User Guide

Hardware and

Windows Client Software

Violet Audio UPM88

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When it comes to studio applications, there is one piece of gear that you just cannot do without… the patch bay! Over time as you develop your formidable arsenal of equipment, you will find yourself relying on your audio patchbay more and more. Simple patchbays, although messy and more difficult to configure quickly than they should be, have provided a solution up until now… but with today's technology there is a better way.

The UPM88 goes that step further… pure analog signal switching… and digital stream patching…

The UPM88 is a new breed of patch matrix hardware that represents a very innovative approach to the marriage of the latest technology and audio signal integrity. It features a powerful combination of state-of-the-art software and hardware designed to revolutionize the implementation of small, medium and large-scale audio routing environments by handling both pure analog signal patching & digital patch routing simultaneously.

Analog patching… pure audio path…
With an absolutely pure audio signal path, remote controlled (USB) routing configuration features, easy front panel operation, the UPM88 represents the latest technology in patchbay design. Whether for complex studio matrix design or a modest patching solution for smaller setups, the UPM88 is an investment which provides a new level of freedom and flexibility. Your pure analog audio patching system can be built and controlled from either a simple front panel switch matrix, or via the onscreen computer software matrix GUI (graphical user interface) via USB connection.

All audio routing through the UPM88 is handled using the latest high-quality analog devices multiplexer chips available. The audio signal never leaves the analog domain, is not amplified, or driven in any way, and as such there is no loss of quality as there can be in some DSP and AD/DA matrix processing devices. Similar DSP based devices on the market use digital sampling technology which can degrade signal quality in many ways. The UPM88 has true whisper quiet 'all analog circuitry', and carries the full analog signal between patching destinations unadulterated. It is the digital switching technology in the UPM88 that is the key.

Digital patch routing…
What about digital? Well… the UPM88 handles digital patching of SPDIF or AES/EBU format signals perfectly and simultaneously side by side with your pure analog signals! That's right… not only is the UPM a virtually unmeasurably pure analog patch matrix, but it is an astonishingly powerful professional digital patch bay. The best of both worlds in a simple to operate remotely controlled unit.

Application… operation…
Those inevitable momentary design changes which occur in the studio can be solved quickly and easily with the UPM88. You no longer have to worry about physical patching once your gear is connected to the rear of the unit. You can route your audio through a particular piece of outboard gear by simply changing the matrix configuration! No messy cables, rearranging equipment in your rack, rewiring. The UPM88 is easily expanded, modified, and updated to accommodate your needs.

The number of inputs and destinations starts from 8 x 8 for a single unit, with the option to link 2 units for a 8 x 16 solution. You can keep stacking unit for as many output destinations as required! The hardware itself is all housed in a purpose built standard 2U sturdy rack-mountable chassis. Balanced XLR audio cable connectors are positioned on the rear of the unit, and thus keep your studio environment super tidy with cables out of sight. The front panel features an easy to view led matrix grid indicator with input and destination selector buttons.

Manually changing the UPM88's matrix configuration is a breeze. The matrix selector buttons on the front panel is where all of the signal routing is configured. Simply select input and destination and output destination.. and you are set to go. You can quickly recognize your routing matrix by viewing the scrolling configuration led's on the front of the unit.

With the built in USB port on the rear of the unit, the UPM88 software graphical user interface can be run within your Windows (available now - 98SE,ME,2000,XP) or Mac OSX (expected - 2nd 1/4 2004) operating system. Simply select the inputs on screen and connect them together with graphical wires to the desired destination output. The UPM88 will automatically create the desired configuration - actually implementing the system that has just been designed. You can immediately audition the results. Your design can be saved as a Windows file and you can save and recall as many different designs as required.

As exciting as all of the features of UPM88 are, the most important feature is its sound quality. Violet Audio is dedicated to providing the highest level of sound quality possible. The UPM88 needs to be heard to be truly appreciated, as it is the sound quality that we are most proud of. All audio paths are extremely transparent. The system is unbelievably quiet, and there are no artefacts added to your signal. The UPM88 is purpose built for the demands of true critical listening

UPM88 Key features

- remotely controlled patchbay matrix (USB required)
- passes analog and digital data streams simultaneously
- analog dynamic range greater than 130db
- analog multiplexer technology
- pure analog signal path
- digital switching via front panel or USB
- 8 inputs, 8 detinations
- multiple routing support (8ch)
- multiple routing outputs per destination
- pristine audio transparency
- system link connector pins (max 2 x units)
- XLR balanced Neutrik connectors (for analog & AES/EBU)
- 2RU rack-mountable chassis

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Patch Bay Software

Introduction

1.1 Purpose

The Violet Audio UPM88 is a solid state balanced audio patch bay, which utilizes high quality analogue multiplexers to route audio signals. A USB interface is provided to remotely change the routing configuration.

This document describes how to use the Violet Audio UPM88 client software which connects to the Violet Audio UPM88 unit via the usb interface. It will describe how to add, delete, and verify channel mappings all via the software interface.

When First switching the UPM88 ON, 2 modes are available. Just switching the unit ON will put the unit in standard control mode which means that the last display selected is shown. If you PRESS AND HOLD the INPUT 1 button while switching the UPM88 ON then the unit will continuously step thru the input and display the relevant outputs on the LED display.

Installing the software:

Copy the ElectronicPatchBay software onto a directory in your hard disk and then copy the USB driver into the same directory, when you first plug the UPM88 to your USB port the computer will detect the new USB device and will request a driver, you then select the directory in which you saved the USB driver and the system will install it properly.

1. Front Panel

The front panel consists of two rows of eight buttons which accurately portrays the front panel of the actual unit. The top row of buttons represent the eight input channels, and the bottom row represent the eight output channels. Note that the "power button" can also be clicked to terminate the program.

The channel buttons can be clicked to route the audio signals from any input channel to one or more output channels. How this is done is explained in the next section.

2. Channels

When the application starts up it attempts to connect to the actual unit and read the current channel mapping. If any mappings exist, it then shows them by flashing each of the mappings one by one, left to right. If no mapping exists then the panel is blank and no lights are lit.

3.1   Adding

If you wanted to connect input channel 1 to output channels 7 and 8 you would perform the following steps:

1. Click on input channel 1. Note how the channel 1 light lights up and stays lit. The colour of the light is Orange. This means you are in "Programming mode".

2. While you are in programming mode you can add as many output channels as desired. For now click on output channels 7 and 8. Note how these channels also light up in an orange colour.

3. Finish programming by clicking on input channel 1 again. This signals to the software that we are done setting up the channel and the software goes back to flashing each of the channel mappings. You should now see the newly added channel mapping light up.

*Note that the software sends the routing information to the actual unit as you click on them – **not** when programming mode finishes.*

3.2   Deleting

Deleting a channel is very much like adding one. For example if we wanted to disconnect input channel from output channel 7 then you would do the following:

1. Click on input channel 1. You will enter "Programming mode". Note how input channel 1 and output channels 7 and 8 light up in an orange color.

2. Click on output channel 7. The light will go out and that channel will be disconnected. Note that as before, this disconnection is immediate – the software sends the instruction to the unit as soon as you clicked on the channel.

3. Finish programming by clicking on input channel 1.

Note that programming mode will end automatically 5 seconds after the last channel was clicked.

3.3   Validation

To validate the channel mappings you could simply look at the flashing lights as the software iterates through them. If you find this a little too quick then there are other ways of showing the channel map.

As you already know, left clicking on any of the input channels puts the software into "Programming Mode". If all you want to do is see what is connected to the input channel then simply right-click on any channel. This will cause the software to stop flashing the other channels and only show what is mapped to the current channel.

Output channels can be clicked with the left or right mouse button to display the connected input channels.

3. Troubleshooting

There are times when the software does not seem to work properly. Following is a list of common problems and remedies.

Symptom	What Happened	Remedy
The unit displays different maps to what is being displayed on the software panel.	This can happen if the unit is programmed at the same time as the software.	Shutdown the software and restart it. This will connect to the unit and refresh the channel mapping.
The software isn't communicating with the unit or the software has locked up.	If the unit is turned off while the software is running, then there is no way the software currently know this. The next time it tries to communicate with the unit it will wait endlessly for the unit to reply – and the software hangs.	Terminate the application. Turn the unit back on. Restart the application. If the unit cannot be turned back on but you still want to use the software then make sure the USB cable is not plugged in before starting the software.

UPM 88 DB25 pin-out for multi-channel input and output