

ChamSys MQ500M Upgrade Instructions

This guide will cover upgrading an MQ500 console to MQ500M 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 MQ500 Stadium console to MQ500M 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 console 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 console is powered off and has been for at least 10 minutes to ensure all residual power has drained from the console. It is highly recommended for this process that the console is powered off by first disconnecting the power cable, so the console is running on the UPS battery, then shut down the console safely. This will ensure power is drained from the AC card – ready to be replaced later.

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 4mm Allen key
- Threadlock



Upgrade kit contents:

Below is a list of all parts included in the MQ500M 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.

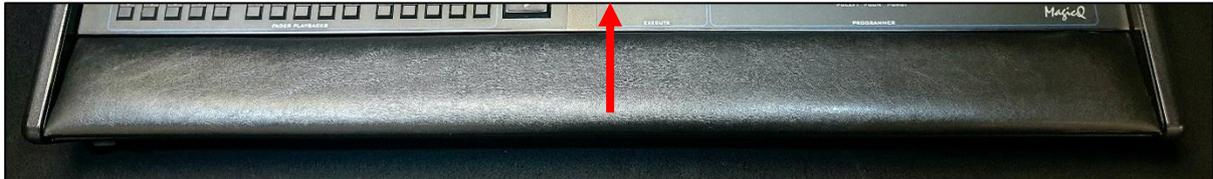
1. Front panel assembly
2. Arm rest support bracket
3. Arm rest
4. Front panel angle adjustments x2
5. Drill guide
6. AC card
7. Solid state drive
8. Power supply
9. AC card to PSU cable
10. PSU to motor board cable
11. 4x M3x10 black countersunk screws
12. 12x M3x6 black countersunk screws
13. 7x M3x6 silver screws
14. 3x M3x6 silver countersunk screws



Section 2: Removing the console front panel assembly.

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

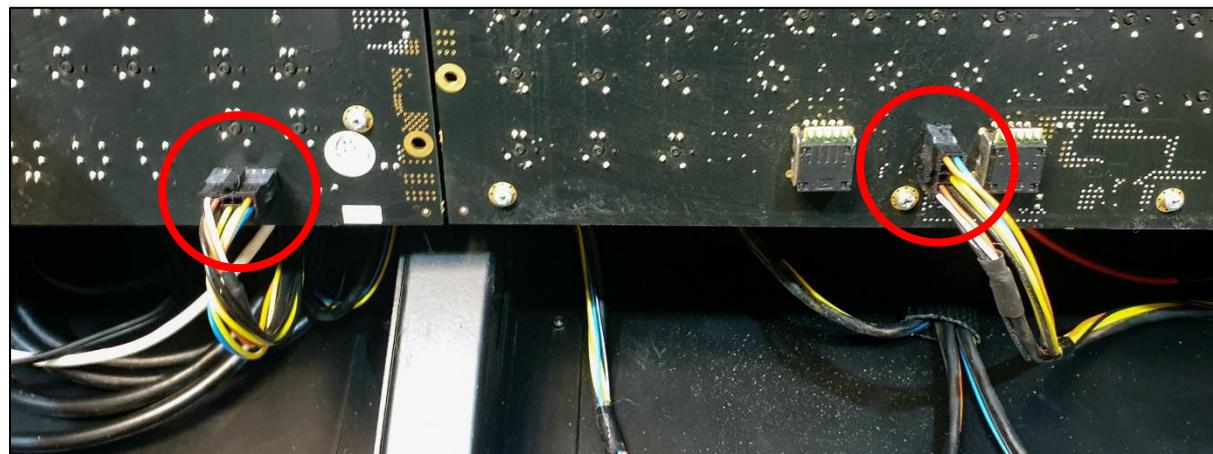
To begin, remove the arm rest from the console. This simply pulls off.



Once the arm rest has been removed, you will have access to all screws securing the front panel assembly in place. Remove the 17x M3x6 black countersunk screws from the locations pictured below using a PZ1 screwdriver. These screws can now be discarded.

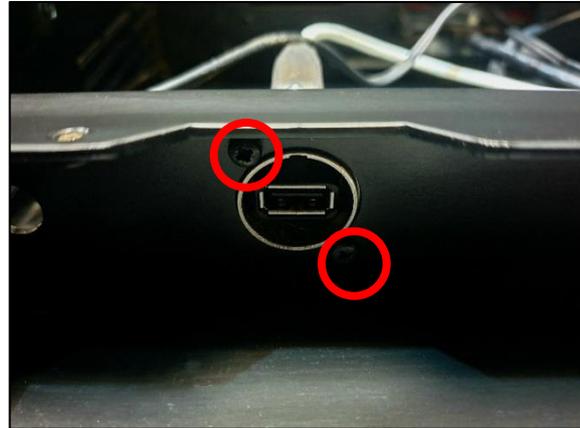


Once all 17 screws have been removed, the front panel assembly can then be lifted carefully from the front. Note that the assembly consists of 2 front panels, and each panel has a cable that must be disconnected to free the assembly completely, as pictured below. Both are locking connectors; push the tab to unlock and pull to release. Once these are disconnected, remove the front panel assembly, and set aside.



Once the old front panel assembly has been removed from the console, we now recommend cleaning inside the chassis of the console. Some consoles pick up plenty of dust and dirt in this area and it is good to clean this before fitting the new front panel.

Finally in this step, we recommend removing the arm rest USB socket from the console, or at least the cable, as this will no longer be accessible with the new front panel fitted. To do this there are a couple of options, listed below.



Option 1: Unscrew the 2x M3x10 black screws for the socket, located in the arm rest, using a PZ1 screwdriver. This can be difficult as due to the location a normal screwdriver will not fit here. If you are unable to do this, use option 2 below.

Option 2: Using some force, pull the white cable away from the USB socket. This will likely break the socket, but this is no longer required. You may also need to cut the heat shrink away first if it will not come away.

Once the cable is disconnected, you can now remove the 2x screws in the socket using a PZ1 screwdriver and remove the rest of the socket, leaving only the metal surround as pictured below. This can stay here if you are unable to remove it as it does not interfere with the new front panel. Finally, follow the white cable and disconnect this from the rear panel of the console. This can now be discarded.



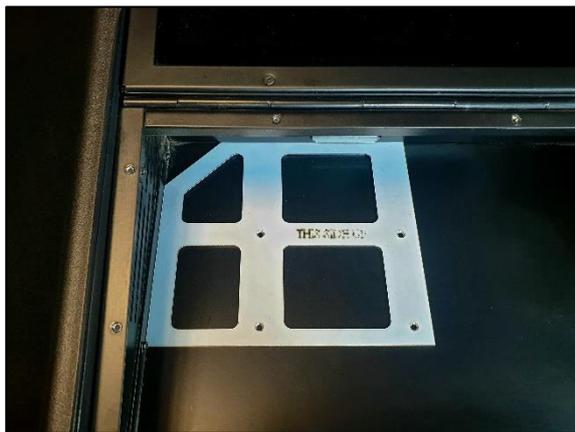
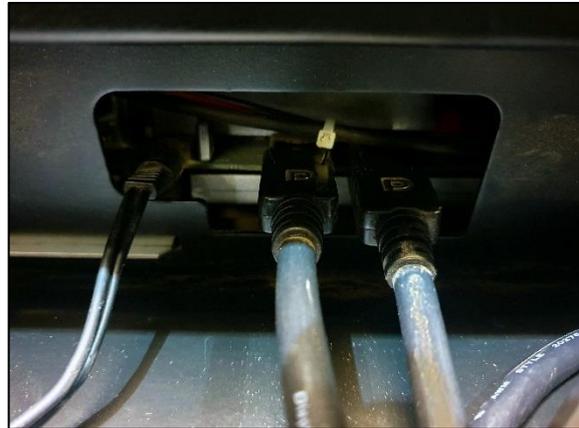
Once all these steps are complete the chassis will be clear and clean. You are now ready to fit the new power supply, as outlined in the next section.

Section 3: Fitting the secondary power supply.

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

Start by clearing the left half of the chassis to ensure nothing is in the way when drilling. Unplug the x2 display port cables and audio jack from the rear panel and move the cables out the way, ready for drilling the chassis.

The jack connector can be pulled straight out, while the display port connectors have tabs that need to be pushed to release the cables. Mark the display port connectors so you know which is which for reconnecting.

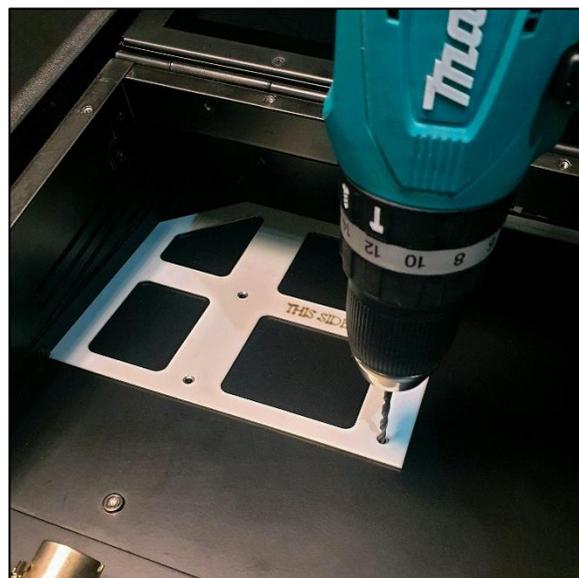


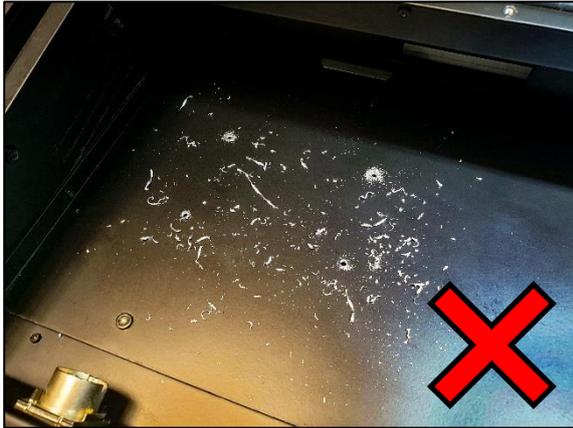
Once space has been cleared, the drill guide can be placed in top left corner of the chassis base. See the picture to the left. Note the orientation of the guide and ensure the text "this side up" is facing up. Also ensure the guide is right in the corner and flush with both edges of the chassis.

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 console.

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





Once the area is clean, lift the console from the front and file out the holes from the underside so they are smooth, and screws will comfortably fit through.

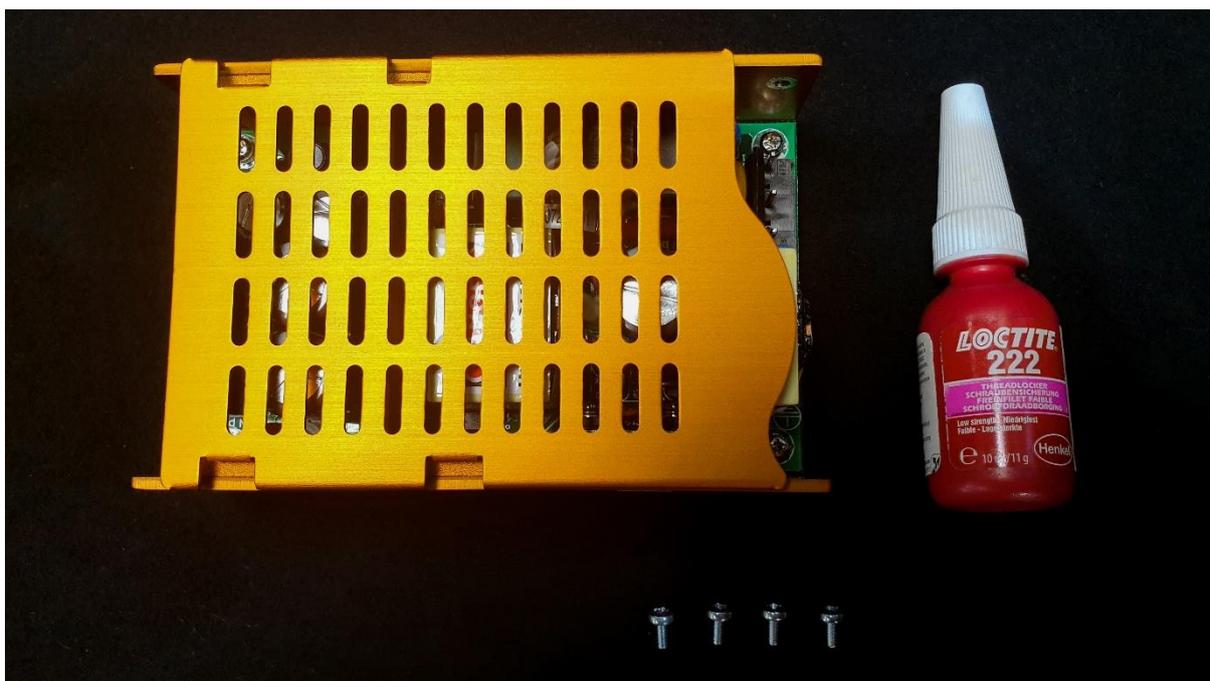
The image to the right shows the drill holes from the underside of the console, before being filed out.

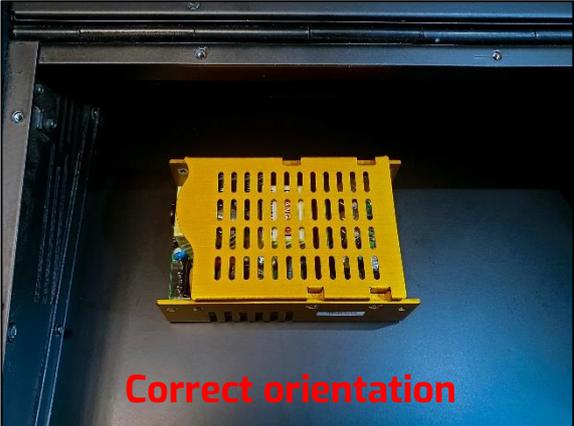
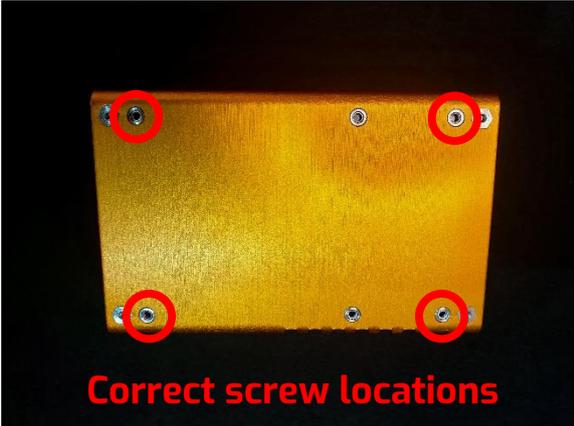


Once the holes are filed and any new metal shavings are removed, you are ready to screw in the new power supply.

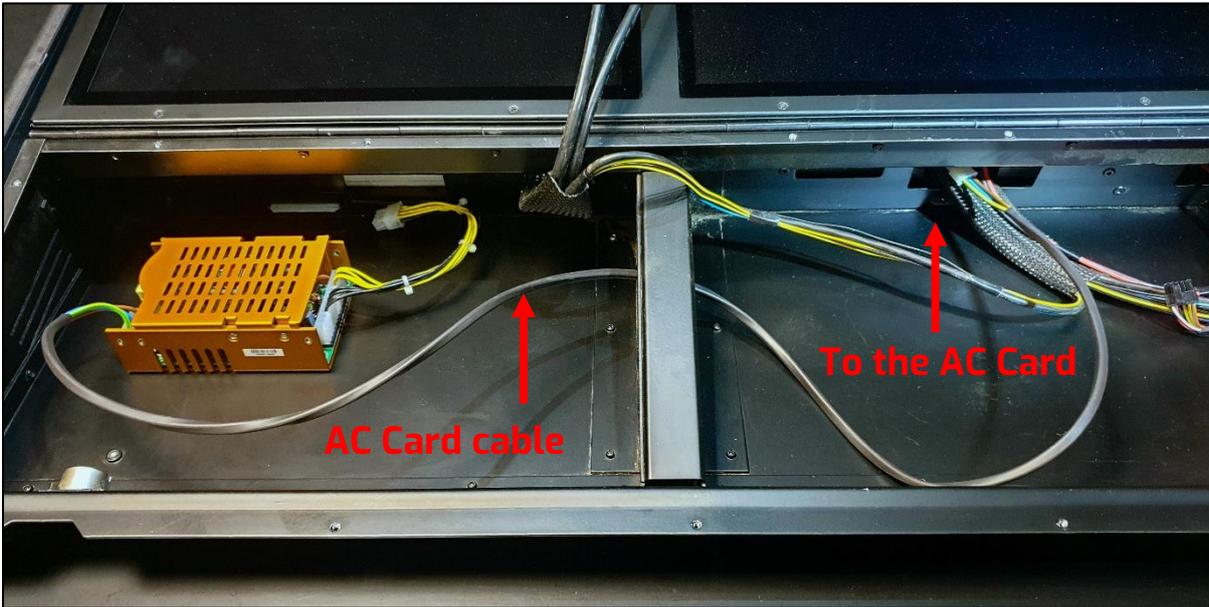
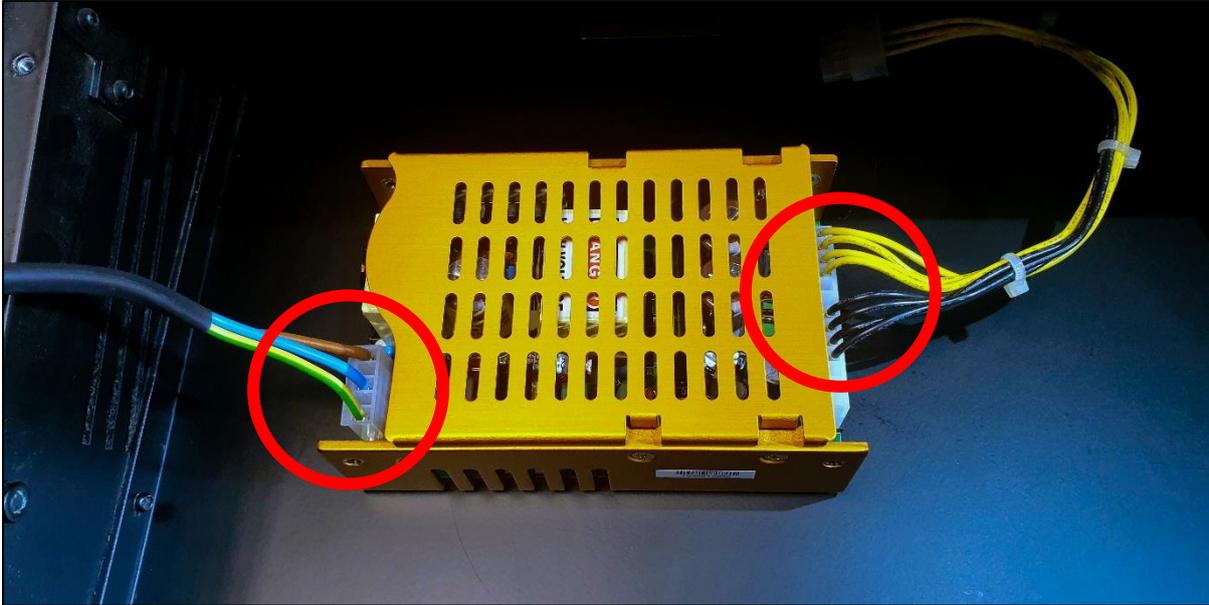
You will need the power supply itself, 4x M3x6 silver screws and Threadlock, as pictured below. Each screw needs a little Threadlock on it to ensure they are secure.

Screw through the bottom of the chassis into the power supply. See the images on the next page 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 first image below for the correct orientation of each cable. The AC card cable should then be fed through the hole in the middle of the chassis, over into the rear panel, pictured in the second image below.

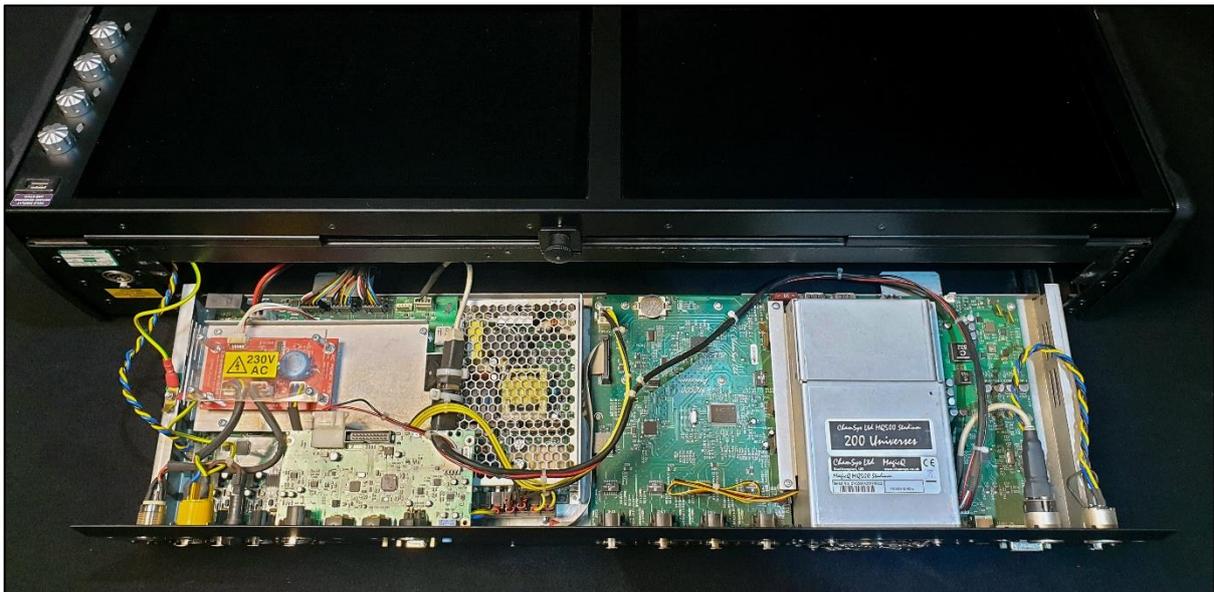


Section 4: Upgrading the SSD and AC Card.

Once the secondary power supply has been fitted and wired correctly, the next step is to replace both the solid-state drive (SSD) and AC card in the console rear panel.

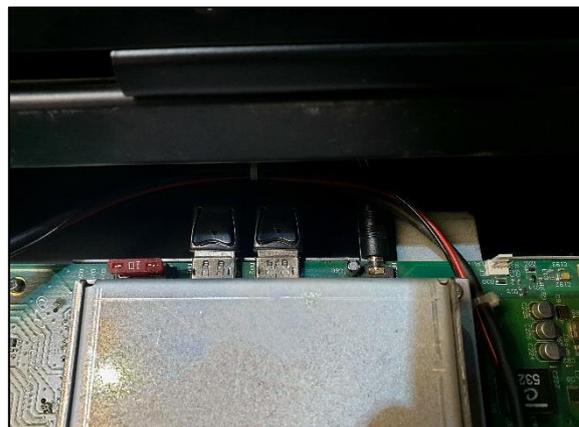


To begin, turn the console around to access the rear and remove the 4x M4 hex screws securing the rear panel in place, using a 4mm ball driver or Allen key. See the image above for screw locations. Once these screws are removed, you can carefully slide the rear panel out, just enough so all components can be accessed as in the image below.



With the rear panel pulled out, you can now easily reconnect the 2x display port connectors and audio jack, as pictured to the right. Feed these back through the hole from the chassis. Ensure the display port connectors are in the correct ports, as marked earlier.

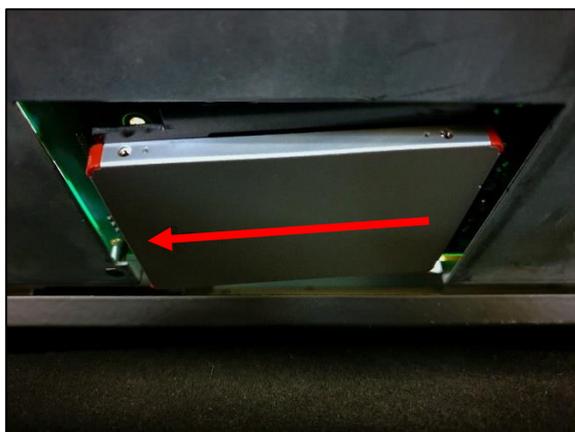
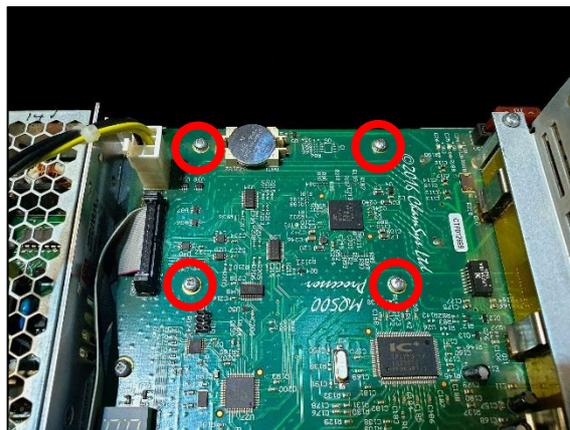
Once these are connected, you can now replace the SSD and AC card in the console, as outlined on the following pages.



To replace the solid-state drive:

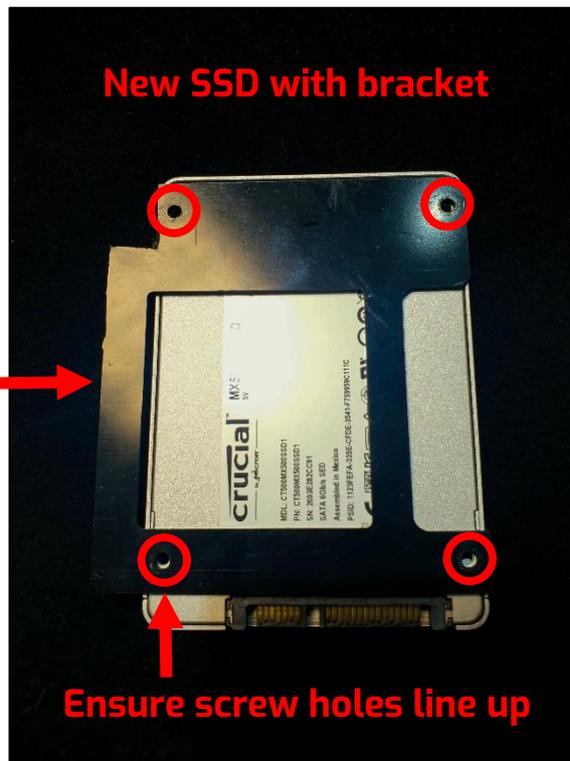
First remove the 4x M3x10 silver screws and shake-proof washers for the SSD using a PZ1 screwdriver. See the image to the right for reference on screw locations.

Once these screws are removed, the SSD will be loose and can be slid to the left to disconnect, before pulling down to remove. The SSD is located on the underside of the rear panel, so this will need to be lifted to remove it. See the image below.



Once the SSD has been removed, you will need to take the plastic bracket from it, and fit this to the new SSD, as pictured below. This is stuck in place with tape, so can be pulled off carefully. Ensure the screw holes on the bracket line up with those on the SSD.

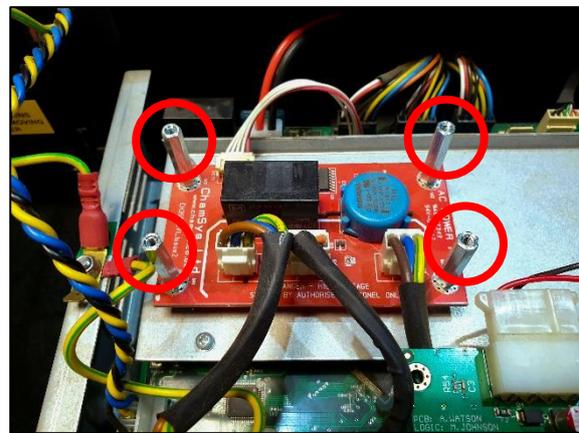
Once the bracket is stuck to the new SSD, slide the new SSD back onto the connector on the underside of the rear panel and then hold in place while putting the first screw in, followed by the other 3 screws.



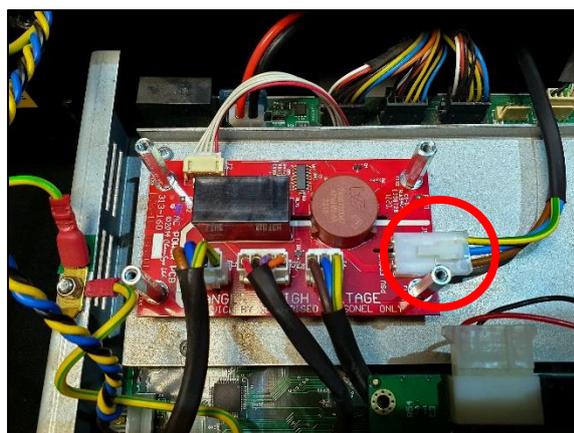
To replace the AC card:

Before replacing the AC card, first hold the power button on for 10 seconds to drain all power from the AC card coils.

Once this is done, start by unscrewing the 4x M3x6 silver screws securing the AC card finger guard in place, as pictured below, left. Once the screws are removed, take away the guard, and unplug all 4x connections on the AC card as pictured below, right.



Once all connections have been removed, the AC card can now be removed by unscrewing the 4x M3x12 spacers, as highlighted in the picture above, right, using a 5.5mm nut spinner or spanner. The old AC card can then be removed, and the new AC card fitted in its place with the same orientation, replacing the 4x M3x12 spacers.



When you have secured the new AC card in place with the 4x spacers, now replace all 4x connections previously removed. See the picture to the left for locations and orientations for these.

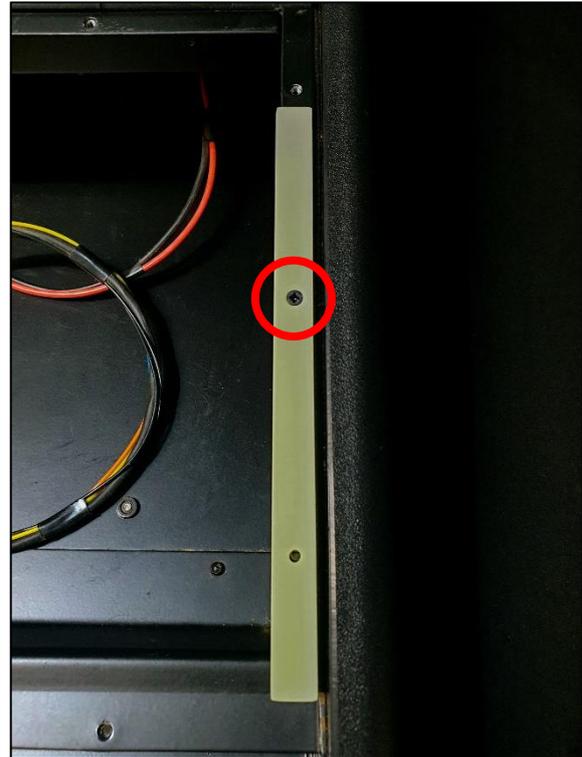
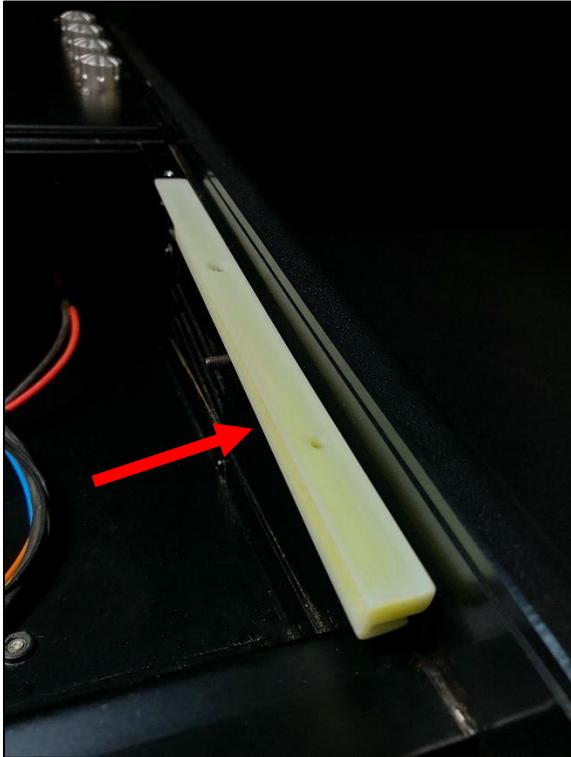
Note that there is now a fifth connection to be fitted – the cable from the new power supply, previously fitted in the base. This is highlighted in the image, left. Pull this cable through and connect it as pictured.

Once all are connected correctly, you can then replace the finger guard with the 4x M3x6 screws and then carefully slide the rear panel back in place. While sliding this back in, check that no cables are getting caught – you may need to pull these through carefully from the other side. Finally, replace the 4x hex screws to secure the rear panel 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.

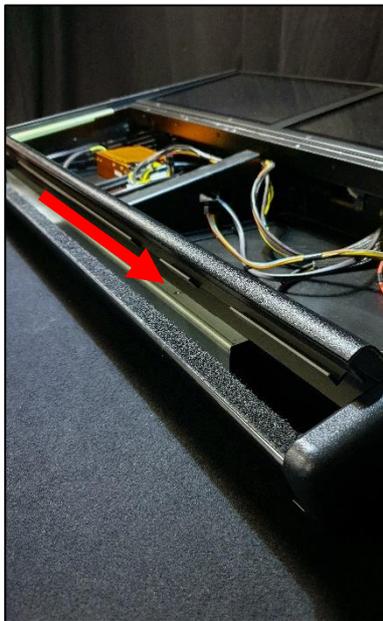
To begin, turn the console back around so you once again have access to the front. The first step is then to clip the front panel angle adjustments in place – one on each side of the chassis, and screw in place with 1x M3x6 black countersunk screw per piece. These clip over the shelf the front panel 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 three screw holes should line up as highlighted in the image, and this can then be screwed in place, into these holes, with 3x M3x6 silver countersunk screws.

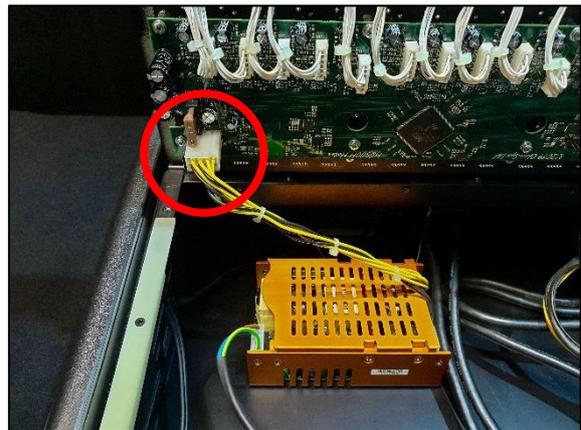
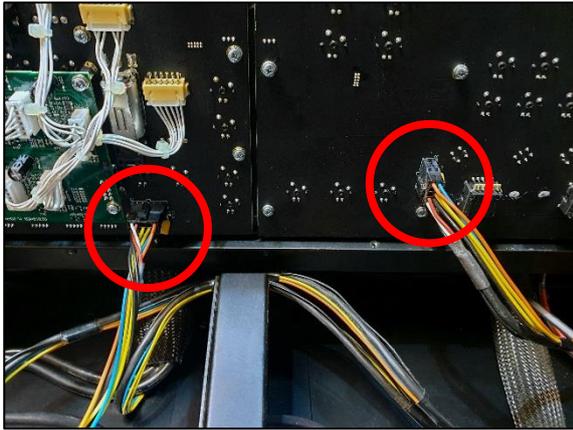


Once the support bracket is screwed in place, the arm rest can then be fitted. To attach this correctly, follow the three images below. The arm rest should first be placed in roughly at a 45-degree angle, before being placed down, and finally pulled towards the front of the console as much as possible,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



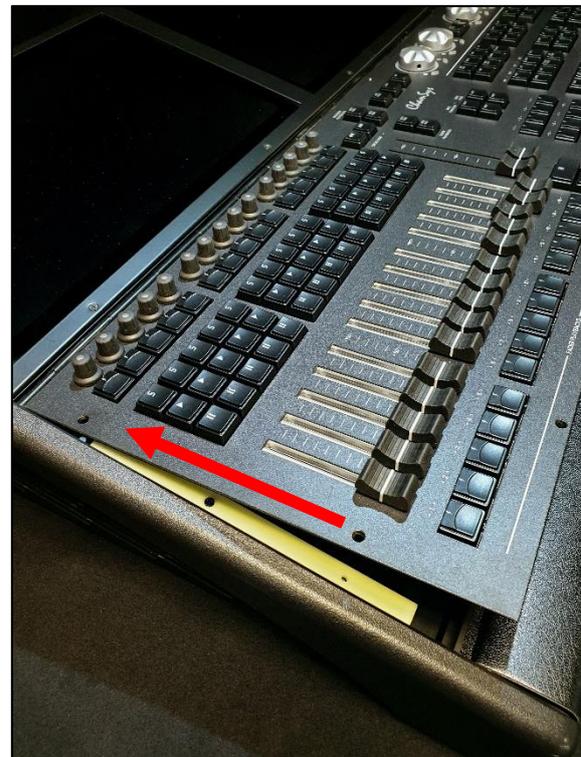
Once in place, screw in the arm rest with 3x M3x6 silver screws. You will find the three screw holes for these just underneath the holes where you previously screwed in the support bracket. Note that while the arm rest is screwed in place, you will need to use some force to pull it towards the front of the console 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 front panel onto the chassis at roughly a 45-degree angle. While holding the panel up, first plug in both front panel connection cables as previously removed when disconnecting the old front panel assembly. Ensure these are connected to the correct panels they were disconnected from. 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.

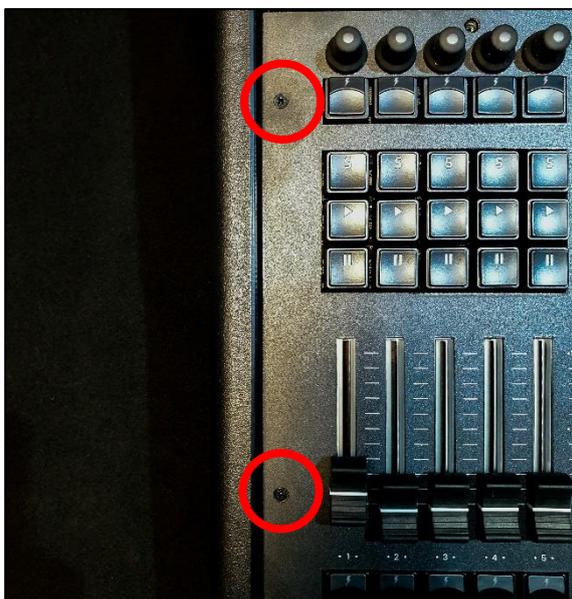


Now all cables are connected, the front panel can be placed down. This will need to first slide in at an angle as pictured, right, before being lay flat.

With the front panel assembly laying flat, first ensure all 12x 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 panel, as in both images below. Once these 4 screws are in, you will then be able to screw in the rest of the panel with the other 8x new M3x6 black countersunk screws provided.



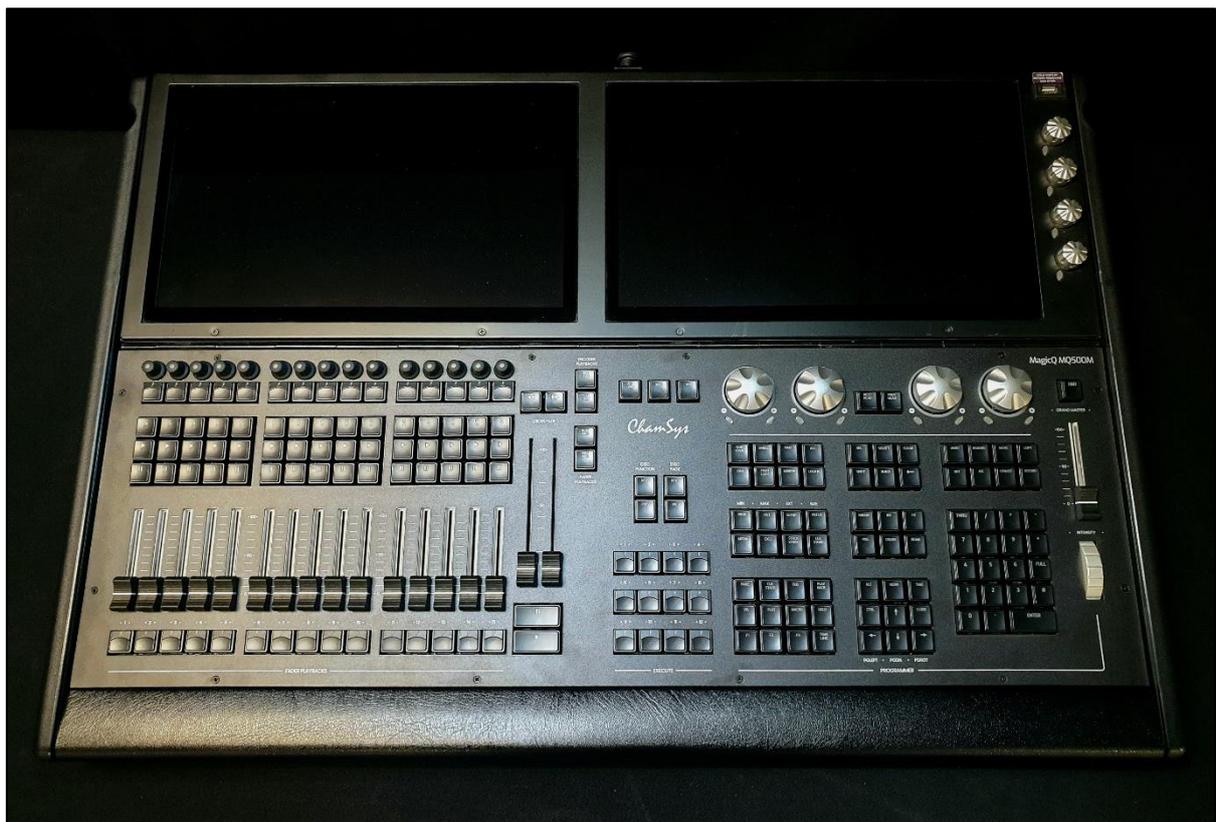
Note the different size screws mentioned above – it is important that the M3x10 screws are used on the sides, and the shorter M3x6 screws used for the rest.



All front panel screw locations are pictured below, for reference.



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