USER MANUAL

V.1.0.1

JULY 21, 2023

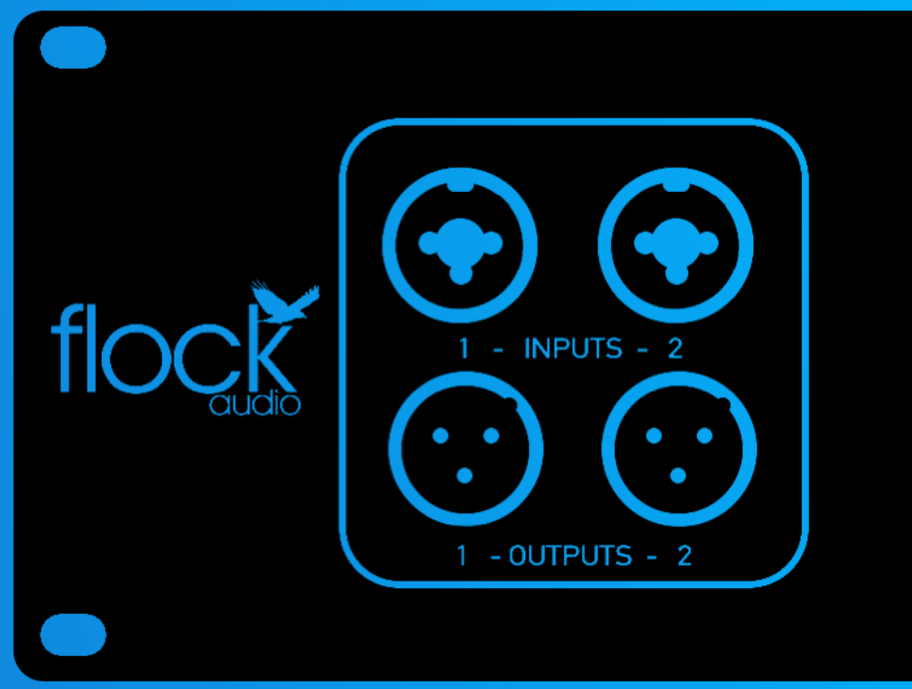


TABLE OF CONTENTS

Thank you from Flock Audio……..……..3
Introduction to the PATCH VT System..……..……..……4
Important Safety Notices……..……..……..……5
What's in the Box..……..……..……..……..……6
Front Panel Identifications……..……..……..……..……7
Rear Panel Identifications……..……..……..……..……8
Rear Panel Cable Connections……..……..……..……9
Hardware Chassis Measurements……..……..……..……10
The PATCH APP Overview.....11
Hardware Setup Menu.....12
Active Routings Section.....13
Understanding Signal Paths.....14
Understanding Path Multing.....15
User Operation Instructions.....16
Routing Examples (Part 1).....17
Routing Examples (Part 2).....18
Routing Examples (Part 3).....19
Front Inputs & Outputs……..……..……..……..……..……20
Multiple Unit Setup.....21
Front Panel LED Indicator.....……..……..……..……..……22
Installing New Firmware……..……..……..……..……..……23
Troubleshooting…….....……..……..……..……..……24
Software & System Requirements……..……..……..……..……25
User Notices & Warranty…….....……..……..……..……..……26
End…….....……..……..……..……..……27

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.

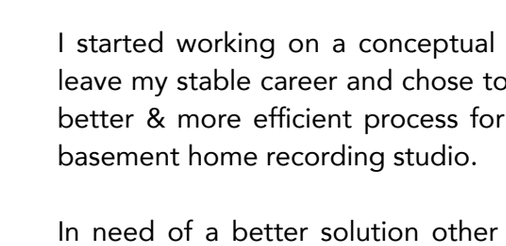
After 2 years of strenuous work and constant focus, Flock Audio the company I started, created the worlds first and most advanced digitally controlled analog audio routing system with features never before possible in conventional analog audio routing.

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^{VT} SYSTEM…

The Flock Audio PATCH VT System is a digitally controlled, 100% analog audio patch bay routing system. A combination of Software known as the PATCH APP and a 128 Point Connection PATCH VT Hardware component 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 VT's Hardware component. This analog audio equipment is cataloged in the Hardware Index located to the left side of the PATCH APP.

The PATCH VT Hardware component is a 3U rack mountable unit that acts as the centrepiece hub of an audio processing equipment setup. Utilizing digital control over analog audio signals is what makes the PATCH VT System unique and unlike anything else in the audio industry.

This manual will cover all of the functions, features and recommended usage of the Flock Audio PATCH VT 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 VT System. There are no self repairable or removable parts in the system. If your Flock Audio PATCH VT 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 VT System, avoid having liquids &/ or spills near your PATCH VT System. If accidental spill occurs, safely shut off your PATCH VT System using the front power button, unplug the wall outlet. Once completed please contact Flock Audio Support to arrange for a Certified Repair Technician to remove and repair if required.

#3. Proper Rack mount Ventilation Requirements

Proper mount spacing and rack mount ventilation is required to ensure your Flock Audio PATCH VT 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 VT System above any tube related audio equipment. If necessary, there should be a 1/2 - 1U Rack Space between the PATCH VT System and any warm or tube related audio equipment to avoid unexpected shutdowns or internal damage.

#4. Use Properly Grounded IEC Power Cables

It is recommended that you always use a properly shielded and grounded IEC Power Cable (110V/220V) with your PATCH VT 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.

#5. External 48V Phantom Power (i.e. 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 VT System, it is not recommended to leave that 48V source active for a lengthly period of time. The PATCH VT 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 & Multi-Purpose LED on the Hardware to disable it.

#6. Discontinue Use During Electrical Storms

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

#7. 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 & PATCH APP DX Software Applications.

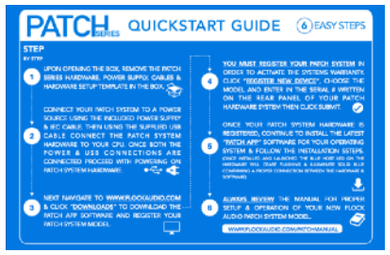
#8.Certifications

WHAT'S INCLUDED IN THE BOX

PATCH VT 3U HARDWARE

IEC POWER CABLE
(110V or 220V)

USB-A TO USB-B (6FT LOCKING)



6 STEP QUICKSTART GUIDE

FRONT INDENTIFICATIONS

Front Inputs 1-2
Neutrik XLR/TRS Combo Jacks
(Activated using Software)

Multi-Purpose LED Indicator
Blue LED Indicator
(Learn more on Page 33)

Front Outputs 1-2
Neutrik XLR Male Jacks
(Activated using Software)

Power Toggle Button
Toggle On/Off Master Power Button

REAR PANEL

REAR INDENTIFICATIONS

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

Inputs & Outputs (1-2)
Channels 1-2 can be routed to the Front Panel Inputs & Outputs using the PATCH APP Software.

IEC Power Connection

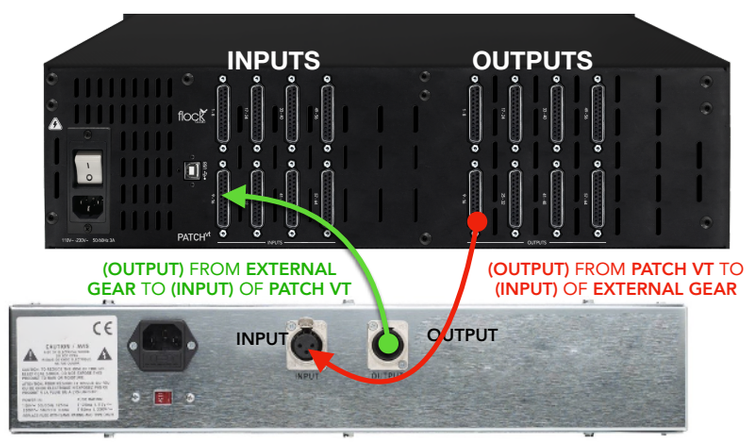
Rear Inputs 1-64
DB-25/D-SUB Connectors
Inputs: 1-8, 9-16, 17-24, 25-32, 33-40, 41-48, 49-56, 57-64
(8 Balanced Audio Channels per Connector)
Tascam 25 Pinout Wiring Standard

Rear Outputs 1-64
DB-25/D-SUB Connectors
Outputs: 1-8, 9-16, 17-24, 25-32, 33-40, 41-48, 49-56, 57-64
(8 Balanced Audio Channels per Connector)
Tascam 25 Pinout Wiring Standard

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

PROFESSIONAL +4 LINE LEVEL

NOTE PATCH VT 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 VT 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 OF ABOUT PROPERLY CONNECTING EXTERNAL HARDWARE TO THE PATCH SYSTEM SEE THE BOTTOM OF THIS PAGE.

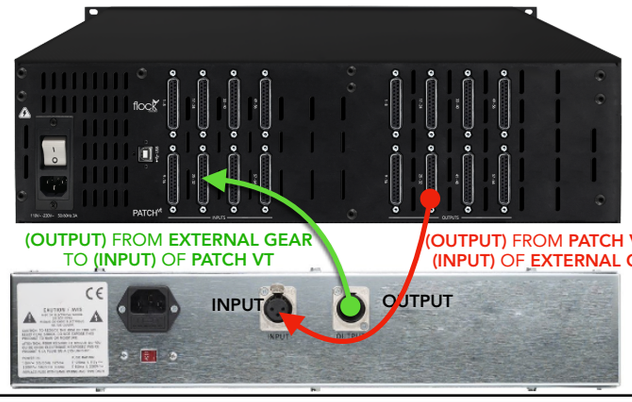
REQUIRED CABLES FOR OPERATION

IEC Power Cable
(Included In Box)

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

REAR VIEW

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



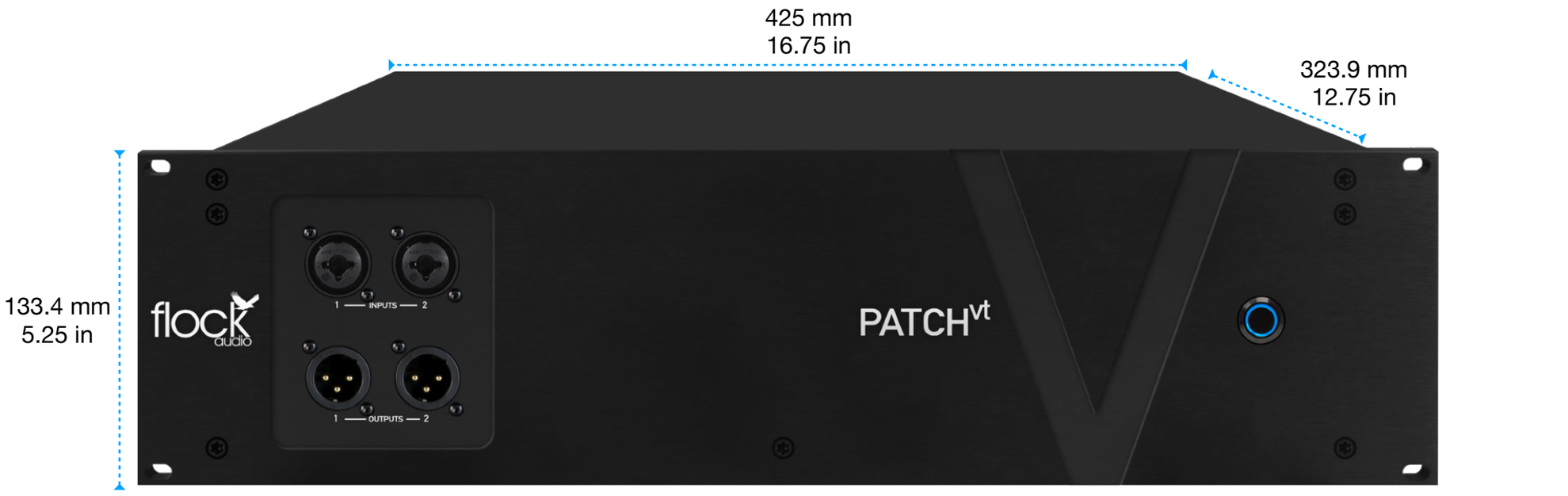
CONNECTING PATCH VT TO EXTERNAL HARDWARE EXAMPLE.

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

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

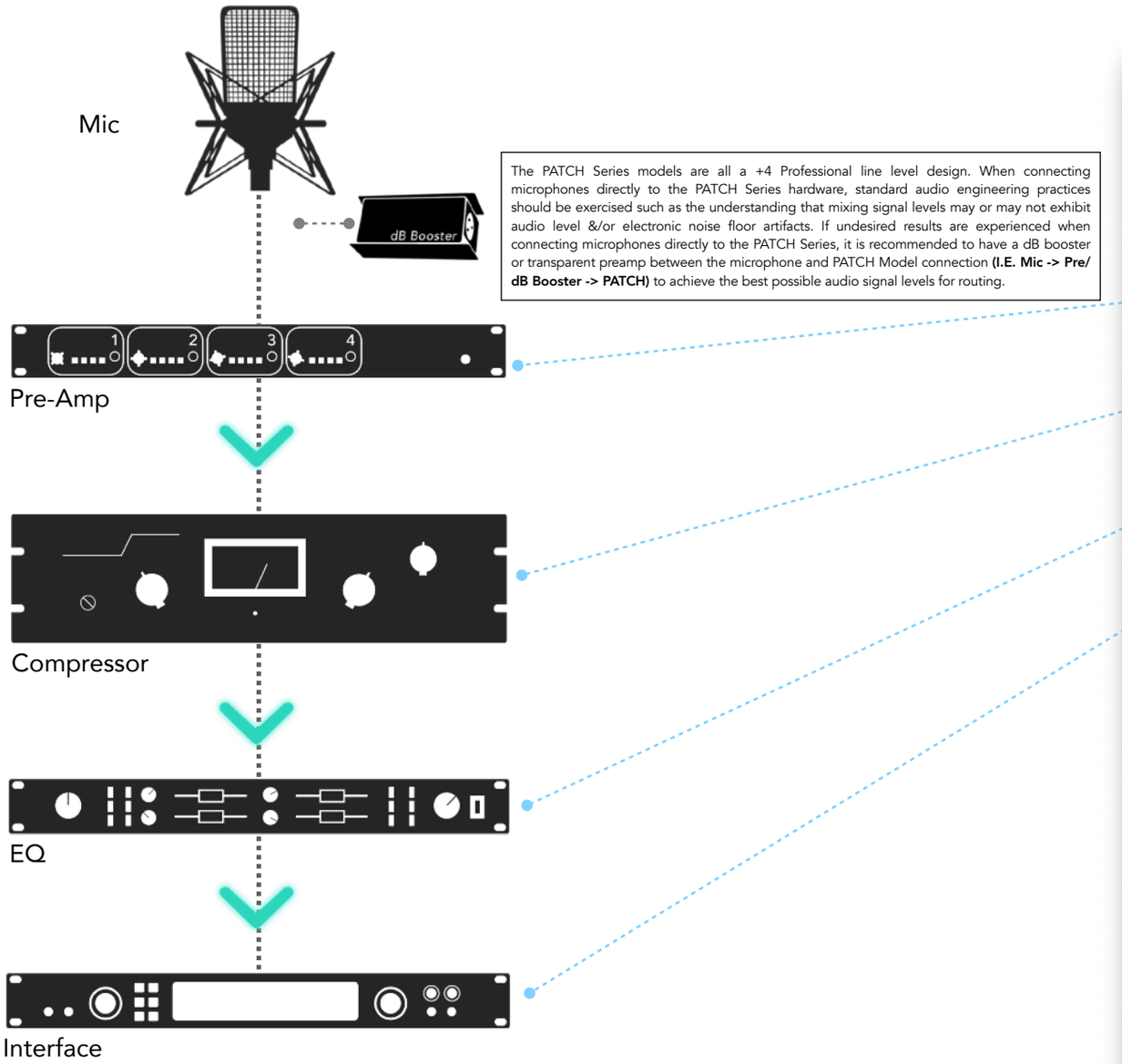
HARDWARE CHASSIS MEASUREMENTS

CHASSIS DIMENSIONS



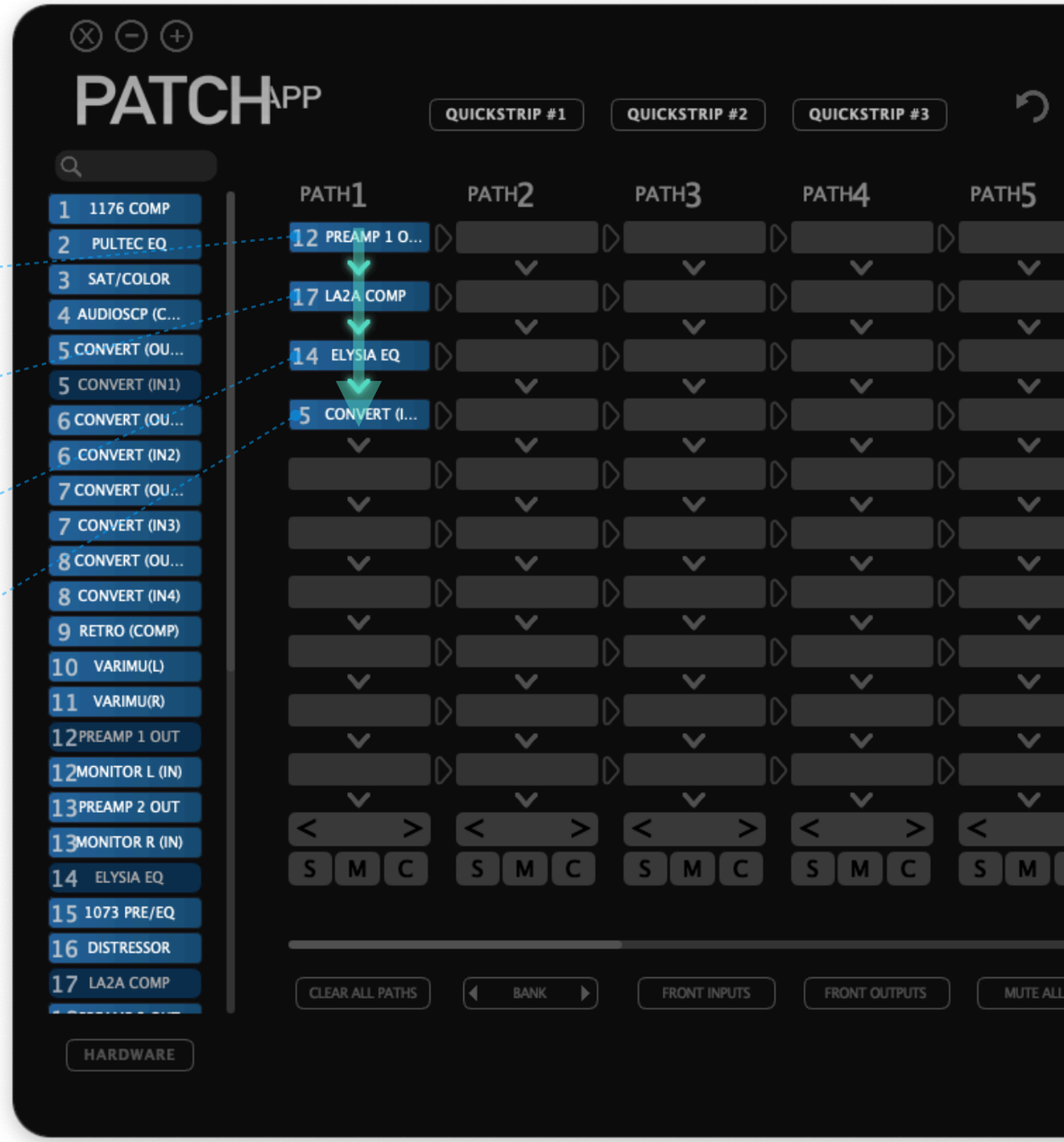
ROUTING EXAMPLES

Standard Microphone Routing Example



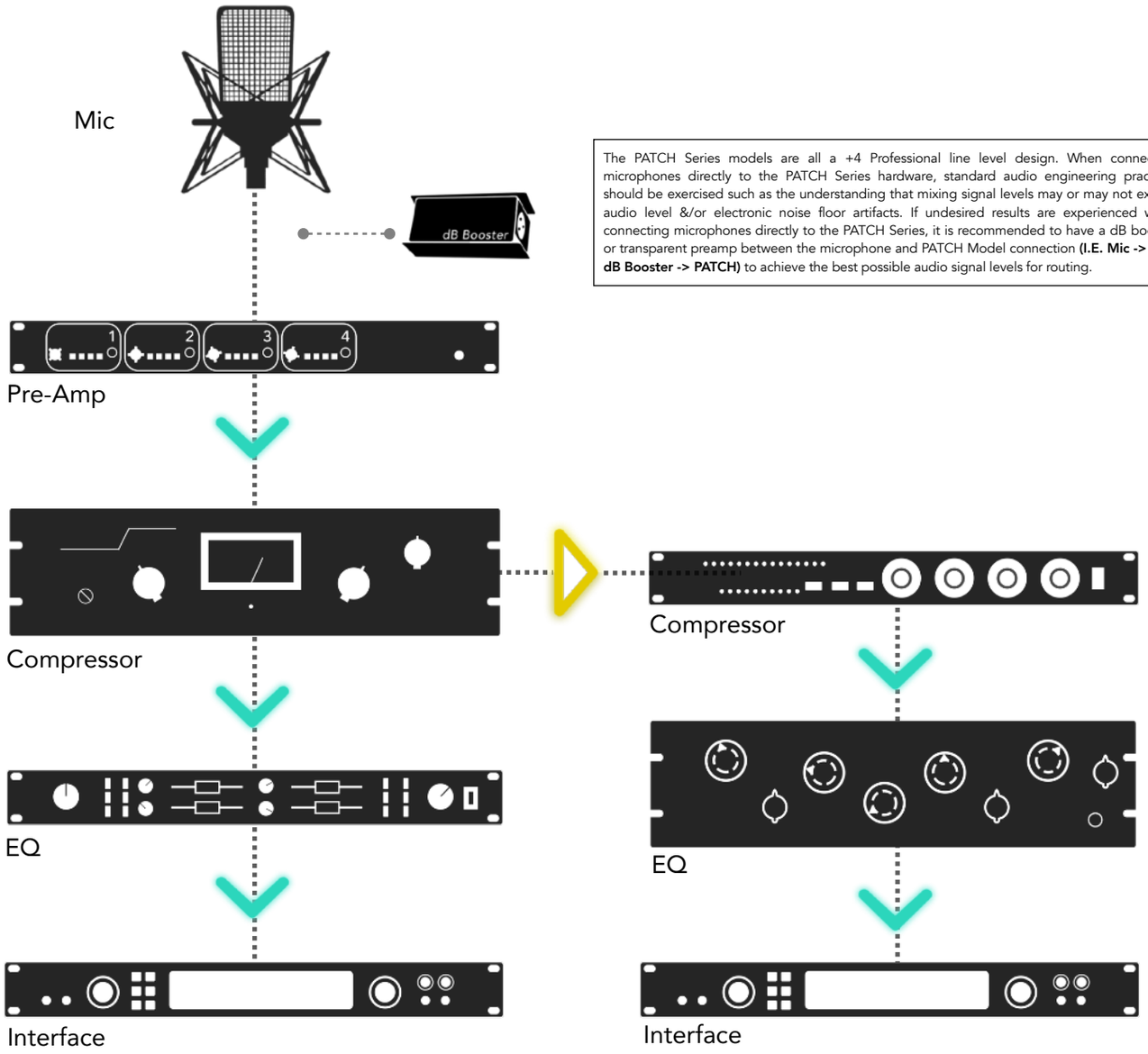
The PATCH Series models are all a +4 Professional line level design. When connecting microphones directly to the PATCH Series hardware, standard audio engineering practices should be exercised such as the understanding that mixing signal levels may or may not exhibit audio level &/or electronic noise 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

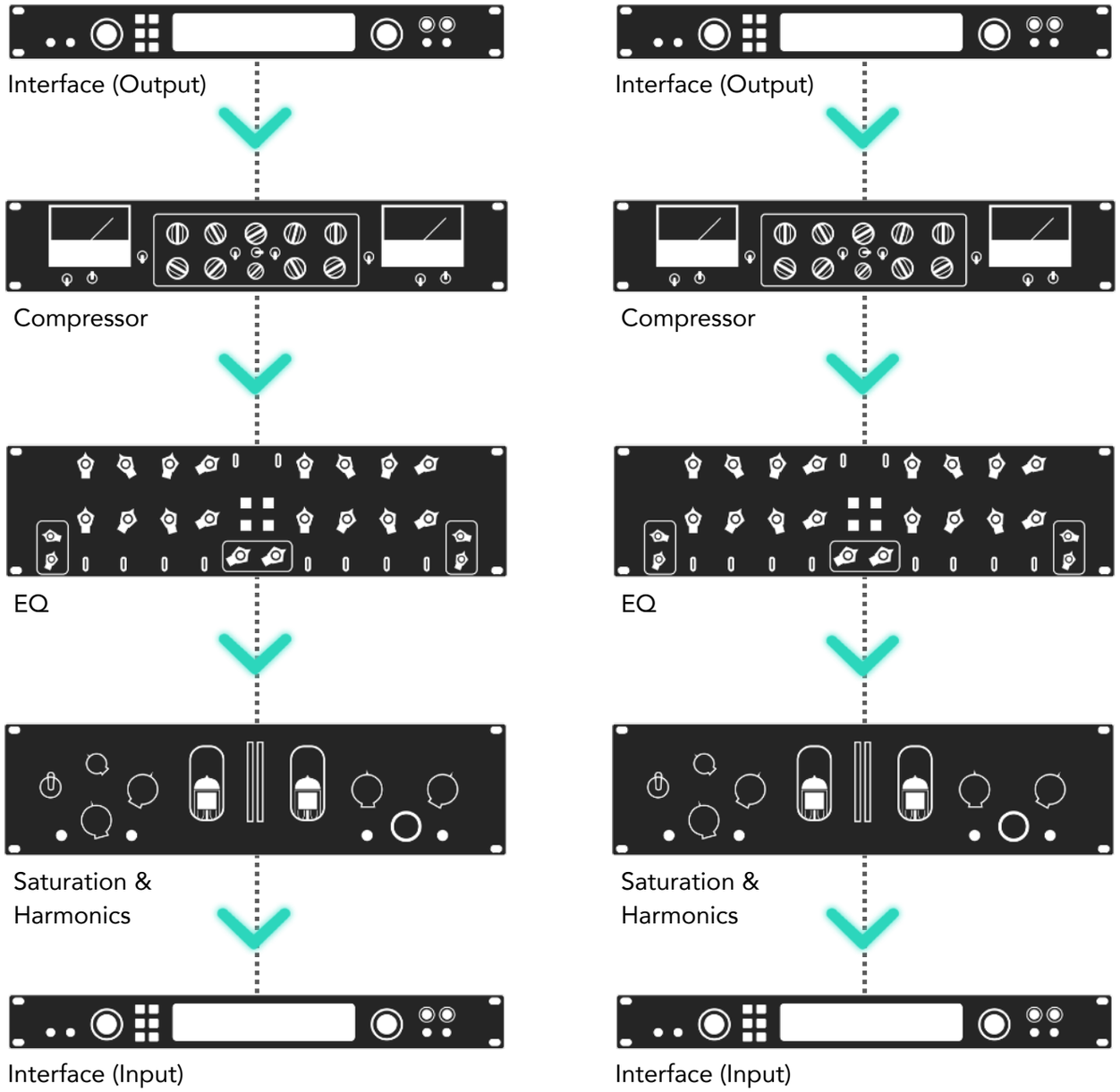


The PATCH Series models are all a +4 Professional line level design. When connecting microphones directly to the PATCH Series hardware, standard audio engineering practices should be exercised such as the understanding that mixing signal levels may or may not exhibit audio level &/or electronic noise 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

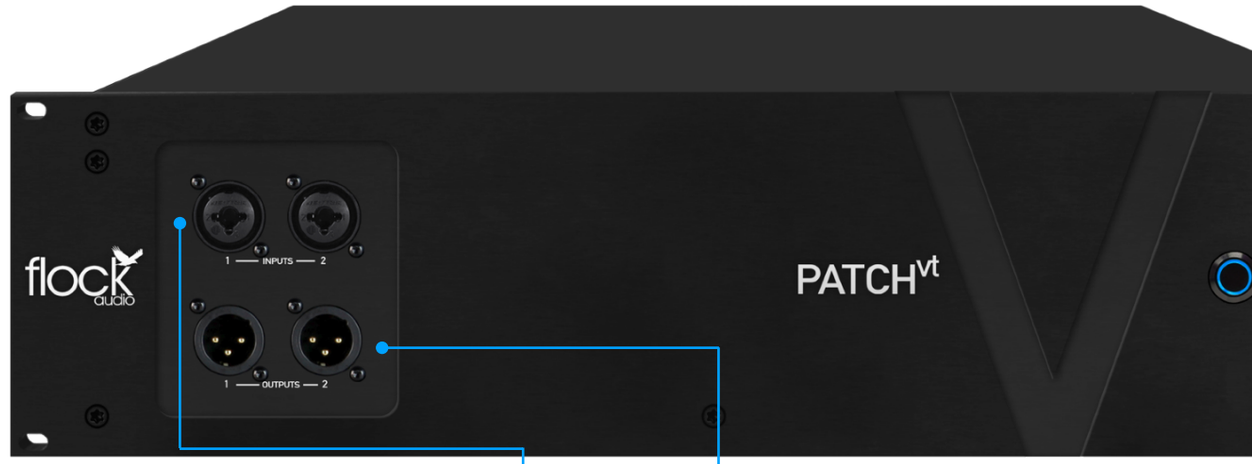
Mixing/Mastering Routing Example



Hardware & Software Routing Overview

FRONT INPUTS & OUTPUTS

Front I/O Features



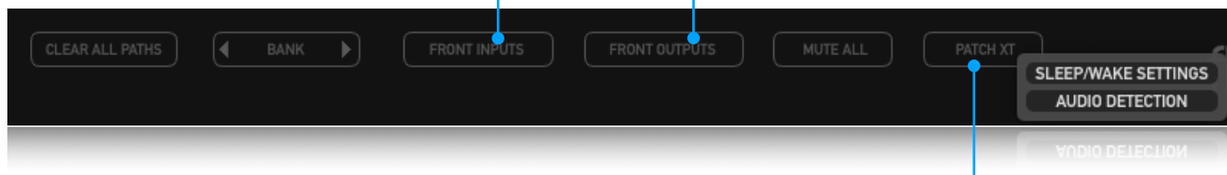
FRONT PANEL INPUTS & OUTPUTS

The PATCH VT Hardware will allow a user to redirect Inputs and/or Outputs 1-2 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 the corresponding Inputs &/or Outputs will no longer be actively functioning on the rear side of the PATCH VT Hardware unit when the Front Inputs or Outputs are activated in the application.

Note: Inputs 1-2, 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.

Toggle Front Inputs & Outputs 1-2 rerouted from rear connections to Front Panel



PATCH VT OPTIONS

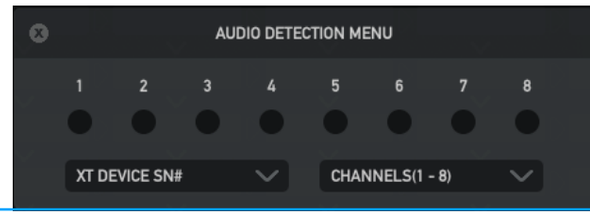
When a PATCH VT unit is connected to the user's computer, this button will appear. When right-clicked, it will show two PATCH VT-specific options: "Sleep/Wake Settings" and "Audio Detection".

SLEEP/WAKE SETTINGS

This feature lets the user choose a time interval after which PATCH VT will automatically go to sleep if it doesn't receive any new routing commands during that time. The default time interval is 8 hours.

AUDIO DETECTION

This feature opens a menu where the user can choose a set of eight channels on any of their connected PATCH VT units to monitor for signal. The channel indicators will light up when an audio signal is present on the corresponding channels, making signal path troubleshooting easy.



MULTIPLE UNIT SETUP MENU

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 and/or receive analog audio signals between multiple PATCH Series hardware units.

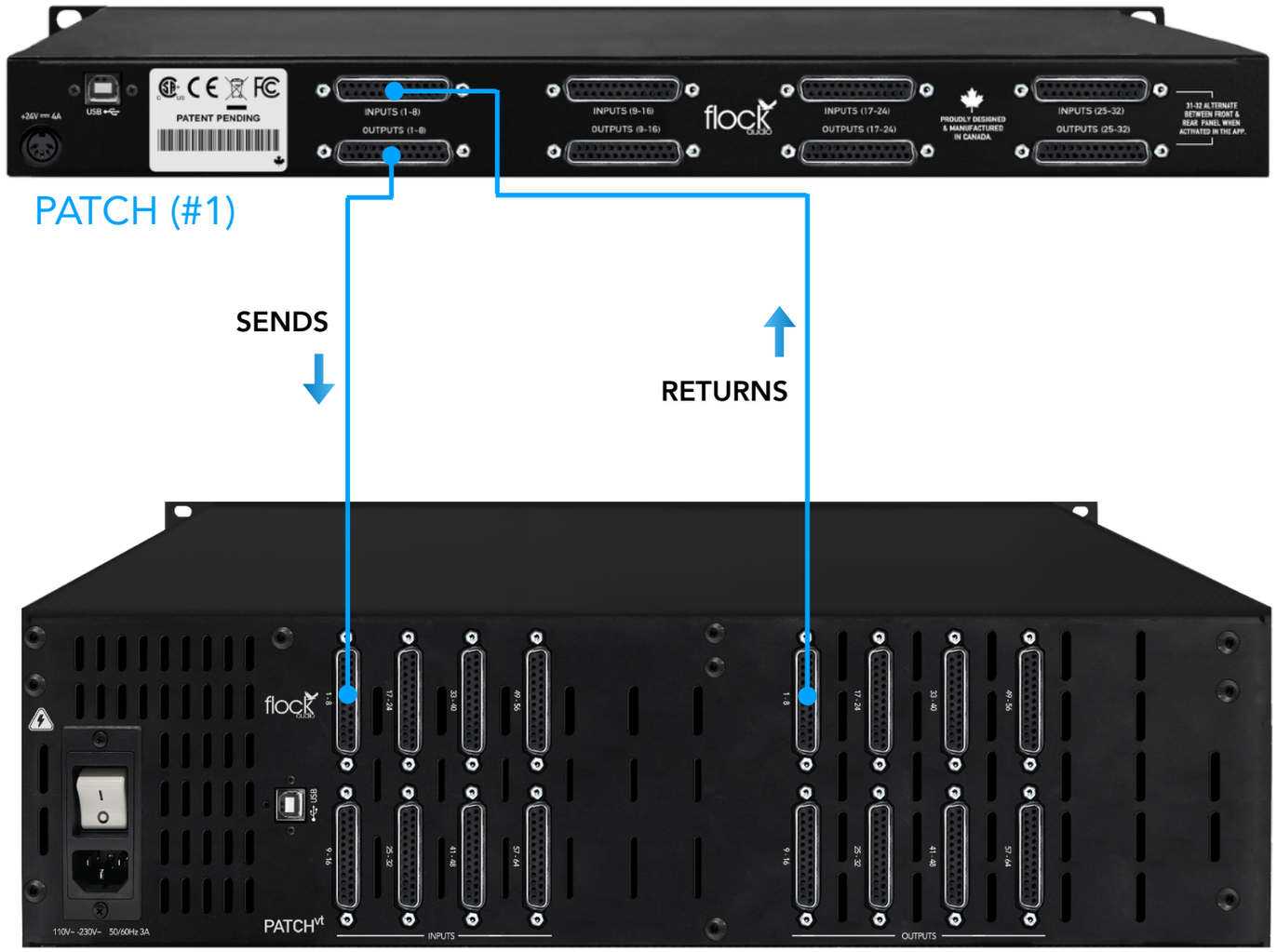
As shown in the example on the right, a PATCH unit and a PATCH VT unit are connected with eight sends and eight returns. This configuration example allows a user to send eight analog audio signals from PATCH to PATCH VT and return eight analog audio signals to PATCH (if required).

This is only one 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 what a Multi-Unit Hardware setup would appear like in the PATCH APP when routing from PATCH to PATCH VT.

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 Series unit is which.

Multiple PATCH System Setup Menu (Pt. 3)



PATCH (#1)

PATCH VT (#2)

FRONT PANEL LED INDICATOR

LED Indicator Legend

- (**Solid Illuminated**) Powered On, Active Connection to Host

- (**Slow Fade In/Out**) Powered On, Active Connection, But In Idle/Stand-By Mode

- (**2x Fast Fade Flashes w/ Pause Between**) Powered On, Looking for Host Connection
Details: Fade On/Off Fade On/Off (Quickly back to back). …Pause…. Repeat

- (**Flash On/Off Repeatedly Fast**) System Error/Fault/Overheated etc.

- (**No Illumination**) System Powered Off

HOST SIGNAL - **Solid Blue** (Host Signal Text In PATCH APP & PATCH APP DX)

INSTALLING NEW FIRMWARE

How to install new PATCH VT Firmware

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

Step by Step Install Process for New Firmware

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

Step #1. Download the latest available firmware from the "Downloads" tab at www.flockaudio.com

Step #2. Follow the process and prompts on the firmware installer application on your computer to complete the firmware installation. Once complete, restart your PATCH VT System and the PATCH APP to complete the installation process. ***Note:*** *If there are any issues installing the new firmware, please contact Flock Audio Support.*

TROUBLESHOOTING

Troubleshooting Tips

PATCH VT Unit doesn't power on.	– Confirm IEC power cable is securely inserted into your PATCH VT – Confirm front panel power button is pushed in & blue LED power indicator is illuminated. – Confirm that wall power source is working by plugging in another device.
PATCH VT Hardware & Software not communicating.	– Confirm that supplied (USB-A to USB-B) cable is fully inserted into the rear side of the PATCH VT Hardware Unit and corresponding CPU controller. – Confirm whether the Multi-Purpose LED is illuminated Solid Blue or Flashing. – Close the PATCH APP Software and turn off the PATCH VT Hardware Unit. Wait 30 seconds and turn on the PATCH VT Hardware Unit & Reopen PATCH APP Software. – If the Multi-Purpose 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 VT 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 (&/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 or 48V-powered unit 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 #.
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 tab to the right of the Apple logo at the top left of your screen, then click "**Reset Window Size**". (Mac)
There is a light humming or whirring noise coming from the left side of my PATCH VT System.	– The PATCH VT Hardware Unit is equipped with two cooling fans that are mounted on the right side of the Hardware Unit. These cooling fans are 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 VT 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 play back. This popping or clicking is a result based upon the type of audio signal currently being played through the PATCH VT system.
The PATCH VT System self-shutdown and/or rebooted itself during use.	– The PATCH VT 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 VT Hardware unit mounted directly near any hot or tube-based hardware units as this may result in tripping the failsafe temperature sensor. – The PATCH VT Hardware unit is also equipped with two internal fans to help assist with internal heat removal.
Experiencing a noise floor increase when using certain microphones directly connected to PATCH VT.	- The PATCH VT System is a Professional +4 Line Level device, not a microphone level device. Most microphones directly connected to the PATCH VT System will exhibit a noise floor increases due to the level difference. If you are experiencing an increased noise floor (I.E. Auditable Hiss) we recommend boosting the microphone level prior to connecting to PATCH VT. (I.E. MIC -> dB Booster or Transparent Preamp -> PATCH VT).
Front Inputs or Outputs are not working.	– Confirm that the "Front Inputs" or "Front Outputs" toggle switches are engaged. When engaged there will be a Blue dot located next to the switches in the PATCH APP Software. – (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 VT 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 VT 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) 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 VT 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 VT 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 VT 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 VT 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.

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 VT 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 VT System.

REPAIRS

If you are having trouble with your PATCH VT System and troubleshooting 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 VT System or expose the internal components by opening the unit. Risk, Injury &/or Death may occur if you open a Flock Audio PATCH VT System and will void any active warranty immediately. The PATCH VT System does not contain any user replaceable or removable 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 VT 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.)*

www.flockaudio.com

PATENT US 11,438,719