



MkIV

Operations Manual



Upgrade Innovations and Chromatic Pictures are pleased to collaborate to bring you DIT BOX. A platform for holding and powering all the essential live grading hardware and software to make your DIT work simpler and more streamlined.

As it's more important than ever to keep the DIT ecosystem lean and agile we designed DIT BOX to take your live grading and monitoring setup anywhere a camera can go. Welcome to the DIT BOX family!

DIT BOX

The Mobile Live Grade Platform

DIT BOX features:

DIT BOX MkIV utilizes a lightweight Pelican Air 1535 case as it's primary structure. The case is modified at the cases rear to accommodate multiple Neutrik D-Series connectors and a 120mm cooling fan. At it's core DIT BOX has a pull out machined and milled internal frame that hard mounts the essential DIT components needed live grade up to 6 cameras. While also maintaining enough I/O to feed multiple monitors and devices.

The mounting frame is also a crucial heat sink helping to keep the components cool and operational. Adding in the Cal digit TS3+/TS4 and a 5port ethernet switch allows for network control of all internal devices via the Mac Book Pro's single Thunderbolt 3 port. The Cal Digit also allows for up to 87-98 Watts of on-board charging depending on your Cal Digit and Laptop used.

DIT BOX dimension and weight:

	Width	Depth	Lenth
Pelican External Dimensions	13.97" / 35.5cm	8.98" / 22.8cm	21.96" / 51.8cm
Pelican Internal Dimensions	11.20" / 28.4cm	7.21" / 18.3cm	20.39" / 51.8cm
Lower Deck Dimensions	7.8" / 19.81cm	1.7" / 4.31cm	17.2" / 43.68cm
Upper Deck Dimensions	7.8" / 19.81cm	3.8" / 9.65cm	18.2" / 46.22cm
Weight	Aprox Case and frame weight 16lbs / 7.3Kg	Approx 43 lbs/19.5 kg with all devices installed	

What ships with the DIT BOX:

(Pictures are included at the end of the manual)

Modified Pelican Air 1535 with no foam.

Machined Aluminum Inner Bracket Assembly.

1 x Cal Digit 3 pole XLR power cable

1 x Custom enclosed Sonnet SE-1 (the original case is shipped to you)

1 x 5 port ethernet switch & 5x custom size ethernet cables

1 x Laptop Tray with 2 tie-down M6 thumb Screws (laptop tray can be mounted externally to a laptop arm available from upgrade innovations web site.

2 x Laptop clamps, 2x tie-down M6 thumb screws, 6x spacer plates

1 x 24Volt 306W @120V, 360W @ 240V custom power supply with AC cable

Worldwide power support (100-240Volts 50/60Hz). A north American standard plug is supplied. If you live in countries with other standards simply source a Kettle power cable with a plug type called C13.

1 x Fan speed controller, fans run off the 20 volt side of the system.

1 x 120mm silent fan & fan guards

1 x DC regulator and distribution unit with built in fan

10 x 2 pin LEMO 0B.connectors 2Amps max load (Max 12 Amps over all 10 ports)

1 x AJA Kumo power cable, 2 x Box IO's cables

1 x Decimator power cable, 1 x Ethernet Switch power cable, 1 x open lead power cable

1 x Sonnet SE1 power cable

All 12 volt accessory cables are wired to 0B. Lemo 2 pin connectors.

3 x Small Cheese Plate with Arri 3/8-16" and Small HD 1/2-20" Pin-Loc mounting holes

1 x Bottom Mounting Bracket

4 x Nylon Feet

1 x Non-Twist C-Stand/Spigot adapter

1 x Rear cover plate for BNC and fan

2 x Laser etched rear panel (BNC package comes pre-configured)

1 x 24volt 6' power extension cable

1 x Removable Lid

Optional kit 1 x Full set of BNC video cables

Includes mounting screws for all components

The DIT BOX hard mounts the the following devices:

- 3 x FSI BOX IO
- 1 x AJA Kumo3232(12G) or Kumo1616 router
- 1 x Decimator DMON-QUAD
- 1x Custom Sonnet SE-1 enclosure
- 1 x Cal Digit TS3+ or TS4
- 1 x Custom 24Volt power module
- 1 x 120mm external fan
- 1 x Netgear GS105 5 port Network Switch

DIT BOX IO:

24 x Neutrik D-Series connectors (2 ports for power, 1 port for ethernet)



DIT BOX Mk IV estimate wattage draws and amps by voltages: (Max power draw is 306watts at 120volt and 360Watts at 240 Volts)

DEVICE	Native Voltage	Amp at Native Voltage	Max Watt Draw	Amp at 12Volt	Amp at 14 Volt	Amp at 24Volt	AMP at 28Volt
TS4 and 16" M1-MBP	20	10	200	16.67	14.29	8.33	7.14
AJA Kumo 3232	12	2.5	30	2.50	2.14	1.25	1.07
BOX IO Dual #1	12	0.6	7.2	0.60	0.51	0.30	0.26
BOX IO Dual #2	12	0.6	7.2	0.60	0.51	0.30	0.26
Ethernet Router	12	0.5	6	0.50	0.43	0.25	0.21
Decimator DMON-QUAD	12	0.2	2.4	0.20	0.17	0.10	0.09
FAN	12	1	12	1.00	0.86	0.50	0.43
Convergent Design Apollo	12	1.3	15.6	1.30	1.11	0.65	0.56
12 Volt Spare (Leader 5333)	12	2.06	24.7	2.06	1.76	1.03	0.88
TOTALS Values			305.1	25.43	21.79	12.71	10.90

DIT BOX mounting hardware:

Device / Part	Number of screws	Screw Length	Screw Size
Rear L - Tab mounting screw	2	5/8	1/4-20 Socket Button Head
Front L - Tab mounting screw	2	1/2	1/4-20 Socket Button Head
Rear 120mm fan mounting screw	4	35mm	M4 SHC
Rear patch panel mounting screw	4	8mm	M4 Pan Head Phillip
Top shelf mounting screws to standoff	2	3/8	#6-32 Pan Head Phillip
Right side cheese plate screw	2	1/2	1/4-20 Socket Button Head
BOX-IO mounting screw	4 per unit	6mm	M3 Pan Head Phillip
AJA Kumo mounting Screw	4	8mm	M5 Pan Head Phillip
D-Series mounting screw	48	6mm	M3 Flat Head Phillip
Decimator DMON mounting screw	2	6mm	M3 Pan Head Phillip
Netgear GS105 switch mounting screw	2/2	6mm	M4 Socket Button and Pan Head Phillip
Sonnet SE-1 mounting frame screws	4	6mm	M4 Pan Head Phillip
Sonnet black lid screws	4	6mm	M4 Pan Head Phillip
Power Distribution mounting screw	2	6mm	M4 Pan Head Phillip

BEFORE OPERATING DIT BOX

WARNINGS

DO NOT USE Panavision 24volt 3 pole power cables with DIT BOX

Panavision uses reverse polarity. Using Panavision power cables could damage DIT BOX please utilize a cross over cable when using Panavision batteries and power supplies. DIT BOX is equipped with reverse voltage protection indicated with a red power LED.

DO NOT PLUG SONNET SE-1 TB3 cable directly into laptop!

Plugging a thunderbolt cable from the Custom Sonnet SE-1 enclosure to a laptop directly will overload the 12volt side. Please shut down unplug TB3 cable and wait 2 min before rebooting. Please plug the SE-1 into the non computer TB port on the CalDigit. Or down stream of another TB3 device.

Power down DIT BOX when servicing cables and devices

To reduce the chance of damaging your components please power down the DC distribution system before unplugging or plugging in internal devices. Always test any new power sources and power cables to avoid damage to the power system in DIT BOX.

Shipping DIT BOX:

DIT BOX fully loaded weighs 43lbs/19.5kg so likely can't be taken onto a plane as carry on. When checking your DIT BOX be sure to pull your laptop and pack DIT BOX in a additional protected case before shipping.

DIT BOX IS NOT WATER PROOF:

While DIT BOX, in its packed up state , is resistant to rain, however, we do not recommend leaving the case in the elements. Treat it like a camera.

POWER

- Input Voltage range: 20-34volts (24volt 3 pole XLR Pin 1-Ground , Pin 2+Hot)
- Watt draw range: 190-305 Watts (based on typical use)
- Cal Digit 20Volt max output: 11.5 Amps
- 12 volt accessory side Max combined draw on all ports: 10Amps nominal (12 Amp Peak)
- Primary input will take power priority. When using a power supply and a battery backup plug battery into the secondary input.

LAPTOP

The Mac Book pro could turn on when powered off due to the laptop clamps. To deactivate the auto boot, on open, enter the following code in terminal.

```
AUTO BOOT OFF: sudo nvram AutoBoot=%00
```

```
AUTO BOOT ON: sudo nvram AutoBoot=%03
```

First assembly of the DIT BOX

The guide below will help illustrate how to prepare your DIT BOX for your components and how to wire the DIT BOX for your first setup. Allow for 4-5 hours for the build and another 1-2 hours for testing and programming

Tools needed:

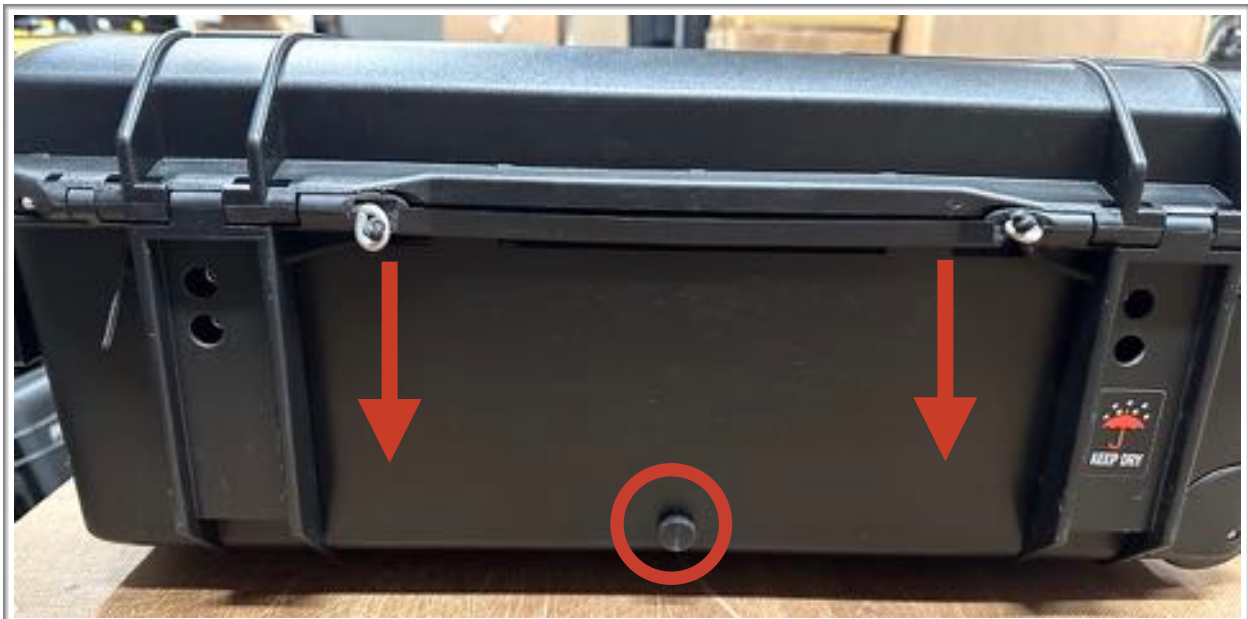
-5/32" or 4mm Allen key
-2.5mm Allen key

-Philips #1
-Philips #2
-7/32 Allen key



Removing the rear protection panel:

Unscrew the rear protection panel by turning the thumb screw located at the bottom, shown with a red circle" then pulling down slightly and lifting away. Note that the screw is captive so it will not fall out. This panel is only needed for shipping or storage.



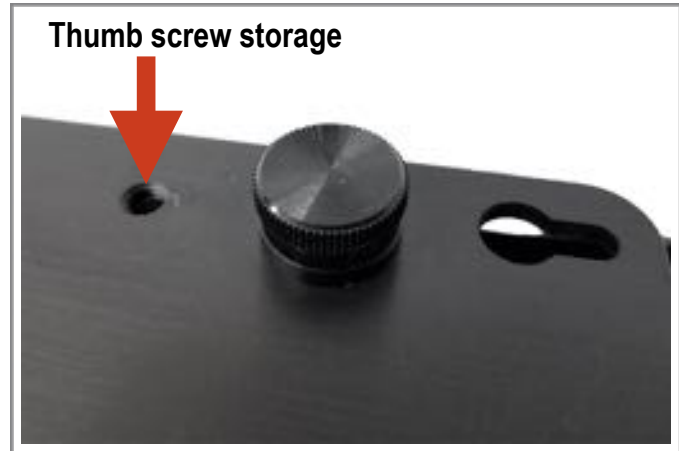
Removing the pelican case lid:

If your DIT BOX has a removable lid this can be removed by pulling the two hinge pins with the attached elastic. The pins can be re-inserted while operating the DIT BOX.



Removing laptop tray:

Remove the rear mounting thumb screws at the back of the laptop plate. The thumb screws can store next to the mounting holes for safe keeping.



Remove the mounting screw:

Using a hex key, remove the 8 mounting screws for the Laptop L-Brackets. 4 on the front and 4 on the back. Remove side cheese plate by removing two screws. PLEASE NOTE: Front and back mounting screws for L-brackets are different lengths!

Remove side plate

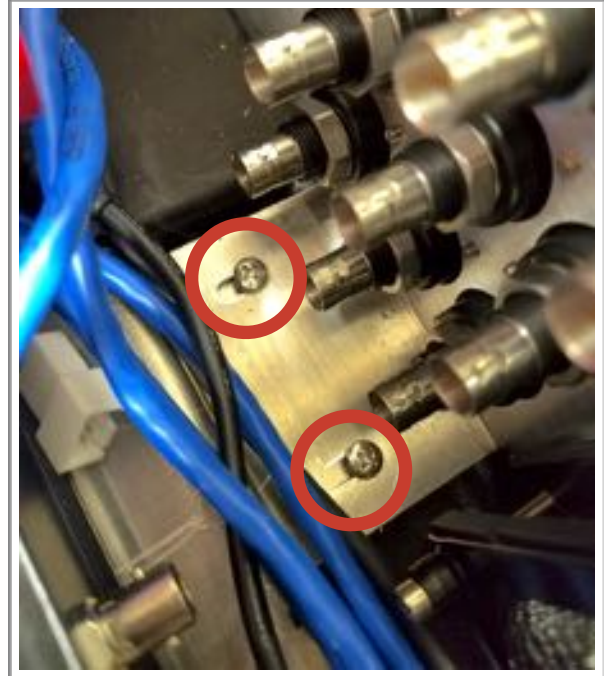
Mounting screws 



Mounting plates on the front do not need to be removed.

Retract the rear BNC plate:

Loosen the 4 Philips screws on the back of the BNC panel and pull the panel inward into the DIT BOX so the D-Series connectors clear the pelican case before lifting the frame out. Then retighten the screws so the panel doesn't push back out. If this is not done before lifting the frame out, the frame may bend.



Loosen and pull frame back to remove frame

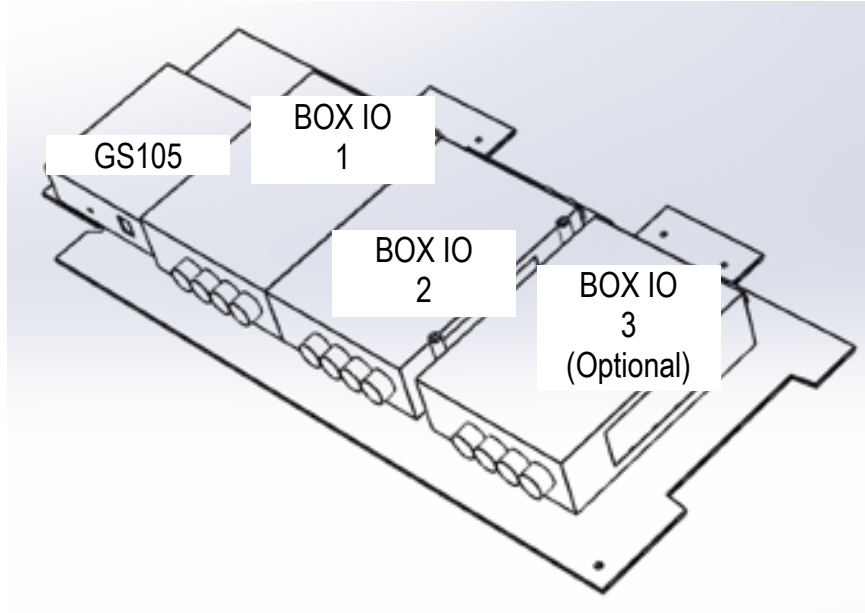
Pull frame out of case:

Once all the steps above are done the frame is now ready to be pulled out. Flip the case on it's side opposite of the BNC plate and slide out the aluminum assembly.



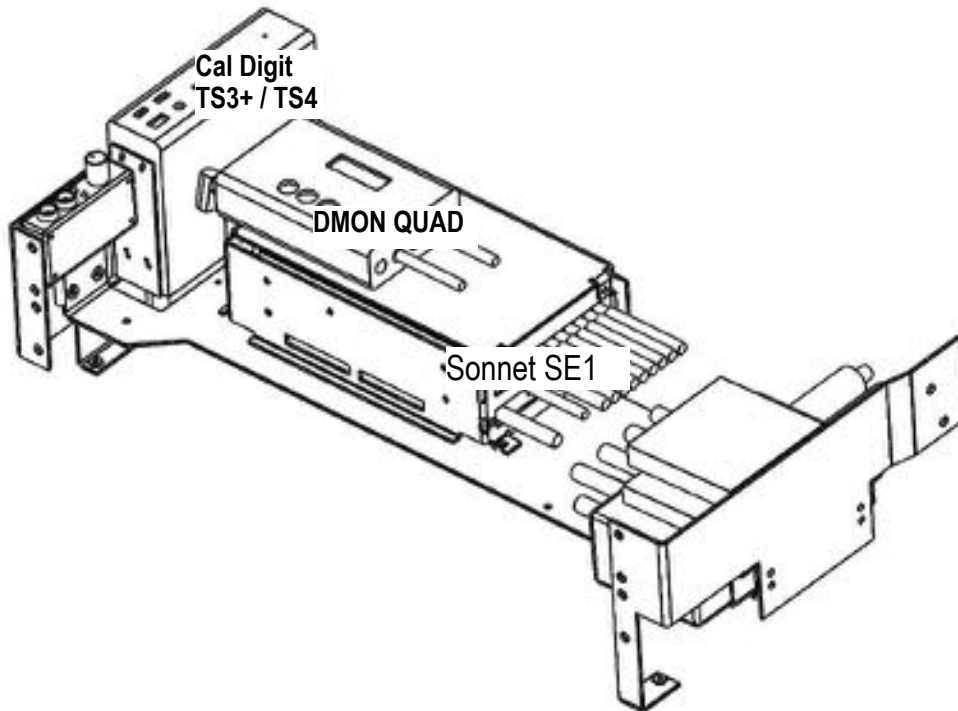
Lower mounting shelf:

From left to right mounting holes for the Netgear 5 port switch, three BOX IO boxes
Note that all power connectors face the front of the box.



Upper mounting shelf:

From left to right the upper mounting shelf holds the custom Sonnet SE-1 enclosure and DC Distribution box. The Decimator DMON-QUAD mounts to the top of the Sonnet enclosure.



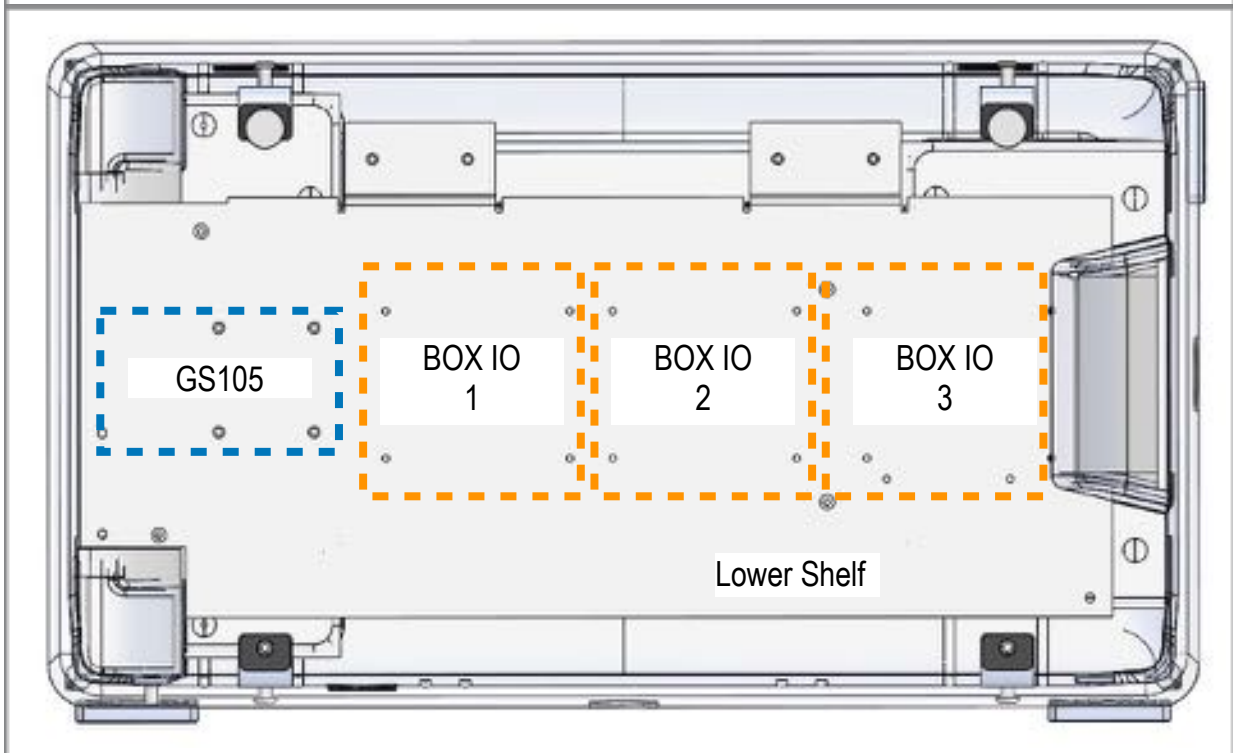
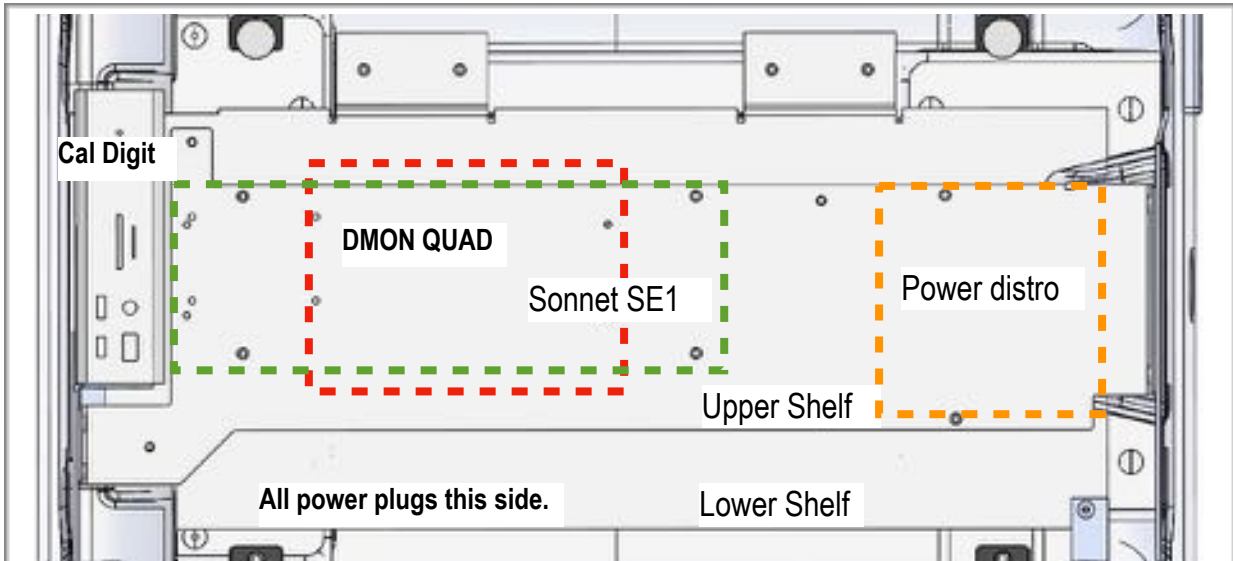
Device location:

To mount video components to upper and lower shelf upon first install, it will be required to take apart the upper and lower shelves. The left and right side plates can be kept connected to the upper shelf during this process. The BNC/Fan Plate can be kept connected to the lower shelf as well.

Remove the single M4 screw connecting the lower shelf to the right side plate.

Remove the two M4 screws connecting the lower shelf to the left side plate.

Remove the four 6-32 screws on the underside of the lower shelf connecting to upper shelf via standoffs.



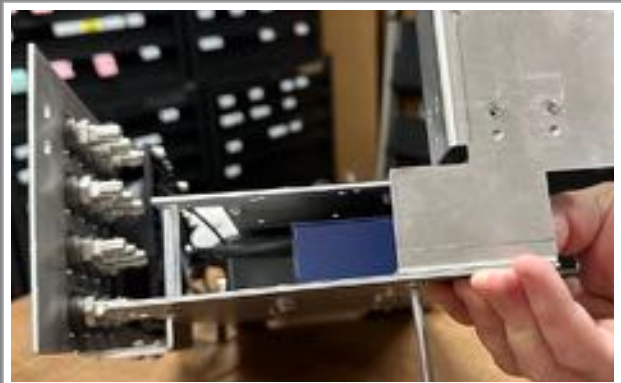
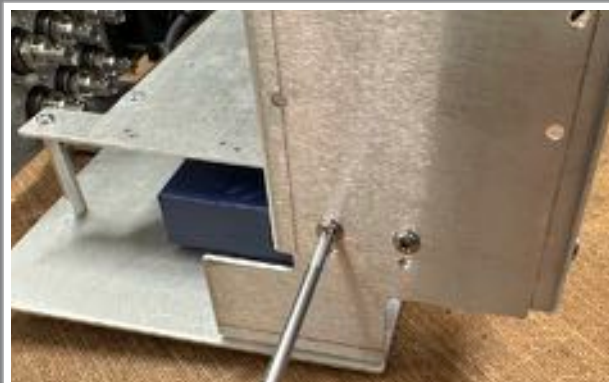
Un mount the power control switch:

Un thread the two plastic screws from the aluminum frame. The remotes rear lid will un mount as well put this to the side with the screws to re-mount later.



Removing the Cal Digit mounting plate:

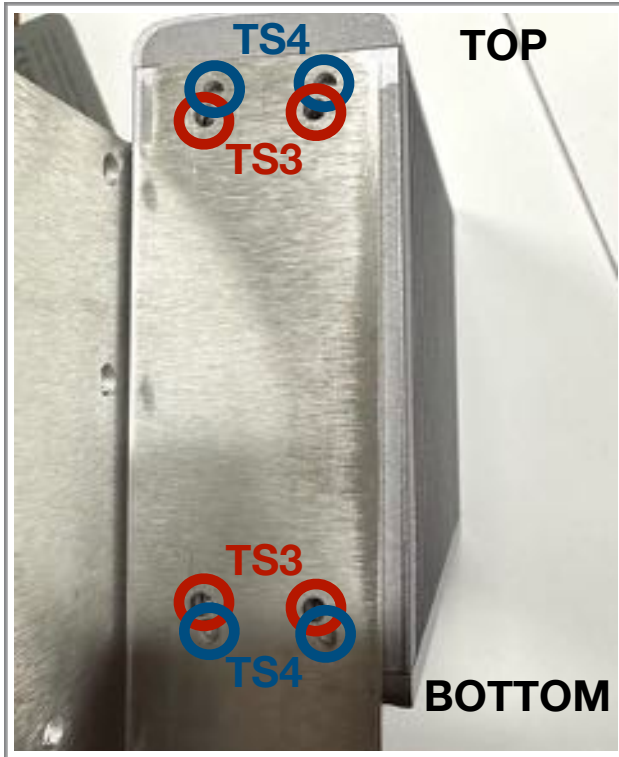
Remove the two screws on the side and bottom of the Cal Digit mounting bracket as shown below.




Prepare the Cal Digit:


Remove the rear plastic sticker on the bottom of the CalDigit. The 4 Philips screws should also be removed as these threaded holes are used to mount the CalDigit.





Mount the Cal Digit:

The TS3+ uses the 4 upper mounting holes indicated with the Red circles. 

The TS4 uses the 4 lower mounting holes indicated with the Blue circles. 

Re-mount the Cal Digit bracket:

Follow the instructions above in reverse to re-mount the cal digit bracket.

Cal Digit power cable:

Now is a good time to install the Cal Digit power cable. Also any other data cables like the computers Thunderbolt cable (Use the computer port), the Sonnet SE-1 thunderbolt cable and the Decimators USB cable.



Plug in TB3 cables into the Cal Digit:

Be sure to plug the cable intended for the laptop into the Computer port as this is the only way to power the laptop properly. Also plug in the cable used with the Sonnet SE-1 enclosure.



Re-mount the power remote and fan controller:

Use the 2 plastic screws and a-fix the plastic cover back on the power remote.



Installing devices:

Once inner bracket assembly is pulled out of the Pelican case, the frame consists of the following pieces.

- Upper Shelf
- Lower Shelf
- BNC/Fan Plate (M4 x 8mm Pan Head Phillips x 4)
- Left Side Plate (CalDigit/Fan Controller side)
- Right Side Plate (Power Switch, Cheese Plate side)
- 4 x standoffs (6-32 x 3/8 Pan Head Phillips x 8)

Unless otherwise noted above, the screws used for connecting the inner bracket assembly are all M4 x 6mm Pan Head Phillips screws.

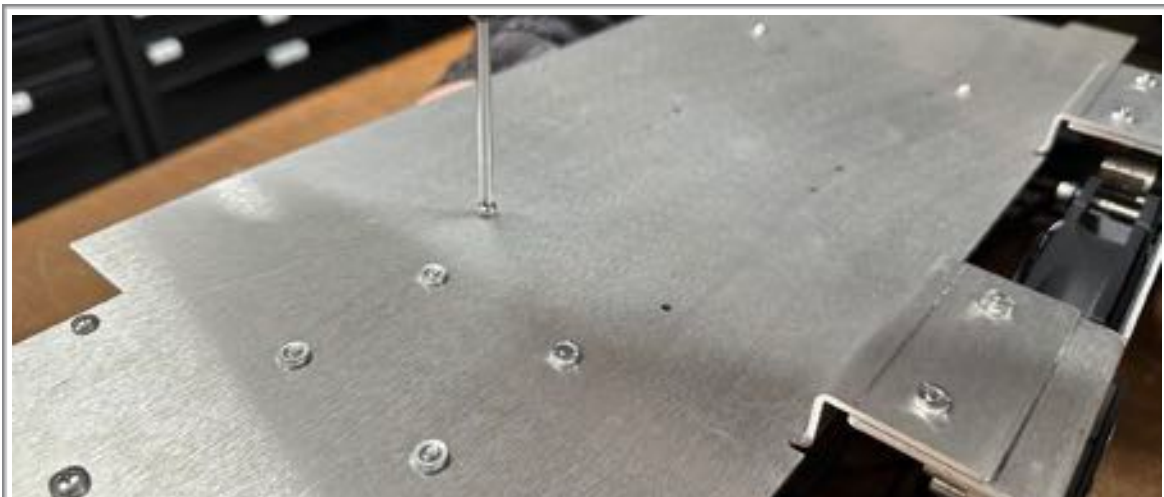


Mounting the items on the lower shelf:

The GS105 is pre-installed.

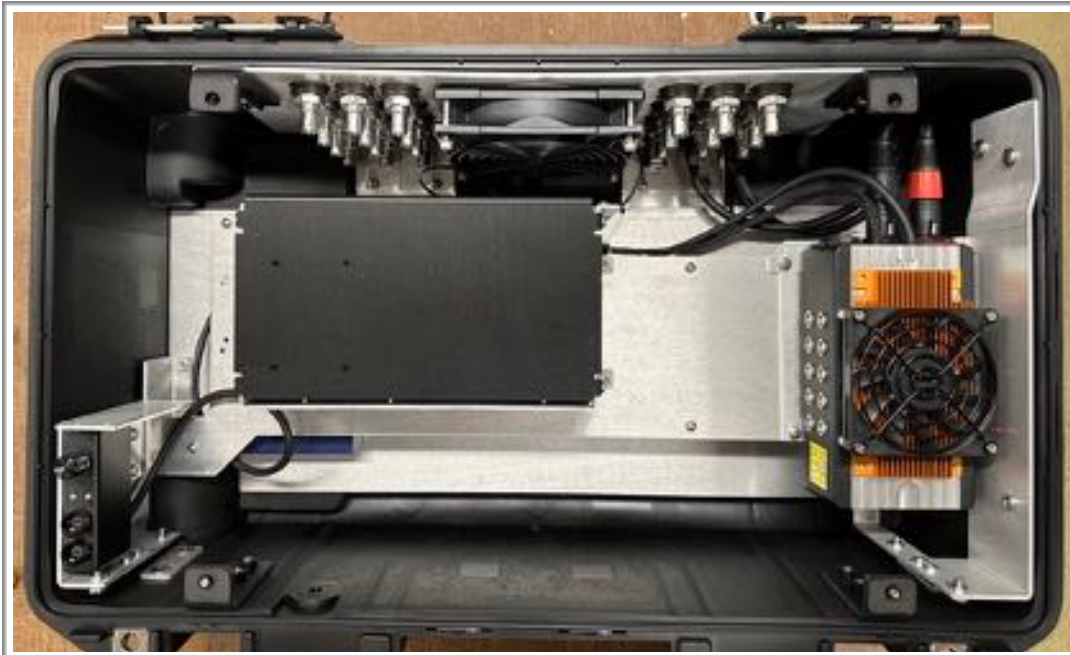
Remember, it's a good idea to pre-configure the BOX IO IP address and label them before installing.

The 2 or 3 Box IO units can be slid between the upper and bottom trays be sure the power plugs are facing towards where the KUMO video switcher will be. Use the included 6mxM3 Pan Head Phillip screws.



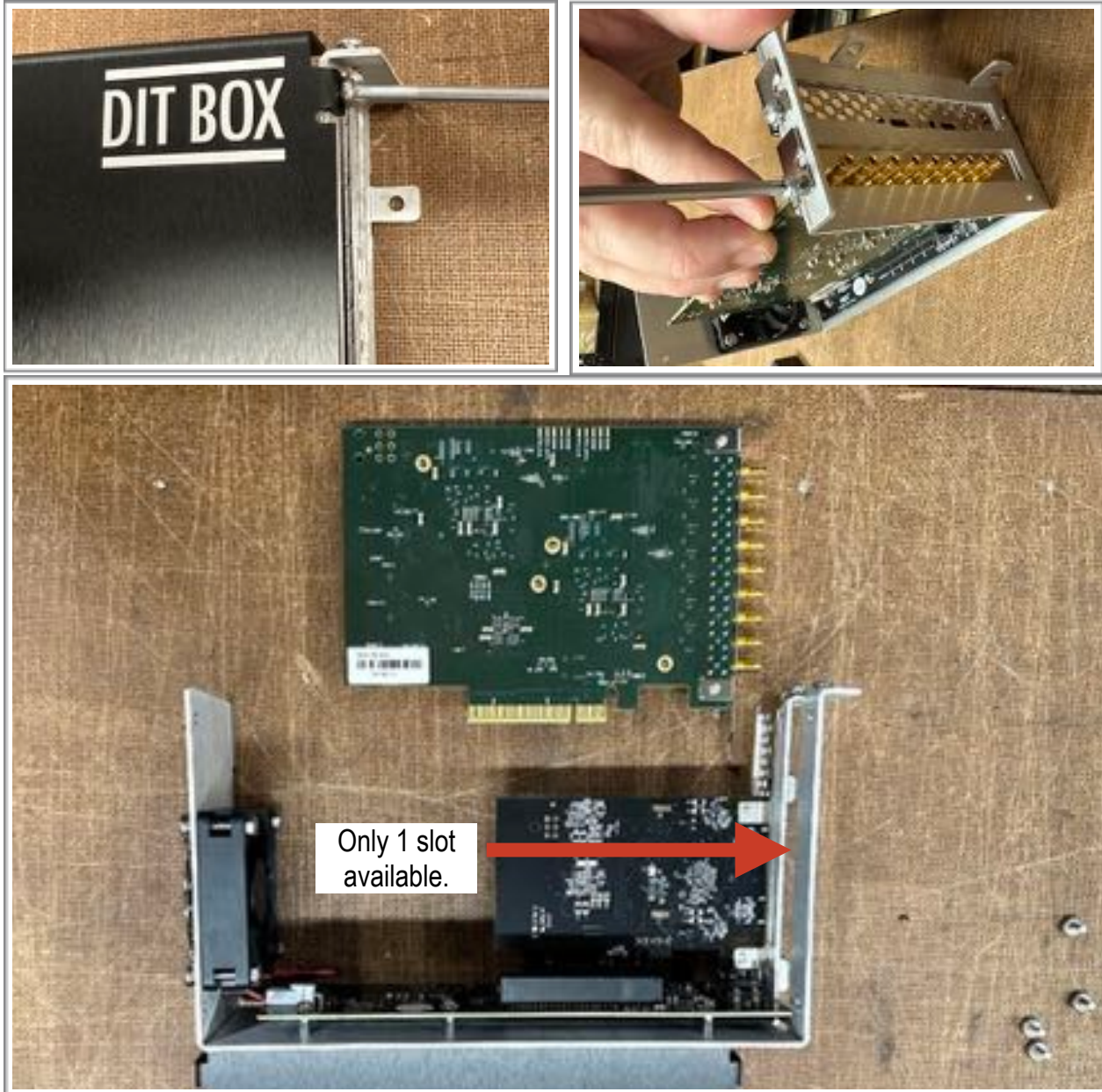
Upper mounting shelf:

To install a PCI card into the modified Sonnet SE-1 enclosure and also the Decimator DMON-QUAD un-mount the enclosure from the Upper tray.



PCI card mounting in the SE-1 enclosure:

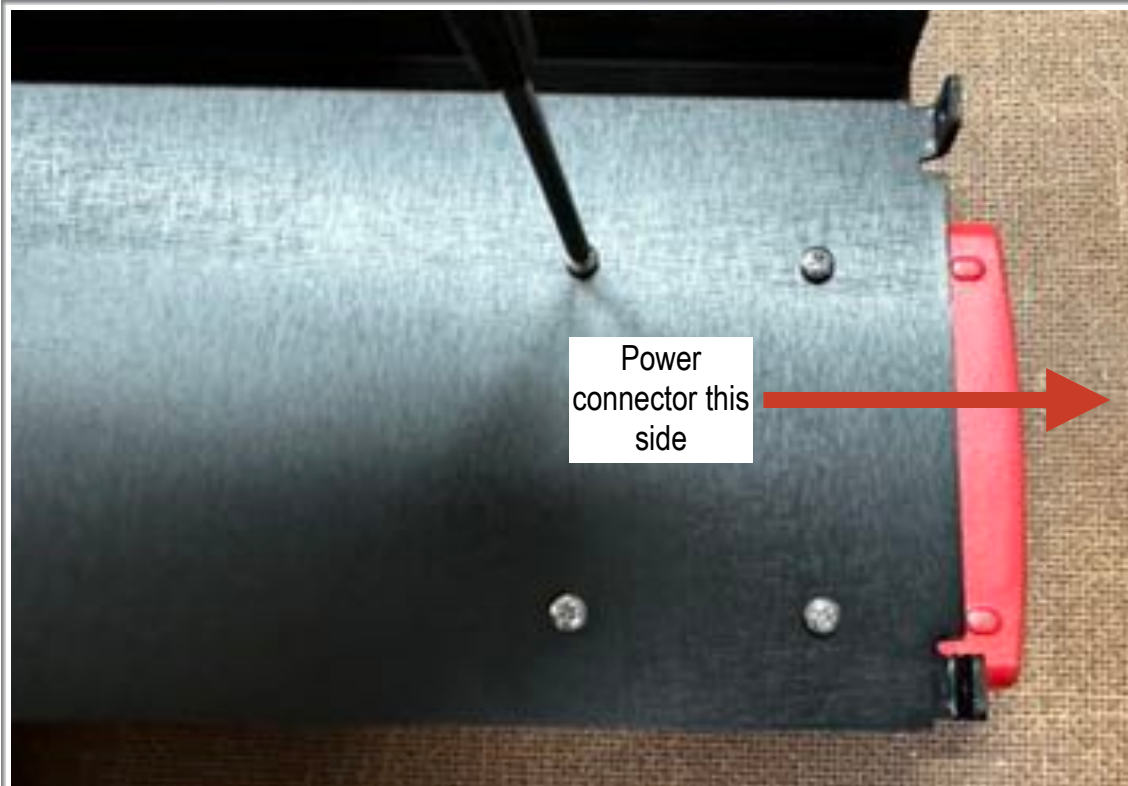
Un-screw the 4 Philips screws from the DIT BOX anodized top plate on the Sonnet SE-1 enclosure. Mount a supported PCI capture card including the QUAD 2.



Before placing the lid back on the enclosure follow the next step to mount the Decimator DMON-QUAD on the next page.

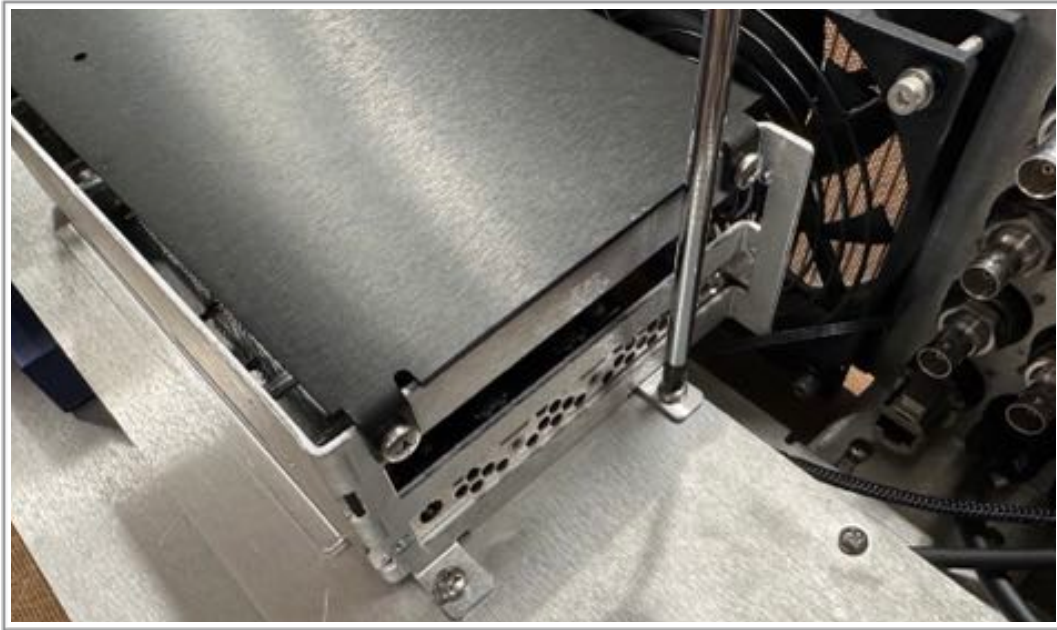
Decimator DMON-QUAD:

Use the 4 supplied Philips screws to mount the Decimator DMON-QUAD being sure the power connector in on the side over hanging the lid. This side will point towards the Cal Digit once the SE-1 enclosure is re-mounted in the DIT BOX.



Mount the SE-1 enclosure back into the DIT box:

Use the 4 x M4x6mm Phillips screws to re-mount the Sonnet-SE1 enclosure back into the DIT box.



Installing the KUMO 3232 or 1616:

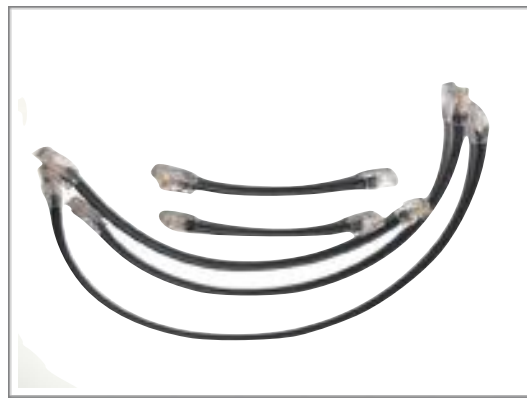
Use the 4 included rack mounting screws to mount the KUMO to the front of the DIT BOX.





Installing the power cables and ethernet cables:

Next it is time to install the power cables for all your 12volt 2 Pin LEMO accessories. Plus the ethernet devices. Unpack the 6 power cables from the included package as well as the ethernet cables.



CalDigit 20volt power cable:

Be sure to plug the Cal Digit 20volt power cable into the DC distribution box before proceeding with installing the 12volt cables.



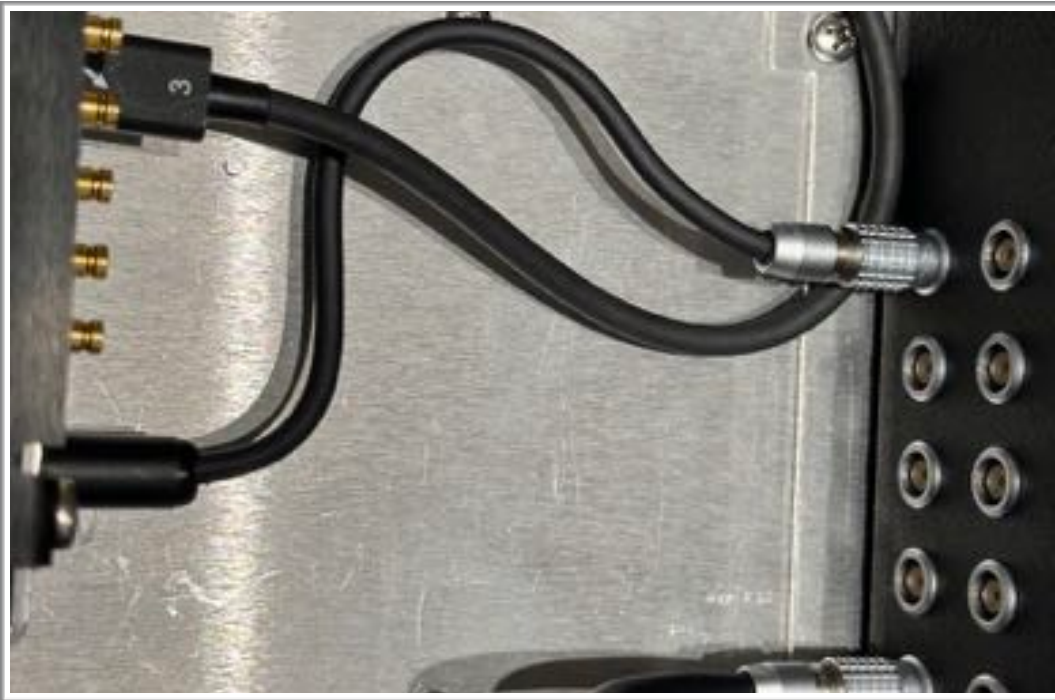
KUMO 12volt power cable:

Use the bottom left side 2 pin Lemo and the top P/S 1 power input on the KUMO as shown below.



SE-1 12volt power cable:

Use the shortest barrel connector power cable to plug into the SE-1 enclosure. Use any of the lower 2 pin LEMO ports.



GS105 network 12volt power:

Use the longer 90Deg barrel 12volt power cable to power the GS105 network switch. Run the cable under the KUMO video router.



FSI BOX IO power cables:

Use the 2(3) x mini XLR power cables to power the 2(3) BOX IO units. Route the power cables under the KUMO video router. We recommend using any available lower 2 pin LEMO power cables first.



Decimator DMON-QUAD 12 volt power cable:

Use the locking 90Deg barrel 12volt power cable to power the Decimator. Route the cable between the SE-1 and KUMO video router.



GS105 network switch cables:

Use the shortest ethernet cable to go from port 5 of the GS105 to the bottom of the Cal Digit. Also at this time use the next shortest cable to go from port 1 of the GS105 to the FSI BOX-IO port sitting closest to the switch. Use the other ethernet cables to run to the KUMO video router and other box IO units. If you are not installing a 3rd BOX IO the network cable plugs into the accessory ethernet port on the patch panel. For users with a 3rd BOX IO the ethernet accessory port is not used unless a 3rd party USB ethernet adapter is added.



BNC Video routing Guide:

This section covers how to route and configure your DIT BOX MkIV with the optional video cable bundle. You will need to also refer to the video cable spreadsheet found on the DIT BOX Mini site. Follow this link or scan the QR code on the DIT box laptop tray.

Measure your BNC cables:

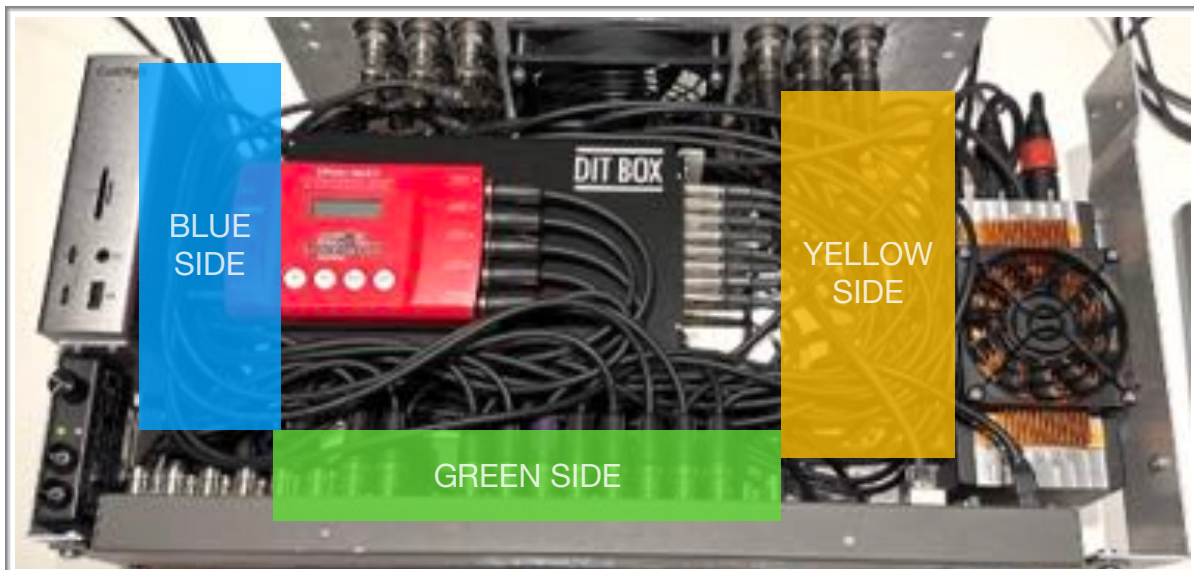
Before starting separate your BNC cables into lengths ranging from 12" to 36". Also separate the cable if it has a 90Deg at one end or a DIN connector. This makes it easier to install.

DIT BOX Mk4 Cables V1								
CABLE #	Connector side A (KUMO side)	Connector side B (patch panel and other devices)	AJA IN / OUT	AJA KUMO ROUTER Patch NUMBER	Cable Length in inches	Patch device	Patch Panel/ or device	Cable Path (See color key below)
1	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	1	28	A Camera patch panel	1	BLUE
2	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	2	28	B Camera patch panel	2	BLUE
3	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	3	28	C Camera patch panel	3	BLUE
4	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	4	28	D Camera patch panel	4	BLUE
5	12G rated Straight Black Boot	12G rated Straight Black Boot	INPUT	5	17	E Camera / AJUK 1 patch panel	15	ORANGE
6	12G rated Straight Purple Boot	12G rated Straight Purple Boot	INPUT	6	36	F Camera / Empty	open to device	BLUE
7	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	7	17	Playback A patch panel	5	BLUE
8	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	8	17	Playback B patch panel	6	BLUE
9	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	9	17	Playback C patch panel	7	BLUE
10	12G rated Straight Black Boot	12G rated 90 DEG connector	INPUT	10	17	Playback D patch panel	8	BLUE
11			INPUT	11		Empty		
12			INPUT	12		Empty		
13			INPUT	13		Empty		
14			INPUT	14		Empty		
15			INPUT	15		Empty		
16			INPUT	16		Empty		

Go to DIT BOX Mini site to get spreadsheet

The video routing guide routing sections:

The spread sheet will refer to cable path colour codes to help you route your video cables as cleanly as possible. But to help make the cable routing as easy of a process as possible you will want to start at the bottom of the video routing guide, cable 64, and work your way up the KUMO video router. Refer to the numbers and the INPUT and OUTPUT labels on the KUMO and the video patch labels. We also recommend pre-plugging a few BNC 90 Deg BNC cables into the BOX IO units first as shown in the first step further down the manual.



Rear BNC Patch Panel:

Refer to the laser etched markings while routing the video cables along with the KUMO numbered labels and if you have installed a black magic QUAD2 8 channel capture card refer to the numbering scheme below for the DIN connectors.



Blackmagic decklink QUAD2 DIN video connector layout :

Later in this manual we will show you how to configure your Decklink so you can take full advantage of the card. As our SE-1 mounting system mounts the card upside-down please refer to the included p-touch in your kit or the image below. We also recommend as you populate the DIT connectors to use a black sharpie to label each connector in case re-routing or unplugging is required. It can be very confusing experience to re-wire the DIN connectors without this guide and number markings.



Step 1 :

Pre-plug in the BOX IO graded outputs behind the DIT BOX BNC patch panel using cables 17-22 in the cable guide. For BOX IO 1 and 2 these are 23" BNC cables. Plug the 90Deg cables into the boxes and shown in the guide. Then leave the ends of these cables unplugged until you get to them in the guide. Again you will follow the cable guide from the bottom up.



Step 2 :

Start at the bottom of the AJA KUMO 3232 while following the cable guide. You will start with the external recorder coloured cables first. Work you way from Cable number 64 that starts at KUMO output number 32.



Step 3 :

When running the DIN video cables for the capture card be sure to note the port designations as shown below. This configuration will have to be configured in the Black Magic Design Capture Utility in the System Preference. These numbers also point to what each video channel will do as each DIN is bi-directional.



Step 4 :

Once complete your setup should look something like this.



Step 4 :

Setting up the static IP address of the connected devices.

Set your devices to the following address to make sure they work with the Live Grade presets.

Computer: 10.10.1.1 (or 10.10.1.10 if a managed router for DHCP is in use)

DNS: 255.255.0.0

BOX IO 1 (A and C camera): 10.10.1.2 (Router 10.10.1.1 - DNS 255.255.0.0)

BOX IO 2 (B and D Camera): 10.10.1.3 (Router 10.10.1.1 - DNS 255.255.0.0)

AJA KUMO 3232: 10.10.1.4 (Router 10.10.1.1 - DNS 255.255.0.0)

BOX IO 3 (E and F Camera):10.10.1.5 (Router 10.10.1.1 - DNS 255.255.0.0)

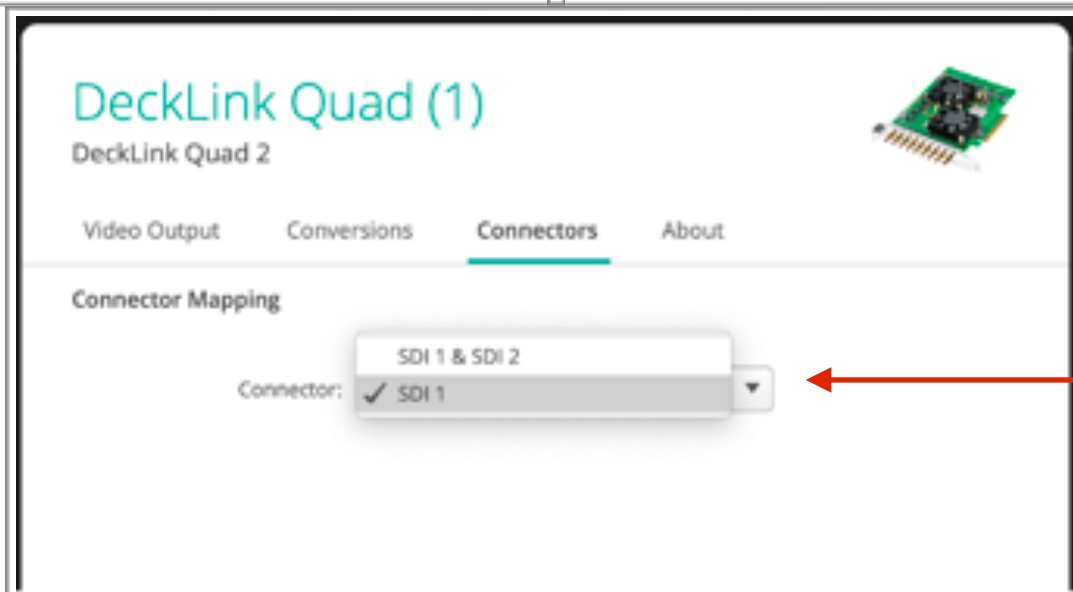
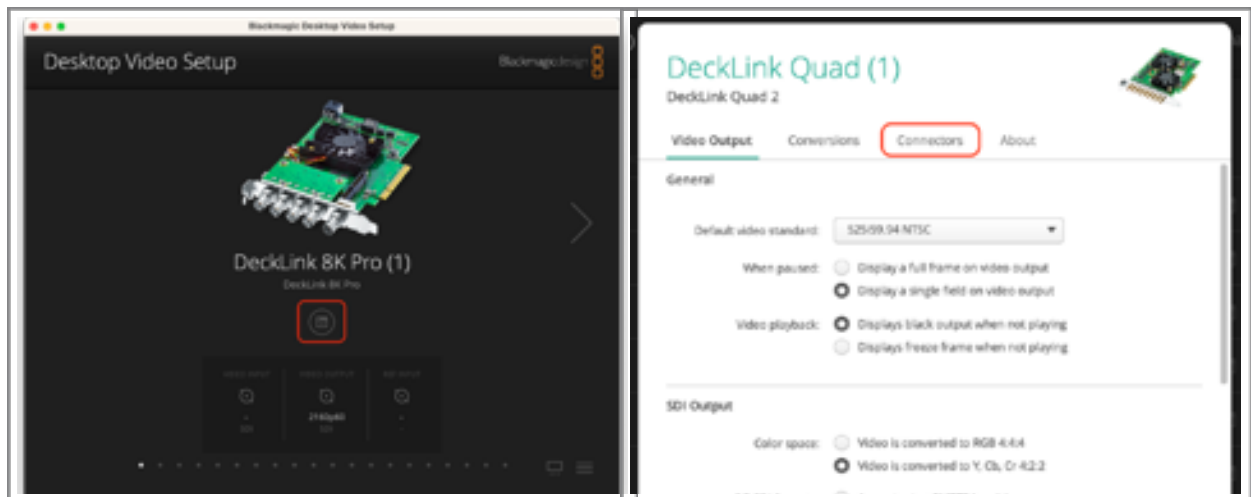
Step 5 :

Labeling the KUMO 3232 router. Unfortunately AJA does not allow of a user export out of the web interface. So naming these web buttons will be manual process. Use the CONFIGURATION tab to setup your keys as shown below. This will match the BNC routing done. Note that your setup might be slightly different if your using a Capture card other then the Black Magic Deck-link Quad 2 capture card.



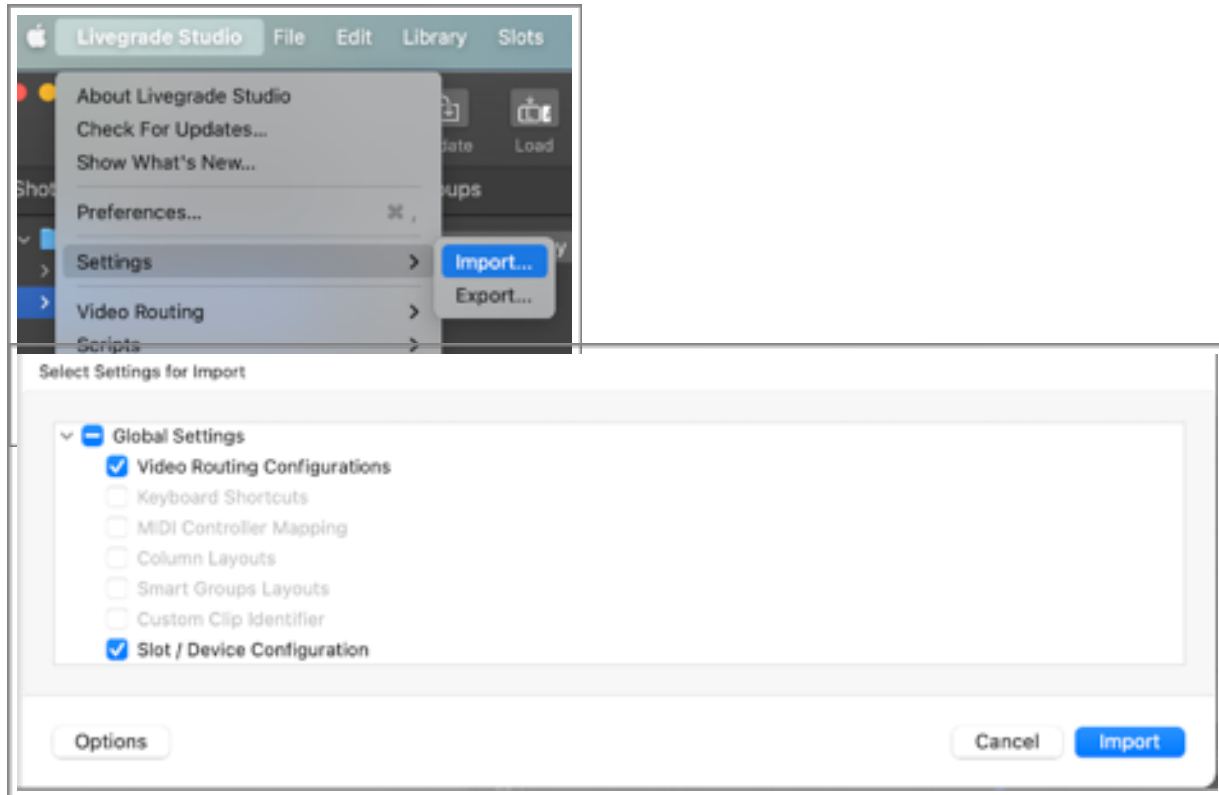
Step 6 :

Setting up the Blackmagic Deck Link Quad 2. Download the latest firmware from the Black Magic website. <https://www.blackmagicdesign.com/uk/support/family/capture-and-playback> Once installed do a system reboot and navigate to System Preferences. You will see a green icon called Black Magic Slick on the icon and this will open up the Desktop Video setup wizard. The Quad 2 shows up as 8 independent capture cards. Each of these Slots are numbered 1-8. Each one of these slots will need to be configured as a isolated video Connector. In each slot select the more info icon as shown in the dark picture below. Then navigate to the Connectors tab. Each slot should be set to a single SDI connector. In this case slot 1 is set to SDI 1. Setting up Slot 1-4 as SDI 1,2,3,4 will automatically set SDI 5-8 to independent. Each SDI connector can either be a IN or a OUT. The connecting softwares dictate what each slot's SDI connector will do. For DIT BOX for example SDI1-4 will be the A,B,C and D slot video inputs.



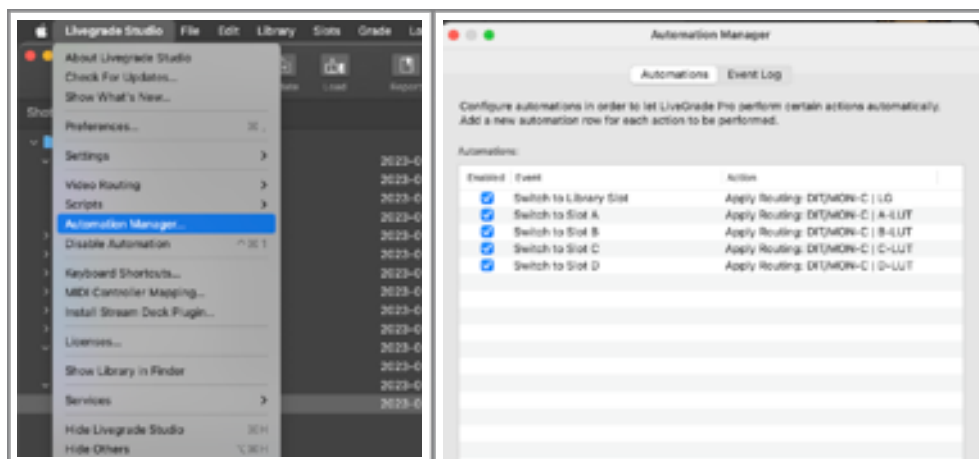
Step 7 :

Setting up Pomfort Live Grade Studio to work with your KUMO, BOX IO and Deck Link units Import the “DIT-BOX_Mk4_LGStudio.plconfig” file found at the DIT BOX Site. This file will allow for Auto addition of all LUT boxes and add the required routing options that will be needed for the Stream Deck and the Automated Pomfort Macro for slot switching.



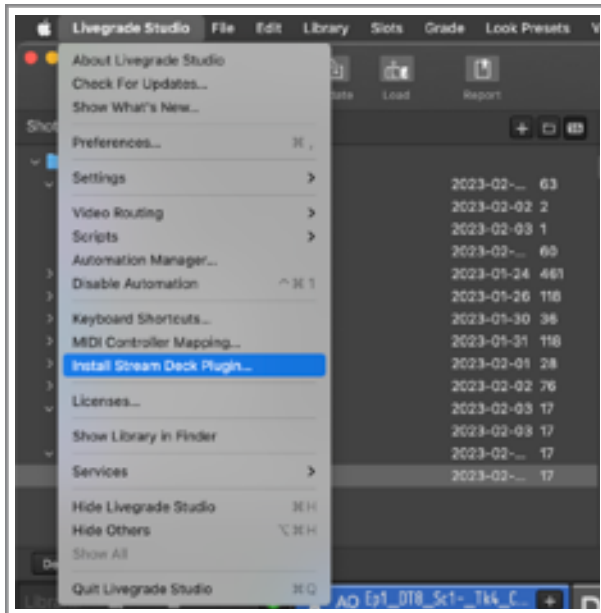
Step 8 :

Setting Live Grade Studio SLOT macros go to Automation Manager and create a Automation for each Slot that activates a Auto Routing function on the KUMO router as shown below.



Step 9 :

In Live Grade Studio be sure to install the Stream Deck control package to link Live Grade to the Stream Deck for the user setup in the next step to function. Also be sure that the IP address of your devices matches step 4. If either of these are not done the functions will have to be customized to your specific setup.

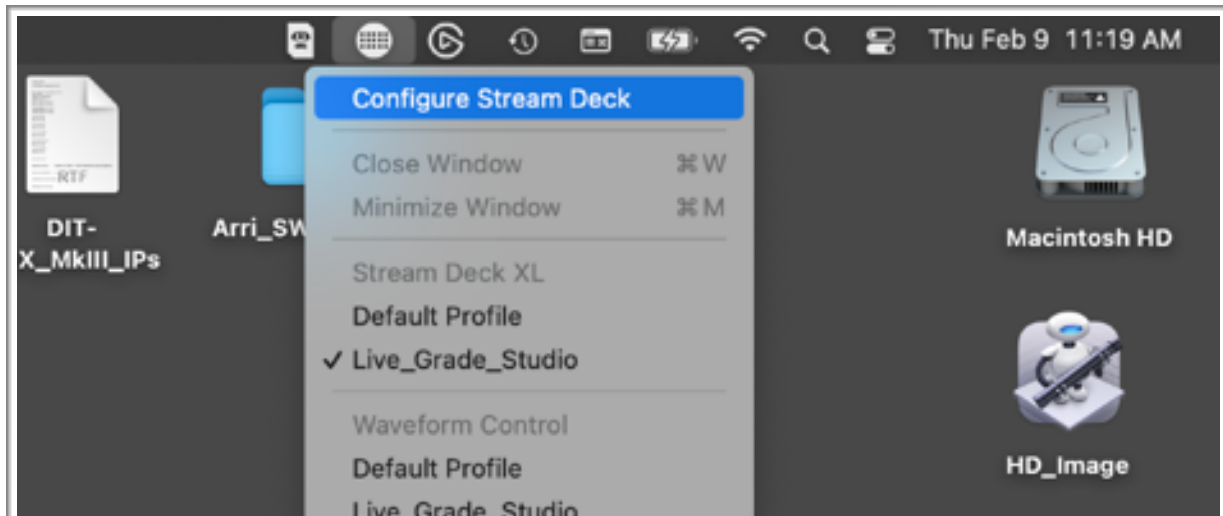


Step 10 :

Setting up Stream deck short cuts.

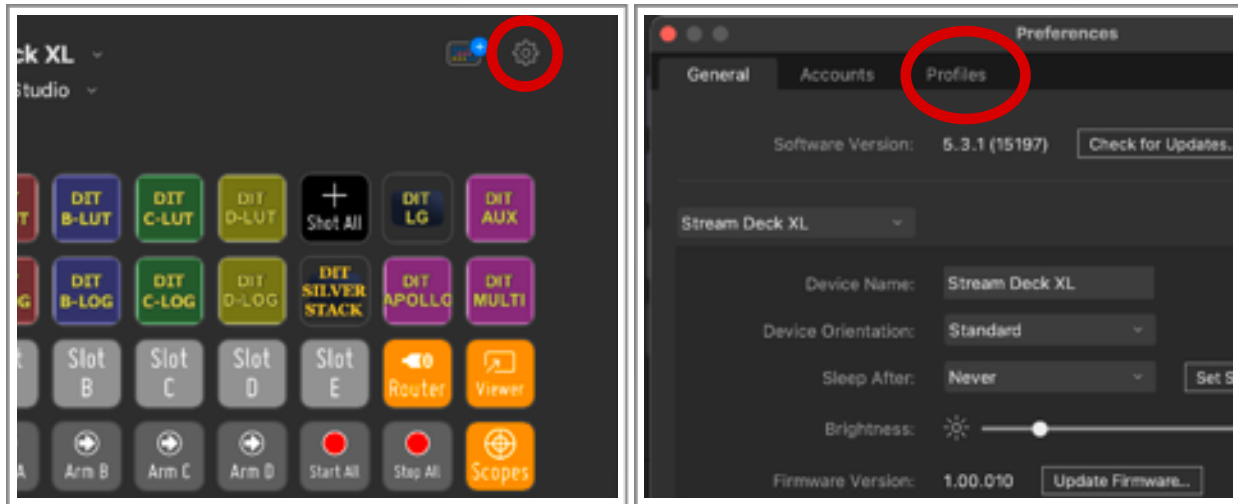
Install the Stream Deck Utility. And go to the Elgato Website and down load the "Streamdeck" application for MAC OS. <https://www.elgato.com/en/downloads>

One installed launch the app and navigate to the Import setting window and install the "DIT_BOX-Mk4_LGStudio_StreamDeck.streamDeckProfile" file provided on the DIT BOX website. This will install all the basic short cuts to get you going out of the gates.



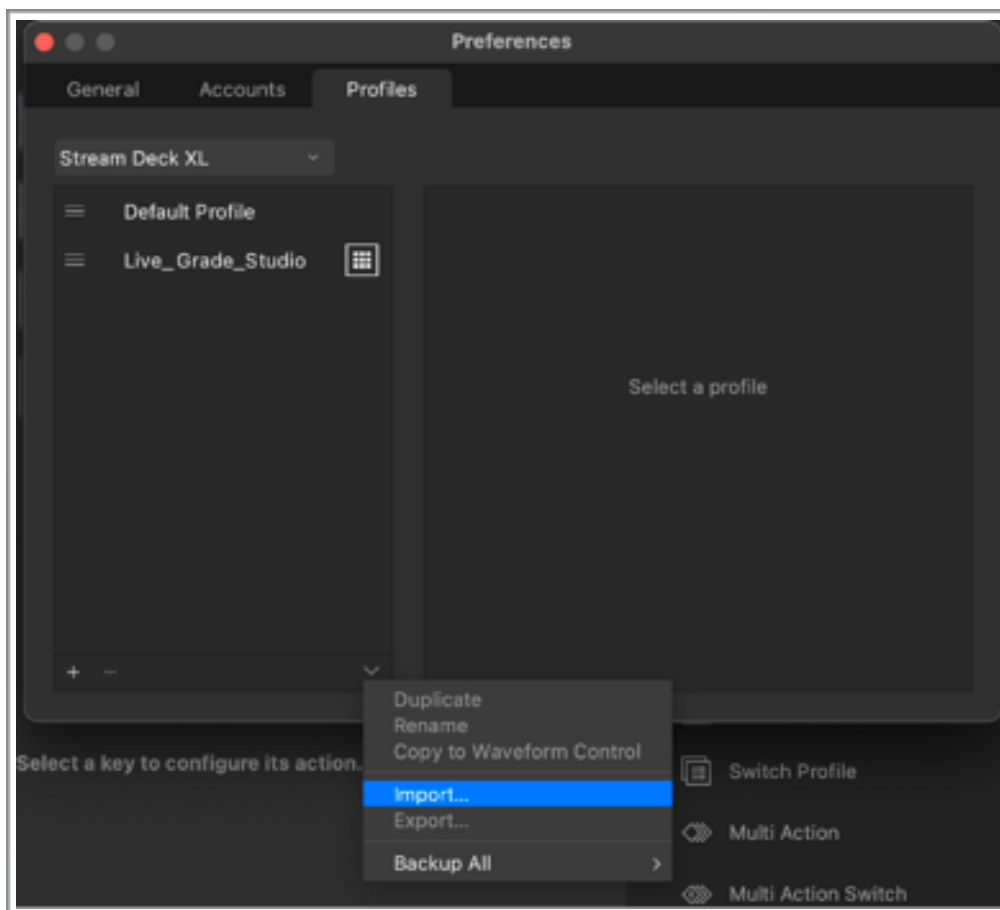
Step 11 :

Select the cog icon to enter the Preferences window. Then select the Profiles tab.



Step 12:

Once on the Profiles tab click the little down arrow in the bottom of the left panel and select Import. Select the DIT_BOX-Mk4_LGStudio_StreamDeck.streamDeckProfile file downloaded from the DIT BOX website.



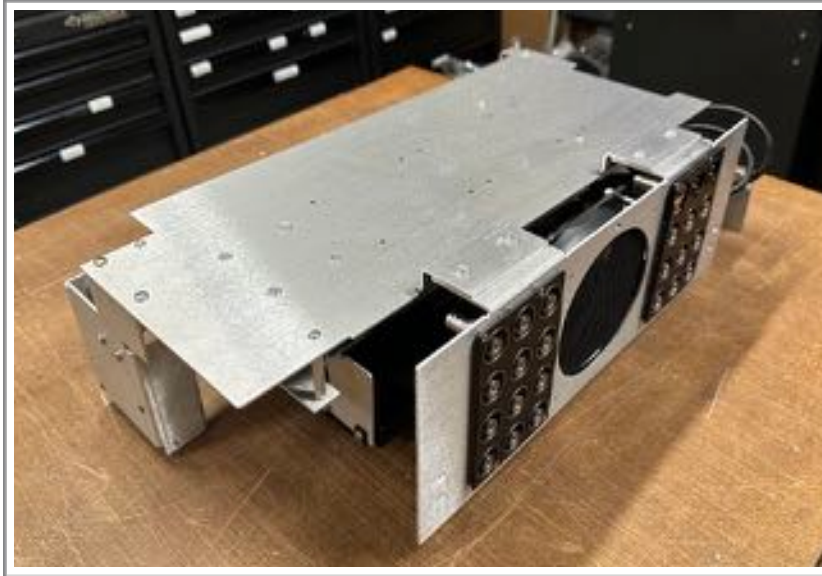
Step 12:

Be sure the Stream Deck uses multiple pages for user keys. These keys may be customized to your liking. Below is an example of a DIT monitor routing pages setup for Monitor C.



Re-Assemble

Once you have tested all the power, networking and video routing it's time to reassemble the DIT box. Follow the steps on pages 10 to 7 in reverse. However place the assembly carefully upside down and slip the pelican case over the assembly then carefully flip up right. It's the easiest way to assemble and reassemble the DIT box.



Follow steps from Page 10 to 7 to complete.

Adding the AC supply bracket

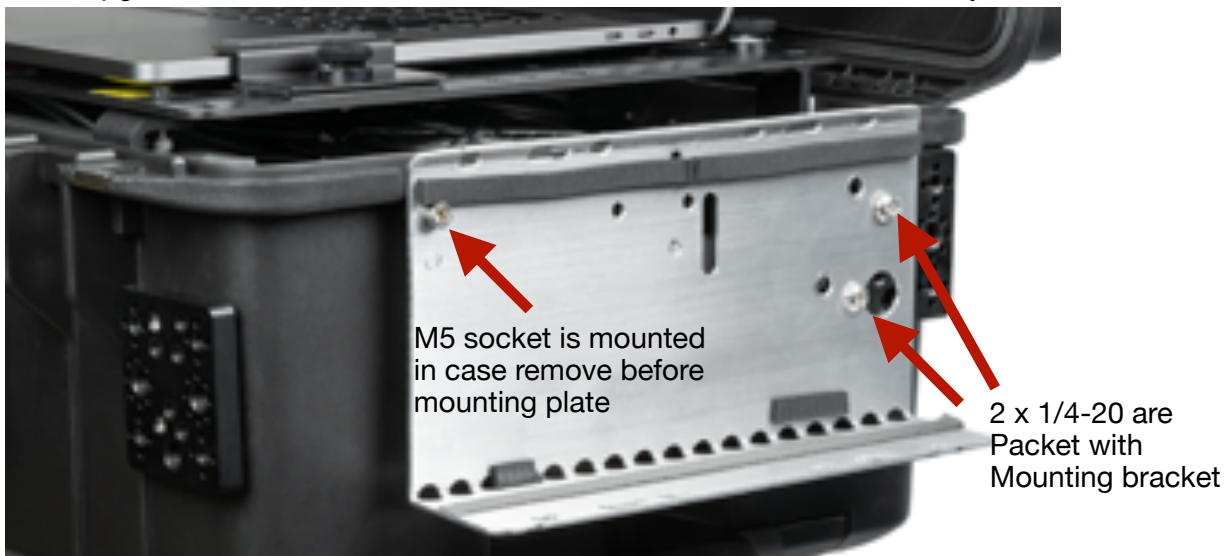
The AC power, bracket when used, utilizes the side mounting plate of the DIT box so accessories may not be used in this place. 3 screws are used to mount the bracket to the DIT box to keep it secure.

The front screw is an M5 socket head that is pre-mounted into the side of the DIT BOX, so you'll need to remove that first and then use that to mount and secure the AC bracket to the side of the DIT BOX.

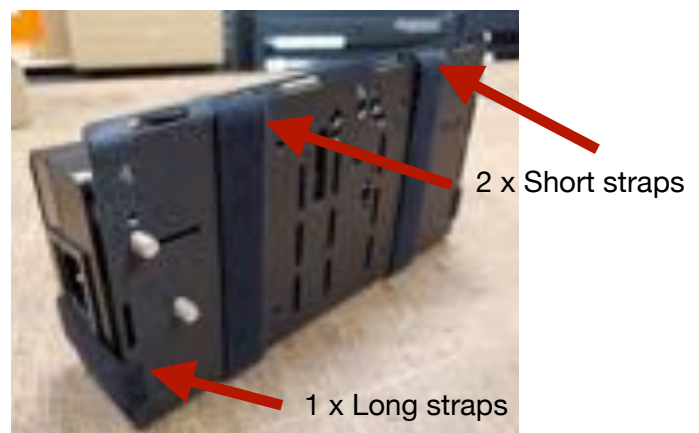
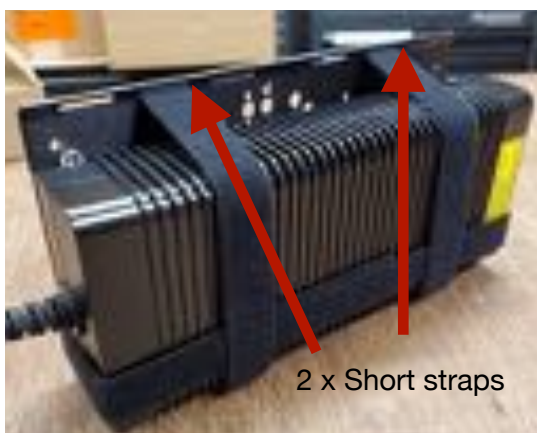
The two button head screws at the back are 1/4-20 (packed in a pack that came with the AC supply bracket) – these screw into the side cheese plate.

It may be a good idea to add the velcro straps as shown below and test fitting your AC supply before mounting. The foam on the back of the panel is for adding compression to help keep the AC supply in place. You may notice some extra cutouts and holes these are mounting points for small HD and some other accessories.

See the Upgrade Innovations site for more details on what this bracket may be used for.



Two shorter sets of hook and loop straps are used vertically, while the longer one is used horizontally, going through the strap slots.



Accessory mounting plate: On the right outside and front of the DIT BOX are Arri 3/8-16 and Small HD 1/4-20 Pin-Loc mounting cheese plates. These cheese plates are ready to hold any additional accessories you choose outside the DIT BOX.



Case mounting and laptop tray mounting: The bottom of the case has hole patterns to accept, the included non-twist C-Stand mounting adapter, an optional Ronford Baker Quick release plate, or the Upgrade Innovations VESA Quick Release plate (available as an add-on accessory). We recommend an option that allows for up to 50lbs of weight.



Laptop tray mounting point: The laptop tray has hole patterns for 3/8-16, and Arri locating pins for mounting points. The mount points are on both sides of the laptop tray. Shown on the right is the optional Rudy Arm with Non-Twist Cinelock Cradle. Wedgie 2 QRP's are also compatible.



Power Input: The 3 pole power inputs on the back of the DIT BOX allow for a primary power input indicated with MAIN, and red label inside the case and the secondary backup input for batteries indicated with AUX. Both inputs regulate input power from 21-34 volts.

WARNING: Do not plug in Panavision power cables, these are wired in reverse voltage and could damage components in DIT BOX..



Power distribution: The power distribution box allows for seamless power swap between the primary power input and the secondary power input. A 3 pole XLR output for the Cal Digit's 20 volt input. Shown below are 10 limo 0B connectors that can provide the systems regulated 12volt power up to 12amps combined.



Power switch: The included power remote and fan controller uses a custom logic system. The LED's on the top indicate power present on the two 24volt inputs. If the LED is green this indicates correct polarity. If the LED is red this indicates reverse voltage and the DIT BOX will not turn on. If using Panavision battery blocks be sure to use cross over cables available as a additional purchase from Upgrade Innovations.

The on/off switches control the power of the 20volt and 12 volt outputs for easy reboots. Note that the fans run off the 20volt side to allow for maximum air flow.

The fan control runs the fans from 20% to 100% speed. Turning off the fans is not possible to protect DIT BOX DC distribution box and the enclosed accessories.



Rear Patch Panel: If you purchased the BNC bundle the rear panel comes fully labeled to match the video layout guide shown further in this manual. For users that are installing their own BNC cables the rear patch panel is only labeled with the power inputs.



Included Pouches: Several labeled pouches are included to make it easier to identify the DIT BOX accessories. Note that the BNC kit comes with a few spare BNC cables.





Optional Pouches: If you ordered the 3rd BOX IO bundle, the Decklink DUO or the Decklink Quad2 cables packs these will be included in your order.



DIT BOX MkIV

V5.3

Contacting us:

We are here to help. The DIT BOX is a very custom piece of kit and if you have any questions before or after purchase we are here to help.

Technical Support:

Chris Bolton or Darrel Voser - ditbox@upgradeinnovations.com

Accessories or other upgrade innovations products.

Darrel Voser - darrel@upgradeinnovations.com

<http://upgradeinnovations.com/product-category/dit-box/>

