

ChamSys MQ500M Wing Upgrade Instructions

This guide will cover upgrading a Stadium Wing to MQ500M Wing spec.



**MAINTENANCE SHOULD BE CARRIED OUT BY EXPERIENCED AND
QUALIFIED PERSONNEL ONLY**



**WARNING – LIVE 240V AC. DISCONNECT MAINS BEFORE
PERFORMING ANY MAINTENANCE**

Section 1: Introduction.

This guide contains step by step instructions on upgrading a ChamSys Stadium Wing to MQ500M Wing spec; adding motorised faders, illuminated fader tracks and backlit keys, among other improvements. Note that this kit does not include other aesthetic upgrades, such as new style end-cheeks, but does add all new functionality.

If you require any further assistance with the upgrade process or have any questions, please contact our support team using the details below.

Email: support@chamsys.co.uk

Tel: +44 (0)2380 238 666

Note that ChamSys reserves the right to recover parts replaced in the upgrade process. If you are unsure whether parts need to be returned to ChamSys, please contact support.

To get started, first ensure the wing is powered off and has been for at least 10 minutes to ensure all residual power has drained from the wing.

Prepare the correct tools for the process as listed and pictured below and ensure the upgrade kit you have purchased contains all items detailed on the next page.

Tools required:

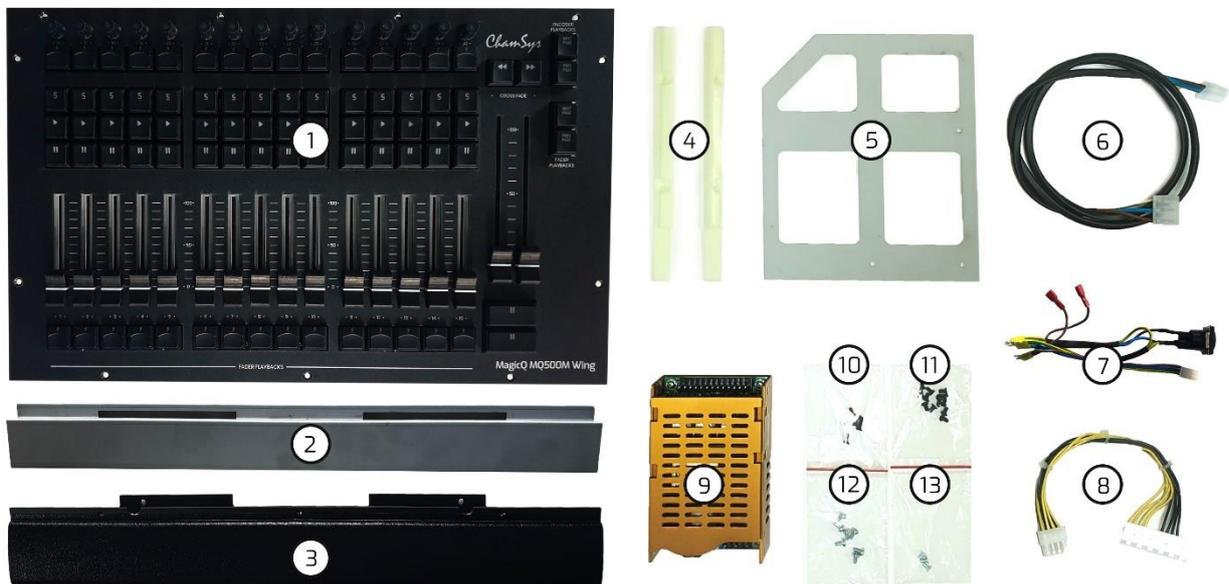
- Drill
- 3.5mm drill bit
- PZ1 screwdriver
- 5.5mm nut spinner or spanner
- 4mm ball driver or Allen key
- 2mm ball driver or Allen key
- Threadlock



Upgrade kit contents:

Below is a list of all parts included in the MQ500M Wing upgrade kit. Each part is numbered and corresponds to the matching number in the picture below. Please ensure you have all parts before starting the upgrade process.

1. Front panel assembly
2. Arm rest support bracket
3. Arm rest
4. Front panel angle adjustments x2
5. Drill guide
6. Motor PSU to main PSU cable
7. Replacement main PSU cable
8. Motor PSU to motor board cable
9. Power supply
10. 4x M3x10 black countersunk screws
11. 7x M3x6 black countersunk screws
12. 6x M3x6 silver screws
13. 4x M3x6 silver countersunk screws



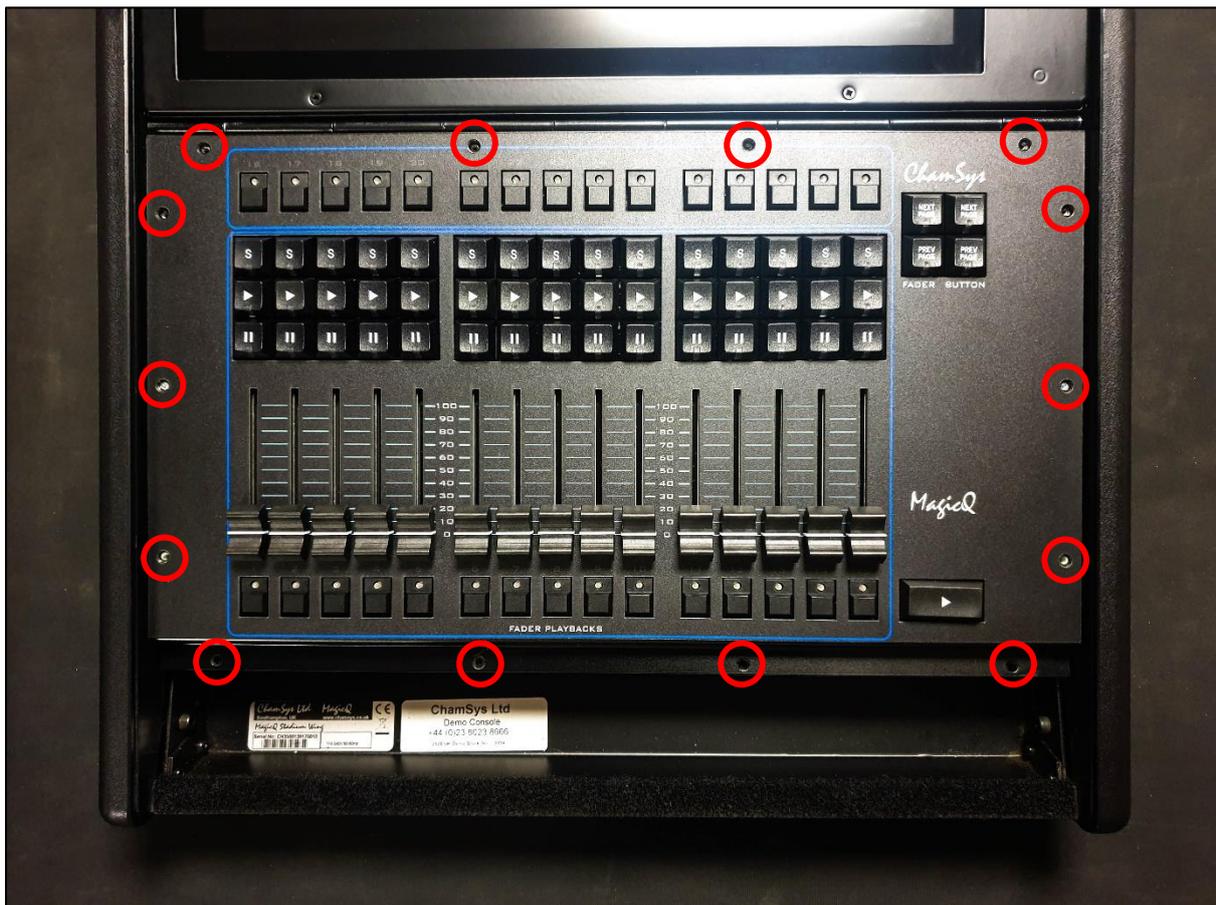
Section 2: Removing the front panel assembly.

The first step in the upgrade process is to remove the front panel assembly from the wing, ready for the new, replacement panel. To do this, follow the steps below.

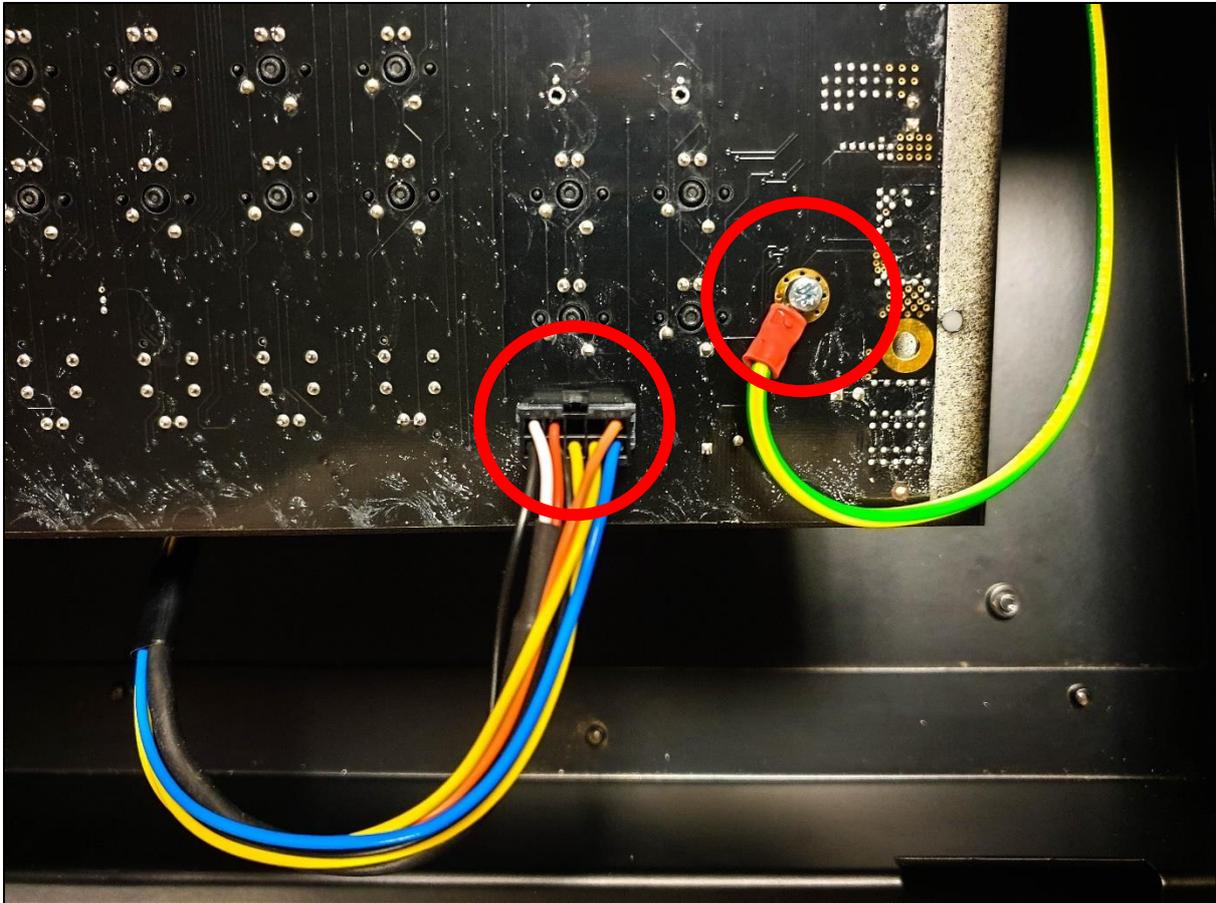
To begin, remove the arm rest from the wing. This simply pulls off.



Once the arm rest has been removed, you will have access to all screws securing the front panel assembly in place. Remove 14x M3x6 black countersunk screws from the locations pictured below using a PZ1 screwdriver. These screws can now be discarded.



Once all screws have been removed, the front panel assembly can then be lifted carefully from the front. Towards the rear of the front panel, there are two cables that must be removed: The front panel connection cable and an earth cable. See the image below for the locations of both of these cables.



The front panel cable is a locking connector; push the tab to unlock and pull to release.

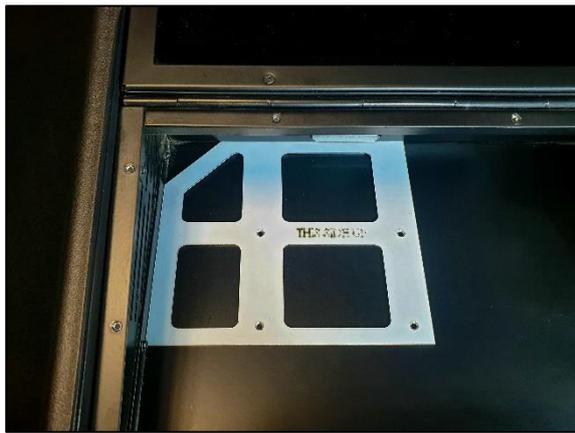
The earth cable needs to be unscrewed from the panel. Remove the M3x6 silver screw and shake-proof washer using a PZ1 screwdriver. The cable will then be free. Be sure to keep this screw and washer, as it will be needed to reconnect the earth cable later.

You can now remove the front panel assembly and set aside.

Section 3: Fitting the secondary power supply.

The next step is fitting a secondary power supply into the chassis of the wing, to power the motorised faders on the new front panel.

Start by clearing the chassis to ensure nothing is in the way when drilling. Move any cables in the chassis away, out of the wing.

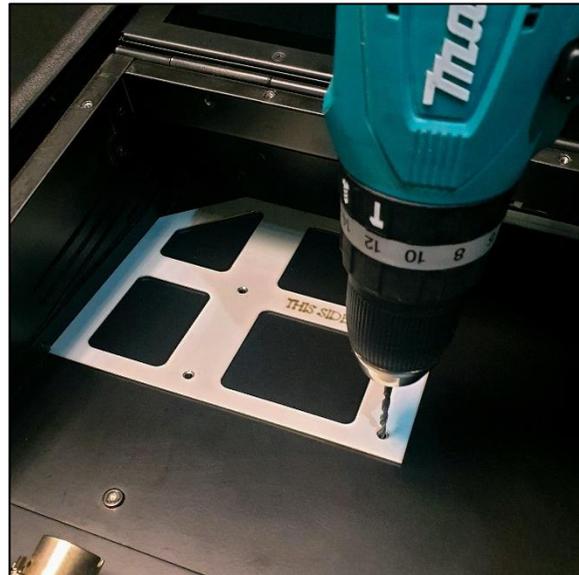


Once space has been cleared, the drill guide can be placed in top left corner of the chassis base. See the picture to the left. Note the orientation of the guide and ensure the text "this side up" is facing up. Also ensure the guide is right in the corner and flush with both edges of the chassis.

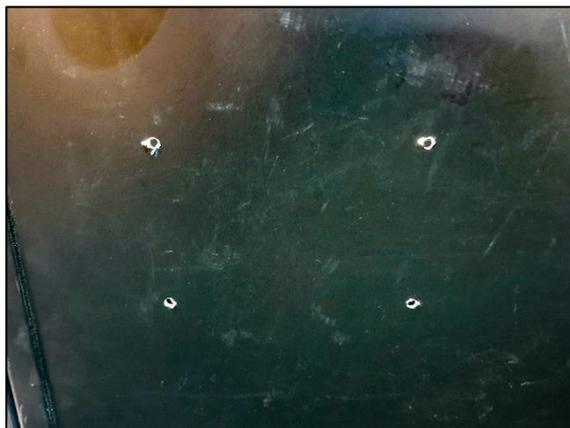
While holding the guide in place, carefully drill 4 holes using a 3.5mm drill bit – one for each hole in the guide.

We recommend placing a thin sheet of scrap wood or metal underneath the chassis in the area where drilling is taking place, to avoid drilling into and damaging the surface below the wing.

Once the 4 holes are drilled, remove the guide, and clean up any metal shavings left in the chassis as indicated in the images below. It is important to remove all of these, as any left in the wing could potentially cause electrical shorts and lead to serious issues with the wing once it is switched on and in use.



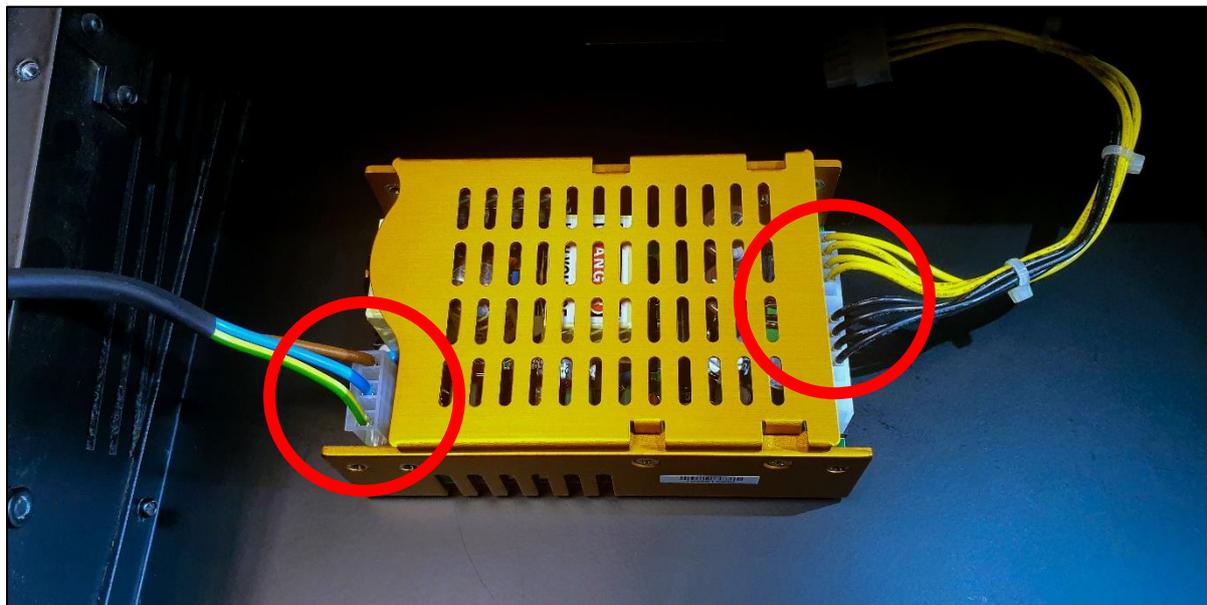
Once the area is clean, lift the wing from the front and file out the holes from the underside so they are smooth, and screws will comfortably fit through. The image to the right shows the drill holes from the underside of the wing, before being filed out. Once the holes are filed and any new metal shavings are removed, you are ready to screw in the new power supply.



You will need the power supply itself, 4x M3x6 silver screws and Threadlock. Each screw needs a little Threadlock on it to ensure they are secure. Screw through the bottom of the chassis into the power supply. See the images below of the 4 screw holes to be used on the power supply, and correct orientation.



Finally, connect both cables to the power supply. See the image below for the correct orientation of each cable. The cable should then be fed through the hole to the rear of the chassis where the rear panel is located, ready for connection.

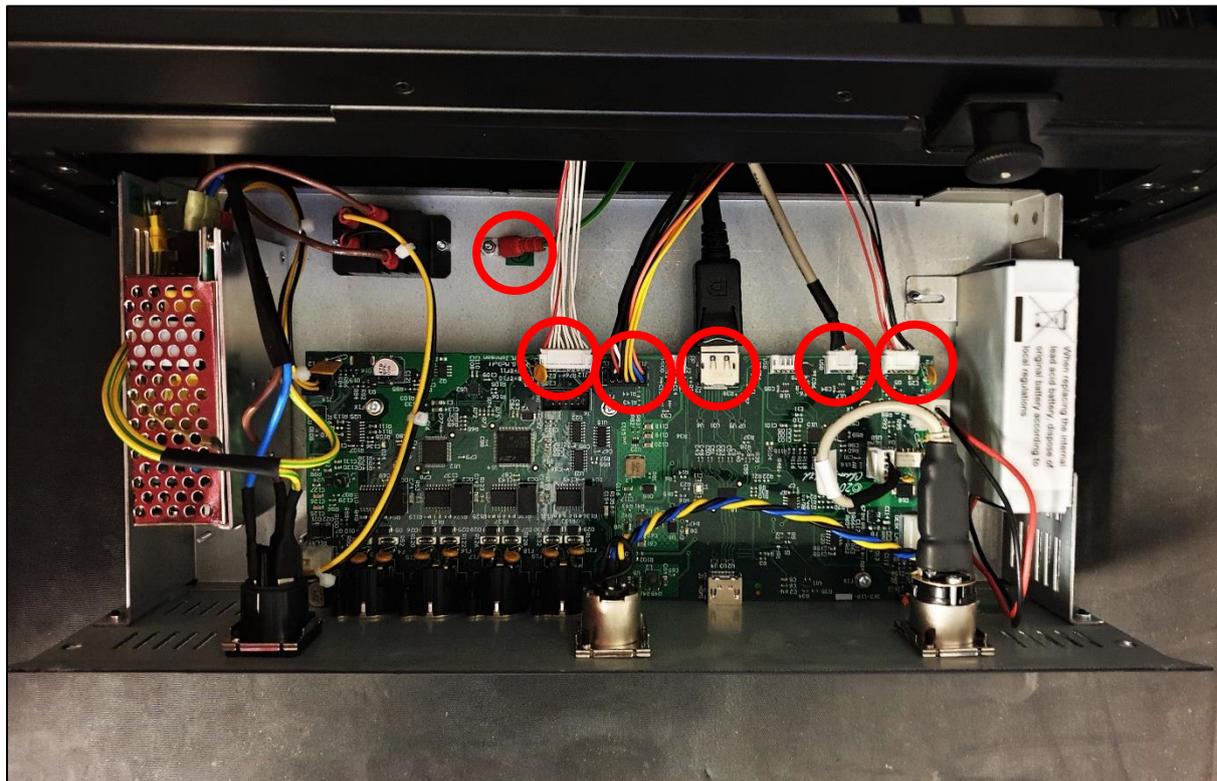


Section 4: Replacing the rear panel PSU cable assembly.

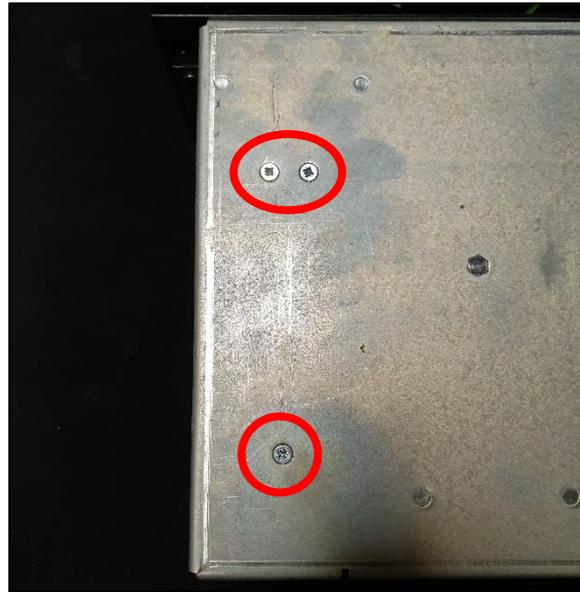
Once the secondary power supply has been fitted and wired correctly, the next step is to replace the cable assembly in the standard power supply in the wing rear panel, in order to be able to connect this to the new secondary power supply.



To begin, turn the wing around to access the rear and remove the 4x M4 hex screws securing the rear panel in place, using a 4mm ball driver or Allen key. See the image above for screw locations. Once these screws are removed, you can carefully slide the rear panel out, just enough so all cables can be accessed as in the image below. All 6 cables highlighted in the image can then be disconnected. The front panel and display port cables have tabs that must be pushed to free the cable. The other 4 simply pull to disconnect. With these disconnected, the rear panel can then be removed completely.

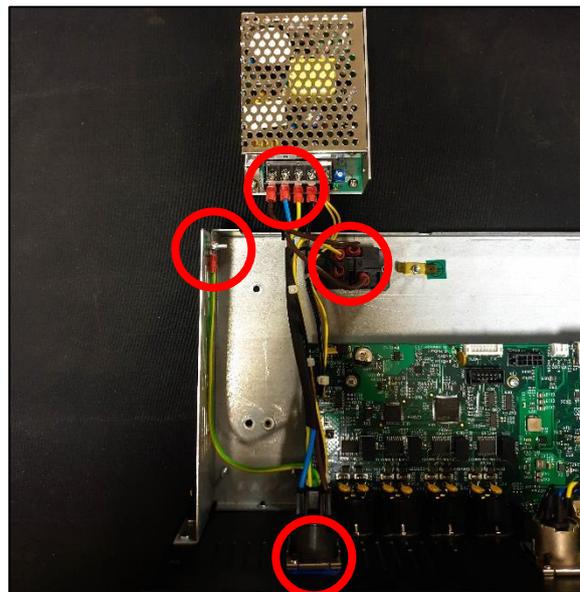


Once the rear panel has been removed, carefully place it upside down to access the 3x M3x6 counter-sunk silver screws for the power supply as pictured, right. Remove these using a PZ1 screwdriver to free the power supply. Note that this will still be connected by cables and not completely free from the rear panel.

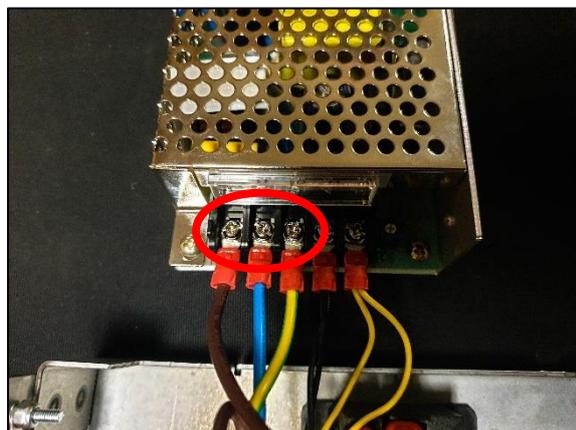


Once the screws are removed, carefully place the rear panel back upright, holding the power supply while you turn it over. You can then remove the power supply from the chassis and place it down as pictured in the second image to the right.

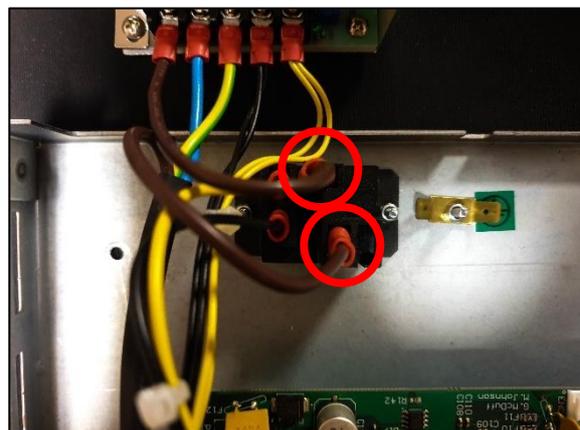
The cable to be removed and replaced is the assembly with the live (brown), neutral (blue) and earth (green/yellow) wires running between 3 terminals of the power supply, an earth bond to the chassis, 2 terminals on the relay, and the powercon connector, all as highlighted in the image to the right. These all need to be disconnected in order to remove the cable assembly, as detailed below.



Start by using a PZ1 screwdriver to remove the live (brown), neutral (blue) and earth (green/yellow) wires from the power supply as pictured below, left. Do not remove the black (V-) and yellow (V+) wires.

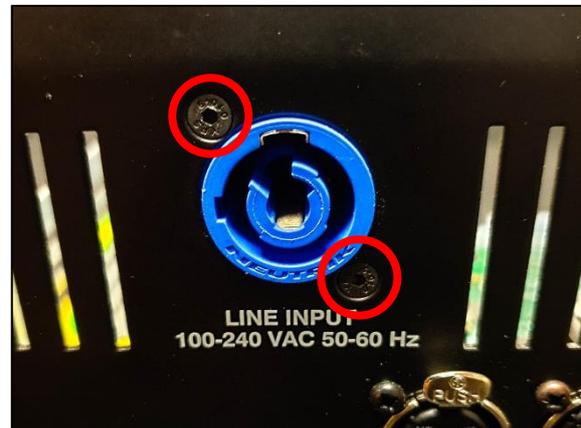
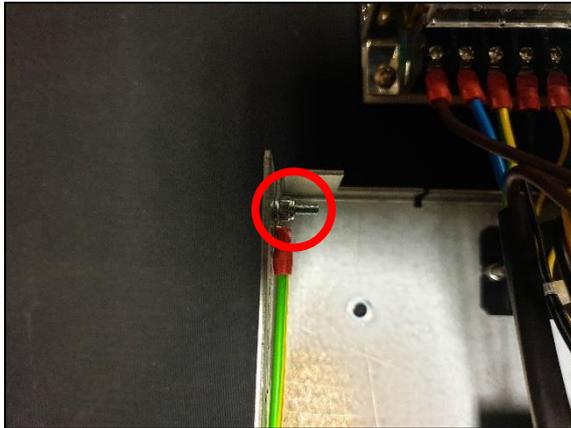


Next, the 2x live (brown) wires need to be removed from the relay as pictured below, right. These are removed by carefully pulling up by the red ends, while gently wiggling slightly, until they come free. Again, do not remove the black (V-) and yellow (V+) wires.



You can now use a 5.5mm nut spinner or spanner to remove the nut securing the earth bond in place as pictured below, left. Once the nut is removed, the earth bond is free.

Finally, remove the 2x M3x10 screws securing the powercon connector to the rear of the chassis using a 2mm ball driver or Allen key. Once this is removed, the whole cable assembly should be free to be removed, ready for the new assembly to be fitted.



The new cable assembly is identical to the one just removed, except there is a new wire split from the live/neutral/earth terminals to connect to the cable from the motor PSU installed previously. To the right is a picture of this cable installed correctly, with all wires in the same places there were removed from with the previous assembly.

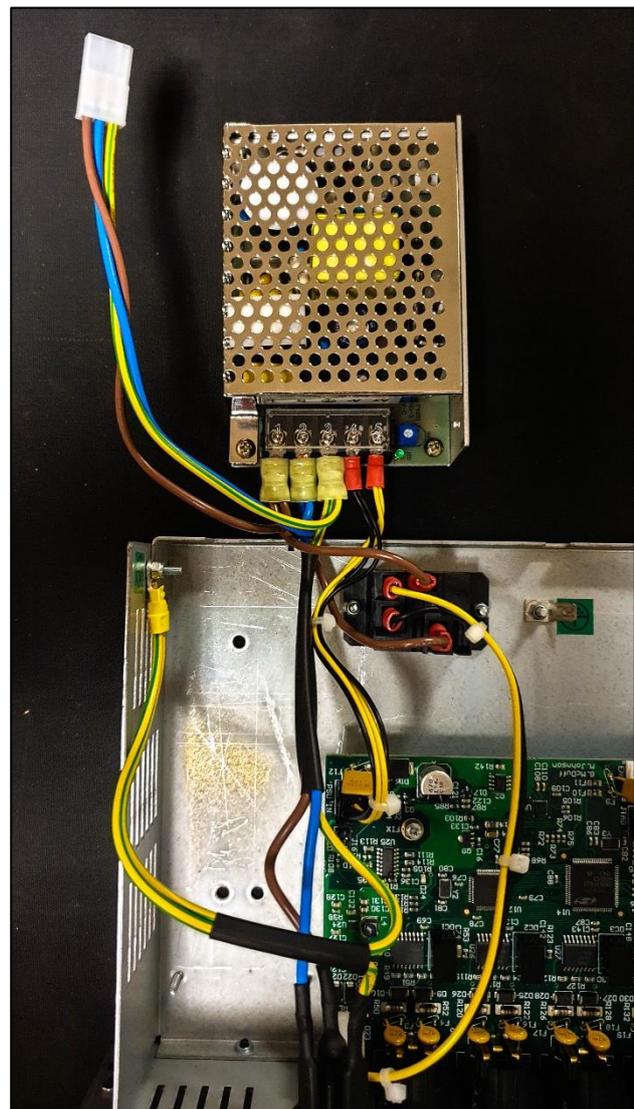
Ensure this is all wired correctly, as incorrect wiring can cause serious issues with the wing once powered on.

Connect the live (brown), neutral (blue) and earth (green/yellow) wires to the correct terminals on the power supply.

Push the 2x live wires in place on the relay until they are secure.

Connect the earth bond to the chassis and screw the securing nut in place.

Replace the 2x M3x10 screws to secure the powercon connector in place. Ensure correct orientation of the connector.

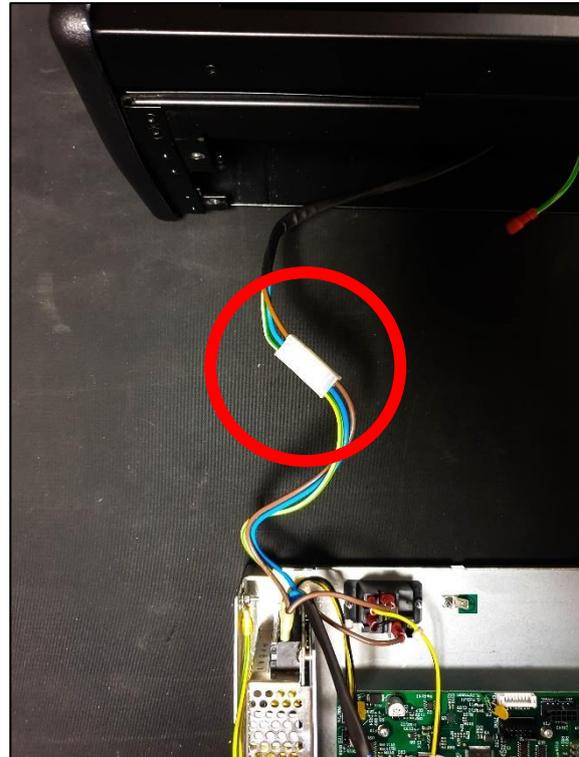


Once the cable assembly has been fitted correctly, the power supply can now be carefully placed back in the chassis, underneath the earth wire, and screwed back in place. See the image at the bottom of the page for correction orientation of the PSU.

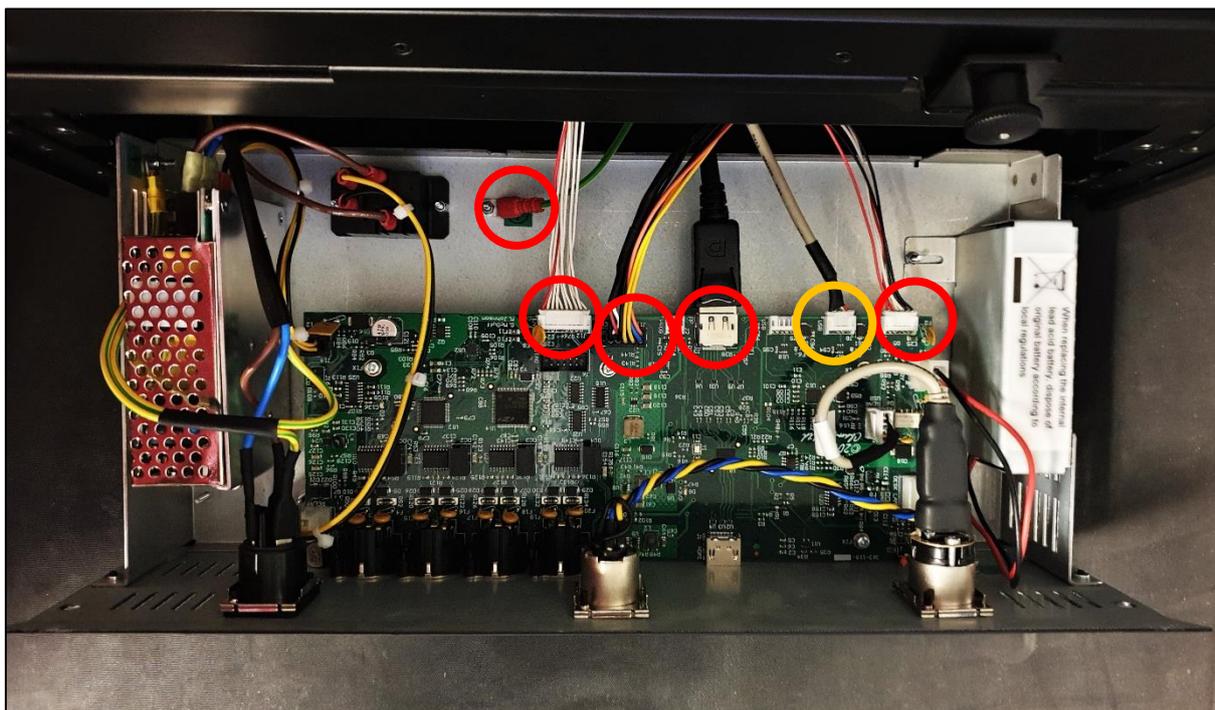
With the PSU secured in place, the spare connector on the new cable assembly can now be connected to the cable from the secondary PSU fitted in the chassis of the console as pictured, right. Ensure the wires connect to the same colour wires on the other connector; brown to brown, blue to blue and green/yellow to green/yellow.

Once this is connected, you can now re-connect all other cables to the rear panel assembly as pictured below. This is a total of 6 other cables.

Note: The connector highlighted in orange below must be connected to the socket further away from the display port connector – labelled **J8**, NOT **J9**. The socket labelled J9 is unused and will cause the touch to function incorrectly if used.



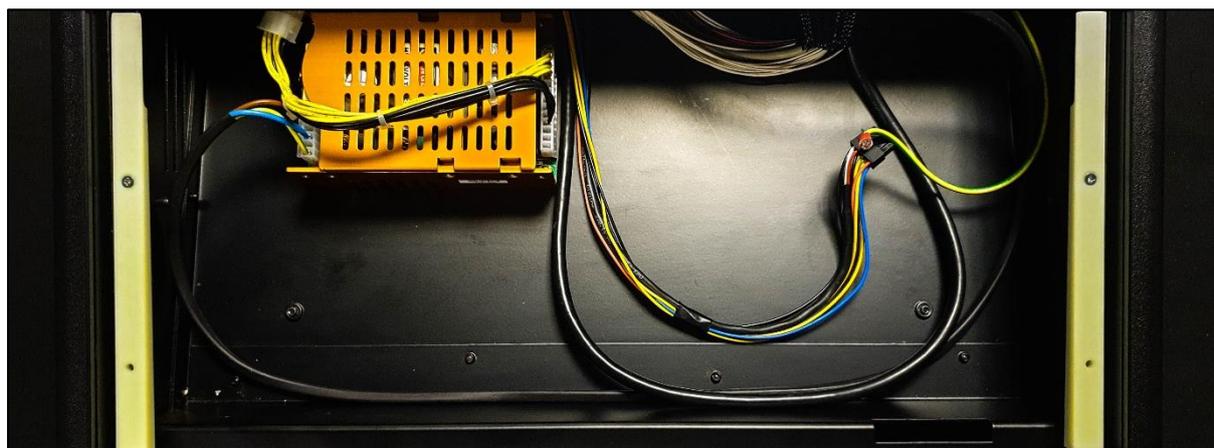
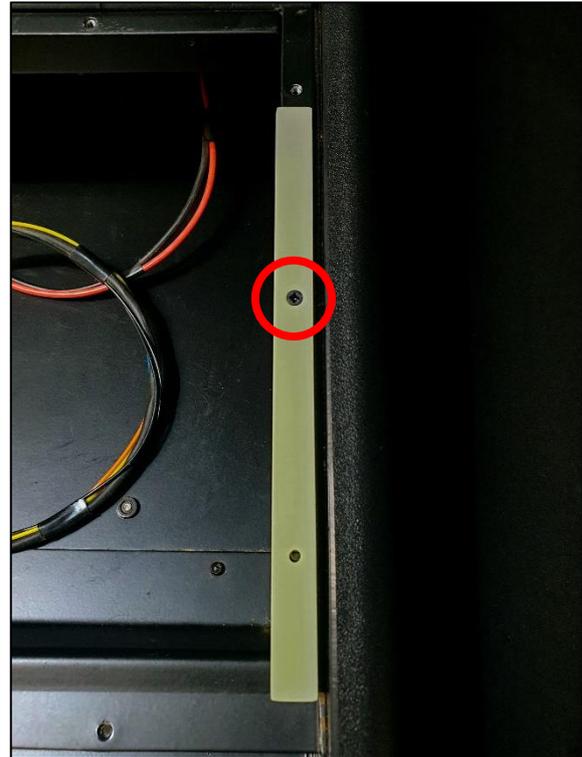
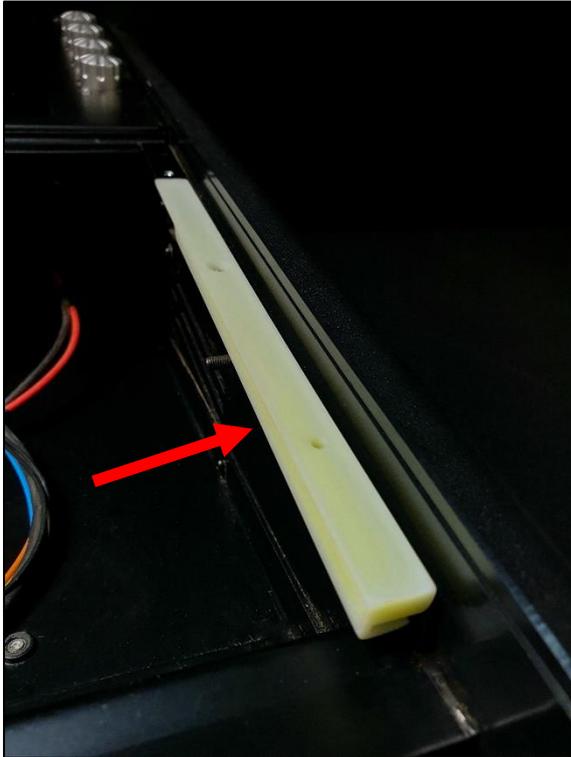
With all cables in place, carefully slide the rear panel back into the wing chassis, ensuring no cables are caught. Finally, replace the 4x hex-head screws to secure the rear panel back in place.



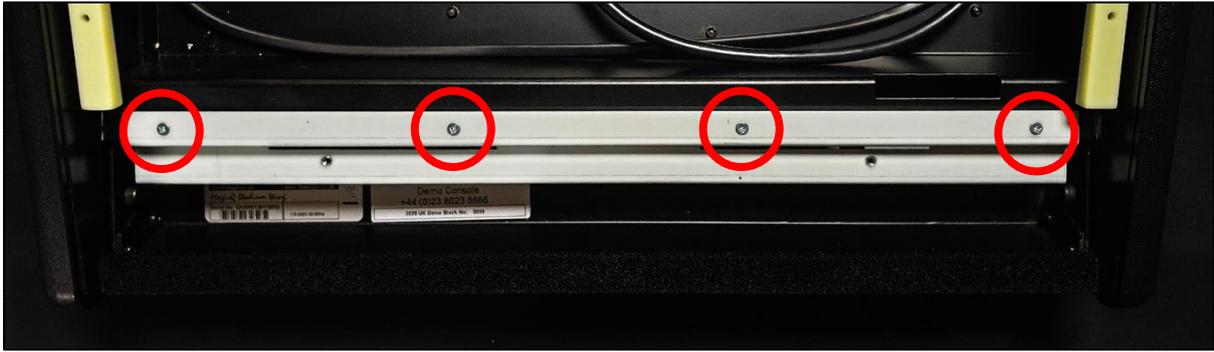
Section 5: Fitting the new front panel assembly.

Once the previous steps have been completed, the final step in the upgrade process is fitting the new front panel assembly. Once fitted, the process is complete.

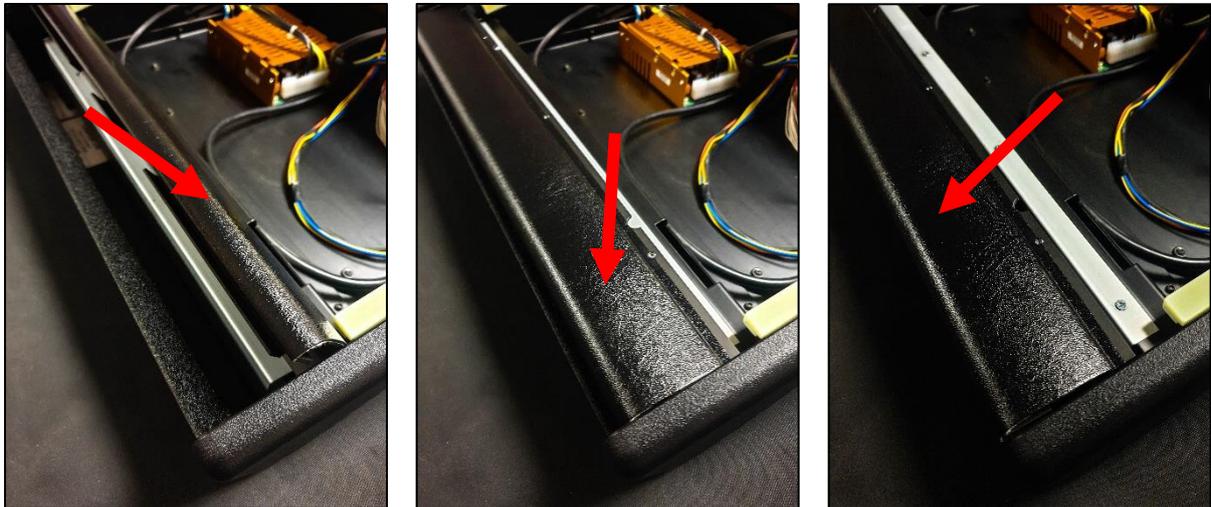
To begin, turn the wing back around so you once again have access to the front. The first step is then to clip the front panel angle adjustments in place – one on each side of the chassis, and screw in place with 1x M3x6 black countersunk screw per piece. These clip over the shelf the front panel was screwed into. See the images below for reference.



Once these are screwed in place, the next step is to fit the arm rest support bracket. This simply places into the space underneath the previous arm rest as pictured on the next page. The four screw holes should line up as highlighted in the image, and this can then be screwed in place, into these holes, with 4x M3x6 silver countersunk screws.



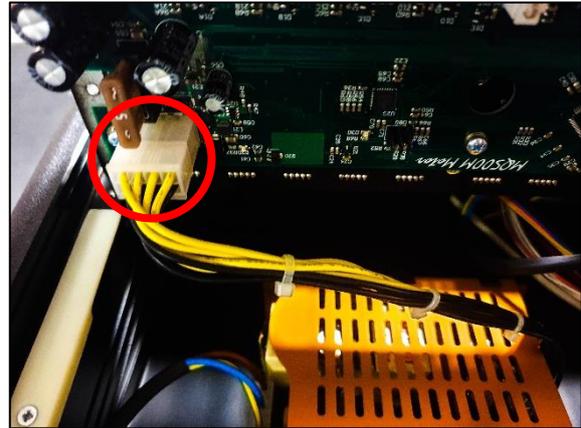
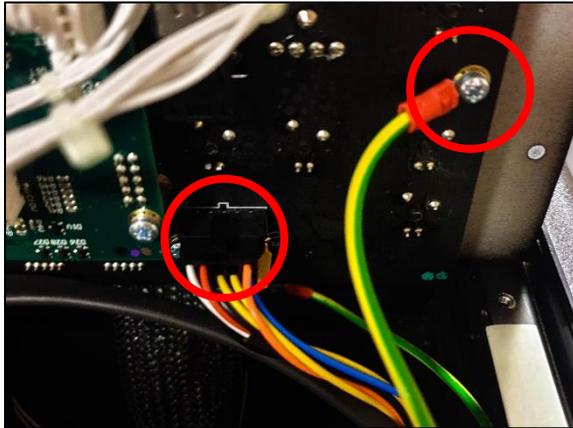
Once the support bracket is screwed in place, the arm rest can then be fitted. To attach this correctly, follow the three images below. The arm rest should first be placed in roughly at a 45-degree angle, before being placed down, and finally pulled towards the front of the wing as much as possible, using a little force.



Once in place, screw in the arm rest with 2x M3x6 silver screws as pictured below. Note that while the arm rest is screwed in place, you will need to use some force to pull it towards the front of the wing as much as possible. This will not only help line up these screws but is also important when fitting the front panel, ensuring it lines up correctly.



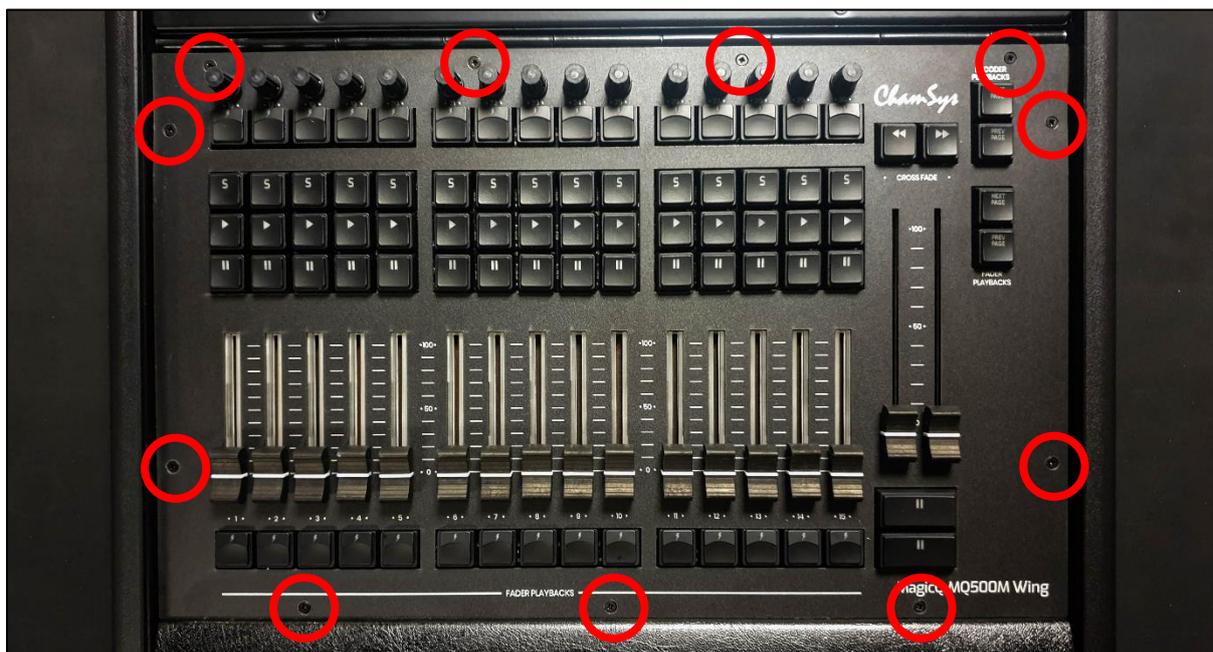
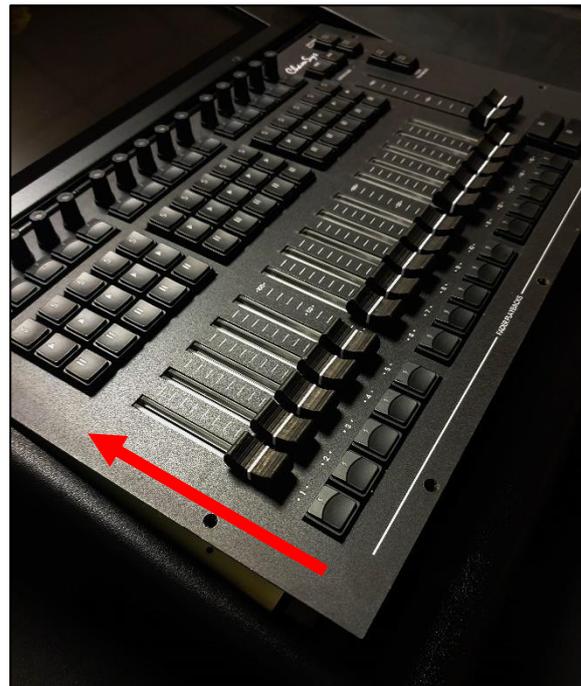
Next, carefully place the back end of the new MQ500M Wing front panel onto the chassis at roughly a 45-degree angle. While holding the panel up, reconnect the front panel cable and earth bond as previously removed from the old front panel assembly. Once these are connected, you can then also connect the power supply cable for the motorised faders. Note that this cable has a tight fit, and you may need to lower the front panel further to connect it. See both images on the next page for reference.



Now all cables are connected, the front panel can be placed down. This will need to first slide in at an angle as pictured, right, before being lay flat.

With the front panel assembly lying flat, first ensure all 11x screw holes around the edges of the panel line up. Once these all line up correctly, first use the 4x M3x10 black screws in the 2 holes on each side of the pane. Once these 4 screws are in, you will then be able to screw in the rest of the panel with the other 7x M3x6 screws.

Note the different size screws mentioned. It is important that the M3x10 screws are used on the sides, and the shorter M3x6 screws used for the rest.



Once all these steps have been completed, the upgrade process is finished and you will have an MQ500M spec wing with the new front panel fitted, as pictured below. We now recommend switching the wing on and fully testing the new front panel, ensuring all motorised faders, keys etc are all working correctly.



If you require more help with the upgrade, testing, or something is not working, please feel free to get in contact with ChamSys support using the details in section 1.