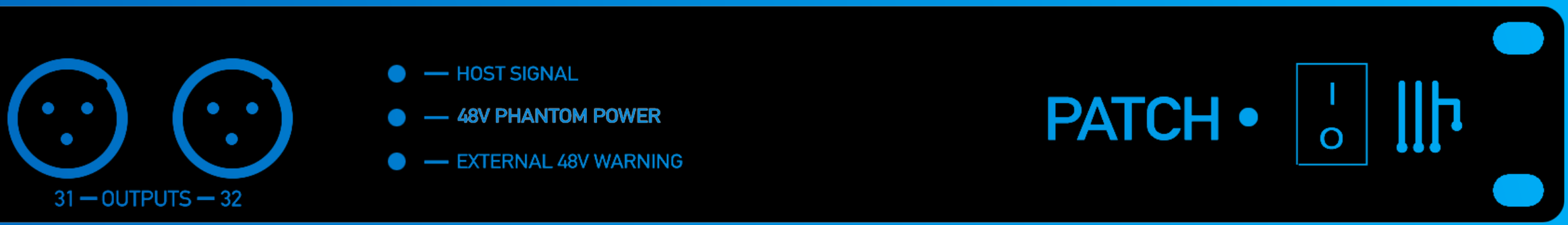


USER MANUAL

V.1.6.2

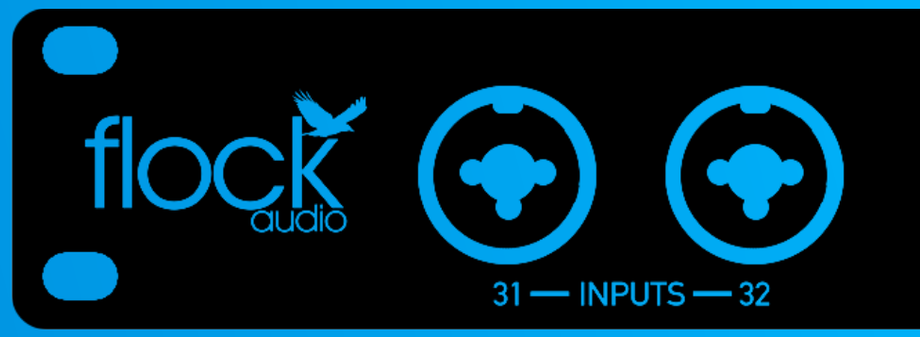
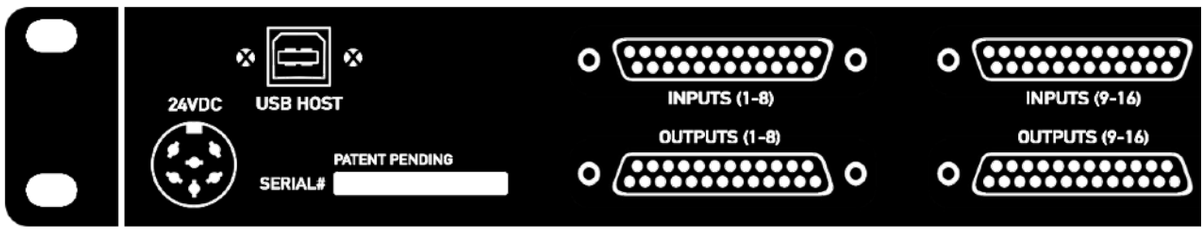


TABLE OF CONTENTS



Certifications:

Thank you…

Where do I begin to start by saying Thank you for your support…

I started working on a conceptual design known as “PATCH” in early 2016 when I decided to leave my stable career and chose to pursue the path less travelled of designing and developing a better & more efficient process for professional audio recording engineers in the depths of my basement home recording studio.

In need of a better solution other than the available 1870’s technology known as a traditional patch bay, the concept was born to create a fully digitally controlled but 100% analog circuit routing system that wouldn’t color or alter the audio signals passing through it.

After 2 years of strenuous work and constant focus, Flock Audio the company I started, created the worlds first and most advanced digitally controlled analog audio routing system with features never before possible in conventional analog audio routing.

I’m honoured to have so many customers believe in what Flock Audio stands for…Innovations above Expectations. We have an incredible team of professionals from engineers, software developers & everyone in-house who helped create this one of kind piece of professional audio history.

We look forward to providing the pro audio world with more innovations and excellent service to help assist aspiring and seasoned professionals to create masterpieces for years to come.

Thank you again for choosing to make Flock Audio a part of your professional audio identity.

Sincerely,

Darren Nakonechny
(CEO/Director/Founder)

INTRODUCTION TO THE PATCH SYSTEM…

The Flock Audio PATCH System is a digitally controlled, 100% analog audio patch bay routing system. A combination of Software known as the PATCH APP and a 64 Point Connection PATCH Hardware component, combined allows users to easily route and control analog audio routings without having to resort to the use of manual patch cables.

The PATCH APP software application (OSX & Windows Compatible) is designed with familiarity in mind. PATH's in the application represent audio signal flows from top to bottom. Signal flows are divided up into single vertical columns allowing users to drag + drop available analog audio equipment connected to the PATCH's Hardware component. This analog audio equipment is cataloged in the Hardware Index located to the left side of the PATCH APP.

The PATCH Hardware component is a 1U rack-mountable unit that acts as the centrepiece hub of an audio equipment processing setup. Utilizing digital control over analog audio signals is what makes the PATCH System unique and unlike anything else in the audio industry.

This manual will go more in-depth into the functions, features and recommended usage of the Flock Audio PATCH System.

IMPORTANT SAFETY NOTICES

#1. Do Not Self-Service

To avoid risk of electric shock, injury or death, it is recommended to never attempt to self-service a Flock Audio PATCH System. There are no self repairable or removable parts in the system. If your Flock Audio PATCH System requires repairs, please contact our support centre to arrange for a Flock Audio Certified Repair Technician. (www.flockaudio.com/support)

#2. Avoid Liquid &/or Spills

To avoid risk of damage to your PATCH System, avoid having liquids &/or spills near your PATCH System. If accidental spill occurs, safely shut off your PATCH System using the front power toggle switch, unplug the wall outlet and disconnect the 6 spin power supply from the system. Once completed please contact Flock Audio Support to arrange for a Certified Repair Technician to remove and repair if required.

#3. Use Only Recommended Power Supplies & Cables

It is not recommended to use any alternative power supply sources other than your included Flock Audio TRUM Power 24VDC Power Supply with your Flock Audio PATCH System. Use of other power supplies may cause damage and void your warranty agreement. Use of 3rd party USB & DB-25 cables are of no concern and should be chosen based upon the preference and needs of the user.

#4. Proper Rack mount Ventilation Requirements

Proper mount spacing and rack mount ventilation is required to ensure your Flock Audio PATCH System does not overheat. It is recommended that the rear of the rack is open for proper ventilation and that the user DOES NOT mount the PATCH System above any tube related audio equipment. If necessary, there should be a 1/2 - 1U rack space between the PATCH System and any warm or tube related audio equipment to avoid unexpected shutdowns or internal damage.

#5. Use Properly Grounded IEC Power Cables

In addition to your supplied Power Supply brick, it is recommended that you always use a properly shielded and grounded IEC Power Cable (110V/220V) with your PATCH System. The Chassis is designed to work with the earth ground inside the box for both a safe & quiet audio operation. Never remove or use a IEC cable accessory without the grounding pin.

#6. External 48V Phantom Power (I.E. Connected Preamp)

Although no damage or immediate danger will occur if 48V Phantom Power is engaged on a preamp connected to the Input of the PATCH System, it is not recommended to leave that 48V source active for a lengthly period of time. The PATCH System is equipped with its own 48V capabilities, and once it detects an externally connected active 48V source, it will prompt the user both in the PATCH APP & Red Flashing LED on the Hardware to disable it.

#7. Discontinue Use During Electrical Storms

Never use your Flock Audio PATCH System during any electrical or dangerous lightning storms. Calmly shut down your System, Unplug the IEC power cable from the wall outlet or power conditioner until it is safe to continue use. It's also recommended to keep the system unplugged if not in use for long extended periods of time.

#8. Disclaimer Notice

Flock Audio Inc. reserves the right to revise or change the information contained within this manual without notice. All revisions or changes will be noted by the Version Number located on the front title page of this manual and the latest digital manual will be provided via web link in the PATCH APP Software Application.

#9.Certifications

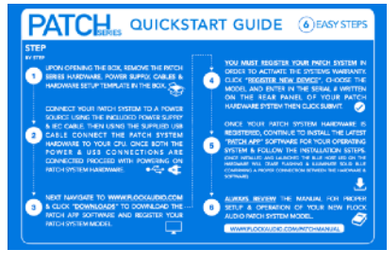
WHAT'S INCLUDED IN THE BOX

PATCH 1U HARDWARE

IEC POWER CABLE
(110V or 220V)

24VDC POWER SUPPLY

USB-A TO USB-B (10FT)



6 STEP QUICKSTART GUIDE

HARDWARE INDEX
SETUP SHEET

FRONT PANEL

FRONT PANEL INDENTIFICATIONS

Front Inputs 31-32
Neutrik XLR/TRS Combo Jacks
(Activated using Software)

Front Outputs 31-32
Neutrik XLR Male Jacks
(Activated using Software)

Host Signal LED Indicator
Blue LED Indicator of Hardware
and Software Communication

Power LED Indicator
Blue LED Power Indicator

External 48V Warning LED Indicator
Blue LED Indicator for Active 48V Notification

48V Phantom Power LED Indicator
Blue LED Indicator for Active 48V Notification

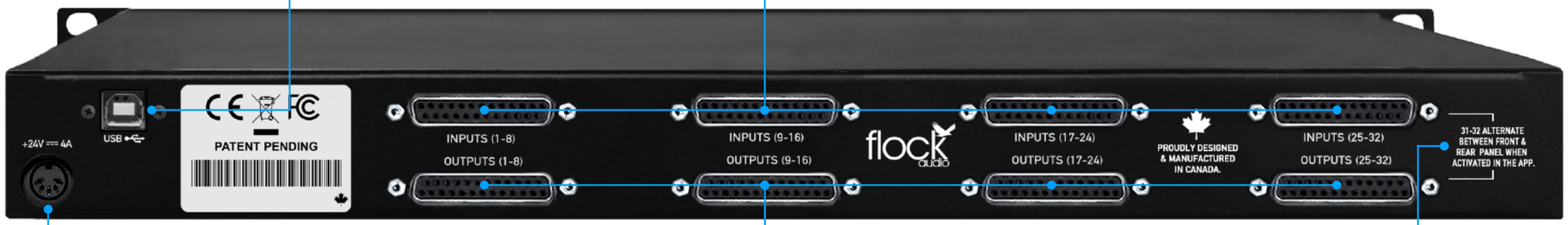
Power Toggle Switch
Toggle On/Off Master Power Switch

REAR PANEL

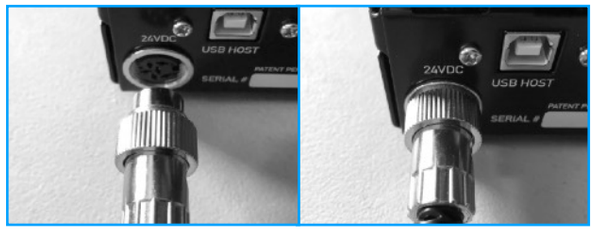
REAR PANEL INDENTIFICATIONS

USB-B Host Connector
USB-B to USB-A Cable
(USB 2.0 Connection)

Rear Inputs 1-32
DB-25/D-SUB Connectors
Inputs: 1-8, 9-16, 17-24, 25-32
(8 Balanced Audio Channels per Connector)
Tascam 25 Pinout Wiring Standard



24VDC Power Connection
6 Pin Connector with
threaded locking sleeve



IMPORTANT: Always ensure that the Power Connector is fastened snugly into the Power Input of the PATCH System Hardware.

Rear Outputs 1-32
DB-25/D-SUB Connectors
Outputs: 1-8, 9-16, 17-24, 25-32
(8 Balanced Audio Channels per Connector)
Tascam 25 Pinout Wiring Standard

Inputs & Outputs (31-32)
Channels 31-32 can be routed to the Front Panel Inputs & Outputs using the PATCH APP Software.

PROFESSIONAL +4 LINE LEVEL

NOTE PATCH IS DESIGNED WITH A FIXED PROFESSIONAL LINE LEVEL OF +4 TO WORK IN ACCORDANCE WITH OTHER INDUSTRY STANDARD OUTBOARD PROCESSING HARDWARE. WHEN USING OTHER TYPES OF LEVELS FOR SIGNAL ROUTING, YOU MAY NEED TO HAVE ADDITIONAL ACCESSORIES CONNECTED INLINE.

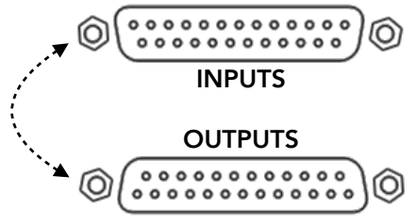
REAR PANEL CABLE CONNECTIONS

INPUTS & OUTPUTS NOTICE

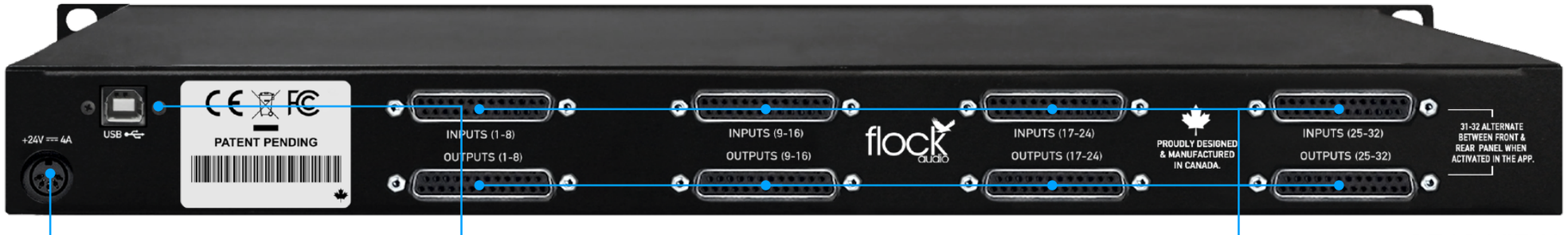
NOTE INPUTS & OUTPUTS ON THE REAR PANEL OF THE PATCH SYSTEM ARE SEPARATELY DESIGNATED. YOU CANNOT USE AN OUTPUT AS AN INPUT OR VICE VERSA. PLEASE ENSURE TO AVOID RISK OR DAMAGE TO THE PATCH SYSTEM OR OTHER EXTERNAL HARDWARE THAT IS CONNECTED THAT YOU MAKE THE PROPER CONNECTIONS ACCORDINGLY. TO LEARN MORE ABOUT PROPERLY CONNECTING EXTERNAL HARDWARE TO THE PATCH SYSTEM SEE THE BOTTOM OF THIS PAGE.

REQUIRED CABLES FOR OPERATION

ATTENTION:



NOTE THAT THE DB-25 CONNECTORS ON THE REAR PANEL ARE ALTERNATE ORIENTATIONS. DO NOT TRY TO FORCE THE DB-25 CONNECTOR TO CONNECT IF IT'S NOT EASILY CONNECTING. REVIEW ORIENTATION, THEN TRY AGAIN.

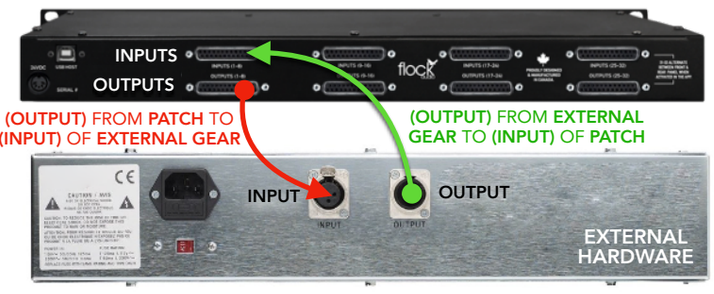


REAR VIEW

24VDC Power Supply (6 Pin)
(Included In Box)

USB-A To USB-B (Cable)
(10' USB 2.0 - Cable Included In Box)

DB-25/D-SUB Cable Snakes
(Female/Male XLR & TRS Options Available)
(Cables Not Included)
(Cable examples courtesy of Pro Audio LA)



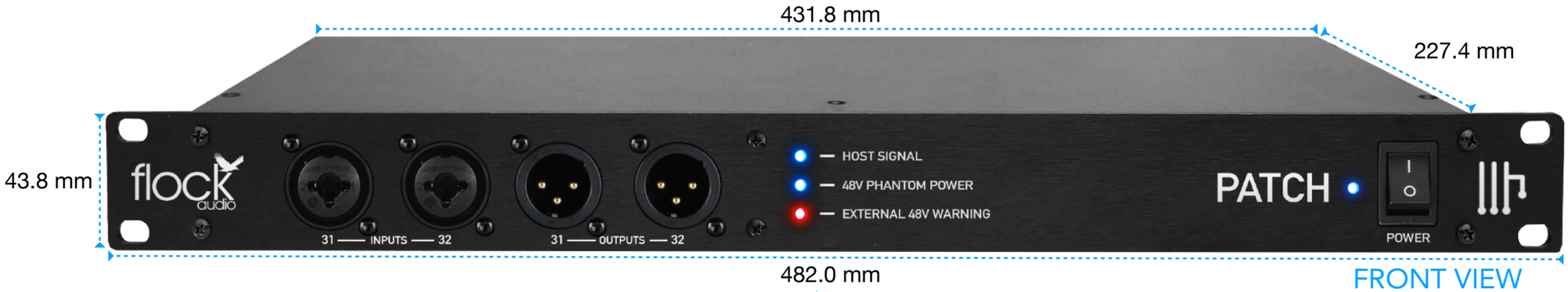
CONNECTING PATCH TO EXTERNAL HARDWARE EXAMPLE.

NOTE ALL EXTERNAL HARDWARE MUST BE CONNECTED IN THIS METHOD, SHOWN TO THE LEFT SIDE OF THIS DESCRIPTION.

PATCH (OUT) —> EXTERNAL HARDWARE (IN)
EXTERNAL HARDWARE (OUT) —> PATCH (IN)

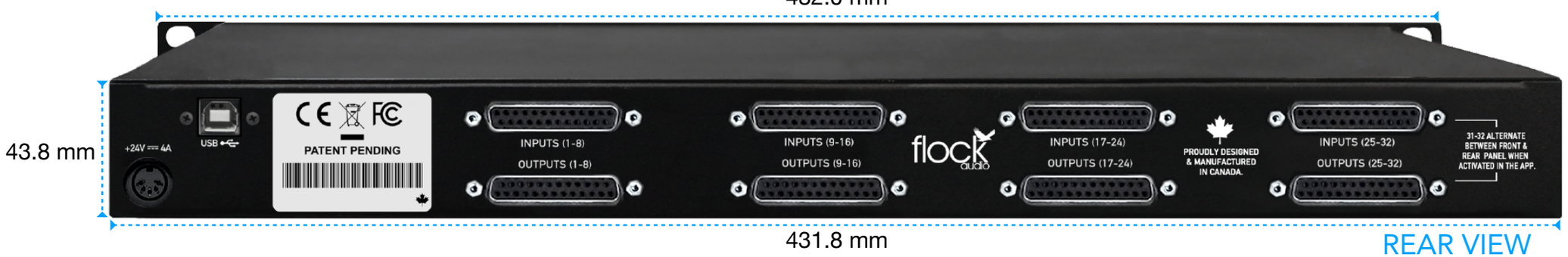
HARDWARE CHASSIS MEASUREMENTS

CHASSIS DIMENSIONS



FRONT VIEW

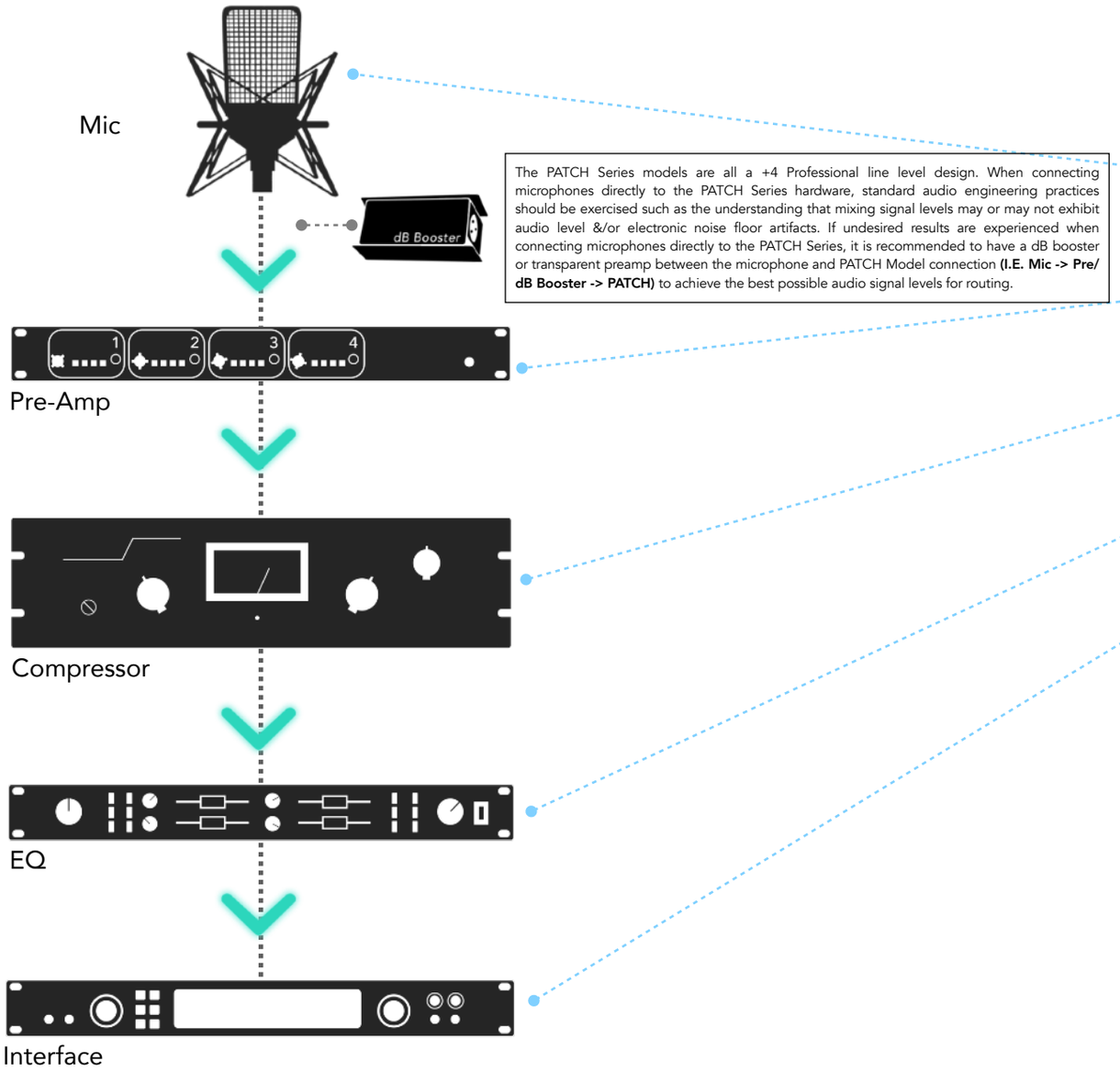
4 Kg
(Weight)



REAR VIEW

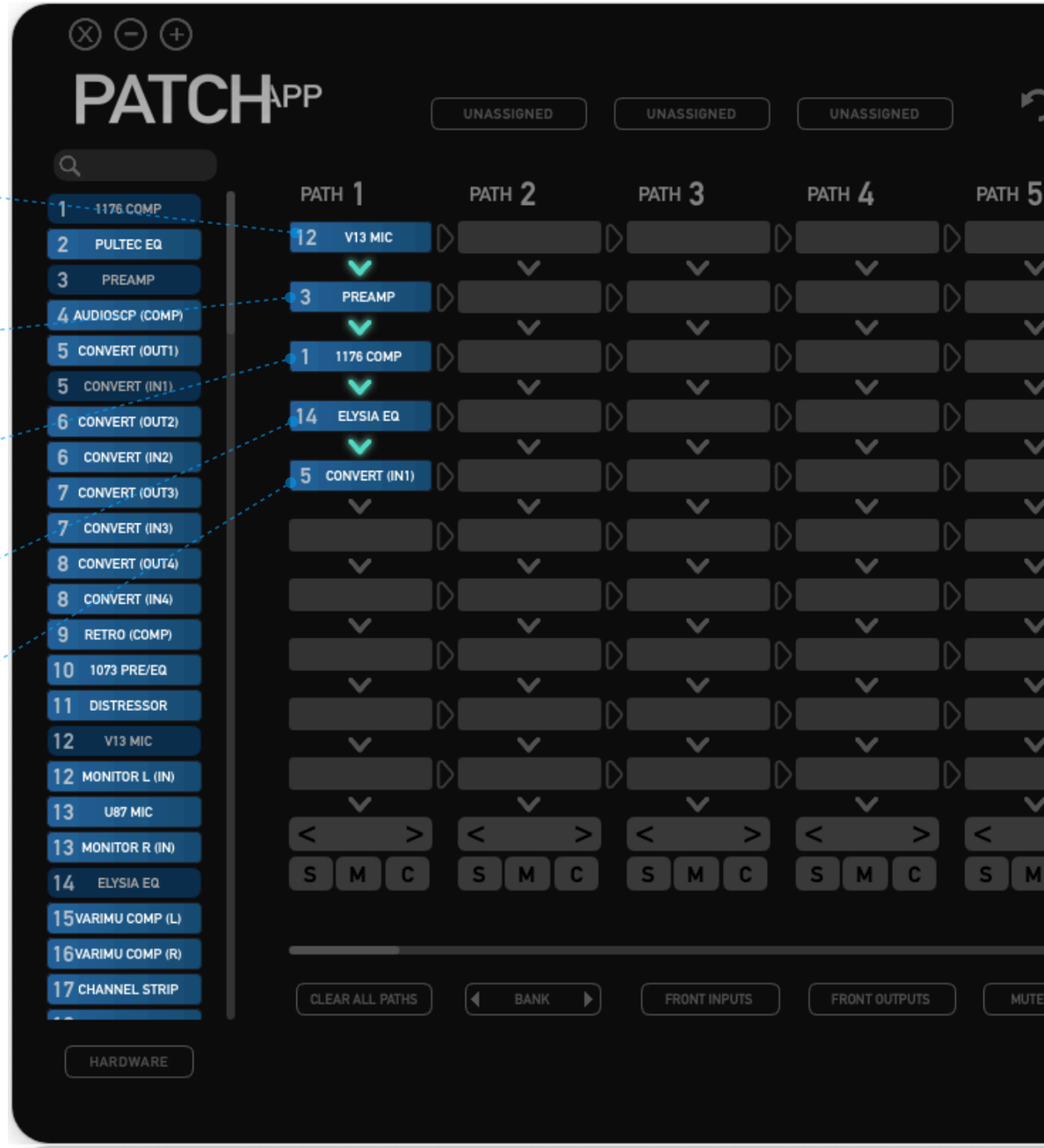
ROUTING EXAMPLES

Standard Microphone Routing Example



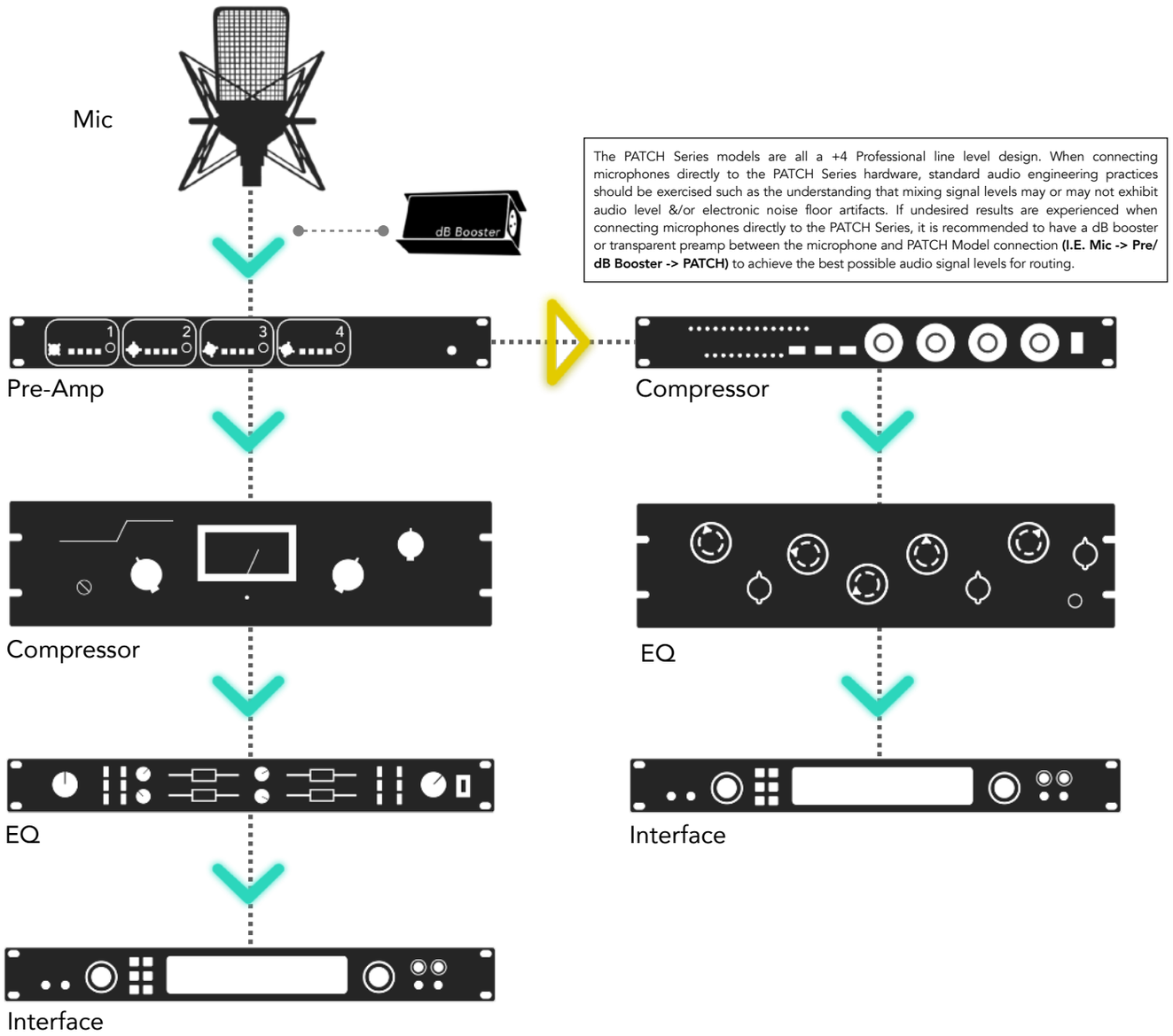
The PATCH Series models are all a +4 Professional line level design. When connecting microphones directly to the PATCH Series hardware, standard audio engineering practices should be exercised such as the understanding that mixing signal levels may or may not exhibit audio level &/or electronic noise floor artifacts. If undesired results are experienced when connecting microphones directly to the PATCH Series, it is recommended to have a dB booster or transparent preamp between the microphone and PATCH Model connection **(I.E. Mic -> Pre/ dB Booster -> PATCH)** to achieve the best possible audio signal levels for routing.

Hardware & Software Routing Overview



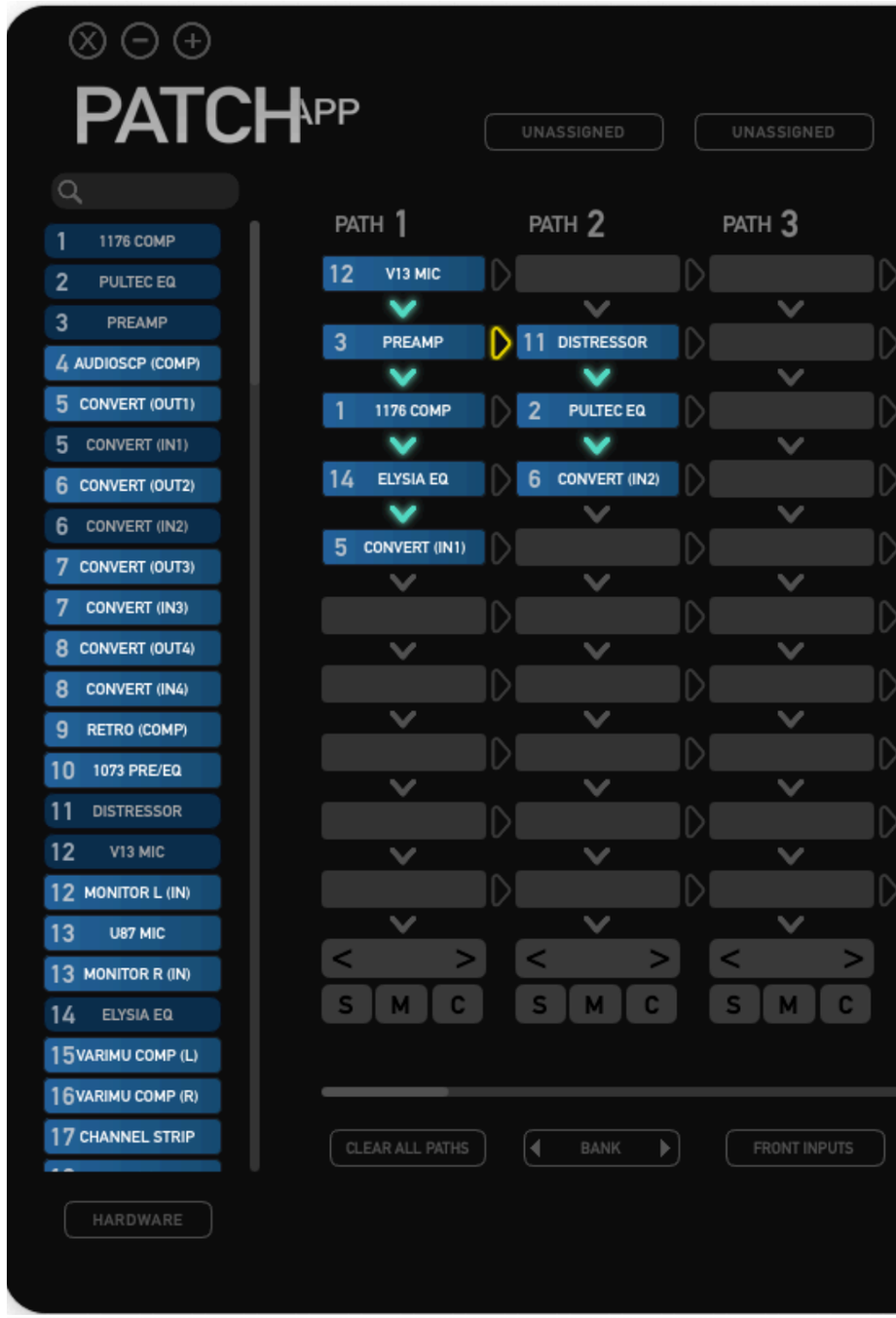
ROUTING EXAMPLES

Multing Routing Example



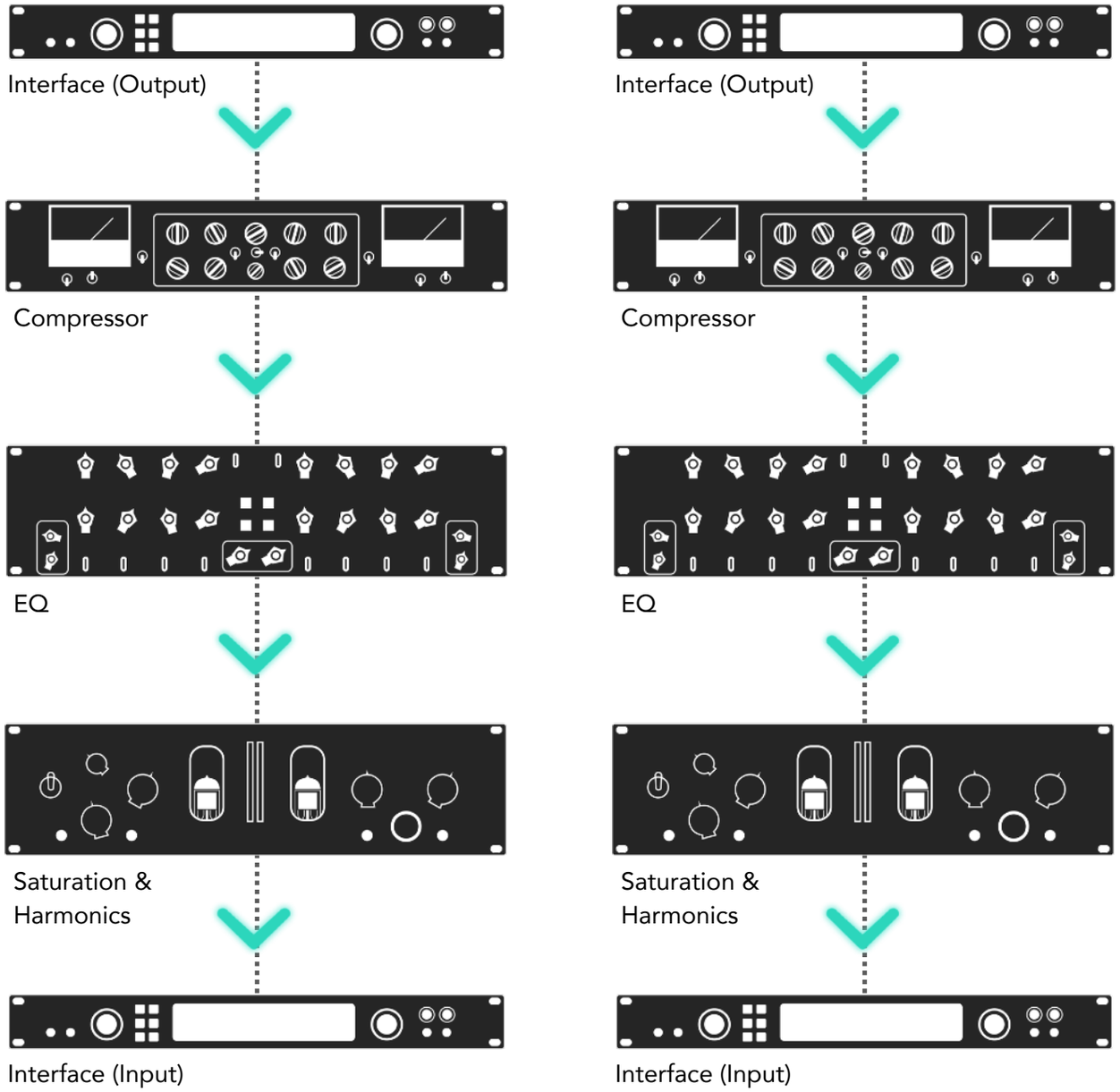
The PATCH Series models are all a +4 Professional line level design. When connecting microphones directly to the PATCH Series hardware, standard audio engineering practices should be exercised such as the understanding that mixing signal levels may or may not exhibit audio level &/or electronic noise floor artifacts. If undesired results are experienced when connecting microphones directly to the PATCH Series, it is recommended to have a dB booster or transparent preamp between the microphone and PATCH Model connection **(I.E. Mic -> Pre/ dB Booster -> PATCH)** to achieve the best possible audio signal levels for routing.

Hardware & Software Routing Overview

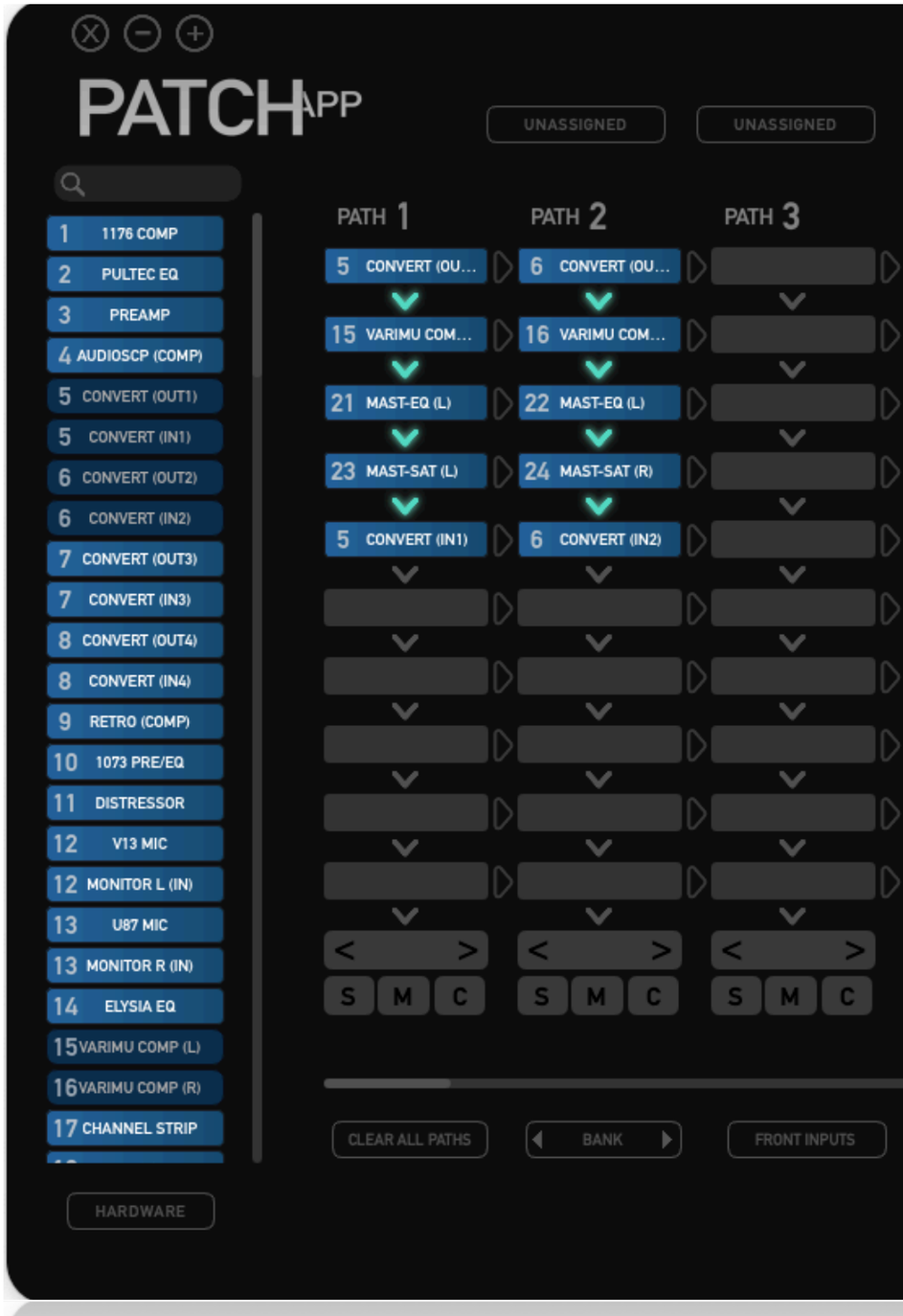


ROUTING EXAMPLES

Mixing/Mastering Routing Example



Hardware & Software Routing Overview



FRONT INPUTS & OUTPUTS

Front I/O Features

FRONT PANEL INPUTS & OUTPUTS

The PATCH System Hardware will allow a user to redirect Inputs 31 & 32 and/or Outputs 31 & 32 from the rear side of the system to the front panel for easy access and integration of outside analog audio equipment.

This function can be engaged by clicking the “Front Inputs” or “Front Outputs” toggle buttons located in the bottom section of the software application. A prompt notification will alert the user that Inputs &/or Outputs 31 & 32 will no longer be actively functioning on the rear side of the PATCH Hardware unit when the Front Inputs or Outputs 31 & 32 are activated in the application.

Note: Inputs 31 & 32, when redirected to the front panel Input Connectors, will have the ability to have 48V Phantom Power supplied to them when using the PATCH APP software controller.

MULTIPLE UNIT SETUP

MULTIPLE UNIT ANALOG CONNECTIONS

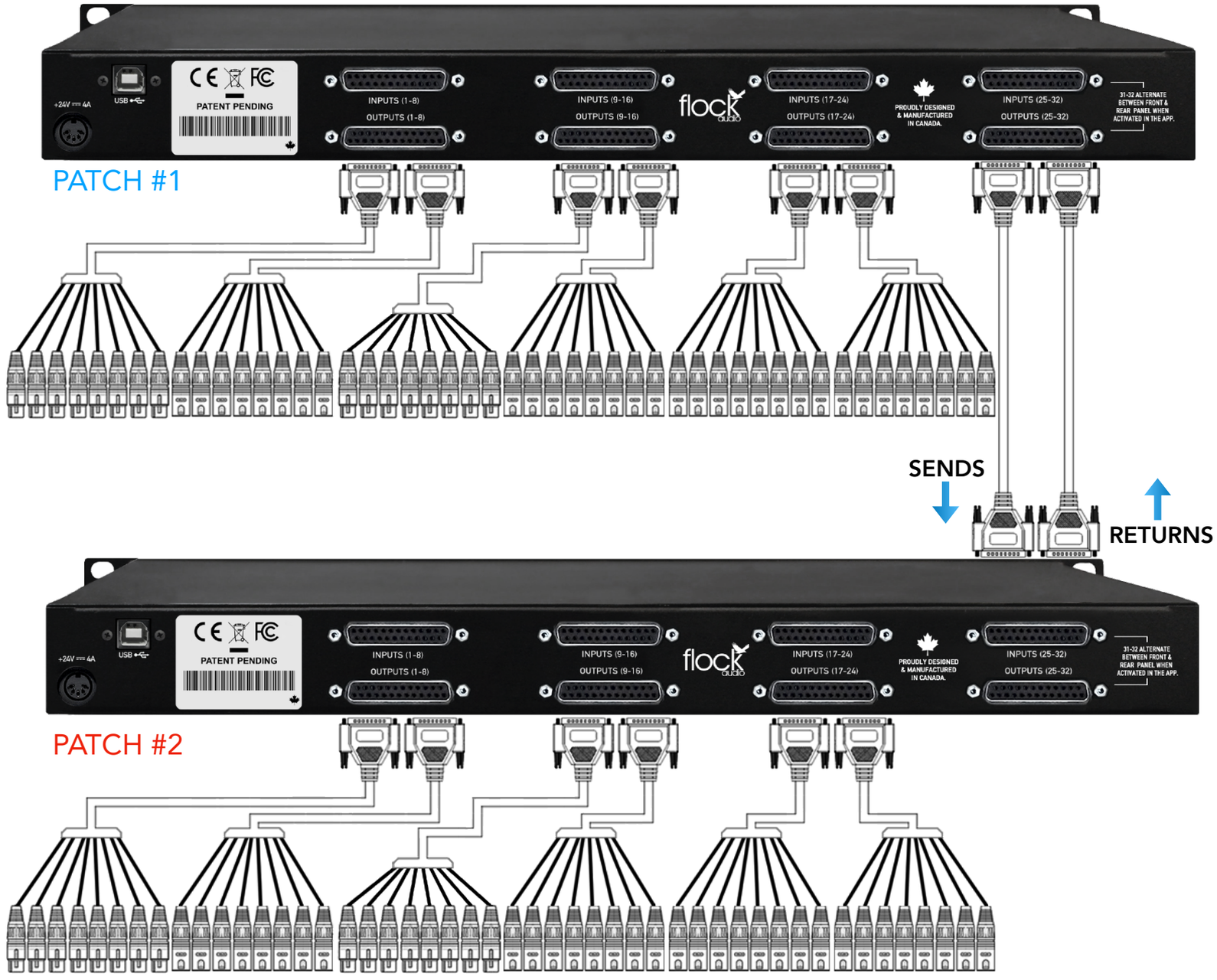
When connecting multiple hardware units together for Multi-Unit configurations, a user must choose which connections to configure in order to send &/or receive analog audio signals between multiple PATCH Hardware Units.

As shown in the example to the right, 2 PATCH Hardware Units are connected with 8 Sends and 8 Returns. This configuration example allows a user to Send 8 analog audio signals from one PATCH #1 to PATCH #2 and return 8 analog audio signals to PATCH #1 (if required).

This is only an example of the possible Multi-Unit routing configurations and is not restrictive of other user desired configurations. Users may choose to have more or all sends then equal returns.

The below example shows a simple PATCH APP Software view of how a Multi-Unit Hardware setup would appear in the PATCH APP when routing from PATCH #1 to PATCH #2 and back again. More information on multi-unit setups can be found in the PATCH APP manual.

Multiple PATCH System Setup



When Dragging + Dropping a SEND "Pass" into a signal flow digital rack space that is empty, the PATCH APP will populate both SEND & RECEIVE Digital Rack Spaces with color-coded outlined racks to allow the user to easily distinguish which PATCH unit is which.

FRONT PANEL LED INDICATORS

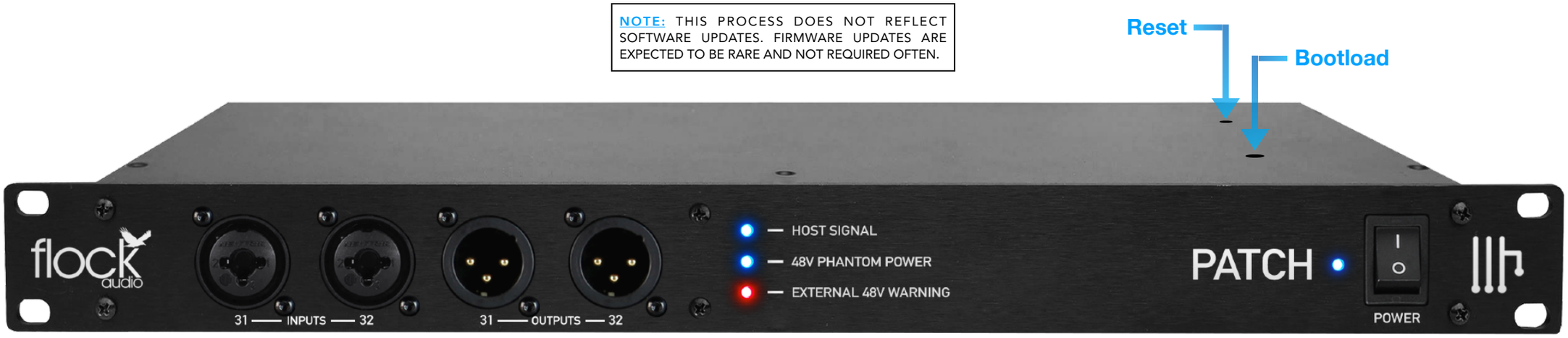
LED Indicator Legend

LED Title:	LED Color:	LED Function:	LED Action:
Host Signal	Blue	LED Indicator responds to notify user of Hardware & Software Connection. HOST SIGNAL - **Solid Blue** (Host Signal Text In PATCH APP)	- **Solid Blue** (Connection Established)
			- **Flashing Blue** (Missing Connection)
48V Phantom Power	Blue	LED Indicator responds to notify user internal 48V is active on the rear inputs of the PATCH Hardware.	- **Solid Blue** (Internal 48V Active on Hardware)
	Blue	LED Indicator responds to notify user internal 48V is rerouted and active on the Front Inputs (31-32).	- **Fading/Pulsing Blue** (48V Active on Front Inputs)
External 48V Warning	Red	LED Indicator responds to notify user of active external 48V source connected to the PATCH System Hardware.	- **Flashing Red** (External 48V Notification)

INSTALLING NEW FIRMWARE

How-to Install new PATCH Firmware

NOTE: THIS PROCESS DOES NOT REFLECT SOFTWARE UPDATES. FIRMWARE UPDATES ARE EXPECTED TO BE RARE AND NOT REQUIRED OFTEN.



Step by Step Installation Process for New Firmware

In order to properly install newly available Firmware onto the Flock Audio PATCH System Hardware, you will require access to the top side of the hardware unit. Located on the top lid on the right hand facing side there are 2 small holes in the chassis lid. These holes provide access to the **Bootload** and **Reset** Buttons. REMINDER: **Do not open the lid** to avoid electric shock causing injury or death. There are no user serviceable parts inside the PATCH system and opening the lid will result in voiding any active manufacturers warranty.

Perform the following steps to successfully update your system's Firmware.

Step #1. Download the latest available Firmware from the "Downloads" page at www.flockaudio.com

Step #2. Gently pull the PATCH System slightly out of the rack case to gain access to the top right side of the hardware.

Step #3. Using 2 paperclips or similar size tools, insert one through the first hole "**Bootload**" and while pressing & holding the button down, use the other paperclip or similar size tool to quickly press & release the "Reset" button to initiate the system into Bootload Mode making it ready for new Firmware installation. ***Note:*** *You can also perform the same process by using a single paperclip or similar size tool to insert through first hole "**Bootload**" and while pressing & holding the button down, quickly toggle the system off for 3 seconds using the front power switch and toggle it back on while holding and then releasing the Bootload button.*

Step #4. Follow the remaining process and prompts on the Firmware Installer Application on your computer to complete the Firmware Installation. Once complete, restart your PATCH System and the PATCH APP to complete the installation process. ***Note:*** *If there are any issues installing the new firmware, please repeat the process starting with Step #3. If the problem persists, please contact Flock Audio Support.*

TROUBLESHOOTING

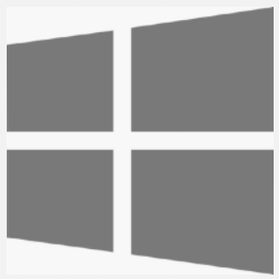
Troubleshooting Tips

PATCH Unit doesn't power on.	– Confirm 24VDC Power supply pin insertion is properly connected and threaded locking sleeve is hand tightened. – Confirm front panel rocker switch is pushed in upwards position showing vertical line "|" icon & blue LED power indicator is illuminated. – Confirm that wall power source is working by plugging in another device.
PATCH Hardware & Software not communicating.	– Confirm that supplied (USB-A to USB-B) cable is fully inserted into the rear side of the PATCH Hardware Unit and corresponding CPU controller. – Confirm whether the Signal Host Blue LED is illuminated Solid Blue or Flashing. – Close the PATCH APP Software and turn off the PATCH Hardware Unit. Wait 30 seconds and turn on the PATCH Hardware Unit & Reopen PATCH APP Software. – If the Host Signal LED on the Hardware Unit is solid but the Host Signal Indicator in the PATCH APP is flashing, you must click Settings > Multiple Unit Setup and ensure that your PATCH Serial Number is in the first slot, then click Save Setup. – Try a different USB-A to USB-B Cable.
PATCH APP Download & Install error.	– Confirm that your CPU Security/Privacy settings &/or Firewall are not restricting the PATCH APP Software from properly installing. Mac OSX users may experience an "Unrecognized developer error" that requires opening "User Preferences > Security & Privacy > Open Application Anyways".
48V Phantom Power is not working.	– Confirm that 48V icon is illuminated in Blue & your microphone is placed in the first Digital Rack Space Slot. – Confirm that the 48V Master Bypass Switch in the Hardware Setup Menu is placed in the "On" position. – Confirm that your microphone is connected to the proper Input # on the rear side of the unit with the corresponding Digital Rack Space number.
PATCH APP Software is launching but not appearing on screen	– If your PATCH APP Software is not appearing on your chosen display screen. Use the Key Command "**Shift + F1**" to reset the PATCH APP's screen position. (Windows) – Navigate to the File menu right of the Apple logo in the top left of your screen and click "**Reset Window Size**". (Mac)
There is a light humming or whirring noise coming from the left side of my PATCH System.	– The PATCH Hardware Unit is equipped with a small cooling fan that is mounted on the right side of the Hardware Unit. This small cooling fan is controlled by a thermostat that will engage and disengage during the use of your System & change speeds depending on the amount of cooling required. Fan Controls can be customized by going "Settings > User Preferences > Hardware Fan Controls" – Never block or restrict airflow to the PATCH Hardware Unit. Always ensure this fan is not blocked by cables or anything else restrictive.
Slight popping or clicking sometimes when rearranging Active Racks.	– It is completely normal to sometimes hear slight popping or clicking when rearranging active digital rack spaces during playback. This popping or clicking is a result based upon the type of audio signal currently being played through the PATCH system.
The PATCH System self-shutdown and/or rebooted itself during use.	– The PATCH Hardware Unit is equipped with a failsafe temperature sensor that will shut the system down to avoid any internal damage if overheating is present. It is not recommended to have the PATCH Hardware unit mounted directly near any hot or tube based hardware units as this may result in tripping the failsafe temperature sensor. – The PATCH Hardware Unit is also equipped with a small internal fan to help assist with internal heat removal.
Experiencing a noise floor increase when using certain microphones directly connected to PATCH.	- The PATCH System is a Professional +4 Line Level device, not a microphone level device. Most microphones directly connected to the PATCH System will not exhibit any noise floor increases, but if you are experiencing an increased noise floor (I.E. Audible Hiss), we recommend boosting the microphone level prior to connecting to PATCH. (I.E. MIC -> dB Booster or Transparent Preamp -> PATCH).
Front Inputs or Outputs are not working.	– Confirm that the "Front Inputs" or "Front Outputs" toggle switches are engaged. When engaged, the "Front Inputs" and "Front Outputs" switches in the PATCH APP Software will be illuminated in blue. – (If) using Multi-Unit setup, confirm that "Front I/O Toggle Controls" in the bottom right side corner is selected to all units.
The PATCH System is not responding properly or behaving unexpectedly.	– Export all previously "Saved" routings and "Hardware Setup Menu" settings. Ensure these are stored in a safe back-up folder. Open the Settings > Restore to Factory and allow the System to completely restore back to Factory Default Settings. Once performed, turn off the PATCH Hardware System, Close and Delete the PATCH APP application. Reinstall the latest PATCH APP Software version and turn on the Hardware, followed by reimporting all Saved Routings & Hardware Setups. – If the problem persists, please contact Support (www.flockaudio.com/support)

SOFTWARE & SYSTEM REQUIREMENTS

Software Compatibility & System Requirements

OSX: 10.12 Sierra or Newer
Disk Space: Minimum 512 MB available disk space
USB: 1x USB 2.0/3.0 Port (Per PATCH System)
Required USB bandwidth: 5%-10%
Memory(RAM): 4GB Minimum (8GB or more recommended)
CPU: Intel Core 2 Duo (Minimum) Intel Core i3 ™ or higher (Recommended)
Internet Connection: Internet Connection is required for download and updates.



OS: Windows 7 or Newer
Disk Space: Minimum 512 MB available disk space
USB: 1x USB 2.0/3.0 Port (Per PATCH System)
Required USB bandwidth: 5%-10%
CPU: Intel or AMD equivalent CPU with at least 2GHz operating frequency
Memory (RAM): 4GB Minimum (8GB or more Recommended)
Internet Connection: Internet Connection is required for download and updates.

USER NOTICES & WARRANTY

User Notices & Warranty

WARRANTY

Depending on the warranty service chosen by the user at the time of purchase, the Flock Audio Support Warranty Programs will differ as per below. **PLEASE NOTE: IN ORDER TO PROCESS WARRANTY CLAIMS YOU MUST KEEP THE ORIGINAL BOX & PACKAGING FOR SHIPPING, DO NOT DISCARD BOX & FOAM INSERTS!**

STANDARD LIMITED WARRANTY

All PATCH Systems include a 1 Year Standard Limited Warranty that covers all manufacturer defects and/or failures from factory. This warranty program comes standard with all Flock Audio PATCH System purchases once the hardware is registered at (www.flockaudio.com/myaccount). The Warranty can be upgraded from the Standard Limited Warranty program to the premium Flock Audio SECURE up to one month after the registered activation.

IMPORTANT NOTICE RE: POWER SUPPLY

The PATCH System hardware is to be powered by a certified CSA/UL 60950-1 +Am1 + Am2 or CSA/UL 62368-1 (Edition 2) external power adapter with a rated output of 24VDC, 4.17A, 100W max or equivalent specifications.

EXTERNALLY CONNECTED HARDWARE RISK

It is at the risk of the user to follow the proper usage instructions of this device as dictated in this manual. It is important to follow the proper recommended connection methods in order to successfully route and operate the PATCH System. Flock Audio Inc. cannot be held liable for any damages caused to other connected audio hardware or injury due to improper use of the PATCH System.

REPAIRS

If you are having trouble with your PATCH System and trouble shooting suggestions did not work, please visit (www.flockaudio.com/support) for further details & to contact our Technical Support Team.

USER MAINTENANCE

It is **NEVER RECOMMENDED** to self service a Flock Audio PATCH System or expose the internal components by opening the unit. Risk, Injury &/or Death may occur if you open a Flock Audio PATCH System and will void any active warranty immediately. The PATCH System doesn't contain any user replaceable or removal parts.

Any User Maintenance &/or Repairs are required to be performed by a Certified Flock Audio Support repair service technician. These Certified Support Technicians can be located by visiting Flock Audio Support (www.flockaudio.com/support).

SIMPLE USER CARE

When mounting your Flock Audio PATCH System, it is recommended to use a Nylon or Plastic Rack Screw Washer to avoid scratching or damaging the rack ears on the front panel faceplate.

To keep your front panel clean of dust and debris, it is recommended to use canned air to remove dust and/or a lightly damp microfibre cloth to gently wipe the front panel face plate. **Do Not** apply pressure to the LED Indicators or other protruding components on the faceplate *(I.E. Power Switch etc.)*

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PATENT PENDING