardware are guaranteed for two years from date of installation, not to exceed twenty-seven months from the date of invoice.

Warning and Safeguards

The purpose of this chapter is to help you to prevent from damage your Home Theater System. It tells you also what you can do to avoid or reduce injury.

Power Source

The TheaterCurve X-Mask is delivered standard with wall switches. It should be operated from a 220 V AC or a 120 V AC. Ensure you have the correct voltage setting for your power source.

Power Cord

The power supply cord should be placed so that they are not likely to be walked on or pinched by items placed upon them or against them. Pay particular attention to cord where they enter the plug, power outlet, and the point where it exit from the X-Mask.

Temperature And Hydrometry

To prevent from damage your Home Theater System avoid exposure to drastic temperature changes. Operating temperature is between 16 C° and 28 C°. Operating humidity is between 30% to 70% of hydrometrie.

To prevent any unsafe situations, no naked flame sources, such as lighted candles, should be placed in the vicinity. Avoid heat, direct sunlight and exposure to rain or water. The equipment shall not be exposed to dripping or splashing.

Workspace

Keep your workspace clean and well enlightened. Working areas in disorder or dark can cause accidents. Thoroughly inspect the area where your screen is going to be equipped and remove all objects which may be dangerous for assembly.

Never operate while people unfamiliar with the instructions (especially children) are nearby. Keep in mind that the operator is responsible for accidents or hazards occurring to other people.

Lightning

In case of storm and lightning or when going on holiday, disconnect the power cord from the wall outlet. The controllers maintain their memory when they are unplugged.

Replacement Part

When replacing parts is required, be sure the technician has used replacement parts which are specified by Screen Research, or have the same specifications with the original ones. Unauthorized substitutions may result in fire, electrical shock, or other hazards.

Before The Installation



This manual provides complete installation procedures. It is intended to be used by a skilled technician. Before proceeding with the installation of this screen, take time to thoroughly read and understand these installation and operation instructions. Screen Research cannot be liable for substandard or faulty installations.



All electrical wiring installations must conform to local and national codes and should be performed by qualified service personnel. Your location may use 115V, 230V or 100V. Screen systems are manufactured using the electrical power type specified for the location. Use appropriate power sources for your location.



Never operate while people unfamiliar with the instructions (especially children or pets) are nearby. Keep in mind that the operator is responsible for accidents or hazards occurring to other people.

Prepare your Workspace

Specifications regarding the individual screen dimensions, weight, assembling type, and controls are provided by Screen Research when the product is ordered. Before beginning the installation:

- a) Check the specifications for the type of assembling and switch control to be used.
- b) Prepare the wall for electrical access to the motor(s).
- c) Check the size and weight of the screen to be installed so that you can plan for the number of people required for the assembling procedure. You need at least two people to mount the smaller screens; more are needed for larger, heavier screens.
- d) Make sure there is a clean surface on which to unroll the screen. Do not operate the equipment in a confined space. You will need an area the size of the finished screen plus approximately 18" (50 cm) on all sides to walk around the screen. A soft surface such as carpet is best to operate.



During the installation, do not place the equipment on an unstable cart, stand, table or ladder. The equipment may fall, causing injury to a child, adult or pets and damage to the equipment.

Tools Needed

You will need:

- Enough ladders for the operators supporting the screen during the assembling process.
- A level.
- A flat screwdriver and a PZ2 screwdriver to attach the frame on its structure.
- A hacksaw or a knife to cut the Pi-Grip.

Unpacking

Contents Of Shipping Boxes

Your TheaterCurve X-Mask is shipped with the necessary materials, tools and spare parts for installing the screen.

Carefully unpack and check that you have all of the items shown in the inventory list presented in the Appendix A.

Keep Your Packing Materials

Save the shipping box and packing materials in the event your TheaterCurve X-Mask should require shipping to your dealer's Service Center for repair.

What's Next ?

After you have unpacked the TheaterCurve X-Mask and identified all the parts, you are ready to set up the screen. Take a few minutes to view the *TheaterCurve X-Mask Ultimate 4-Way Characteristics* at the end of Chapter 1 to familiarize yourself with the X-Mask features and then go to Chapter 2 *How To Assemble Your TheaterCurve X-Mask Ultimate 4-Way?* to set up the screen.

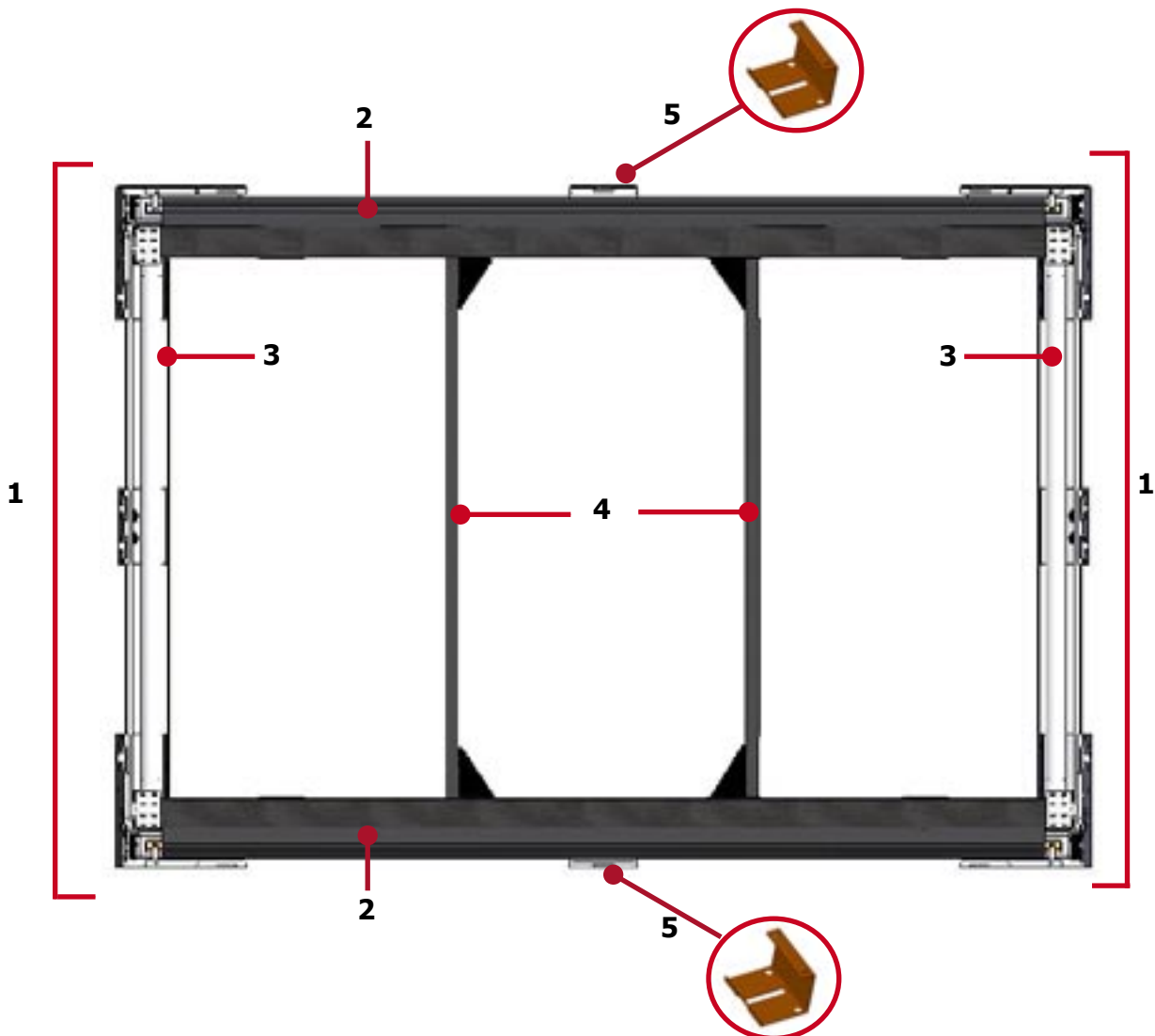
We hope you will enjoy using this high performance Home Theater System. This screen has been produced in accordance with Screen Research's highest quality and safety standards to ensure smooth and trouble-free use in the years to come.


TheaterCurve X-Mask Ultimate 4-Way Characteristics

Your TheaterCurve X-Mask offers the following features :

X-Mask Frame Structure (Front View)

1. Lateral blocks with motors for side masks.
2. Motors for top and bottom masks.
3. Motors for side masks.
4. Frame stiffeners.
5. Horizontal casings.





How To Assemble Your TheaterCurve X-Mask Ultimate 4-Way?

This chapter describes how to assemble the frame of your TheaterCurve X-Mask.

Read this chapter to learn how to:

- Assemble The Frame Structure
- Attach The Frame Stiffeners
- Attach The Projection Material
- Install The Lateral Masks
- Install The Top And Bottom Masks
- Attach The Hanging Brackets
- Install The Electrical Connections
- Check The Masks End Stops



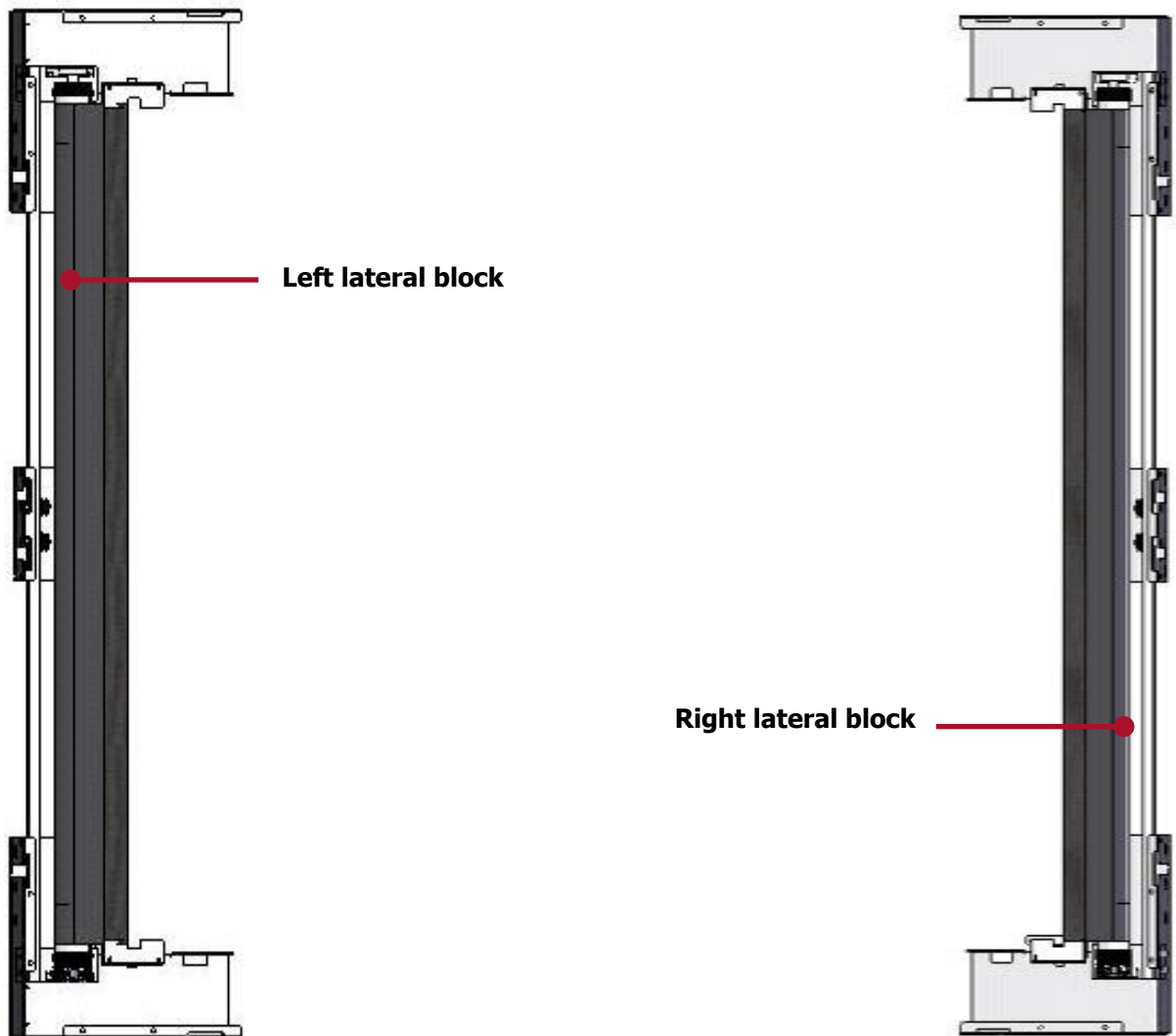
2



Assemble The Frame Structure

Work in a clean area. Do not operate the equipment in a confined space. You will need an area the size of the finished screen plus approximately 18" (50 cm) on all sides to walk around the screen. A soft surface such as carpet is best to operate. If not, you can use trestle.

1. Liberate the horizontal blocks top and bottom masks by cutting the orange cable ties and unscrewing the flat head screws.
2. Place the two lateral blocks face up.



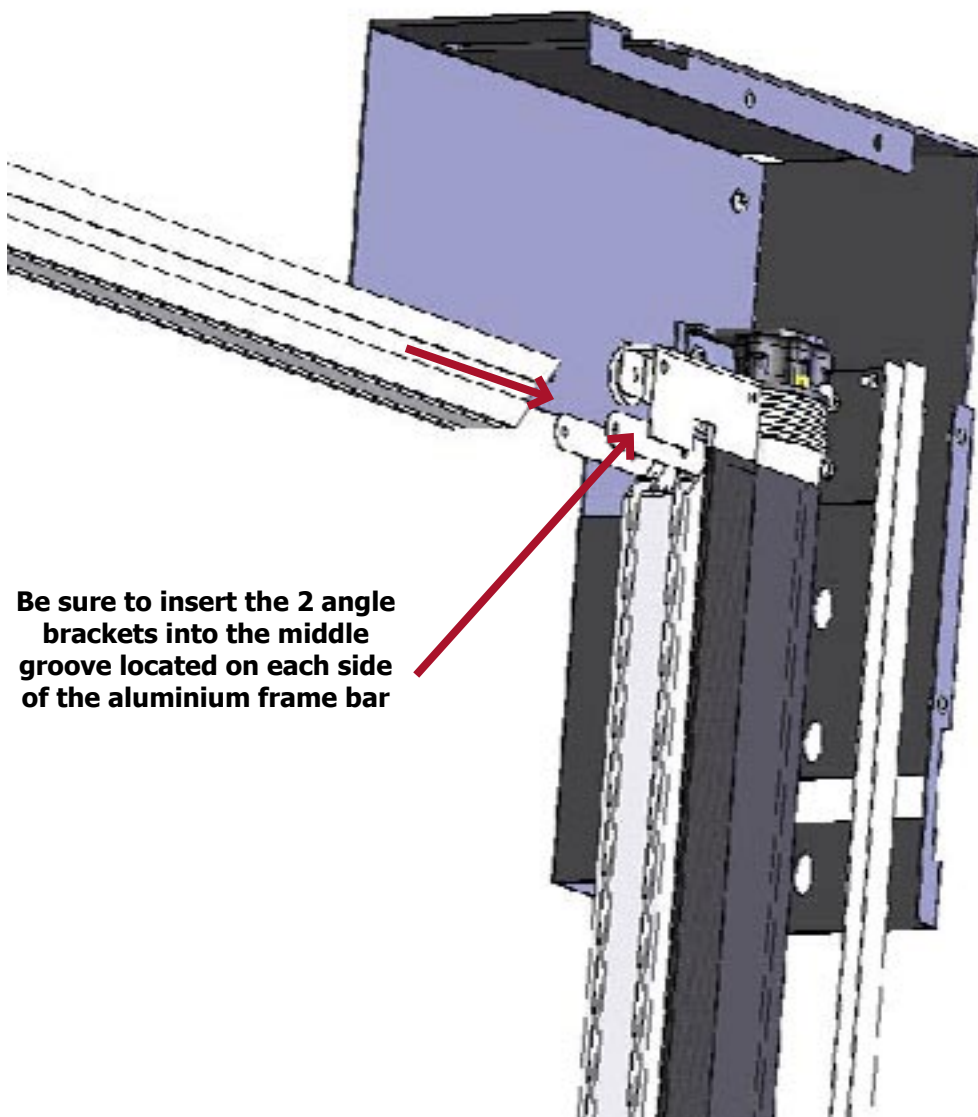
3. Position the four pieces (2 lateral blocks and 2 long curved aluminium frame bars) in order to build the structural frame



When you connect the four pieces, note that the convex portion should be the front side of the screen and the concave should be the rear side.

4. Unscrew the 2 screws which are on each side of the long curved aluminium frame bars.

5. Then slip the 2 brackets from lateral blocks inside each middle groove of the long curved aluminium frame bars.



Be sure to insert the 2 angle brackets into the middle groove located on each side of the aluminium frame bar

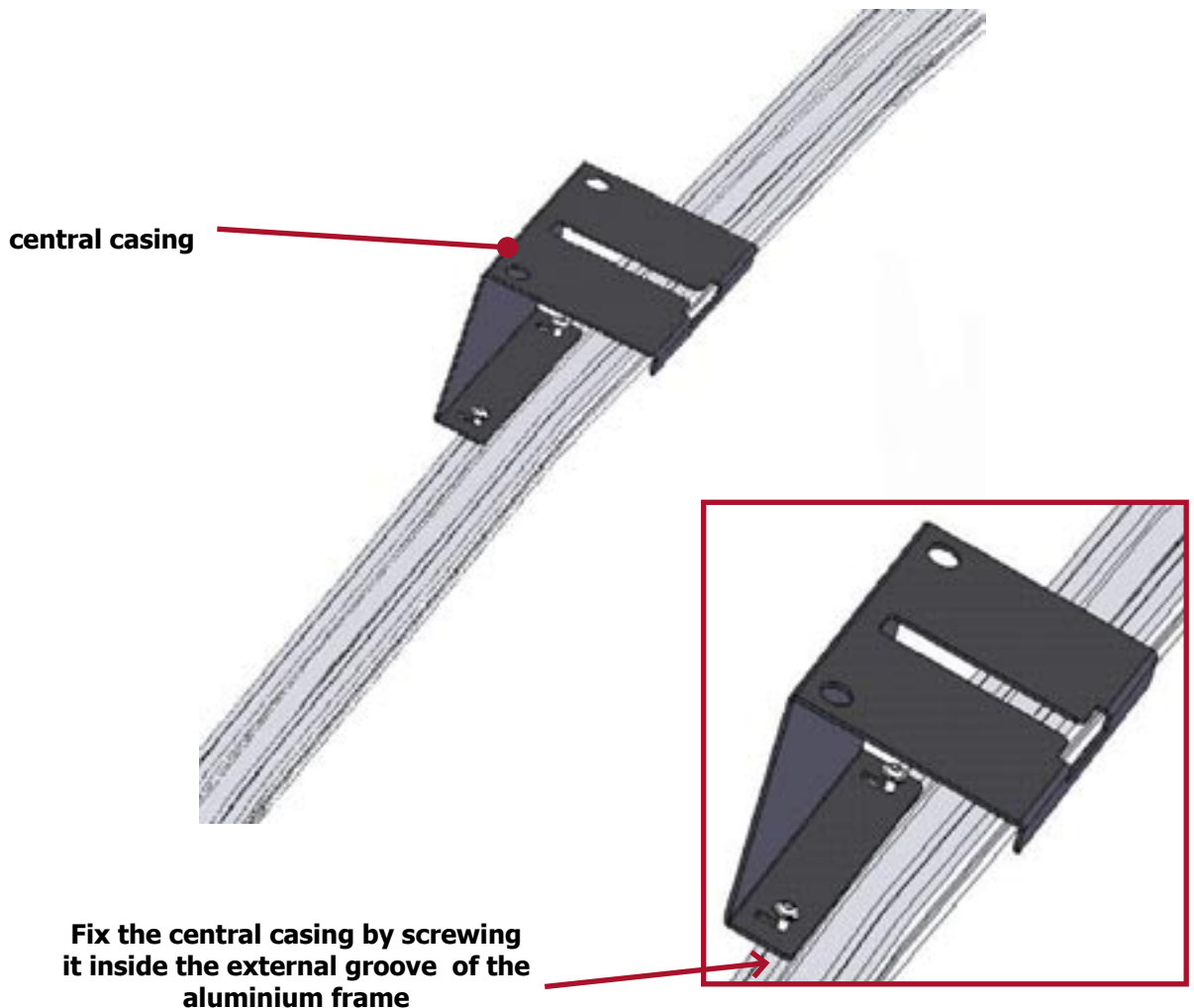
6. Screw the flat brackets to frame using the 3.5 mm X 25 mm flathead sheet metal screws. You may have to raise one lateral block first in order to access to the bracket located on the rear side. Then repeat the same operation for the 3 other angles.

7. Screw the angular carters to the long curved aluminium frame bars using the screws you removed in step 4 and the square nuts which are placed in the aluminium frame bars.

8. Fix the higher and lower central casings on the two horizontal aluminium frame bars.



Unscrew the screws which are already in the aluminium frame and rescrew them with the square nuts, where there are pencil marks (a line defines the depth of the carter and the two others allow to center it).

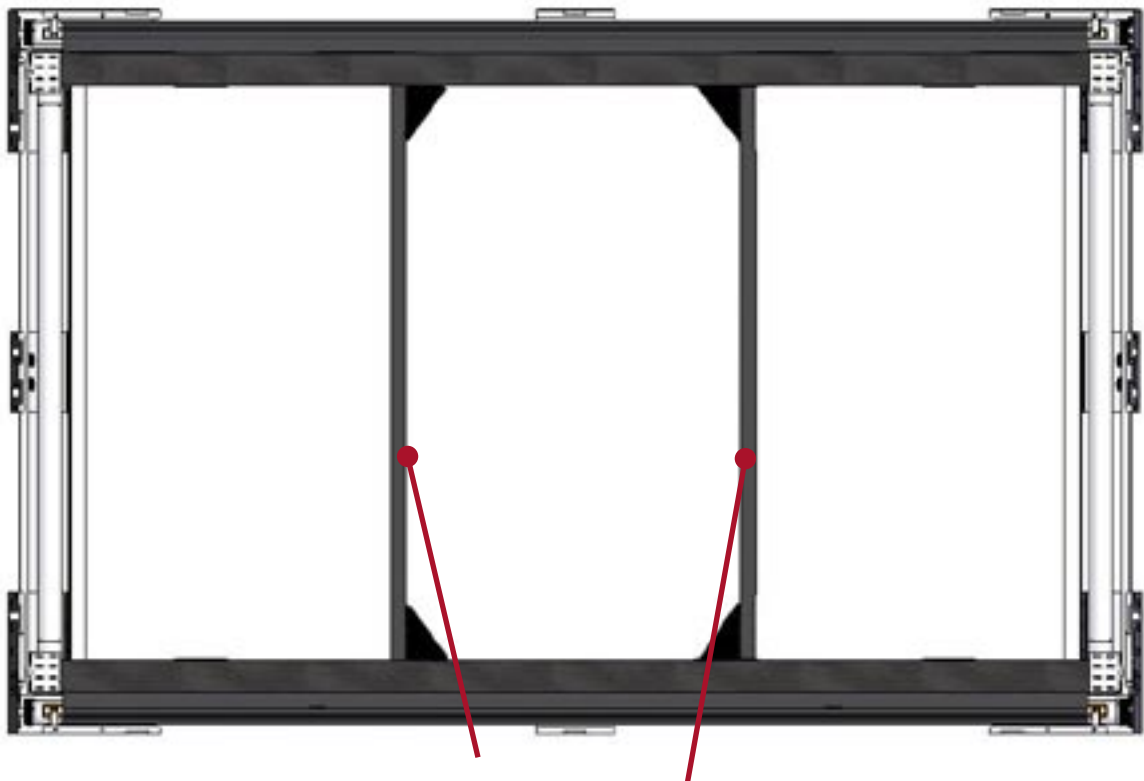


Attach The Frame Stiffeners

1. Attach the frame stiffeners to rear side of the frame, screwing them into the captive square nuts that are in the rear groove of the frame.
2. Place the frame stiffeners approximately $1/3$ and $2/3$ of the way across the frame.



Make sure that the frame stiffeners do not interfere with the speaker placement.



Place the frame stiffeners approximately $1/3$ and $2/3$ of the way across the frame



Attach The Projection Material



Please note that the following pictures are concerning a ClearPix2 projection screen fabric. These will soon be replaced with pictures for a SolidPix1 projection screen fabric.

Please note, **the way of attaching a SolidPix1 projection screen fabric is the same way of attaching a ClearPix2 projection screen fabric.**

1. Position the projection screen material using the small pieces of Pi-Grip (5 cm). Place them in the order indicated in the drawing at left.

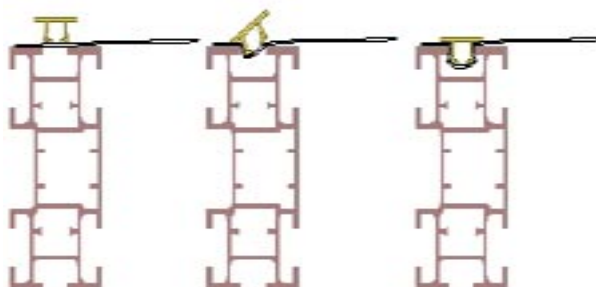


At this point the projection screen material should be slightly taut.

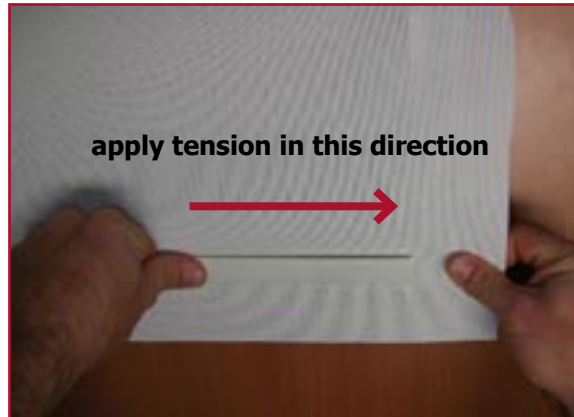
2. Stretch the projection screen material with the long pieces of Pi-Grip. Begin with the top of the frame. Start at one end of the Pi-Grip and progress towards the other end.



Start at one end of the Pi-Grip and progress towards the other end. Generally mallet if necessary.



3. As you insert the Pi-Grip, apply a slight tension on the projection screen material along the axis of the Pi-Grip that you are inserting.



4. Continue with the other sides of the frame in the order indicated.



As you insert the pieces of Pi-Grip, the material should become reasonably taut.

5. Once the projection screen material is installed, verify that the tension is even and sufficient. Lift the screen and inspect the projection side.



If necessary, you can restretch the projection screen material by removing and reinstalling the Pi-Grip.

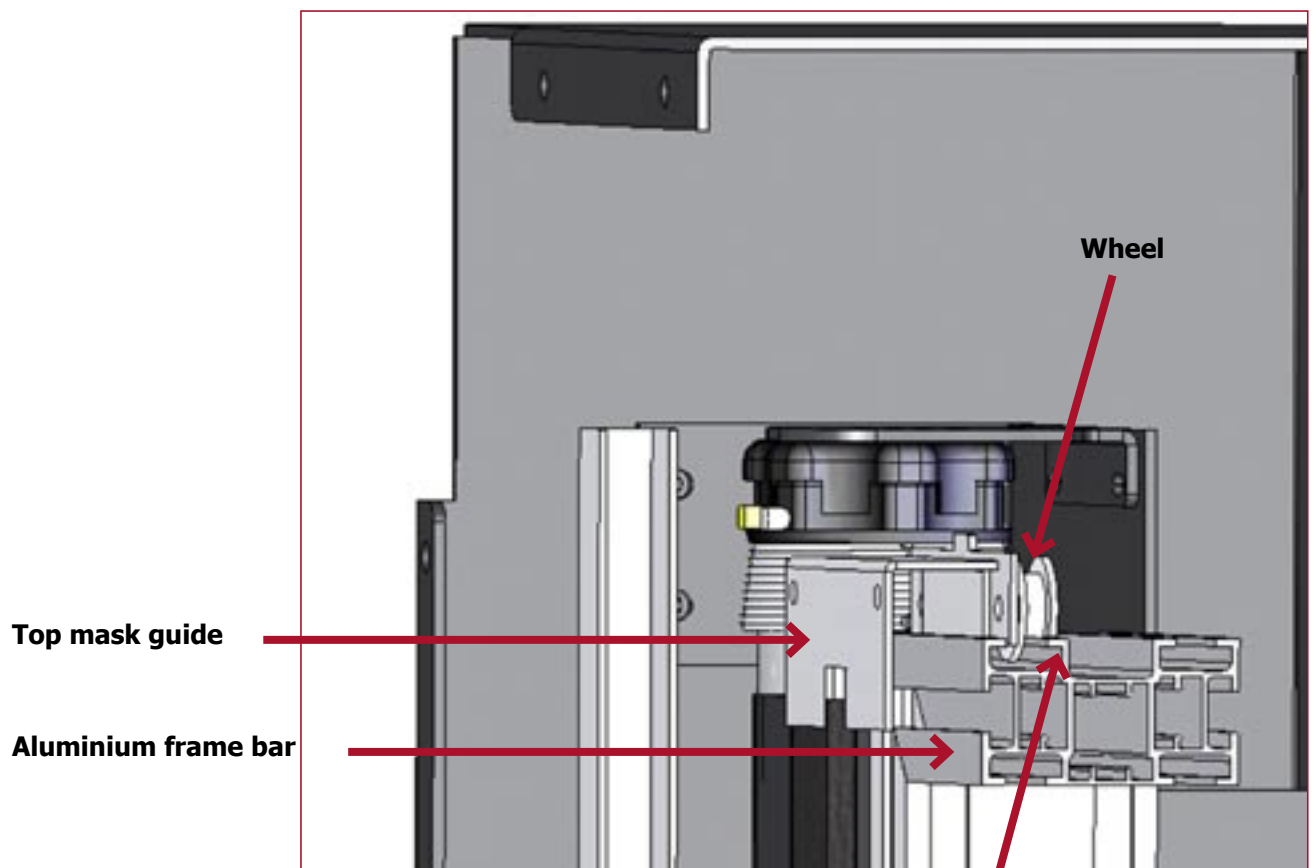
6. Once you are satisfied with the tension in the projection screen material, cut the excess with the cutting tool.

Leave as much extra fabric as possible to assist in future re-tensioning; make sure to cut enough to allow the cables and pulleys to operate properly.



Install The Lateral Masks

1. Lay the lateral masks over the screen projection material.
2. Position the wheel of the top mask guide on the second groove of the aluminium frame bar.



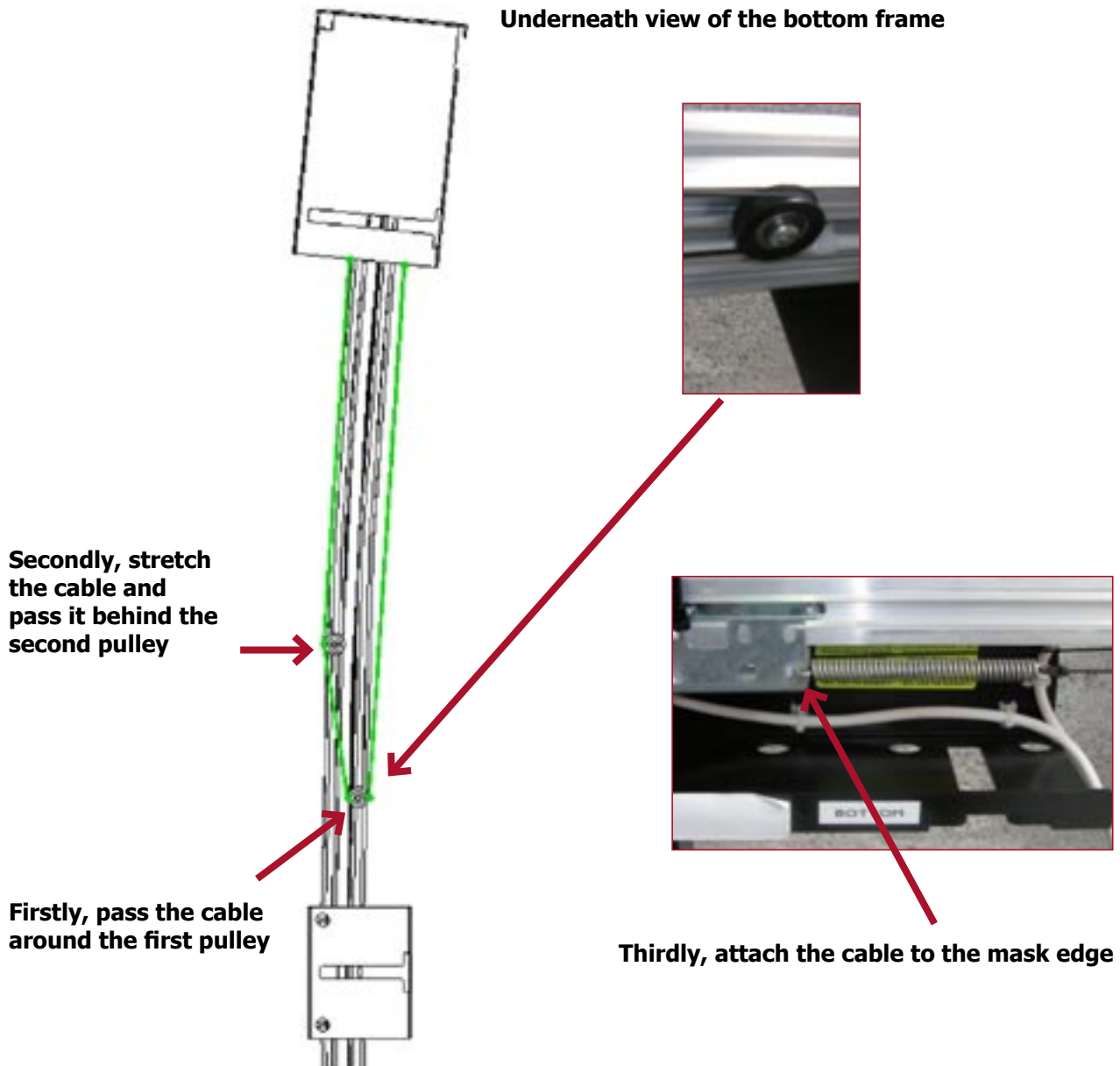
Position the wheel on the second groove of the aluminium frame bar

3. Repeat the operation with the wheel of the bottom mask guide.



There is a spring in the bottom mask guide in order to facilitate its positioning on the frame bar. Pull it back, then engage the wheel of the bottom mask guide on the second groove of the aluminium frame bar.

4. Pull the cable which start from the cable guide.
5. Pass the cable around the first pulley and attach it to the mask edge.
6. Stretch the cable and pass it behind the second pulley.



6. Verify that the black cable is properly wound around the grooved cable guide on each end of the tube. The cable should not grooves or overlap itself.



Install The Top And Bottom Masks



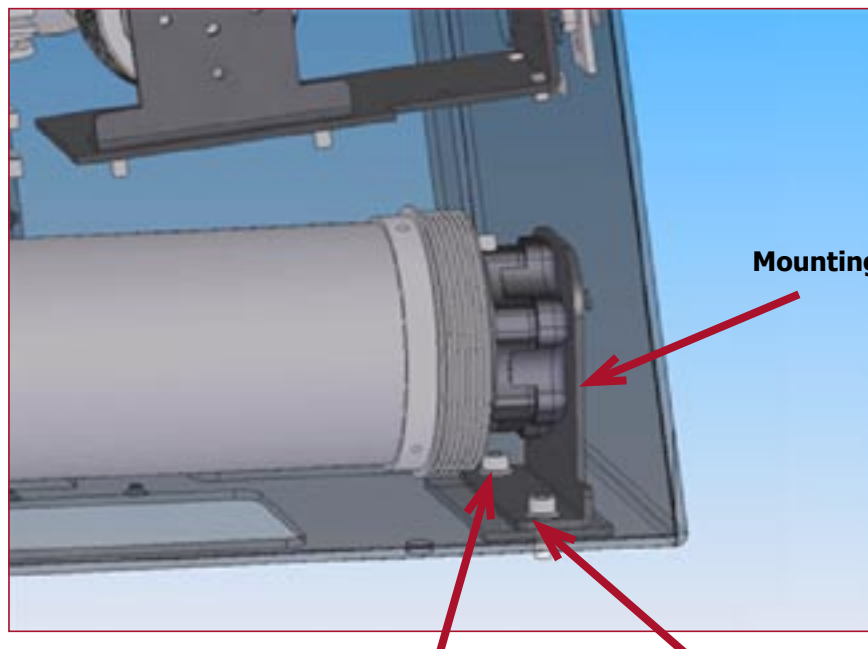
During this operation be sure that the mask can not be damaged. Maintain it in a secure position as the front stiffener is not fixed yet.

Fix The Mounting Brackets



There is mounting bracket with 2 fixation holes at each end of the top mask. When putting the top mask at its position be sure that these holes are in front of those which are on the angular carter.

1. Screw each mounting bracket to the casing using the M5 X 20 mm CHC.



Screw the mounting bracket into the casing

2. Repeat the same operation to install the bottom mask.

Attach The Front Stiffeners

Four fixations are already screwed on each front stiffener. There are two middle front stiffener mounting brackets and two lateral front stiffener mounting brackets per front stiffener.

View of the top front stiffener

Lateral front stiffener mounting bracket



Middle front stiffener mounting bracket

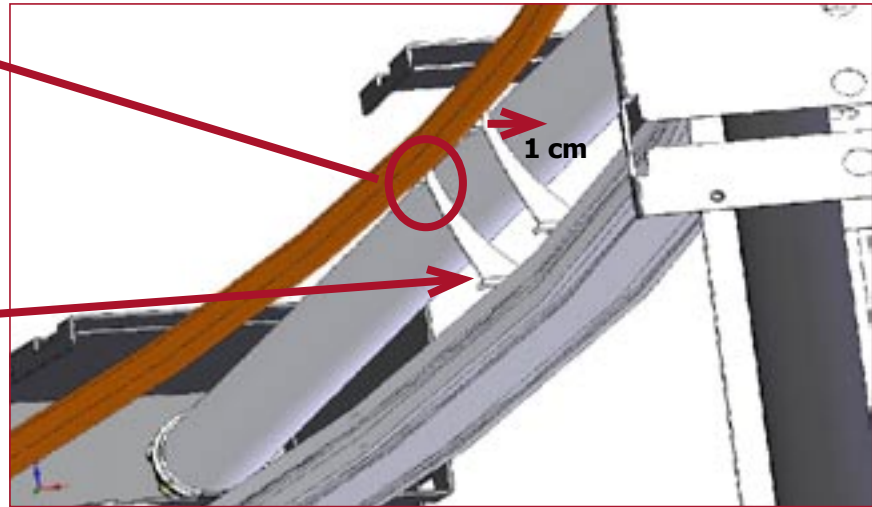


1. Be sure that the position of the mask does not obstruct you.
2. DO NOT PLACE MASKS UNDER THE FRONT STIFFENERS.
3. Masks on the tube should NEVER BE IN CONTACT with the middle front stiffener mounting brackets.

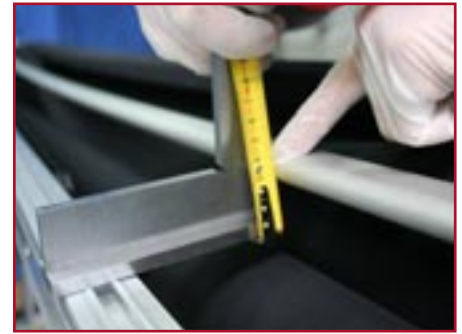
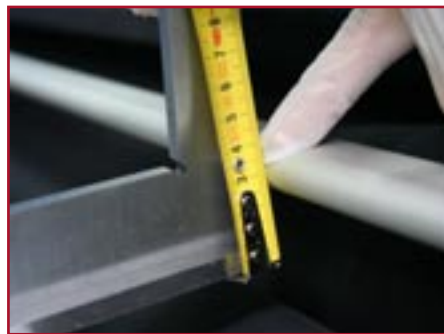
1. Position the two middle front stiffener mounting brackets on the aluminium frame bar.

Mounting brackets are already screwed by the top in the middle of the front stiffener

Position the bottom of the mounting brackets in order to screw it later right in its axis and in order to let at least 0.03" / 1cm between the front stiffener and the tube for the masks



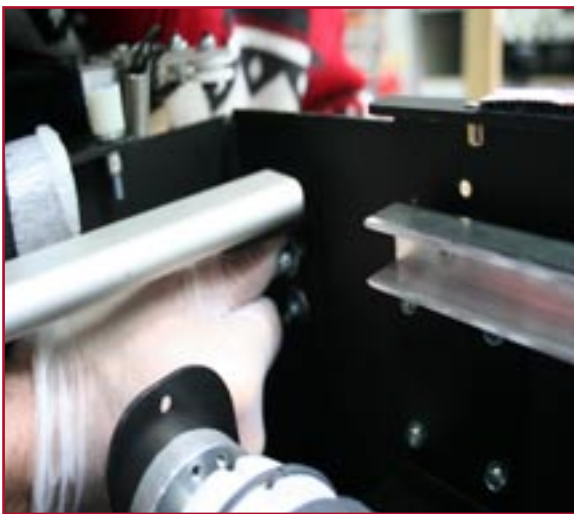
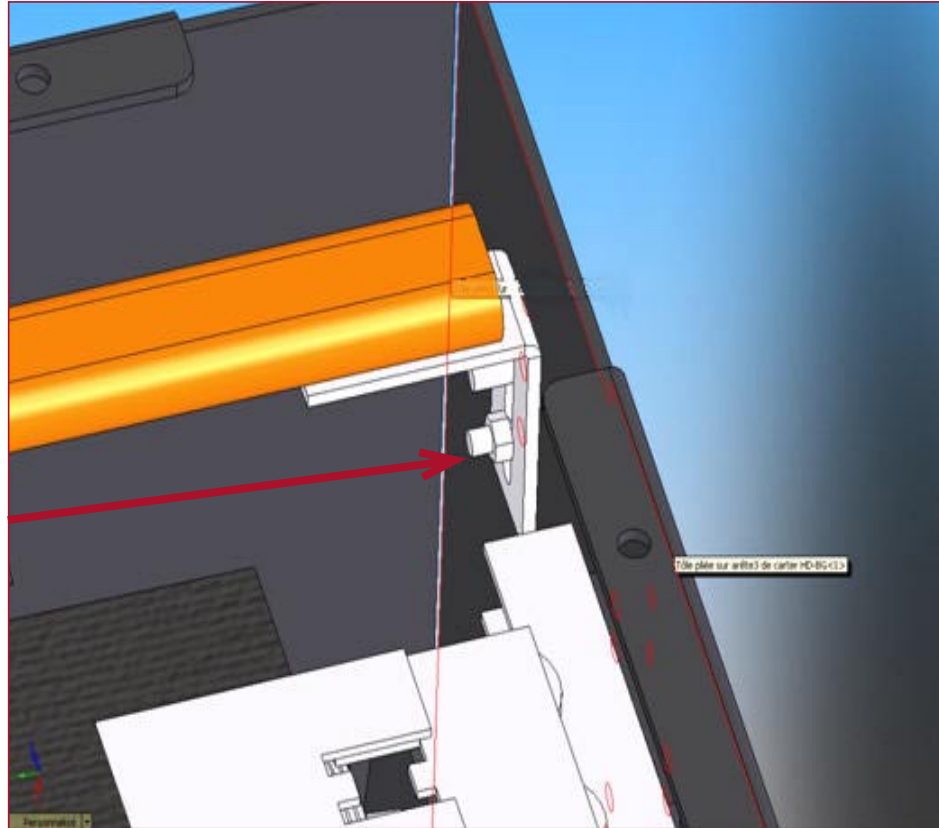
Be carefull of keeping the same distance when fixing the front stiffener brackets in order to respect the screen curve.



2. Screw first the two lateral front stiffener mounting bracket to the casing.

Screw the mounting bracket to the right casing using the left hole of the part.

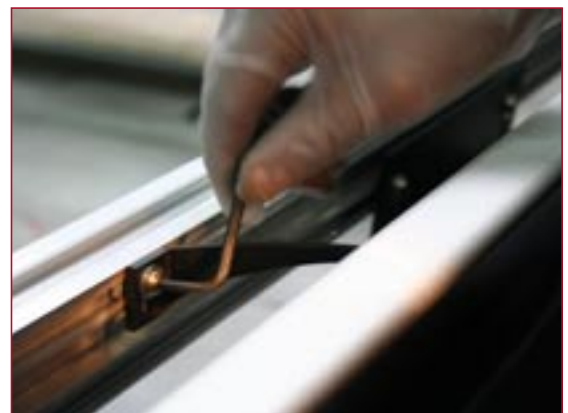
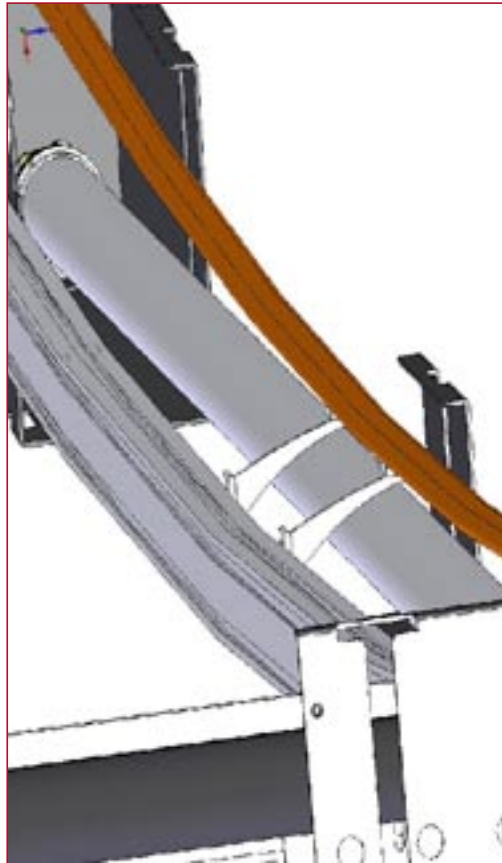
Screw the second mounting bracket to the left casing using the right hole of the part.



3. Then screw the two middle front stiffener mounting brackets to the aluminium frame bar using BHC M6 X 12 and the washers inside the frame bar.



ALWAYS CHECK THAT THE MASK ON THE TUBE IS NOT IN CONTACT WITH THE MIDDLE OF THE FRONT STIFFENER. YOU SHOULD LET IN BETWEEN 1 CM AT LEAST.



Screw the two middle front stiffener brackets to aluminium frame bar

5. Repeat from steps 1 to 3 to install the bottom front stiffener and its mask.

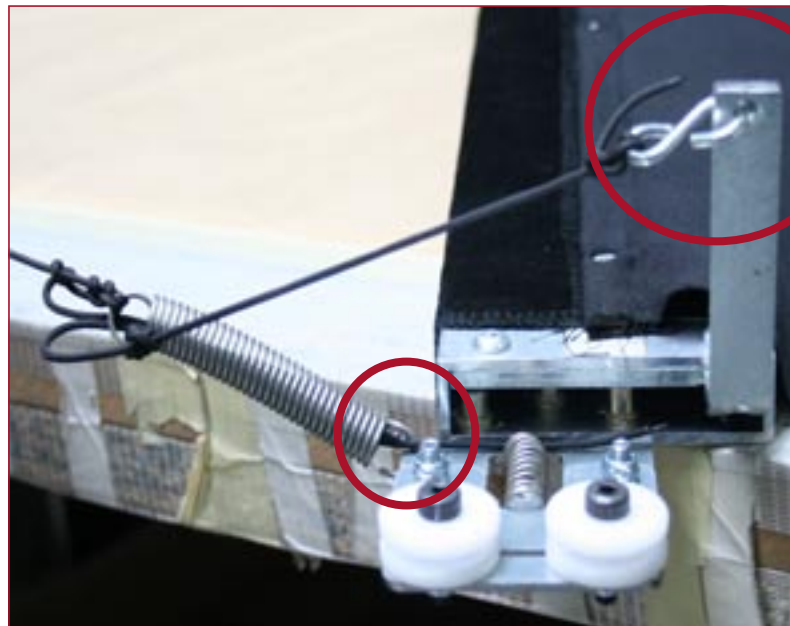
Engage The Masks Guides

Top and bottom masks have two extremities guidance each.

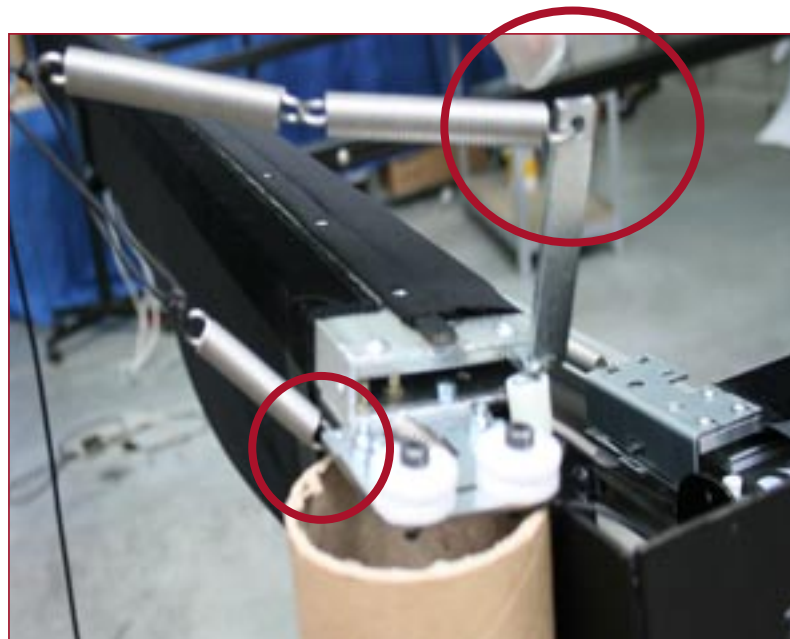
If the mask is unsufficiently deployed when engaging the masks guides, you should use a switch to deploy it.

Top mask

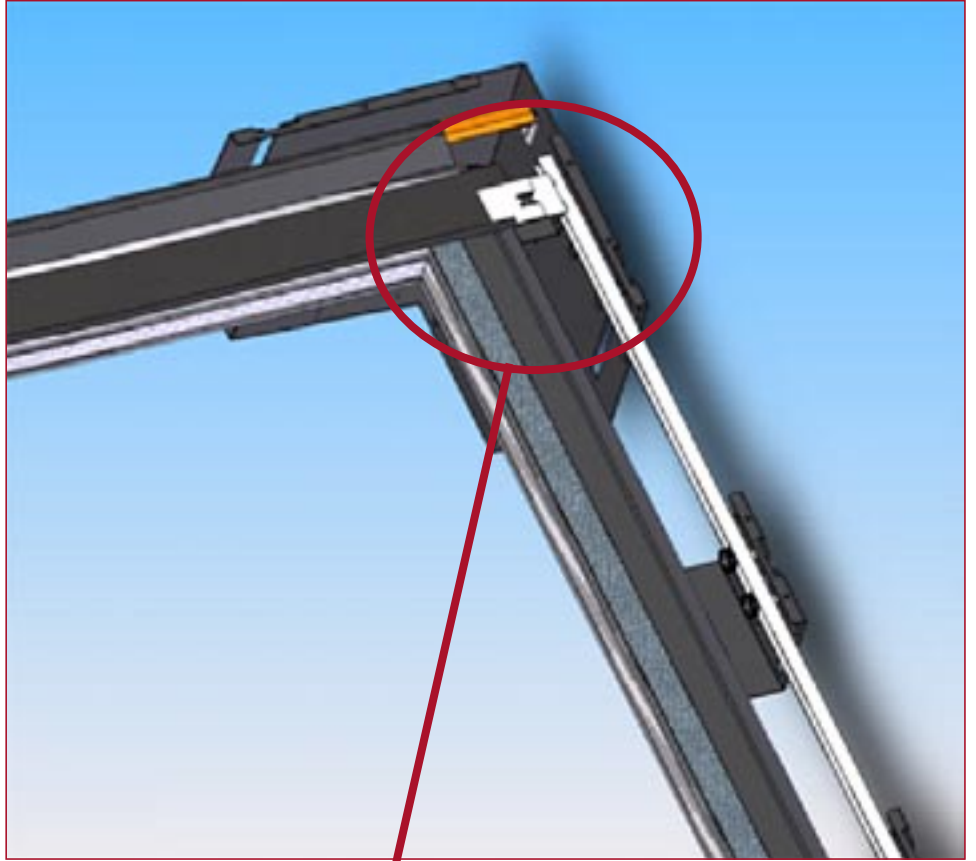
Cable for the top mask should be linked by one extremity to the brace and by the other to the mask guide

**Bottom mask**

Cable for the bottom mask should be linked by one extremity to the brace and by the other to the mask guide

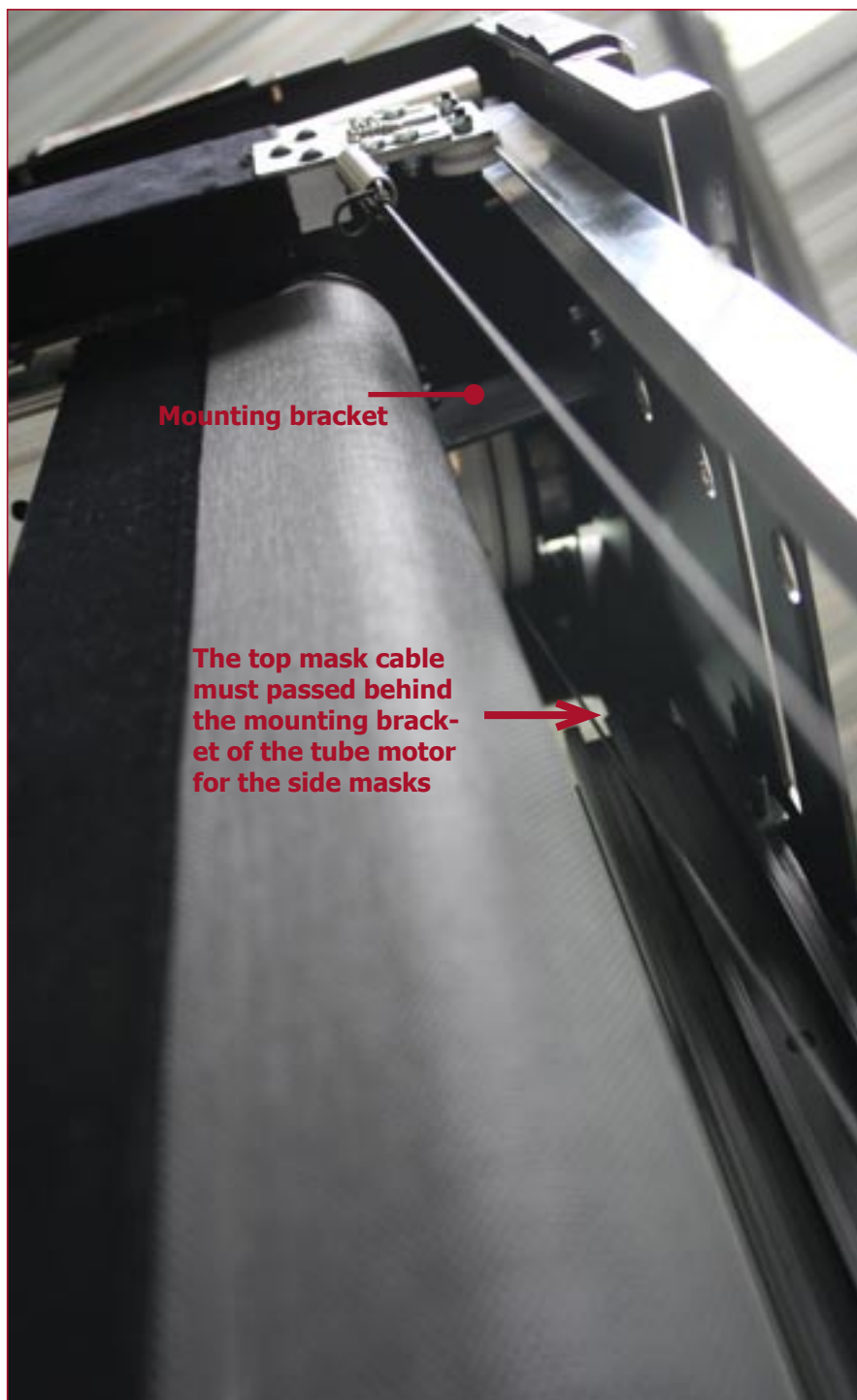


1. Engage the two extremity guidances in the U. Two rolls must be in the U for one guidance.



**Engage the mask guide
in the U**

2. Pass the cable behind the mounting bracket of the side masks tube motor.



3. Hook the cable on the pulley.



Be careful that the mask has no waves.

4. The mask is stretched, verify then that the two middle front stiffener mounting brackets are still at 1 cm from the tube. If not, unscrew the fixations and move forward the mounting brackets.

5. Repeat from steps 1 to 3 with the bottom mask.

6. Verify that the black cable is properly wound around the grooved cable guide on each end of the tube. The cable should not grooves or overlap itself.

Install The Electrical Connections



Professional techniques need to be used when making any electrical connection. A qualified technician 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 motors or the screen's electrical connections. This may cause injury to you or damage to your X-Mask.

The electrical connection should be made only to the type of power source indicated on the marking label.

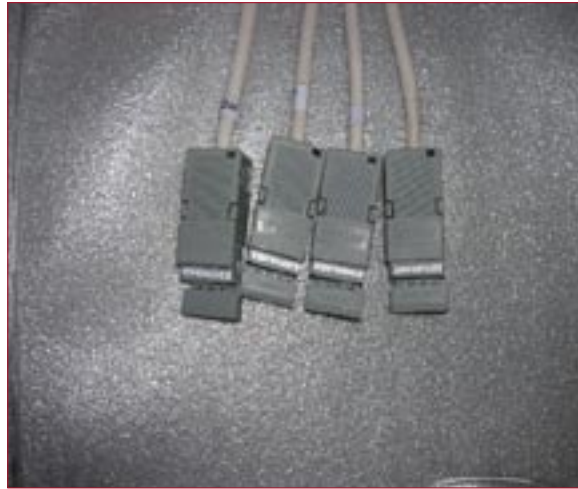
1. Connect the bottom motor's power cable to the manual switch and to a power source.
2. Test that the motor works in both directions and that it stops in the appropriate positions.



Take care as the mask moves in both directions that the black cable winds and unwinds properly.

Be prepared to stop the motor immediately if a problem appears.

3. Repeat steps 1 and 2 with the other motors.



4. Once the masks have gone back and forth a few times, check that they are parallel to the frame.



You can adjust this on each mask using the four M5 X8 screws that attach each mask to sheetmetal frame.

Check The Masks End Stops



It is important that, upon installation, you verify the end stops of the masking system in order to prevent your X-Mask from damage.

Masks end stops are set at the factory but it could have been released during shipping.

Your X-Mask is equipped with switch(es) which set the upper and the lower limits of travel of the masks to allow you to adjust the image area with greater precision. The method you use to raise and lower a mask depends on the type of switch control device you have selected. When you lower or retract a mask, it will stop at its preset limit.

Deployed position



Stowed position



Checking if these limits are still "memorized" is important for two reasons:

1. if the masks rolls up too far, the batten can damage the masks;
2. if the lowers limits go too far, it can come unglued from the tube motor.



Do not operate the motor when any following occurs:

- the screen emits any smoke, heat, abnormal noise or unusual odor;
- the screen is damage in some way such as damage from a water leak.



The extension and retraction limit switches have been preset at the factory. Consequently, we advise you to avoid readjusting the masks end stops.

Failure to perform this procedure will void the product warranty. Please contact the factory if you have any question.

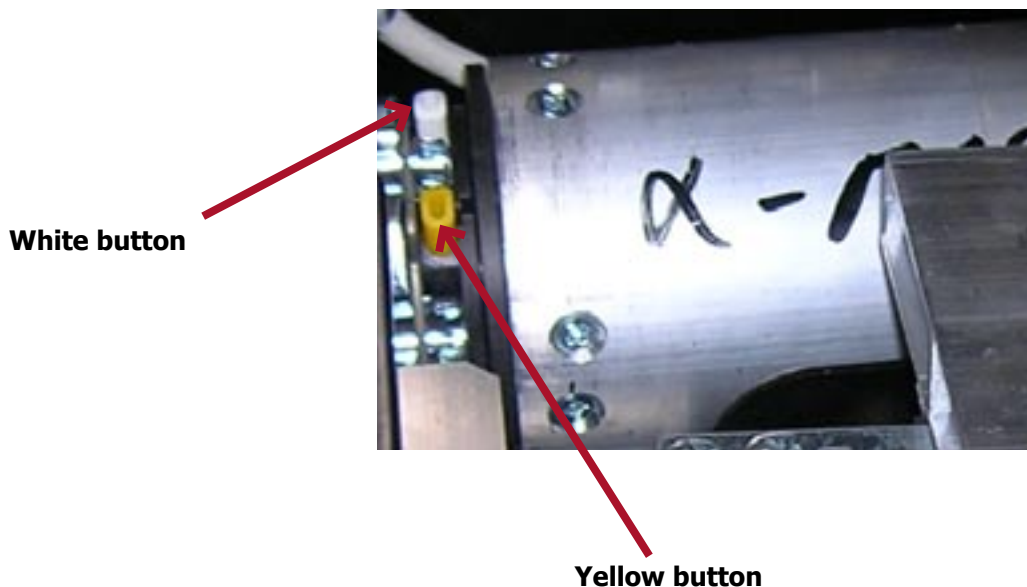
How Does It Work ?

These limits (or end stops) are set by "push-push" buttons. One push engages them and a second push release them.

There is one for the upper limit and one for the lower limit. When a button is engaged, the motor will rotate freely in the corresponding direction to allow you to reach the desired position. Once that position is reached, you "memorize" the position by pushing the button to release it.

Mask's end stops checking correspond to the following buttons for LT 50 motorized roller:

Mask	Deployed Position	Stowed Position
Top	yellow button	white button
Bottom	white button	yellow button
Right side	white button	yellow button
Left side	yellow button	white button





Maintenance and Troubleshooting

3

Read this chapter to learn how to maintain your TheaterCurve X-Mask Ultimate 4-Way.



Clean The Screen

Your cinema-quality viewing surface is delicate. Special attention to these instructions should be followed when cleaning.



Never attempt to use solvents, chemicals or abrasive cleaners on the screen. A soft cloth or brush may be used to lightly whisk away any loose dirt or particles.

Do not use a sharp instrument to remove any particles. Softly brush from the center to the edges. An upholstery brush attachment on a vacuum cleaner may be used, but only if it is perfectly clean. We encourage you to keep your screen clean.

Avoid getting any foreign materials on it, as cleaning it may prove very difficult or even impossible (paint, ink, etc.).



Never paint in the vicinity of the screen unless the fabric is completely protected.

Use a lint brush to remove any dust from the frame for cleaning your CleaPix Fixed Screen frame.



Package Contents

A





Carefully unpack and verify that you have all of the items shown in this chapter.

Along with your TheaterCurve X-Mask Ultimate 4-Way the packaging box(es) contain(s) the following items:








- Package Contents
- Tool For Assembly










TheaterCurve X-Mask Ultimate 4-Way Packing contents:

Packing Contents	Description	Yes	No	Remarks
	Projection Screen Material (1 piece)			
	Lateral Blocks With Motors (2 pieces)			
	Motors (Top and Bottom Masks) (2 pieces)			
	External (Top- Bottom + Lateral) Fascia (2 long pieces) (2 short pieces)			

TheaterCurve X-Mask Ultimate 4-Way Packing contents:

Packing Contents	Description	Yes	No	Remarks
	Curved Aluminum Frame Bar (2 pieces)			
	Horizontal Casing (2 pieces)			
	Unthreaded Flat Bracket (4 pieces)			
	Short Pieces of Pi-Grip (quantity varies)			
	Long Pieces of Pi-Grip (quantity varies)			
	Handle (4 pieces)			
	Wall-Mounted Switch (1 piece)			

Tools for Assembly:

Packing Contents	Description	Yes	No	Remarks
	Tarp to Protect Screen Surface (1 piece)			
	3mm Allen Wrench (1 piece)			
	Sleeve (1 piece)			
	Wooden Mallet (1 piece)			
	Fabric Cutting Tool (1 piece)			
	Screwdriver (1 piece)			
	Gloves (2 pieces)			



Legal Information

B

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This manual should be considered a permanent part of the Theater-Curve X-Mask and should remain with the screen if resold.



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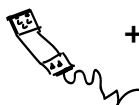
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