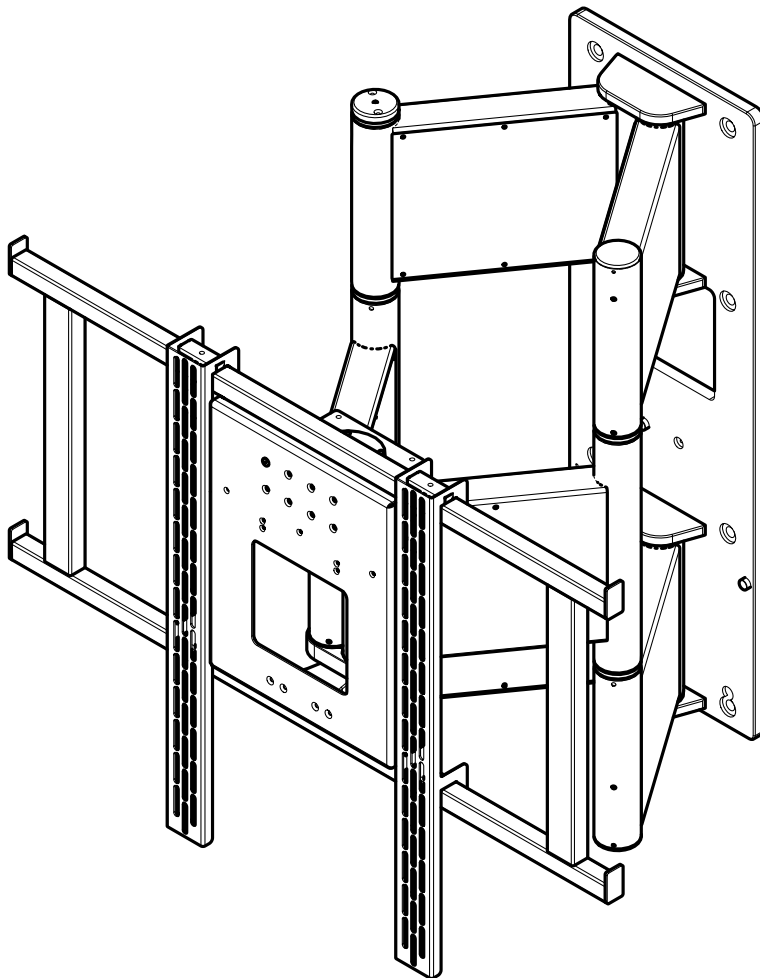




future automation

HQA

TWO WAY ARTICULATED TV WALL MOUNT 80" - 110"



INSTALLATION INSTRUCTIONS

ISSUE 002

SAFETY DISCLAIMER

IMPORTANT SAFETY INSTRUCTIONS BELOW

WARNING: Failure to provide adequate structural strengthening, prior to installation can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure the structure to which the component is affixed can support four times the weight of the component and any additional apparatus mounted to the component.

WARNING: Do not exceed the weight capacity for this product as listed below. This can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure that the total combined weight of all attached components does not exceed that of the maximum figure stated.

WARNING: Risk of death or serious injury may occur when children climb on audio and/or video equipment or furniture. A remote control or toys placed on the furnishing may encourage a child to climb on the furnishing and as a result the furnishing may tip over on to the child.

WARNING: Risk of death or serious injury may occur. Relocating audio and/or video equipment to furniture not specifically designed to support audio and/or video equipment may result in death or serious injury due to the furnishing collapsing or over turning onto a child or adult.



WARNING – RISK OF INJURY!



Only for use with equipment weighing **330LBS (150KG) OR LESS**. Use with heavier projectors/equipment may lead to instability causing tip over or failure resulting in death or serious injury.
Bracket Suitable for Residential and Commercial Use.

ADDITIONAL WARNINGS:

1. Keep all documentation/instructions after fitting.
2. Read all technical instructions fully before installation and use. It is the installer's responsibility to ensure that all documentation is passed on to the end user and read fully before operation.
3. Do not use near water or outdoors unless the product has been specifically designed to do so.
4. Protect any cables or cords being used near this bracket from being walked on or pinched to prevent damage and risk of injury.
5. Use this product only for its intended purpose as described in the product instructions and only use attachments/accessories specified by the manufacturer.
6. Do not operate the product if it is damaged in any way, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped. Contact the original installer/manufacturer to arrange repair or return.

WARNING - To reduce the risk of burns, fire, electric shock, or injury to persons:

1. Clean only with a dry cloth and always unplug any electrical items being used in conjunction with this product before cleaning.

Future Sound & Vision trading as Future Automation intend to make this and all documentation as accurate as possible. However, Future Automation makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without prior notice or obligation of any kind. Future Automation makes no representation of warranty, expressed or implied, regarding the information contained herein. Future Automation assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.

PRODUCT WARRANTY & RISK ASSESSMENT

WARRANTY INFORMATION

WARNING - The warranty offered for this product shall be annulled if the product is used improperly or in a way that is in breach of our Terms of Service.

Future Automation provides warranty for the mechanism you purchased for the period of **24 months** from the date of purchase, provided that it isn't used for unintended purposes.

Under the warranty, Future Automation aims to either solve the issue remotely (via telephone or email support) or if the mechanism requires a part, arrange a visit to your premises by a Future Automation approved engineer or send replacement items where appropriate.

Warranty repairs will be carried out as quickly as possible, but subject to parts availability. This warranty period is respectively extended for the period of a repair.

A malfunctioning product must be cleaned and placed into suitable packaging to protect against transit damage before organising delivery to a repair workshop.

All the complaints about defects must be submitted to the vendor/installer that sold this product, rather than directly to the manufacturer.

Any part of your system that needs to be replaced during a warranty repair becomes the property of Future Automation.

The warranty does not cover the following:

- Damages resulting from improper product use or maintenance.
- Repairs carried out by unauthorized persons.
- Natural wear and tear during operation.
- Damages caused by the buyer.
- Accidental damages caused by a customer or damages caused as a result of careless attitude or usage, or damages caused by natural disasters (natural phenomena).
- Any electrical, or other environmental work external to your Future Automation mechanism including power cuts, surges etc.
- Additional items not supplied by Future Automation although they may have been supplied together by the retailer
- Any 3rd party software products controlling your mechanism
- Any transfer of ownership. Warranty is provided only to the initial purchaser.
- Compensation for loss of use of the product, and consequential loss of any kind.

A separate Safety and Servicing Information document is provided with these instructions (additional copies can be found at www.futureautomation.co.uk/safety), and this document **MUST** be filled out by the approved Future Automation Dealer who is installing the product. This Warranty Sheet must be held by the end user for the duration of the products life and will be referred to during servicing or warranty queries.

The Safety and Servicing Information document also contains two Service History Forms that must be filled in by the approved Future Automation dealer who is performing the first required yearly service of this product.

One copy of the Service History Form must be held by the customer (along with the Warranty Sheet) and a duplicate copy must be held by the approved Future Automation dealer that performed the service. Missing and/or mismatching documents may delay or invalidate warranty claims.

Additional Service History Forms can be found on the Future Automation website for further yearly services.

RISK ASSESSMENT INFORMATION

It is the installer's responsibility to perform a risk assessment of installed products. Future Automation can provide guidelines to installers/dealer about what should be included in a risk assessment, but due to the individual nuances of each location/site, Future Automation cannot provide a full list of areas to risk assess.

For full risk assessment and safety information please view our Safety and Servicing guide available at www.futureautomation.net/safety

GUIDE

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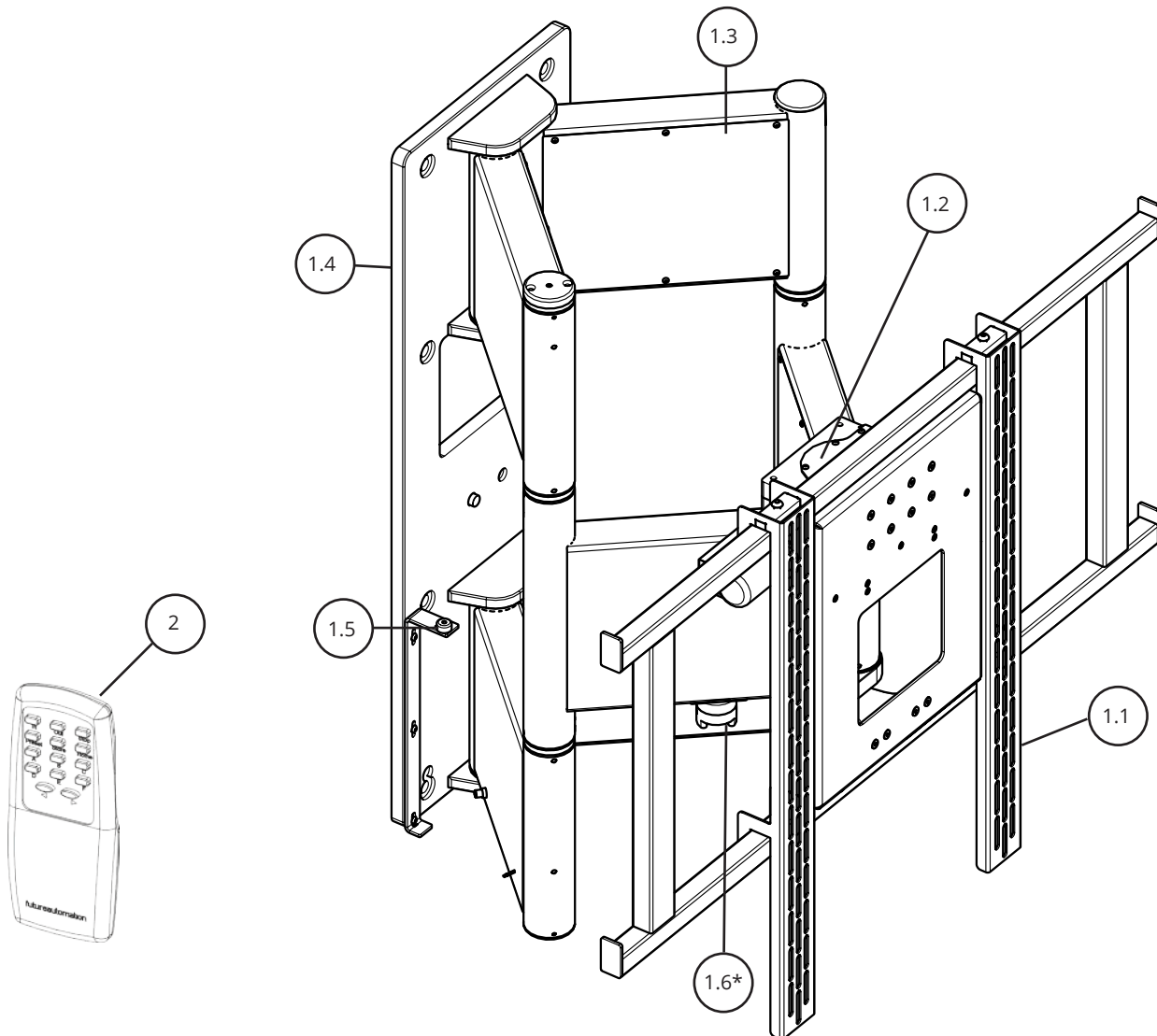
PACKAGE CONTENTS

1 - HQA2 MECHANISM

- 1.1 - UPRIGHTS
- 1.2 - TOP HEAD PLATE
- 1.3 - COVER PANEL
- 1.4 - WALL PLATE
- 1.5 - LATCH BRACKET

*OPTIONAL: 1.6 - MARINE LOCK

2 - INFRARED (IR) REMOTE CONTROL

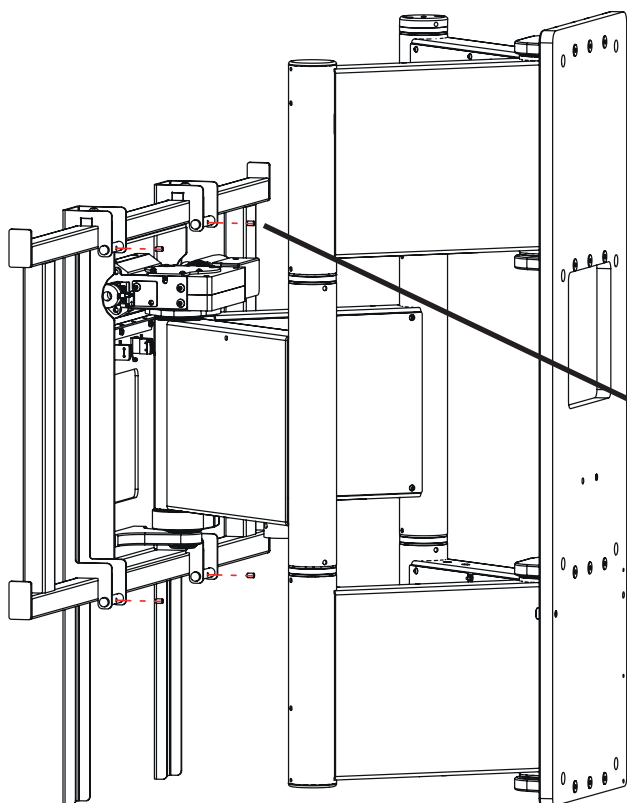


UPRIGHT MOUNTING

1

Loosen or remove the four grub screws to release the Uprights from the main assembly.

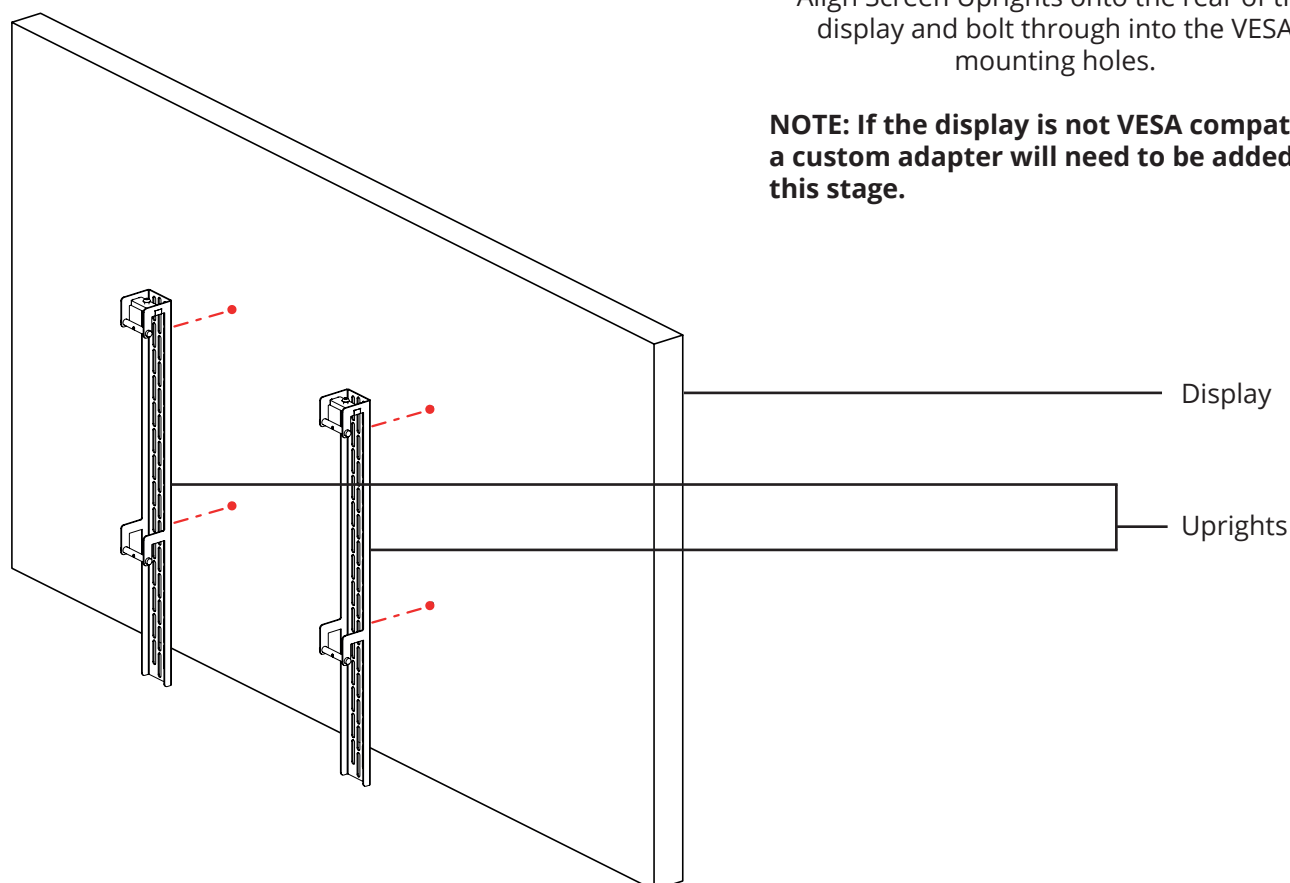
Keep the grub screws safe for re-assembly later.



2

Align Screen Uprights onto the rear of the display and bolt through into the VESA mounting holes.

NOTE: If the display is not VESA compatible a custom adapter will need to be added at this stage.



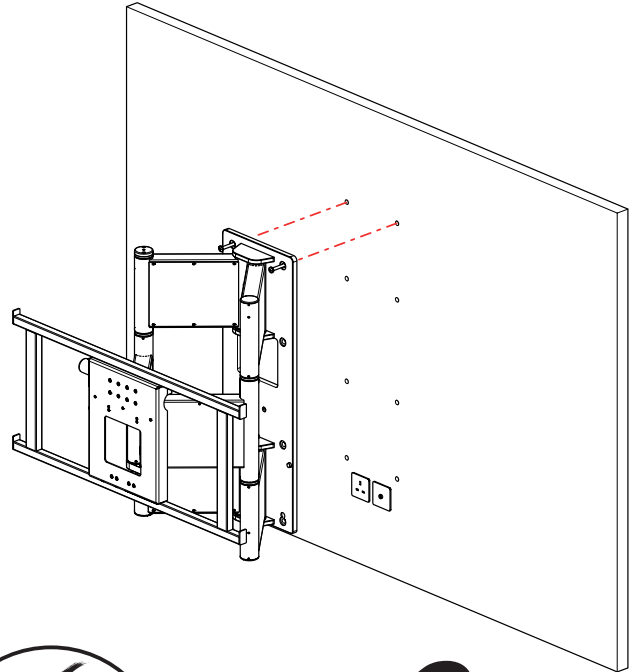
WALL MOUNTING

Ensure the mounting wall is structurally suitable and appropriate fixings are used before continuing installation.

1

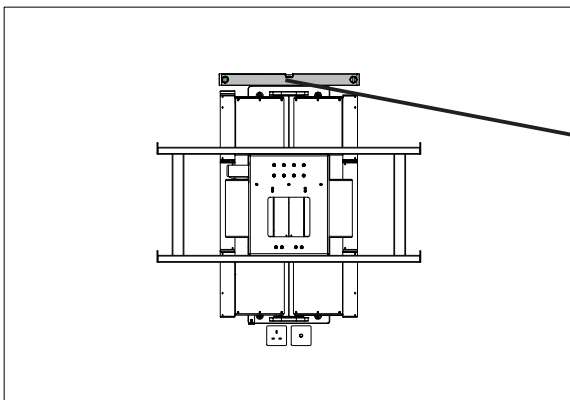
Fix through top two holes of Wall Plate first.

NOTE: Minimum three person install stage.



2

Ensure mechanism is level before fixing through remaining holes in Wall Plate.

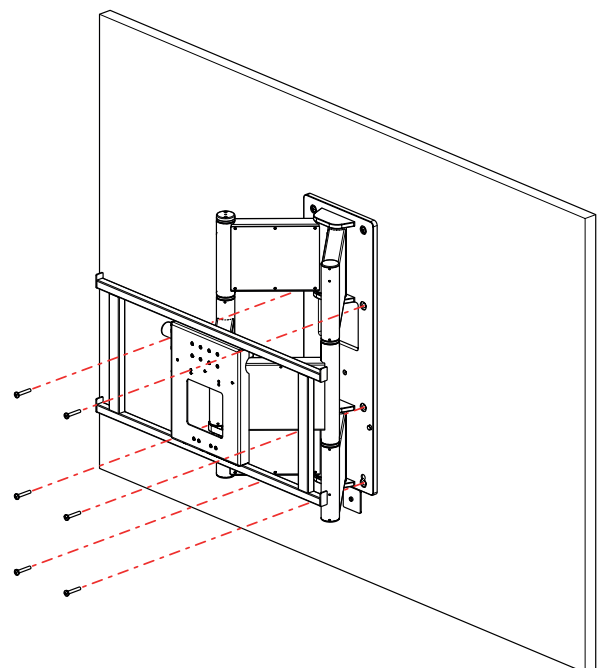


3

Once mechanism is level, secure the other fixings in place to complete Wall Plate installation.

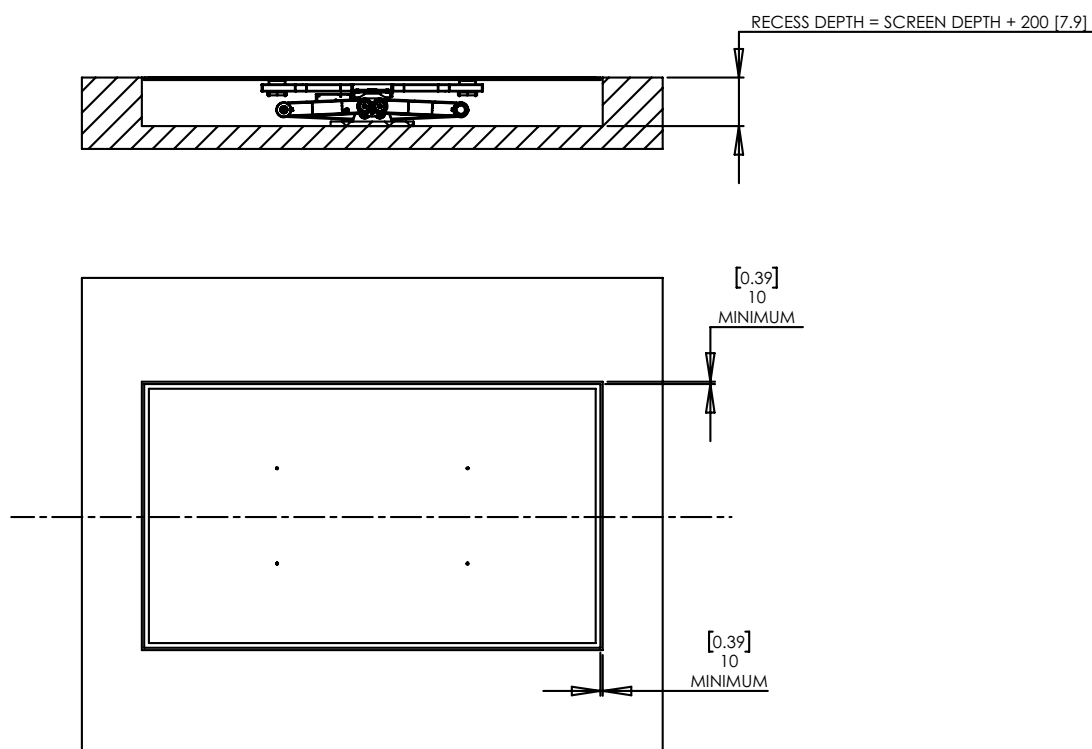


It is the installers responsibility to obtain the appropriate fixings when attaching to the wall and to make sure the mechanism is secure and safe.

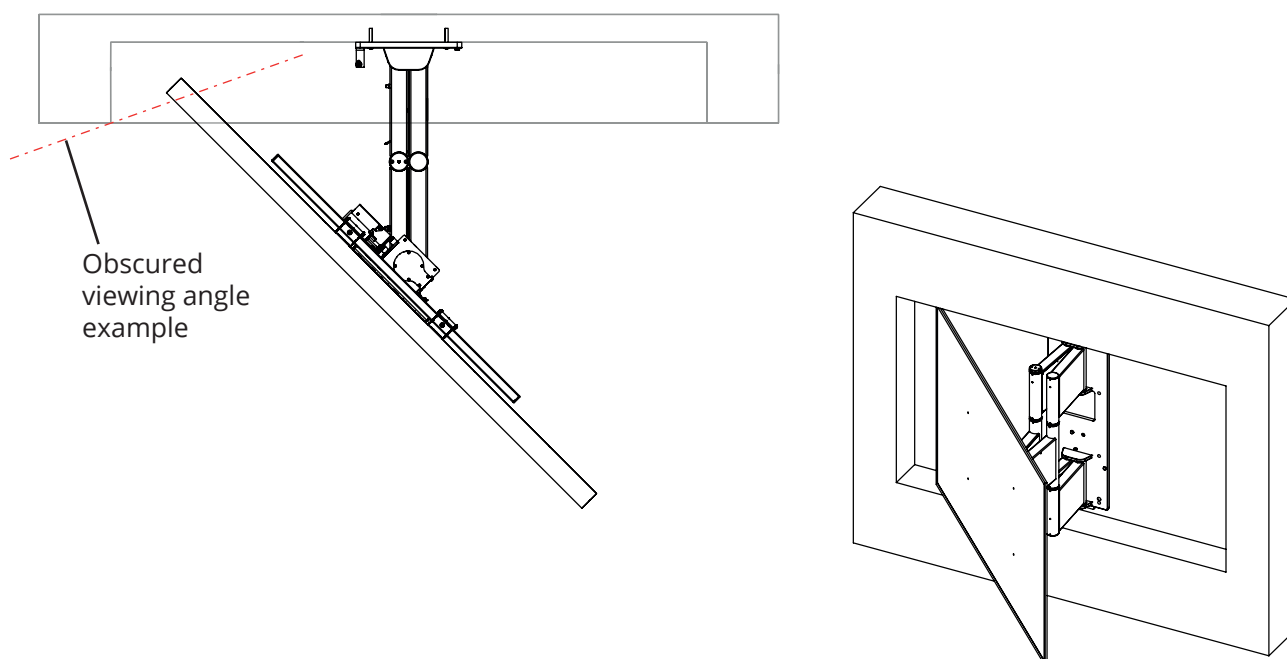


RECESS MOUNTING

- 1 In order to mount the HQA2 in a recess, a minimum of 10mm perimeter gap from the screen is required, also ensure adequate ventilation for tight recesses.



- 2 When putting in recesses and using the bracket at the maximum angle, beware of obscuring part of the screen. With a deeper or wider screen the maximum angle will need to be reduced.

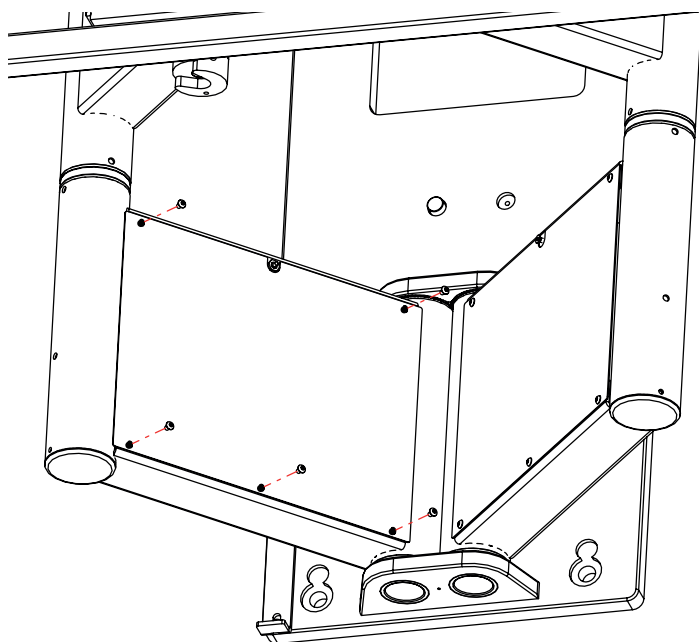


REMOVING COVER PANEL

1

Power the mechanism half way out so all the arm cover panels are accessible.

Press [OUT] on the IR remote.
Press [STOP] when the arm is at the required distance from the wall.

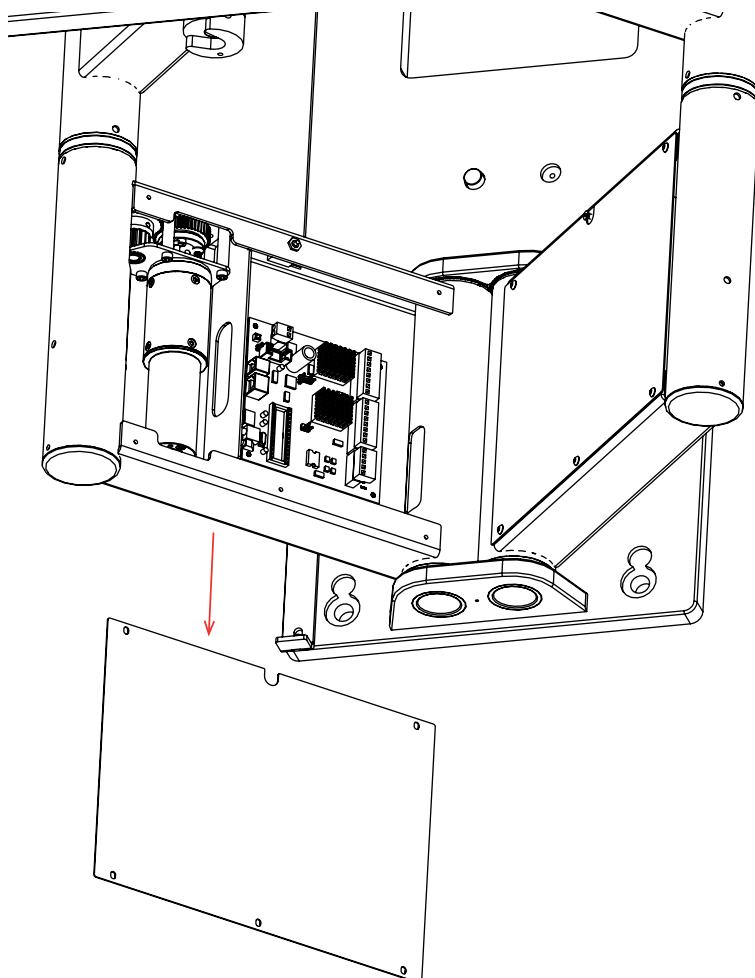


2

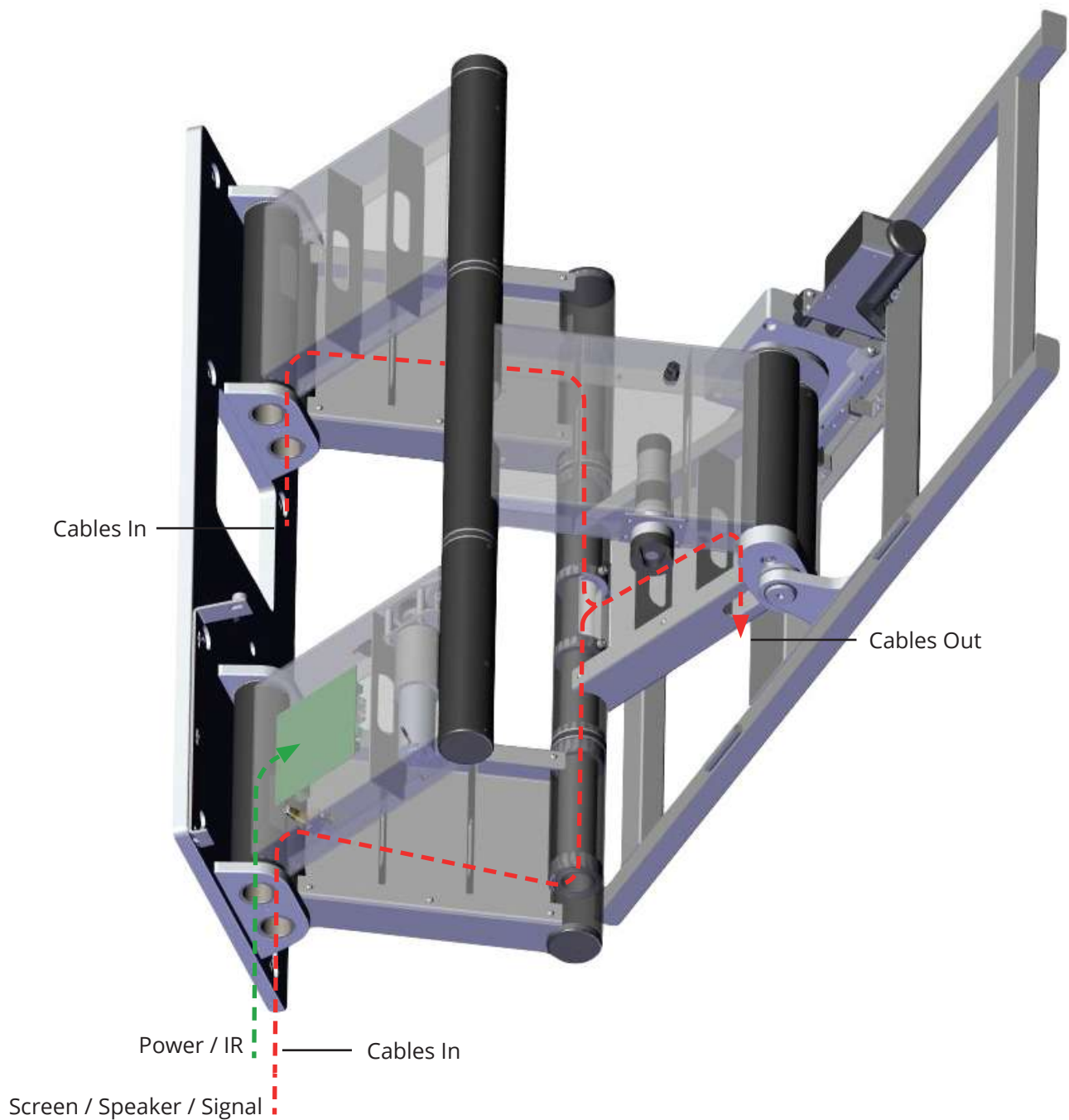
Remove the five screws and slide the panel out.

3

Repeat for other cover panels required for cable installation and store safely.



CABLE MANAGEMENT



1 Feed the mechanism power and IR cable through the arm as shown and connect to control board.

2 Feed the screen, speaker and signal cables through the unit following as per the image above.

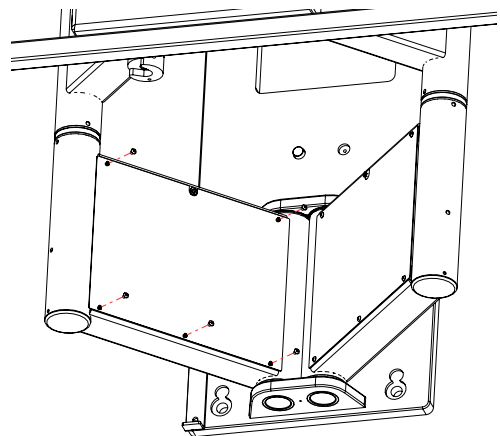
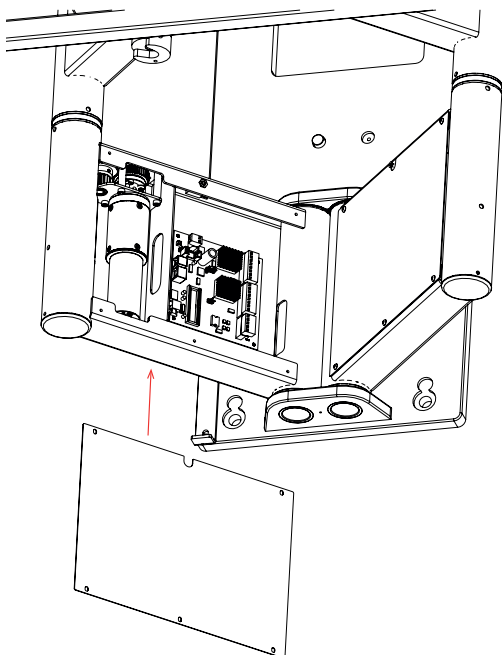
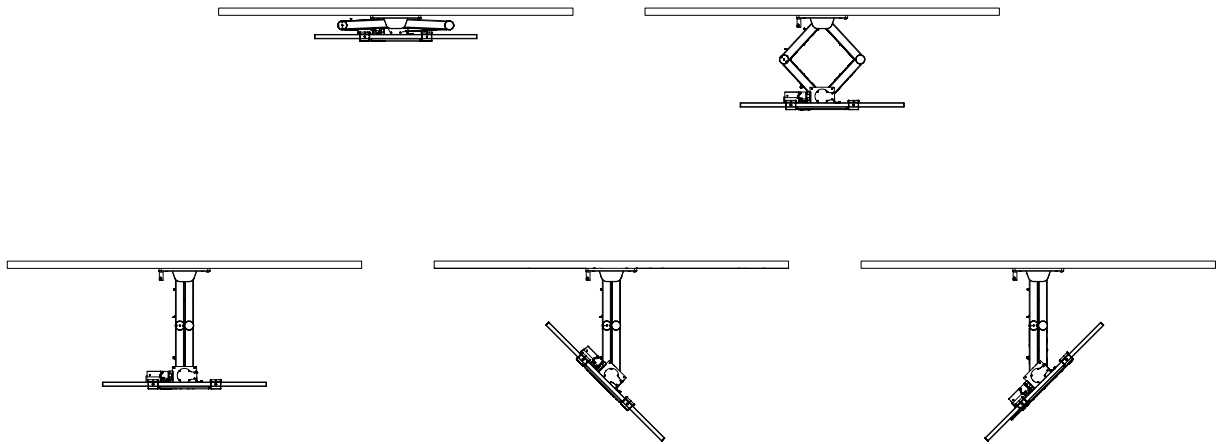
MECHANISM TESTING

1

Power mechanism to a variety of positions to ensure all commands are working correctly. (See pages 16 & 17)

2

Ensure all cables are securely fastened and there is enough slack to allow for full head rotation.



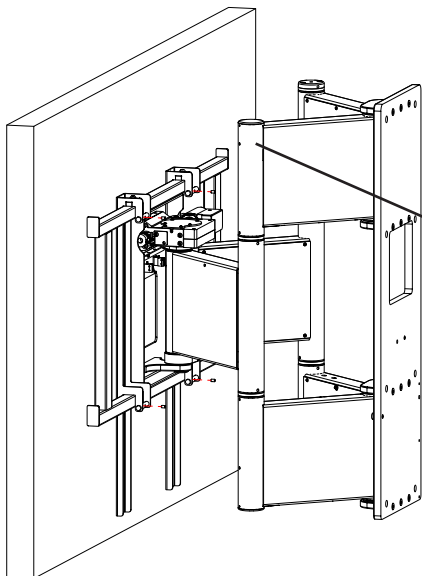
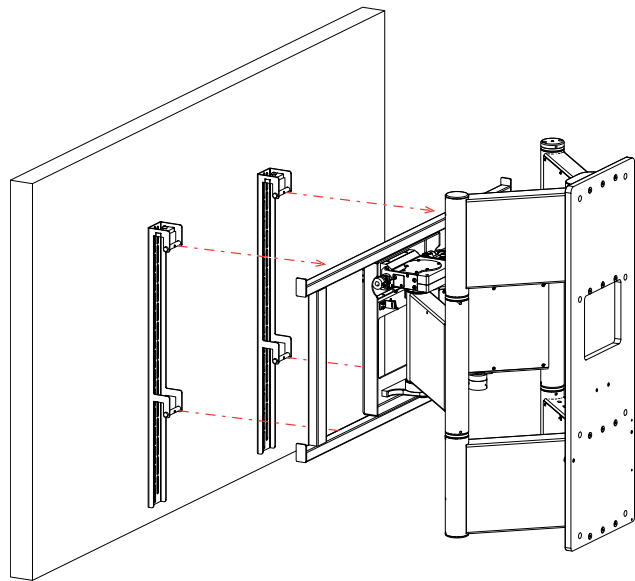
3

Once checks have been completed replace cover panels.

SCREEN MOUNTING

1

Hook Screen Uprights onto the centre of the mechanism.



2

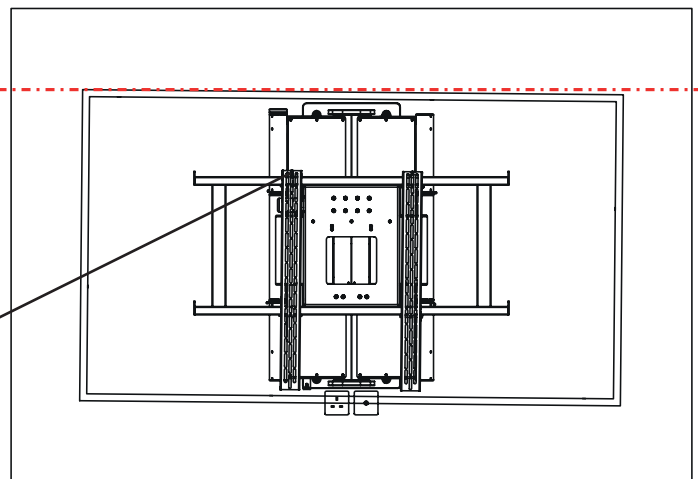
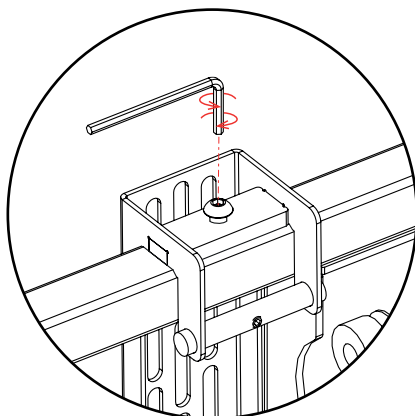
Tighten grub screws in each of the four upright restraints to lock horizontal shift of the screen.

3

Connect all screen, speaker and signal cables to the display.

4

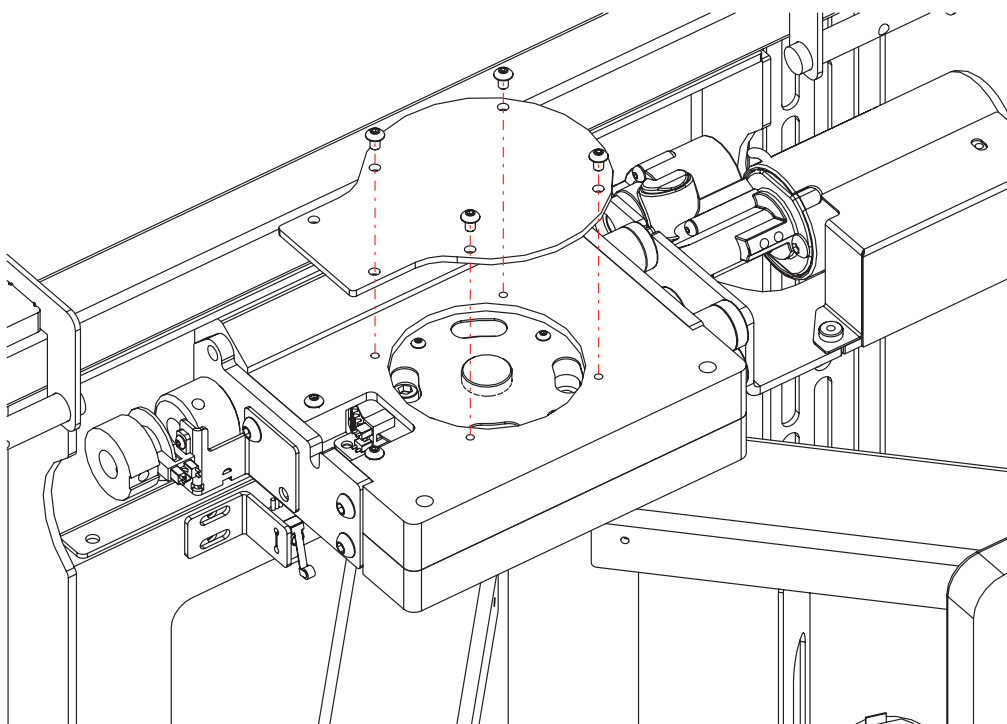
You can fine tune the level of the display by rotating the bolt on top of the Uprights.



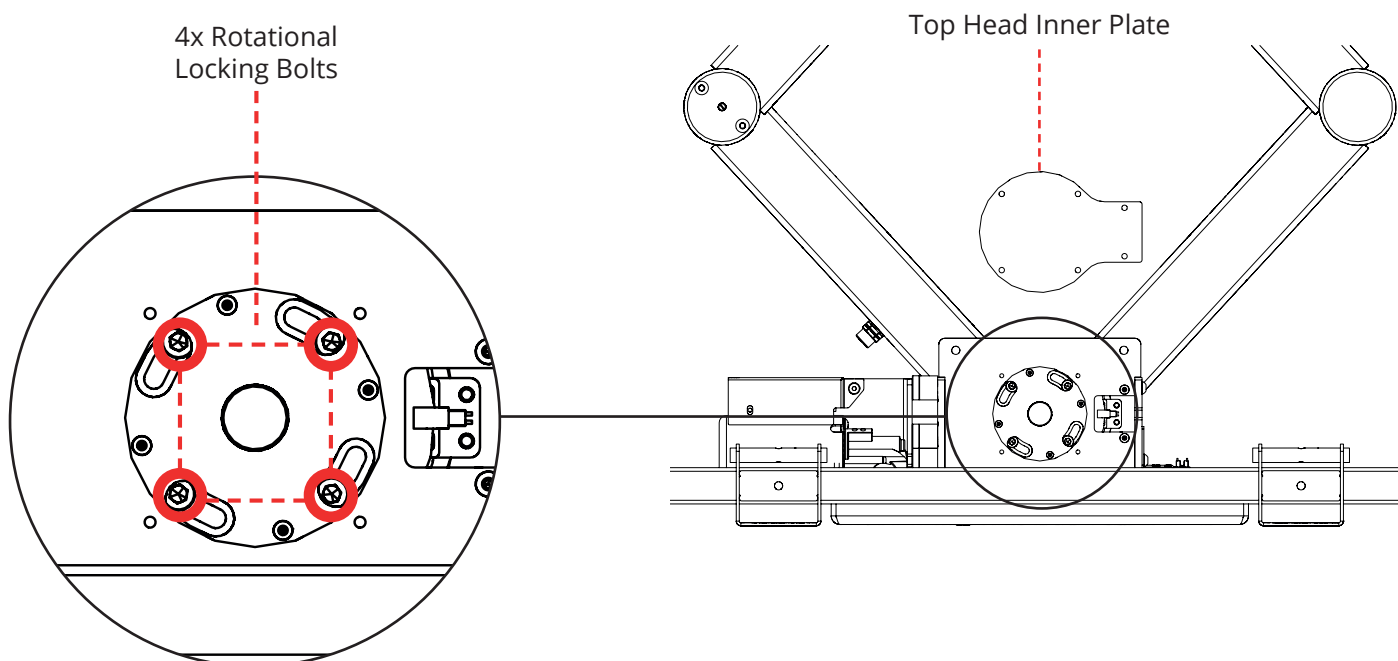
MANUAL ROTATION ADJUSTMENT

This will only be necessary if the screen mount is misaligned with the wall.

- 1 To manually adjust the parallel head position remove the top head inner plate as shown below.



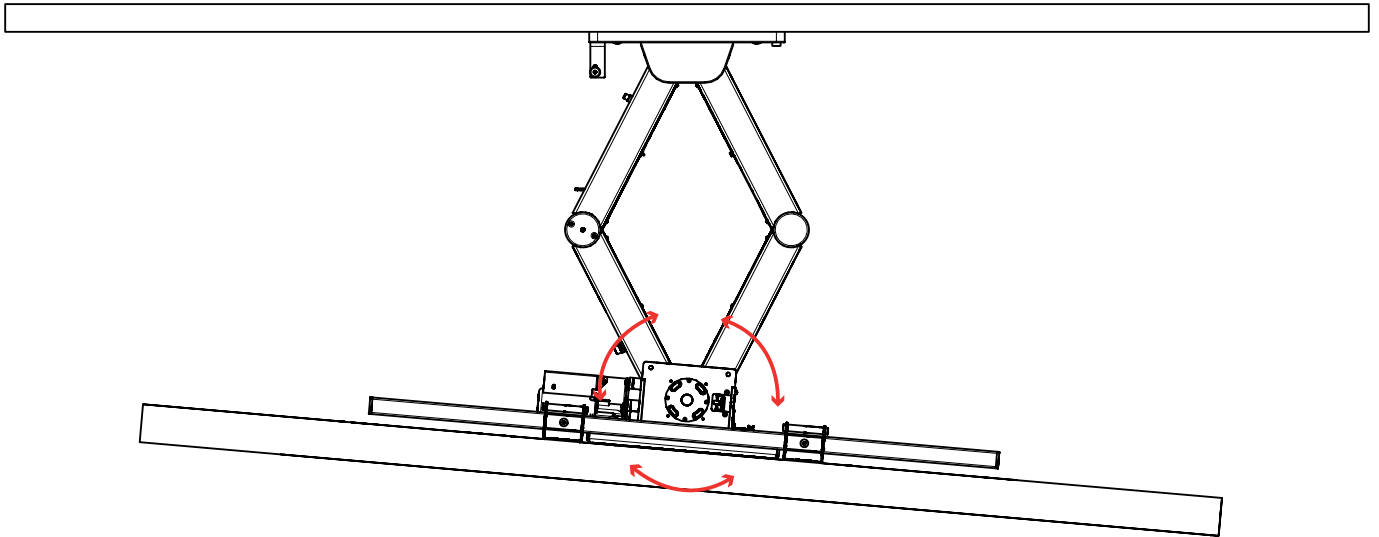
- 2 Loosen the 4 rotational locking bolts circled in the detail view.



MANUAL ROTATION ADJUSTMENT CONT.

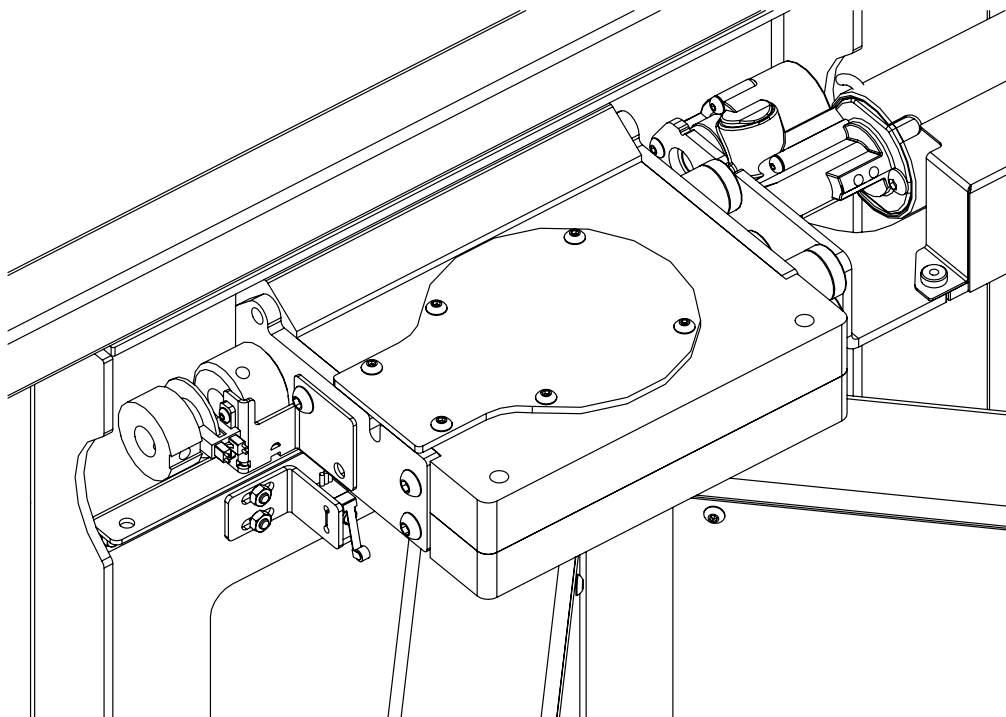
3

Manually rotate the head into the desired parallel position then lock back in place by tightening the rotational locking bolts back up.



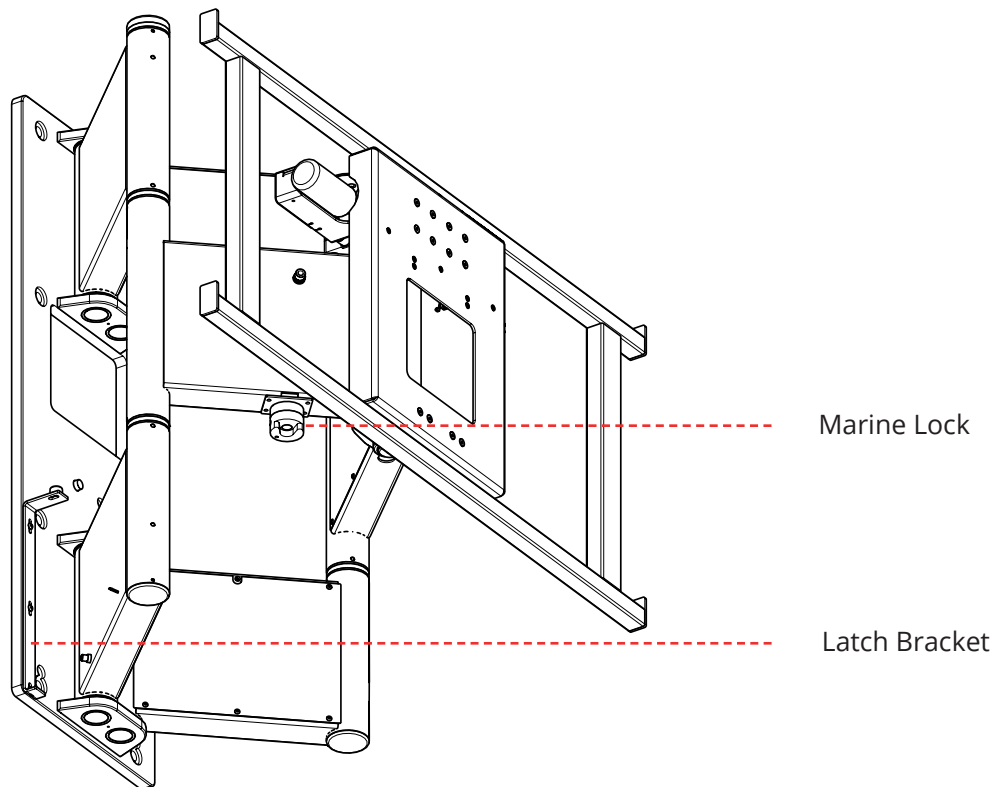
4

Finally replace the head inner plate back onto the head.

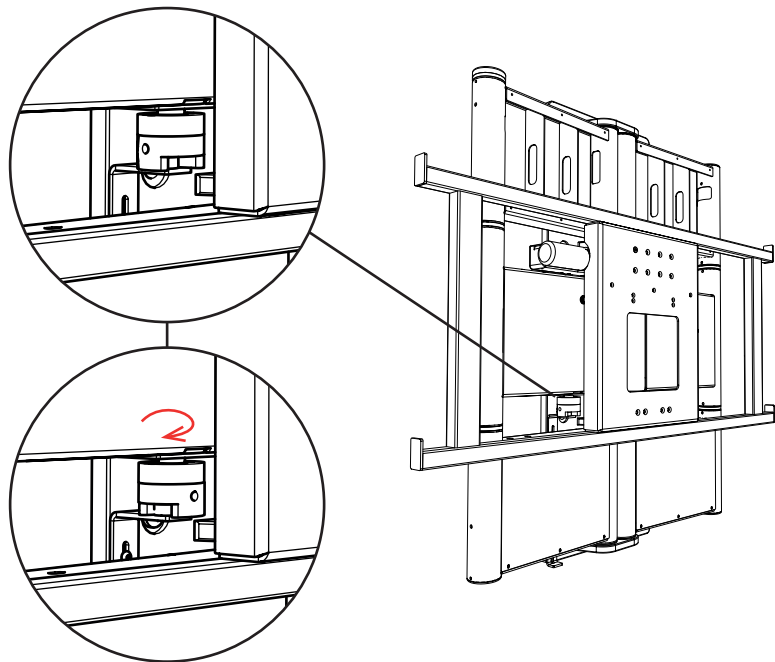


MARINE CATCH

The HQA2 can be ordered with an optional marine lock to securely lock the mechanism in the IN position.



Marine Lock mechanism rotates to secure the main assembly.

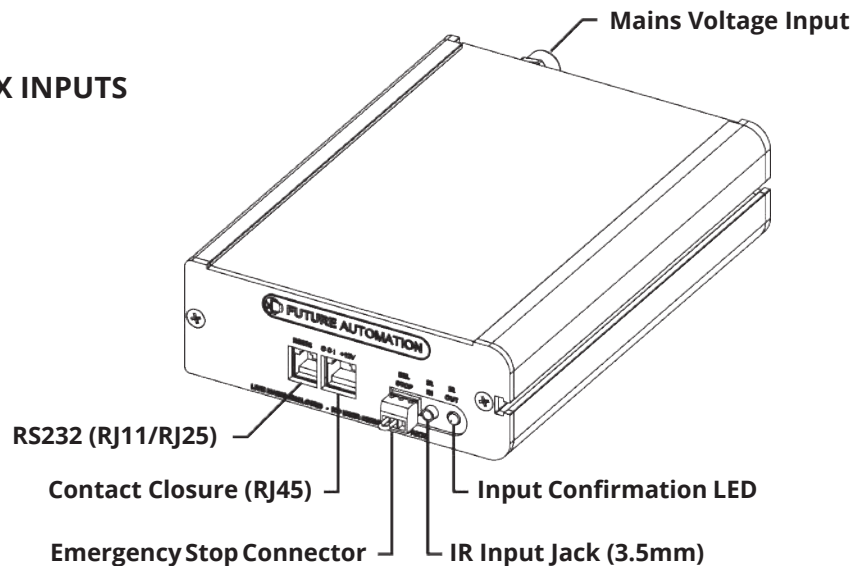


- Suitable for indoor marine installations.
- Latch bracket can be lowered to release the lock in the event of a power/ motor fault.

GENERAL CONTROL

This mechanism has multiple standard control methods, each of which requires a different input method to the control box. For ease, the input sockets on the control board are labelled below.
(Control box size and style may vary to image shown)

CONTROL BOX INPUTS



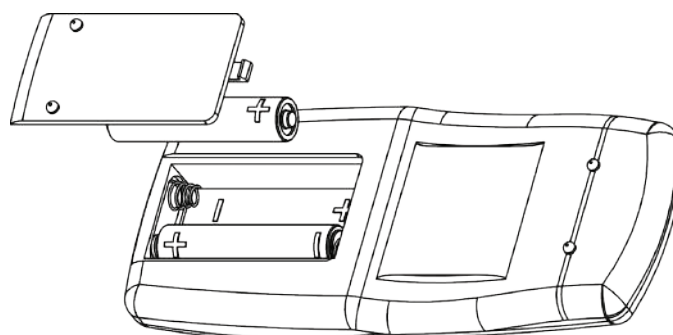
MECHANISM EMERGENCY STOP CONNECTOR

This mechanism features an Emergency Stop Connector, which **MUST** be plugged into the control box in the connector labelled above for the mechanism to operate. If this connector is not plugged in, the Input Confirmation LED will be permanently lit. As per the red plastic tag attached to the Emergency Stop Connector (and shown below), the small loop of wire in this connector is designed to be replaced by a third party safety mechanism.



REPLACING MECHANISM BATTERIES

The standard Future Automation Infrared (IR) remote control required x2 AAA batteries to operate. These are provided with the mechanism in the Accessories Pack. These batteries can be replaced as per the image below.



GENERAL CONTROL

Features

1. Programmable Safe Turn position creating a safe zone between it and the wall within which the head will always be parallel to the wall. The head will automatically start rotating to a viewing angle once the arm is past this position
2. Programmable maximum out position (arm extend)
3. Programmable maximum left and right limits (head rotation)
4. Programmable flush position for positioning the TV flush with a recess or cabinet opening.
5. 2 programmable viewing angles accessible via IR, RS232 & Contact Closure
6. 1 additional programmable viewing angle accessible via IR and RS232
7. 6 additional programmable viewing angles only accessible via RS232



This mechanism is designed to carry large screens and has programmable rotational limits to prevent the side of the screen from colliding with the wall. The following steps should be completed in sequence to minimize the risk of a collision occurring during installation.

For the following instructions, all multi-button commands beginning with [STORE] must be entered sequentially with no more than 2 seconds between each press (tip - aim for 1 second to ensure the 2 second window is met).

Set the safe turn position

1. Press [OUT] on the IR remote.
2. Press [STOP] when the arm is at the safe turn position.
3. Press the [STORE] [A] to set the safe turn position.

Set the maximum out position

1. Press [OUT] on the IR remote.
 2. Press [STOP] when the arm is at the required distance from the wall.
 3. Press [STORE] [C] to set the maximum out position.
- NOTE. to clear the maximum out position in the event of an error, press [STORE] [B].

Set maximum left and right rotation

1. Position the head at your required maximum left rotation using [<] and [>]
2. Press [STOP] when the head is at the required limit.
3. Press the [STORE] [<] set the maximum left (clockwise) limit. (if you need to clear this limit press [STORE] [STORE] [<])
4. Position the head at your required maximum right rotation using [<] and [>]
5. Press [STOP] when the head is at the required limit.
6. Press [STORE] [>] set the maximum right (clockwise) limit. (if you need to clear this limit press [STORE] [STORE] [>])

Set viewing angles D, E and F.

1. Press OUT on the IR remote.
2. When the arm has stopped at its out position, position the head at the required left preset using the LEFT and RIGHT keys
3. To set the preset, press [STORE] [D] or [E] or [F]

Set a Flush (parallel recess) position if required.

1. Press OUT on the IR remote.
2. Press STOP when the arm is at the required recess position.
3. Press the [STORE] [PRESET] to set the parallel recess position is now set.

Adjusting the docking speed

1. Press [STORE] [STORE] [IN] sequentially with no more than 2 seconds between each press to reduce the docking speed by one step
2. Press [STORE] [STORE] [OUT] sequentially with no more than 2 seconds between each press to increase the docking speed by one step
3. Test the new speed, verifying that the bracket is able to fully close with a smooth deceleration.
4. Multiple adjustments may be required to achieve the best results.

INFRARED (IR)

This mechanism can be controlled via the supplied 14 button Infrared (IR) Remote Control, pair with the supplied Infrared (IR) lead and sensor.

The mechanism's functions can be controlled by plugging the Infrared (IR) lead and sensor into the 3.5mm IR Input Jack shown on the General Mechanism Control page.

Confirmation of Infrared (IR) input will be shown by a single flash of the large green LED located on the end of the control box.

As Infrared (IR) control works over line of sight, the Infrared (IR) sensor must be directly viewable from whatever location the remote control is being used from.

Infrared (IR) Remote Control Button Layout

IN - Brings the mechanism into the cabinet.

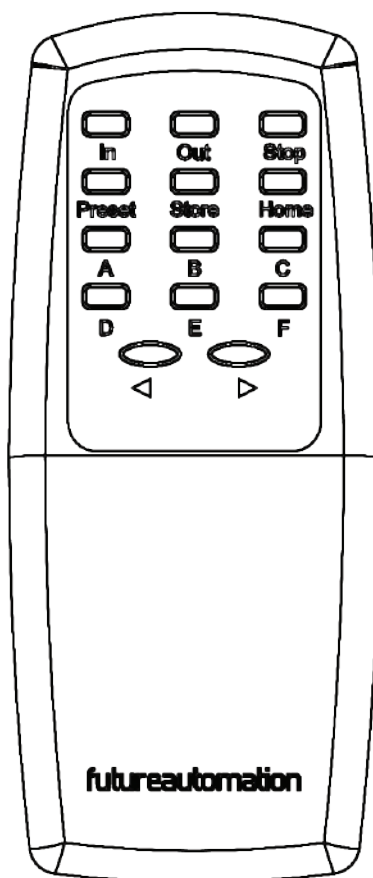
PRESET - Brings the mechanism to mechanism to learnt position.

STORE - Programs current mechanism position to learn position.

OUT - Brings the mechanism out of the cabinet, without swivelling.

STOP - Will stop the operation of the mechanism at ANY position.

HOME - Takes mechanism to forward facing position when swivelled.



< - Brings the mechanism OUT and rotates the head left

> - Brings the mechanism OUT and rotates the head right

STORE + PRESET - Pressed within 1 second of each other sets flush recess position

STORE + D-F - Pressed within 1 second of each other stores positions D-F.

D, E, F - Brings the mechanism to mechanism to learnt position.

IMPORTANT

Only buttons indicated above are functional with the product. Any other button press will STOP the mechanism.

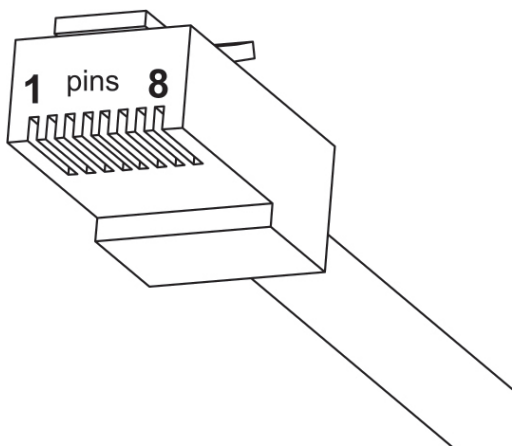
CONTACT CLOSURE

This Mechanism can be controlled via Contact Closure, utilising the 8 Pin RJ45 Connector attached to a length of CAT5 (Type 568A or 568B) cable.

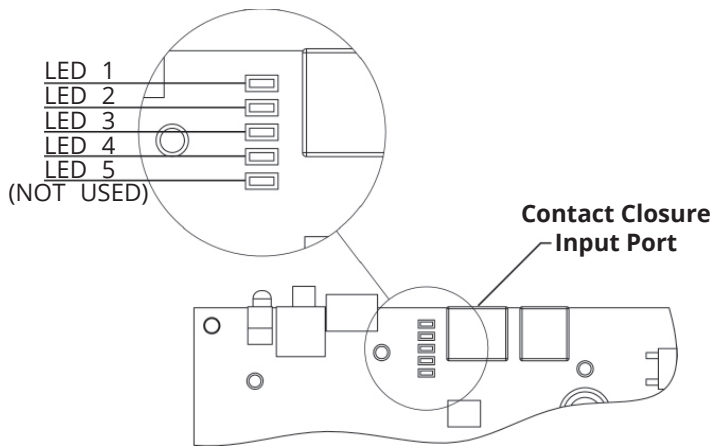
The mechanism’s functions can be controlled by plugging this into the RJ45 port on the mechanism control board, then shorting pins 1-8 on this connector as shown in the Contact Closure Input Table below.

Confirmation of Contact Closure input will be shown by a single flash of the large green LED located on the end of the control box, as well as illumination of the corresponding Contact Closure LED on the printed circuit board as shown below.

RJ45 Pin Layout



Contact Closure LED Layout



Contact Closure Input Table

PIN	DESCRIPTION	MOMENTARY ACTION
1	12V SUPPLY	12V SUPPLY - CURRENT LIMITED
2		
3	GROUND	GROUND
4		
5	D	MOMENTARY SHORT TO GROUND (PIN 3), WILL MAKE DEVICE GO LEFT
6	F	MOMENTARY SHORT TO GROUND (PIN 3), WILL MAKE DEVICE GO RIGHT
7	PRESET	MOMENTARY SHORT TO GROUND (PIN 3), WILL MAKE DEVICE GO OUT/HOME.
8	DEVICE IN / STOP	MOMENTARY SHORT TO GROUND (PIN 3), WILL MAKE DEVICE GO IN.

WIRE/CABLE TYPE		LED INDICATOR
568A	568B	
W / G	W / O	
G	O	
W / O	W / G	
B	B	
W / B	W / B	LED 4
O	G	LED 3
W / BR	W / BR	LED 2
BR	BR	LED 1

RS232 CONTROL

This mechanism can be controlled via RS232, utilising a 6 Pin RJ11/RJ25 connector OR 9 Pin Serial connector attached to a length of 6 core cable.

The mechanism's functions can be controlled by plugging this into the RJ11/RJ25 port on the mechanism control box, then inputting the RS232 commands shown in the RS232 Input Table below.

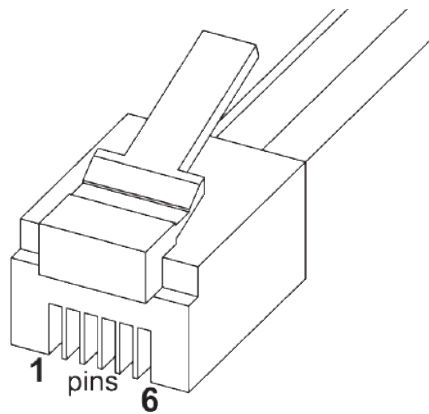
Confirmation of RS232 input will be shown by a single flash of the large green LED located on the end of the control box.

RJ11/RJ25 PIN LAYOUT

PIN 1: RX

PIN 6: TX

PIN 3 & 4: GROUND

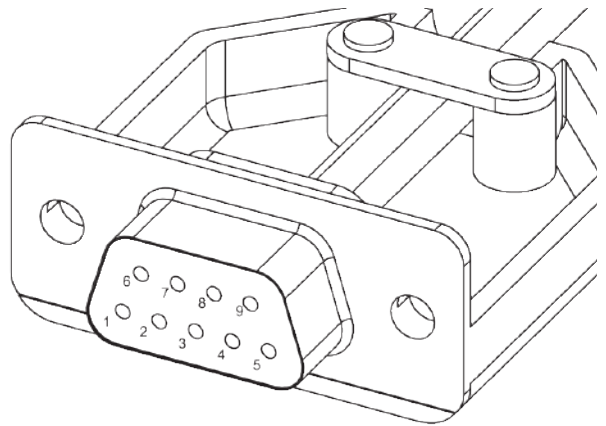


SERIAL PIN LAYOUT

PIN 2: RX

PIN 3: TX

PIN 5: GROUND



RS232 PROGRAMMING DETAILS

Baud Rate: 9600

Stop Bit: 1

Parity: None

Databits: 8

RJ11/RJ25	Func.	9 PIN Serial	Colour
PIN 1	TX-RX	PIN 2	Blue
PIN 3	GROUND	PIN 5	Green
PIN 4	GROUND	PIN 5	Red
PIN 6	RX-TX	PIN 3	White

RS232 INPUT TABLE

IMPORTANT - Ensure all protocols are entered exactly as written below, including Carriage Return (ENTER / ASCII 13)

Protocol	Action
fa_in Carriage Return (Enter / ASCII 13)	Device IN
fa_out Carriage Return (Enter / ASCII 13)	Device OUT with NO SWIVEL
fa_right Carriage Return (Enter / ASCII 13)	Device OUT, swivel to right
fa_left Carriage Return (Enter / ASCII 13)	Device OUT, swivel to left
fa_preset Carriage Return (Enter / ASCII 13)	Device to flush recess position
fa_d Carriage Return (Enter / ASCII 13)	Device OUT to memory position D
fa_e Carriage Return (Enter / ASCII 13)	Device OUT to memory position E
fa_f Carriage Return (Enter / ASCII 13)	Device OUT to memory position F
fa_stop Carriage Return (Enter / ASCII 13)	Device STOP (At any position)
fa_home Carriage Return (Enter / ASCII 13)	Device OUT, swivel centered

CONTROLLING THE MECHANISM

- RS232 commands are all terminated with carriage return but no line feed. In Crestron this is represented by \r
- IR sequences involving multiple key-presses require each successive key to be pressed within 2 seconds

IR	RS232	CC Pin (see note below)	Action	Comments
IN	fa_in	Pin 8	System fully in	
OUT	fa_out		Move arm out, head parallel	Moves to out switch or programmed out position
PRESET	fa_preset	Pin 7	Move arm to recess position, head parallel	
<	fa_left		Move arm out, head to the max left	
>	fa_right		Move arm out, head to the max right	
D	fa_d	Pin 5	Go to viewing angle D	
E	fa_e		Go to viewing angle E	
F	fa_f	Pin 6	Go to viewing angle F	
STOP	fa_stop	Pins 5,6,7 or 8 when QA is moving	Stop mechanism	
STORE A			Set safe turn position	Stores current arm position
STORE PRESET			Set recess flush position	Stores current arm position
STORE B			Clear maximum arm out position	Arm will now extend fully to the OUT switch
STORE C			Set maximum arm out position	Stores current Arm position
STORE D			Set programmable viewing angle D	Stores current head rotation
STORE E			Set programmable viewing angle E	Stores current head rotation
STORE F			Set programmable viewing angle F	Stores current head rotation
STORE <			Set the maximum left head rotation	Stores current head rotation
STORE >			Set the maximum right head rotation	Stores current head rotation
IR	RS232	CC Pin (see note below)	Action	Comments
STORE STORE <			Clear the maximum left head rotation	
STORE STORE >			Clear the maximum right head rotation	
IR	RS232	CC Pin (see note below)	Action	Comments
STORE STORE HOME			Revert to factory setting	ALL programmed positions will be lost
STORE STORE IN			Reduce IN switch docking speed	
STORE STORE OUT			Increases OUT switch docking speed	
	fa_save0		Store viewing angle 0	RS232 only
	fa_save1		Store viewing angle 1	RS232 only
	fa_save2		Store viewing angle 2	RS232 only
	fa_save3		Store viewing angle 3	RS232 only
	fa_save4		Store viewing angle 4	RS232 only
	fa_save5		Store viewing angle 5	RS232 only
	fa_go0		Go to viewing angle 0	RS232 only
	fa_go1		Go to viewing angle 1	RS232 only
	fa_go2		Go to viewing angle 2	RS232 only
	fa_go3		Go to viewing angle 3	RS232 only
	fa_go4		Go to viewing angle 4	RS232 only
	fa_go5		Go to viewing angle 5	RS232 only

NOTES



EUROPEAN OFFICE

Address:
Unit 6-8
Brunel Road
Bedford
Bedfordshire
MK41 9TG

Phone: +44 (0) 1438 833577
Email: info@futureautomation.co.uk

Office Hours:
Mon - Fri 8:00 to 17:30 GMT
Saturday & Sunday - Closed

NORTH AMERICAN OFFICE

Address:
Enterprise Park
127 Venture Drive
Dover
NH
03820

Phone: +1 (603) 742 9181
Email: info@futureautomation.net

Office Hours:
Mon - Fri 7:00 to 17:00 EST
Saturday & Sunday - Closed

