CONGO™ Hardware Notes

Monitors:
- You must always have a monitor plugged into Port #1, Login screen, and the browser docks on only monitor #1.
- Monitor Arms can only support a 15" or smaller monitor. This arm uses the Industry standard mounting holes (Vesa Mount)

IO & Indicators:
- 2 DMX outs. 2 led indicators indicate that there is dmx going out of the port (Sensing post driver chip indicating the chip is good)
- Spare DMX driver Chips? There are no spare chips. You can remove the driver chips from the RFU Line (2 chips just to the right of the DMX driver chips [75176])
- Midi In/Out. LED indicators show that packets are being sent/received.
- Reset Button is for the PC motherboard. This button will not reset the transition, FP, and IO board.
- Each of the Main boards: IO Board, FP Board, & Transition Have a green heart beat LED. There is another LED indicator next to Each USB port indicating there is a USB connection and they blink at least 3 times per second indication they are communicating w/ Motherboard.
- The FP Board has an orange LED (VD3) that will blink when a button, slider, or knob has been moved.

Test Applications:
- To enter test menus of the FP you will need to hold down the [?] button on boot. This will bring you to a SW version screen on the ML LCD Screen. To move on to each test you will need to press the [?] then to modify a test press [Modify] All that is needed to perform this test is 5v, Central processor is not needed.
- Testing applications:
    - SW indication
    - Speed wheel calibration
    - LED test
    - Character LCD Line test
    - Vertical line test
    - Horizontal line test
    - BMP test
    - Load Boot loader yes/no

Updating Firmware:
- To load new code there are 3 ways to force each of the boards (FP CPU & IO CPU) into the code-loading mode.
    - On console boot enter the test menu and get to the load boot loader Yes/No menu. Press [modify] then [?] It will then listen for code for the next 1-2 min, then will time out and go back the test application. When loading the code for IO CPU removes the USB cable from the FP CPU. When loading code for the FP CPU removes the USB cable from the IO CPU.
    - Use the application Boot loader force application to send a packet to the FP CPU to say "Listen now for Boot loader code." After this application has been launched, open the code loader and wait for the connection and send the proper code. Do the same for the IO CPU.
    - Lastly, you can jumper pins 9 & 10 on the X22 connection to force the board to listen for code. ***Use this as a last resort***

Peripherals:
- Expression 2 Style remote focus unit.
- Midi time code is not yet implemented. Midi show control follows the standard
- Ethernet connection w/ LED's indicating a connection and a high speed connection
- 4 USB connections for flash drives, keyboards and mice. CDR/W drives & printers are not supported. Printing is to file that can be taken off to a USB drive, and printed externally.
- Phone remote
  - Console can be a telephone connected to an external switchboard
  - Console can also act as a switchboard with standard Analog style telephones connected to it.
    - You will need to connect the console to the switchboard/telephones before the console is connected so the console can determine if it needs to supply power to the phones or if it is connected to an existing phone switchboard.(If its connected to an external phone switchboard it will not supply power)
- Remote Trigger uses the same pin-out as the Express Console: **(this function is still under development)**
  - Pin 1 – Macro + Go
  - Pin 2 – Macro - Go
  - Pin 3 – Macro + Back
  - Pin 4 – Macro – Back
  - Pin 5 – Macro + Pause
  - Pin 6 – Macro - Pause
  - Pin 7 – Macro + GM Trigger
  - Pin 8 – Macro – GM Trigger
  - Pin 9 - Remote Trigger Normally Closed (30V 1A max)
  - Pin 10 - Remote Trigger Normally Open (30V 1A max)
  - Pin 11 - Remote Trigger Common (30V 1A max)
  - Pin 12 - Ground
  - Pin 13 - Ground
  - Pin 14 - 12vDC
  - Pin 15 - 12vDC

Hardware:
- To open the console, Pull front edge off table, there are 2 black ¼ turn screws under the console 1/4 turn counter clockwise. You will need to use a quarter or standard screwdriver to open the console. Then lift up on BOTH sides of the console.
- ***THIS CONSOLE USES ALL METRIC SCREWS AND NUTS***
- Encoders 5.5mm nut driver.
- Do not remove a nut on the Moving light and control PCB's, this hold an encoder trim board that is hard to calibrate; and is initially calibrated at the factory.
- Encoder wheels are one assembly. Do Not Disassemble!
- Hard drives are keyed to the processors, t once they initially boot they key themselves to the central processor of the console. Hard drives are **NOT** swappable between Congos.

Show-File Import Types:
- Safari
- Expert
- Pronto
- Presto
- Express
- Expression
- Strand 500
- ASCII