

WINTER
MANGLER
BOX



WARNING - When using electric products, these basic precautions should always be followed.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use apparatus near water - for example, but not limited to: near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool or the like.
6. Clean only with dry cloth.
7. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
9. Use attachments/accessories specified by the manufacturer. Ensure that any external equipment used in conjunction with this product is installed according to the safety specifications supplied with that equipment.
10. Unplug this apparatus during lightning storms or when unused for a long period of time.
11. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings. Do not expose this product to rain or moisture.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped. □



Thank You.

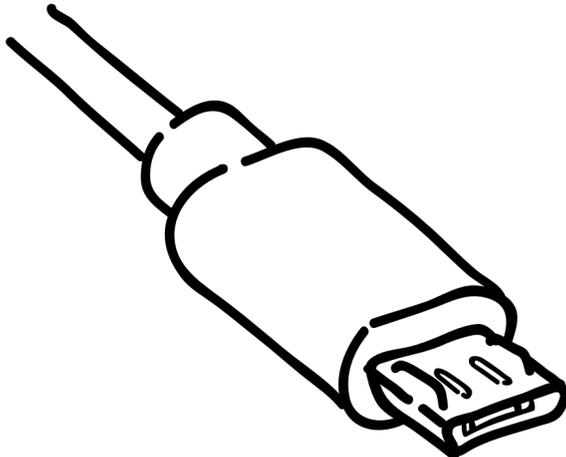
Thank you for purchasing the new MisMatcher Delux from Freedom Enterprise. It has been engineered to be a powerful yet compact and handy tool to help you throughout your journey to create effects to your heart's desire. By reading this manual you'll become familiar with the MisMatcher Delux, how to use it and how to make the most of it. Good luck, and have a great experience with your brand-new video glitcher from Freedom Enterprise.



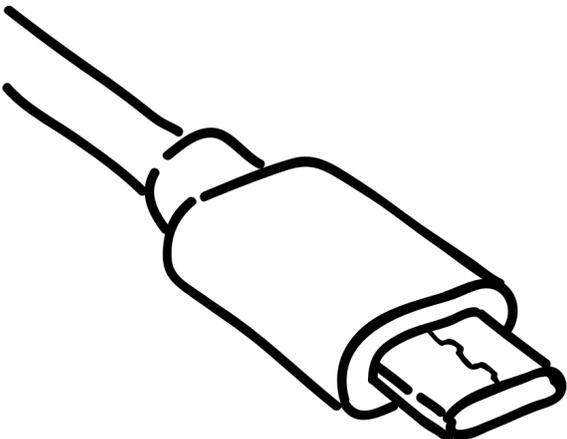
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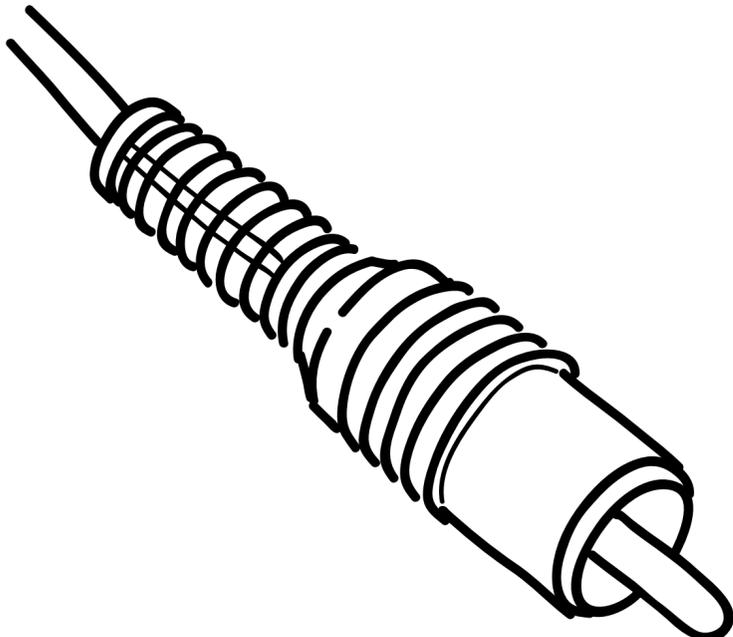
Cables



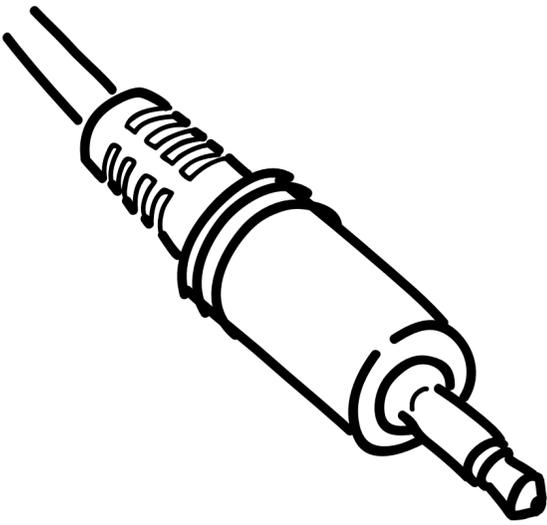
Micro USB



USB-C



RCA

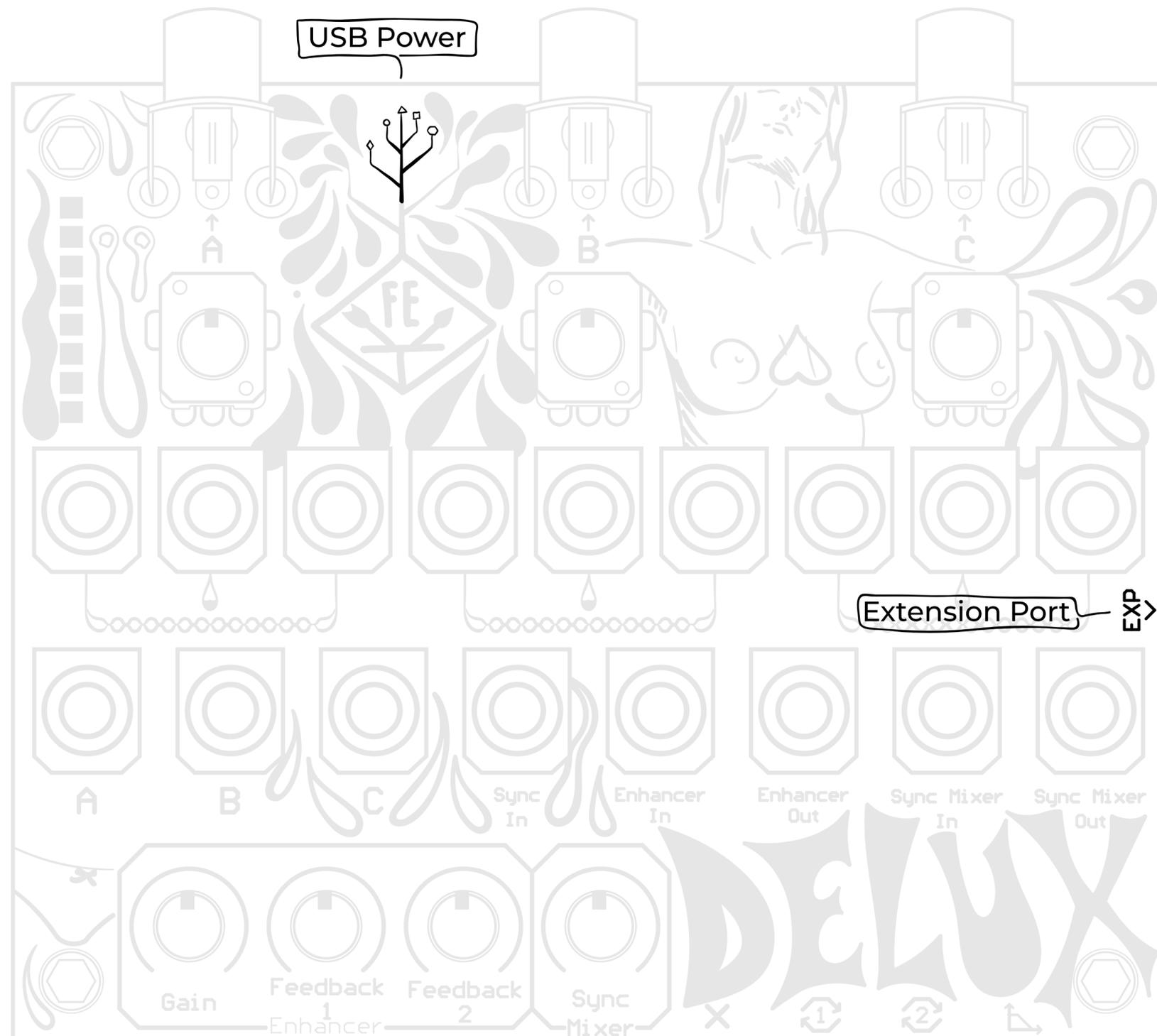


Patch Cable (3.5mm Male to Male)

Quick Start

- 1- Connect your Micro USB or Type-C USB cable to a USB charger and then connect it to your MisMatcher Delux.
- 2- Connect your camera to your MisMatcher's RCA A port, using a RCA cable
- 3- Connect your CRT TV to your MisMatcher's RCA C port, using a RCA cable.
- 4- Connect one end of a 3.5mm patch cable to the RCA A access point.
- 5- Connect the other end of the same 3.5mm patch cable to Enhancer In.
- 6- Connect one end of another 3.5mm patch cable to Enhancer Out.
- 7- Connect the other end of the same 3.5mm patch cable to the RCA C access point.
- 8- Use the three knobs at the bottom, Feedback 1, Feedback 2 and Gain to control the effect.

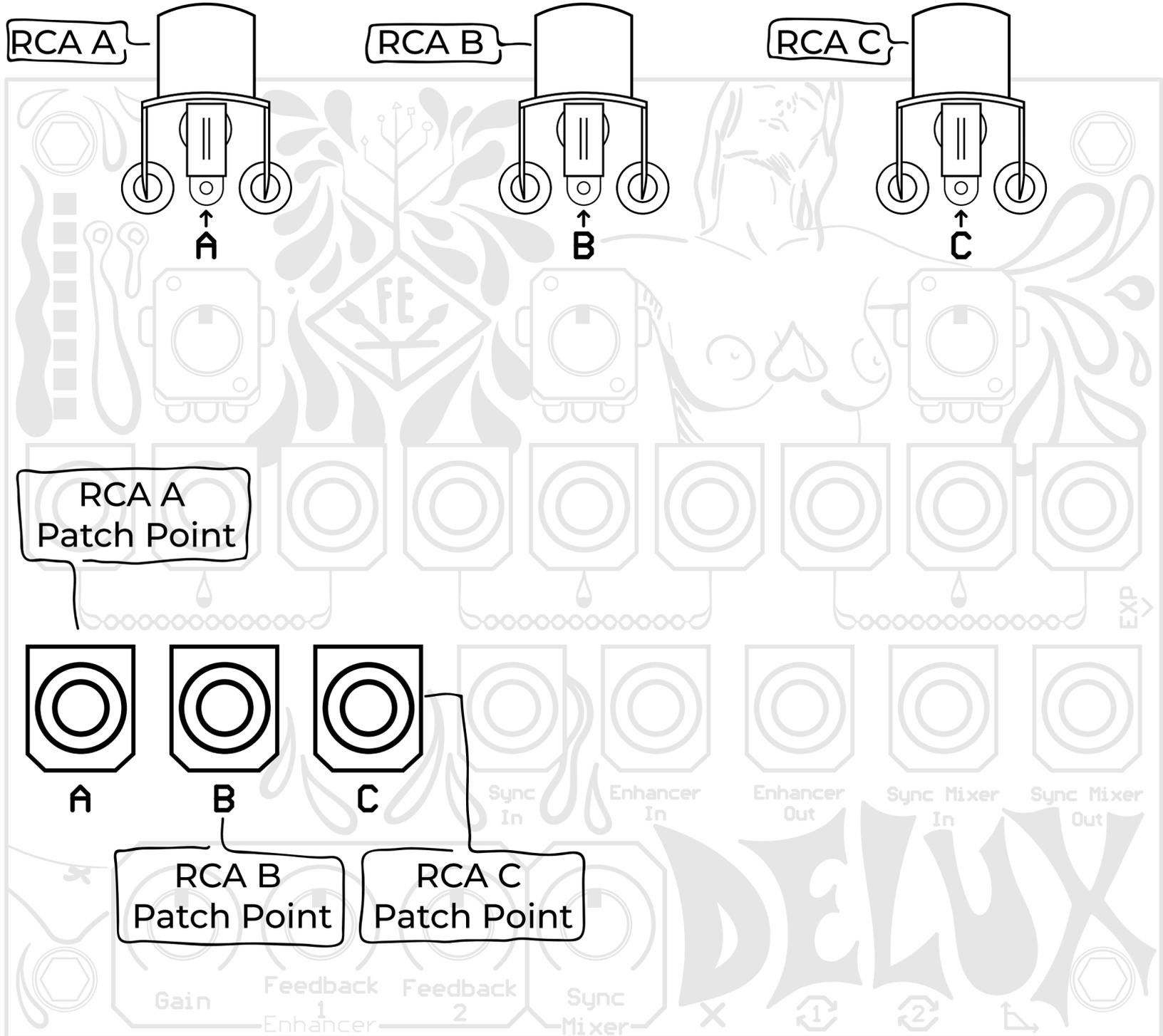
Controls - Misc



For improved reliability and versatility, you can choose one of two power ports to power your MisMatcher Deluxe, Micro USB or USB-C.

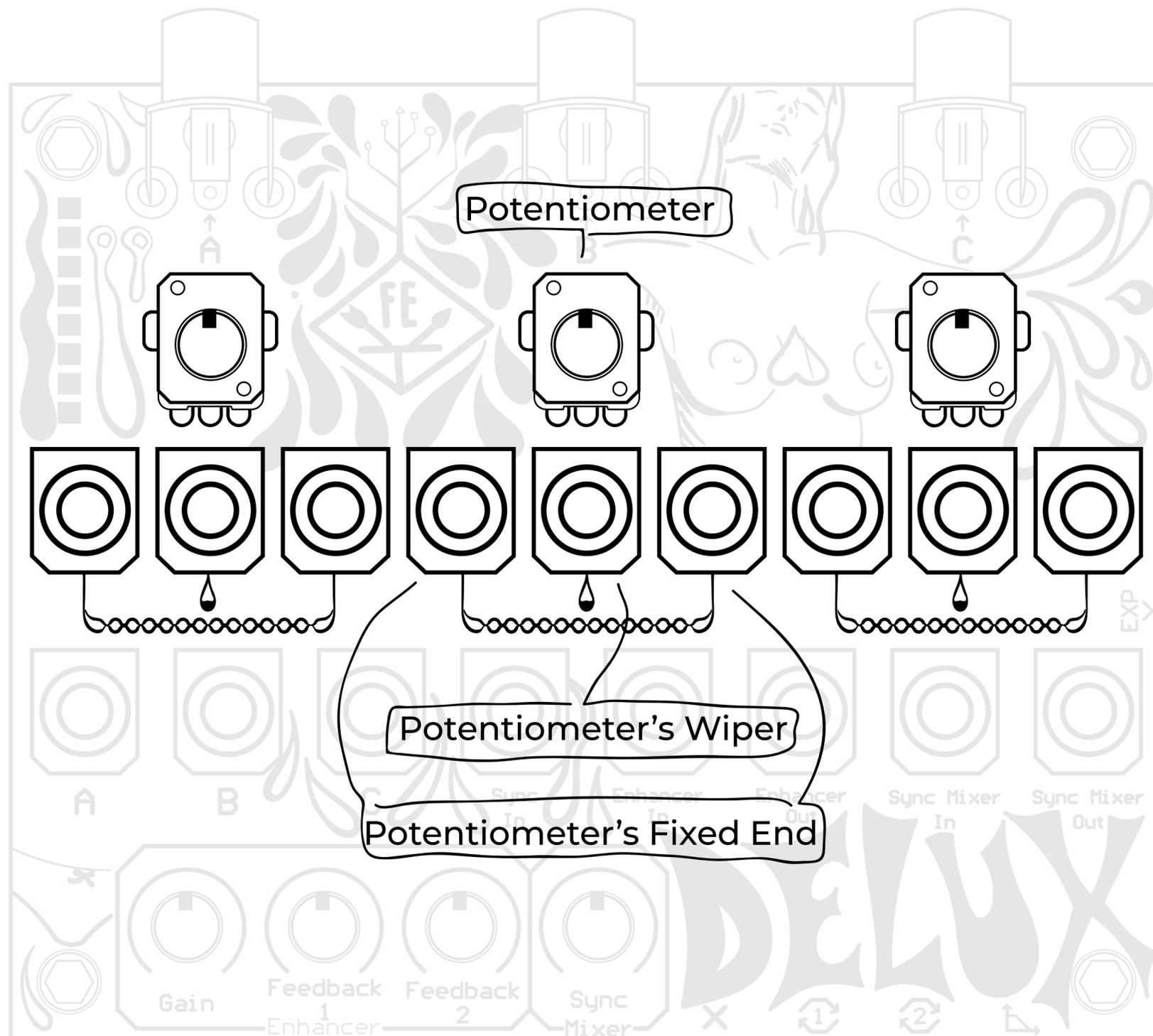
To connect expansion modules, line up the arrows near the expansion port in each module and push them firmly together.

Controls - I/O



The three RCA ports at the top can be used to easily connect your cameras and monitors to the MisMatcher Deluxe. The patch points at the bottom are used to perform the patching using only **3.5mm patch cables**.

Controls - Passive Mixers / Attenuators

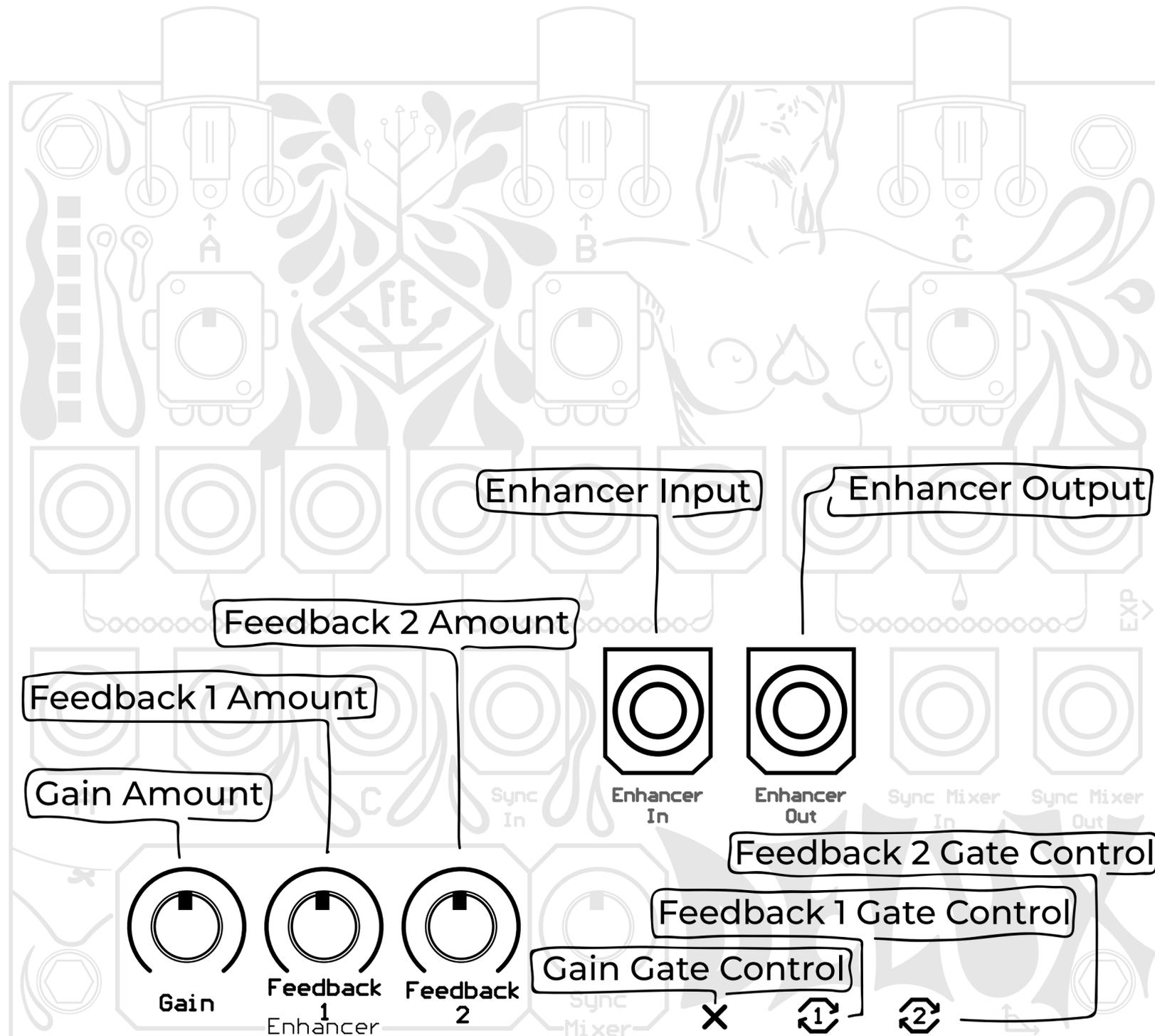


The three potentiometers in the user interface can be used to either attenuate the intensity of a video signal, or to fade between two different video signals.

The potentiometer's jacks are automatically connected to ground if no patch cable is inserted. Thanks to this you can easily create an attenuator by connecting your video source to one of the potentiometer's fixed ends and leaving the other fixed end unplugged. The attenuated signal can be accessed through the wiper jack in the middle of the potentiometer.

To fade between two video sources, simply connect one source to one fixed end of the potentiometer and the other video source to the other fixed end. The wiper will give you the mix between the two.

Controls - Enhancer

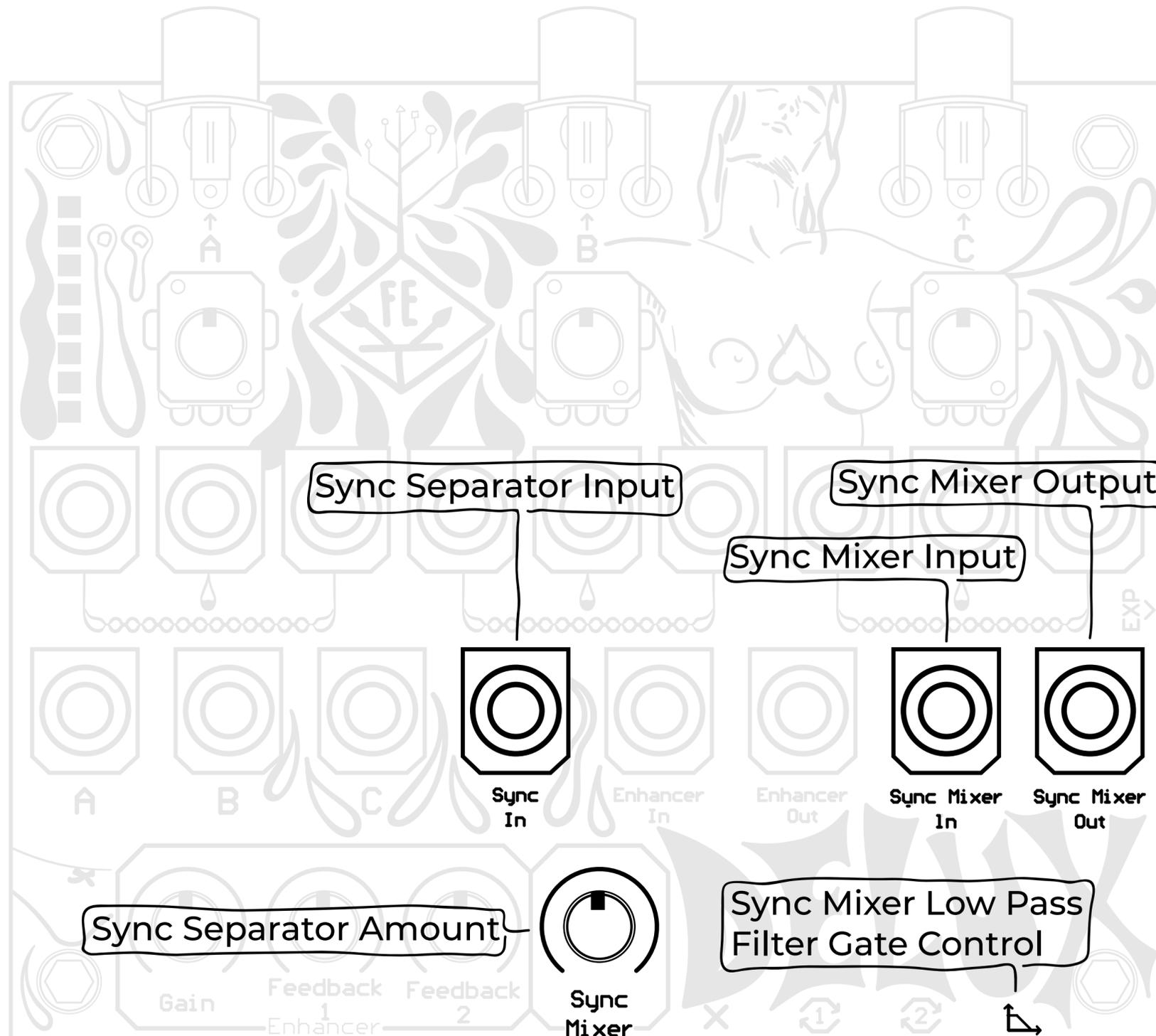


The Enhancer can be used to either boost saturation and sharpness of the video, or using the provided Gain, Feedback 1 and 2 controls to distort the video and create interesting effects. Simply patch some video into the Enhancer Input and connect your monitor to Enhancer Output.

The Gain knob controls the overall amplification of the circuit. **It's normally enabled** when nothing is connected to the Gain Gate Control port, and can be controlled with an external gate source with a logic value of 1 to be enabled and 0 to be disabled.

Feedback 1 and Feedback 2 knobs take video from different stages of the circuit and feeds it back into the Enhancer's input. **They are normally enabled** when nothing is connected to their respective Feedback 1 Gate Control and Feedback 2 Gate control ports, and can be controlled with an external gate source with a logic value of 1 to be enabled and 0 to be disabled.

Controls - Sync Mixer



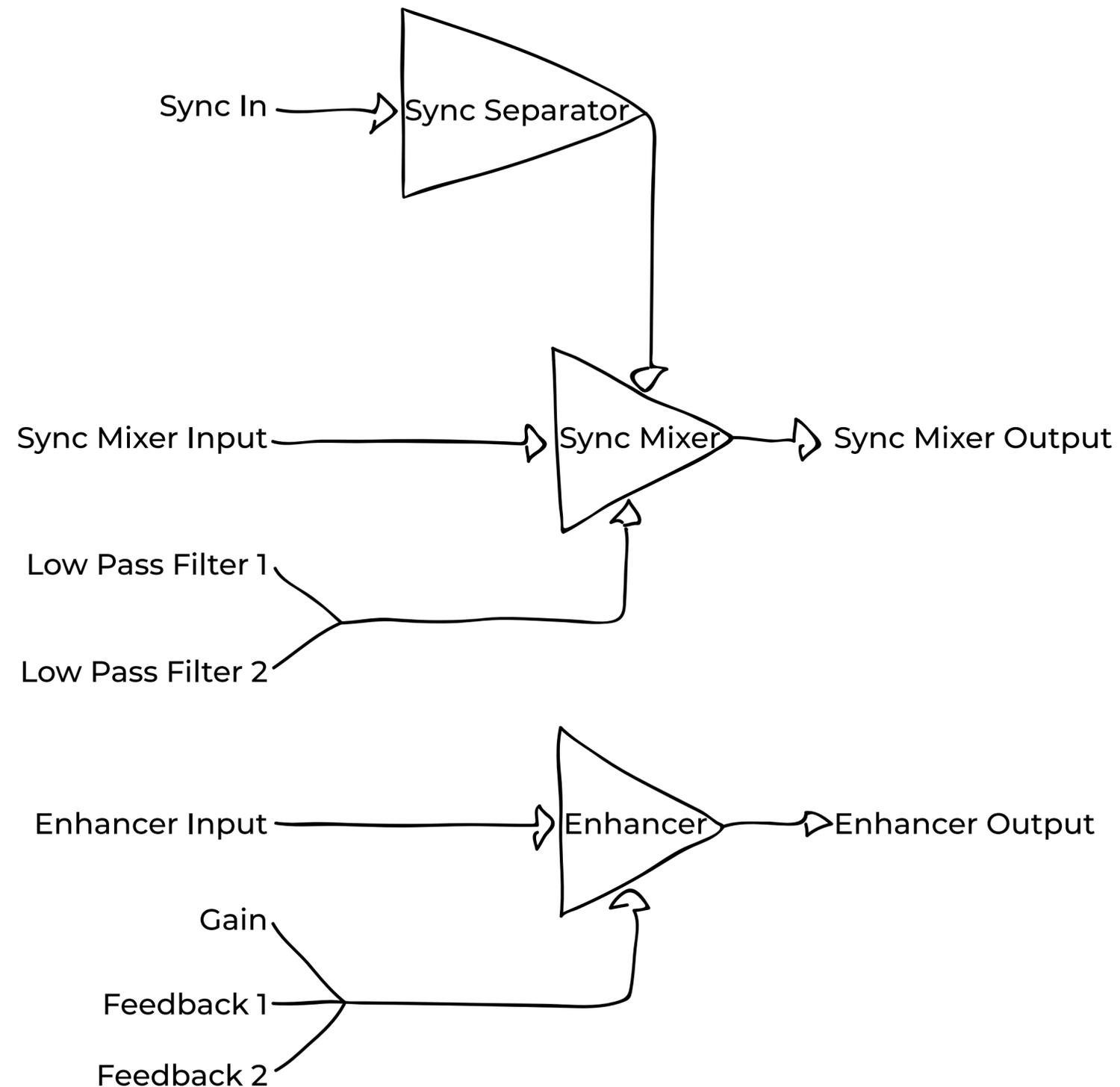
The distortion of video signals can lead to horizontal or vertical scrolling of the image on screen. When this effect is undesirable, the Sync Separator and Sync Mixer can correct this problem.

The Sync Separator extracts the sync portion of the video signal. The Sync Mixer then takes the video signal at the Sync Mixer Input and remixes it with the sync provided by the Sync Separator, resulting in a stable image.

The Sync Separator Input level knob controls the amount of signal going into the Sync Separator's circuit. Reducing the signal will result in glitches.

The Low Pass Filter creates a ghostly effect on the image. **It's normally disabled** when nothing is connected to the **Sync Mixer Low Pass Filter Gate** port, and can be controlled with an external gate source with a logic value of 1 to be enabled and 0 to be disabled.

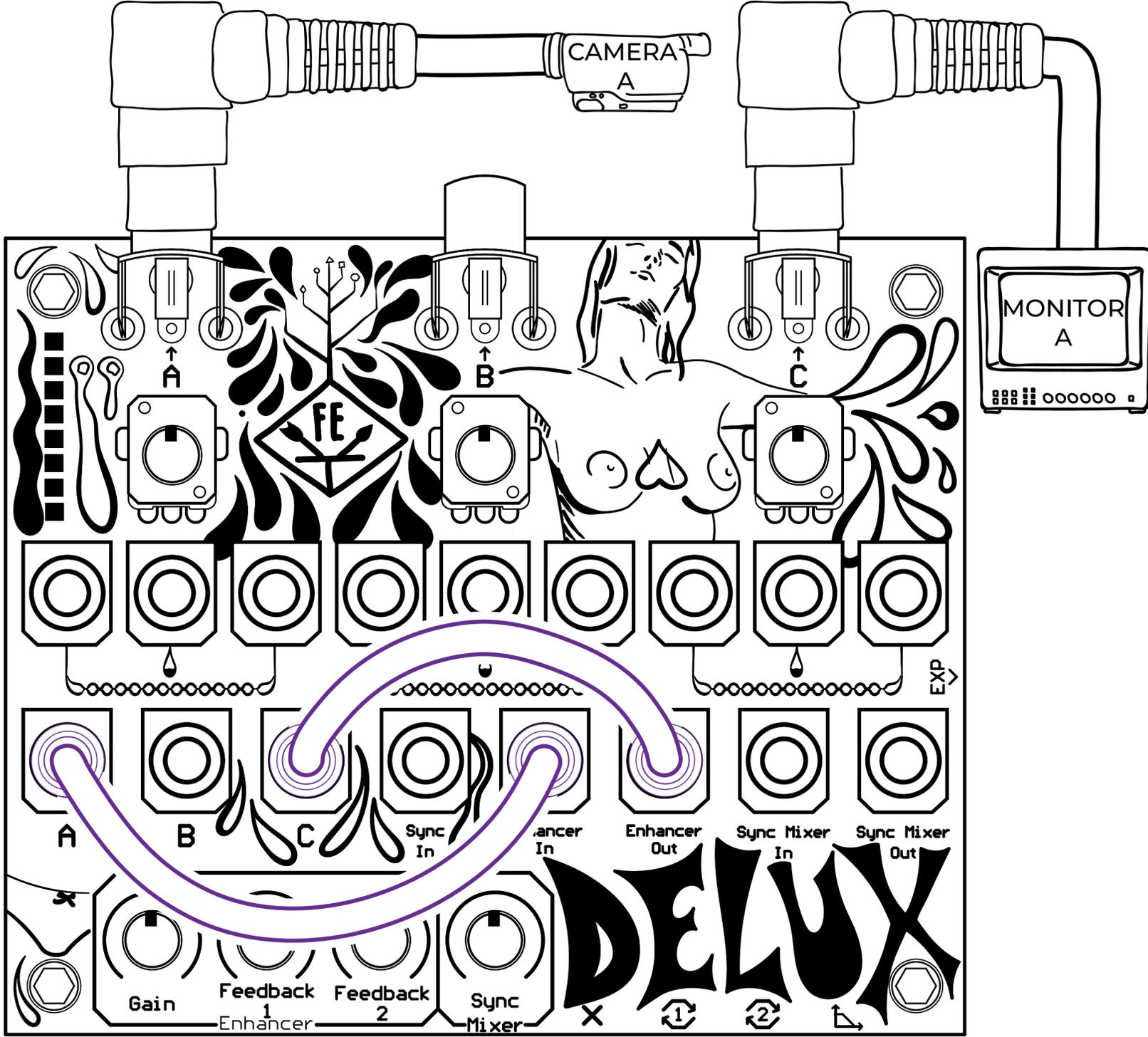
Principle of Operation



An electronic analog video glitcher is a device designed to distort analog video signals using analog circuitry.

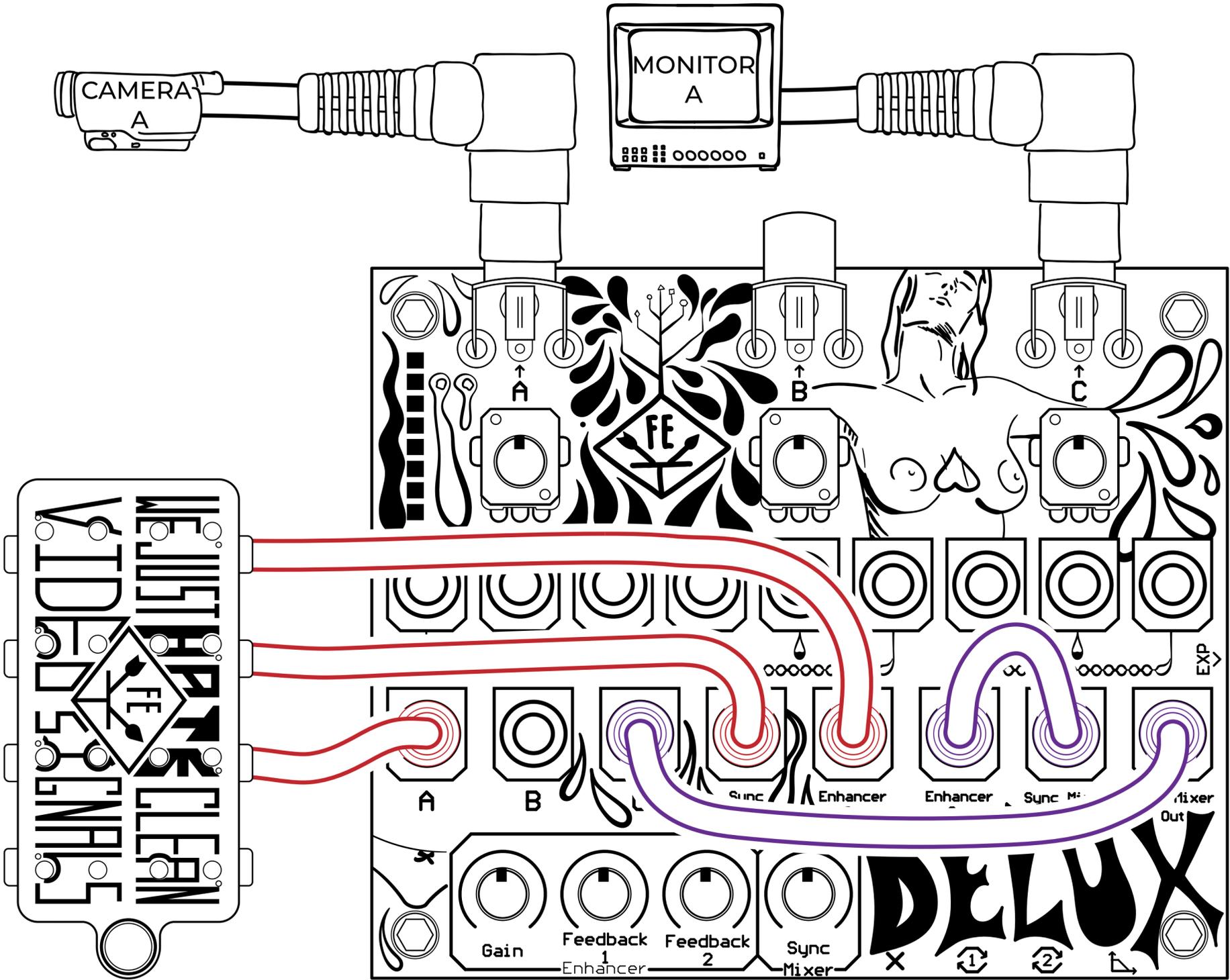
The MisMatcher Delux works with **composite video**, the **yellow RCA jack from cameras and monitors**, and contains three different analog circuits, Sync Separator, Sync Mixer and Enhancer. Feedback and gain controls are available for the Enhancer. These circuits can be used individually or interconnected between each other, **using 3.5mm patch cables**.

Patching Examples - 1



In this first example connect camera A to RCA A and monitor A to RCA C. Then patch camera A to Enhancer In and monitor A to Enhancer Out. Control the enhancer through its gain, feedback 1 and 2 knobs, as well as the DIP switch.

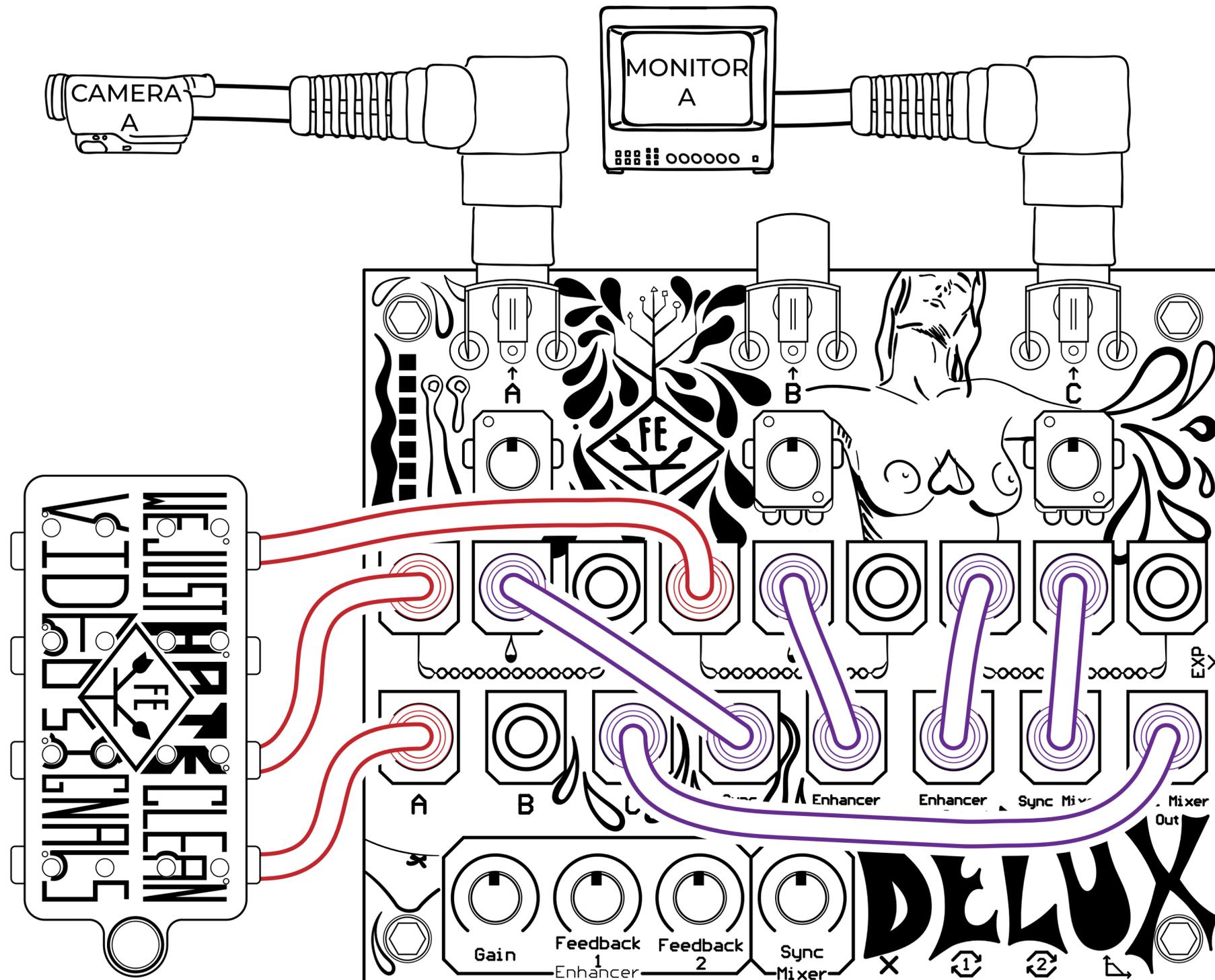
Patching Examples - 2



You may find that, if you push the Enhancer too hard, you may lose sync on your monitor. To solve this, first split camera A into Sync In and Enhancer In. Then patch the Enhancer Out into the Sync Mixer In and finally Sync Mixer Out to monitor A.

This way you restore your video's sync after the Enhancer, with the help of the Sync Mixer, using the video signal provided on the Sync In as reference.

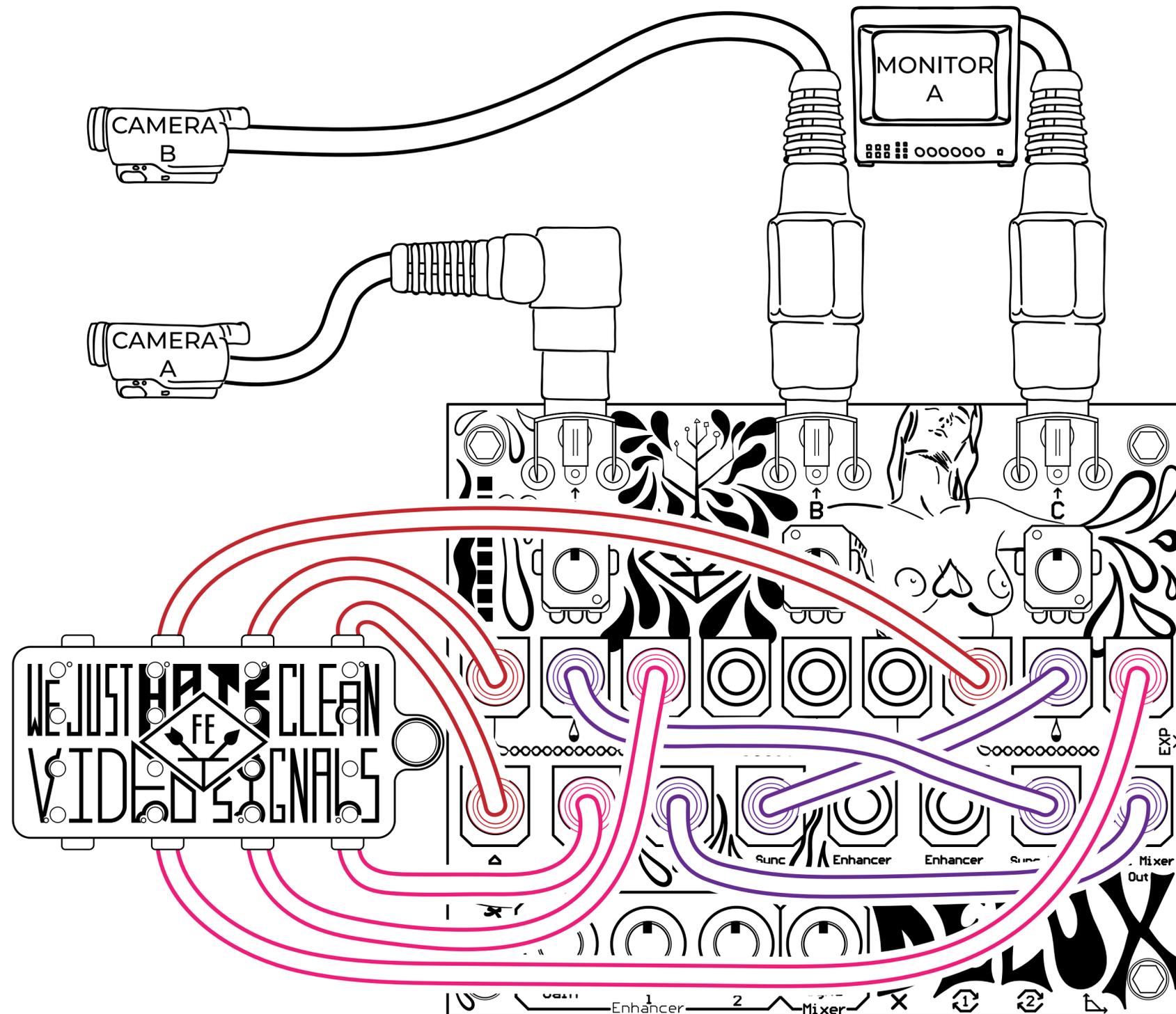
Patching Examples - 3



You can take it one step further and use the Sync Mixer as a glitcher.

- Split camera A into one of the pot's fixed end and into another pot's fixed end.
- Patch the first pot's wiper to the Sync In.
- Patch the second pot's wiper to the Enhancer In.
- Patch the Enhancer Out onto the third pot's fixed end.
- Patch the third pot's wiper to the Sync Mixer In and finally the Sync Mixer Out to monitor C.
- The first pot creates a sort of luma keying effect.
- The other two act as attenuators. Start at full counterclockwise and go from there.
- You can also use the Sync Mixer's low pass filter to create a ghostly effect.

Patching Examples - 4



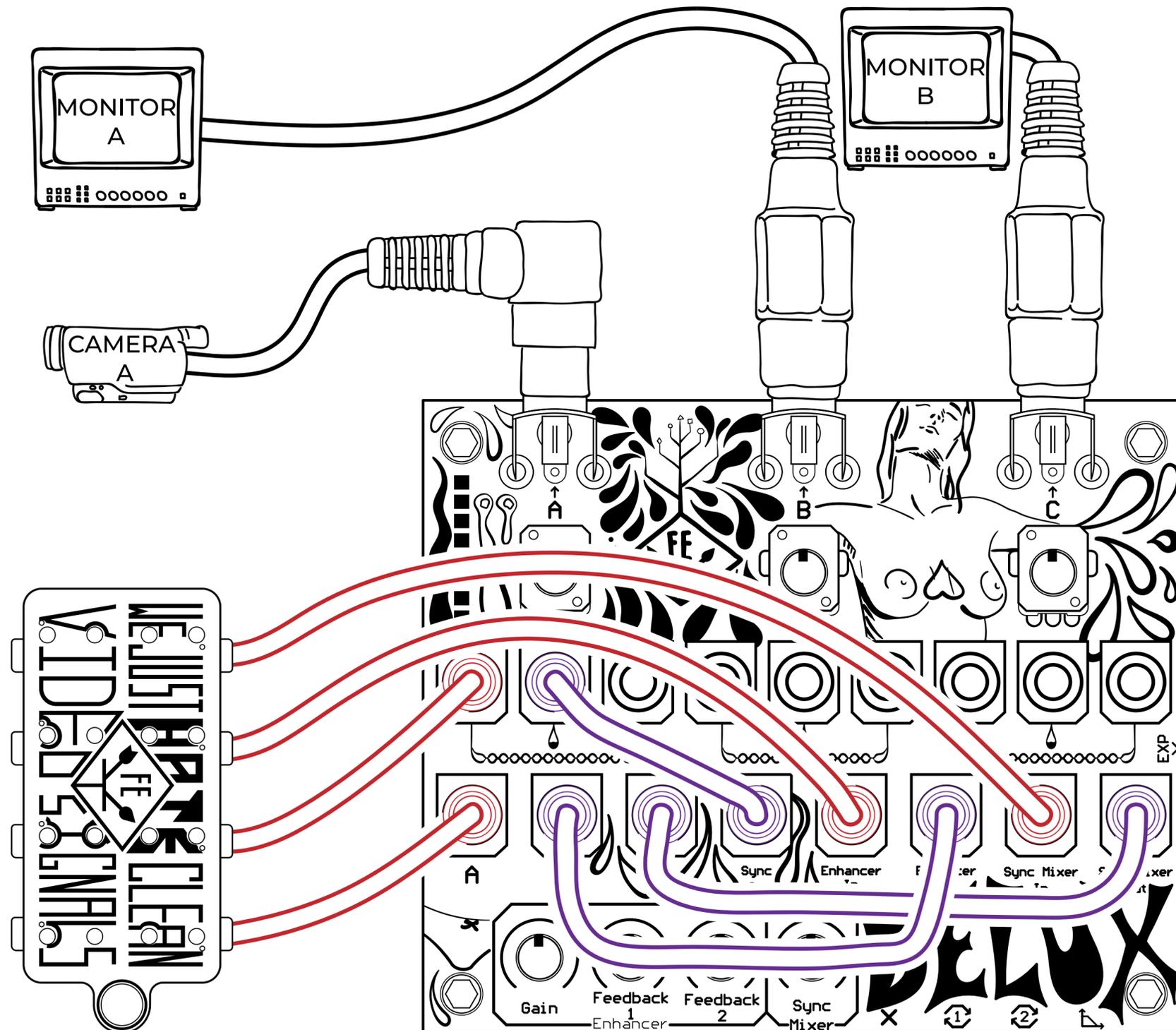
You don't have to limit your workflow to only one camera. In this example we'll create a more advanced Karl Klomp style video mixer.

- Connect camera A to RCA A, camera B to RCA B and monitor A to RCA C.
- Split camera A onto the first pot's fixed end and the third pot's fixed end.
- Split camera B onto the first pot's other fixed end and the third pot's other fixed end.
- Patch the first pot's wiper into Sync Mixer In.
- Patch the third pot's wiper into Sync In.
- Patch Sync Mixer out to monitor C.

The first potentiometer acts as a dirty fader between camera A and B.

The third pot fades between camera's A and B sync. This sync signal is what the final result will be synced to.

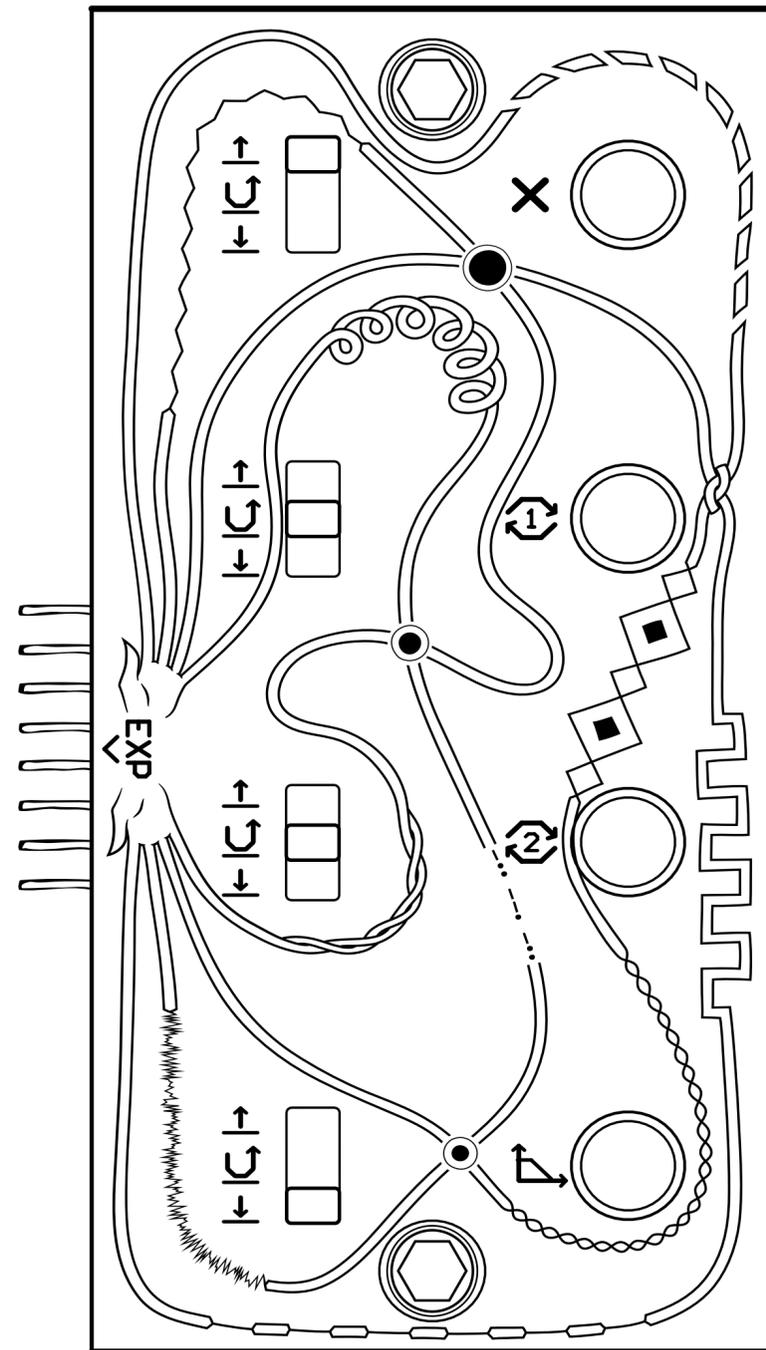
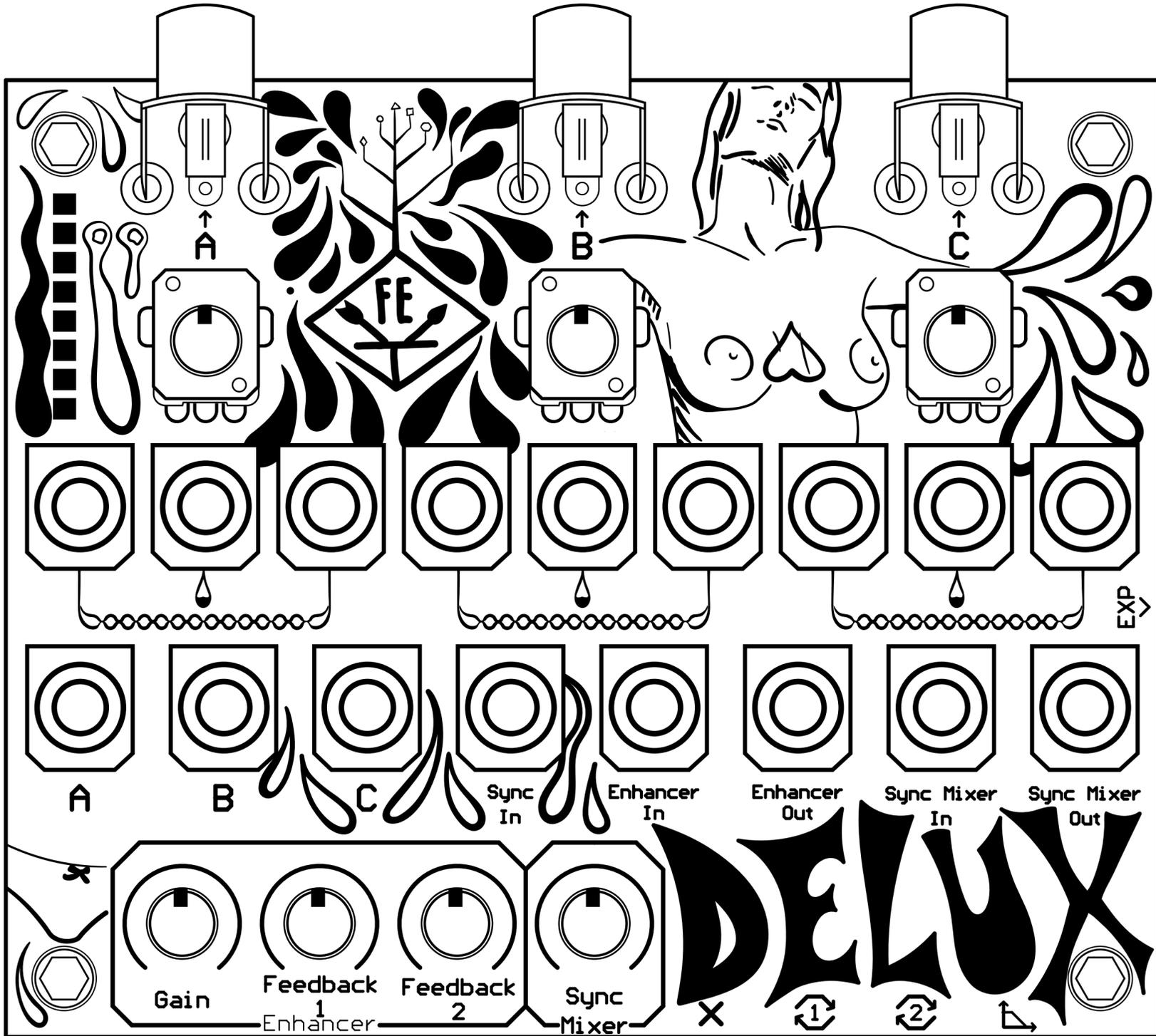
Patching Examples - 5



Maybe you're more interested in the duality of two monitors? Well in that case you can glitch one camera with the Sync Mixer and Enhancer, separately, and send each one to its respective monitor.

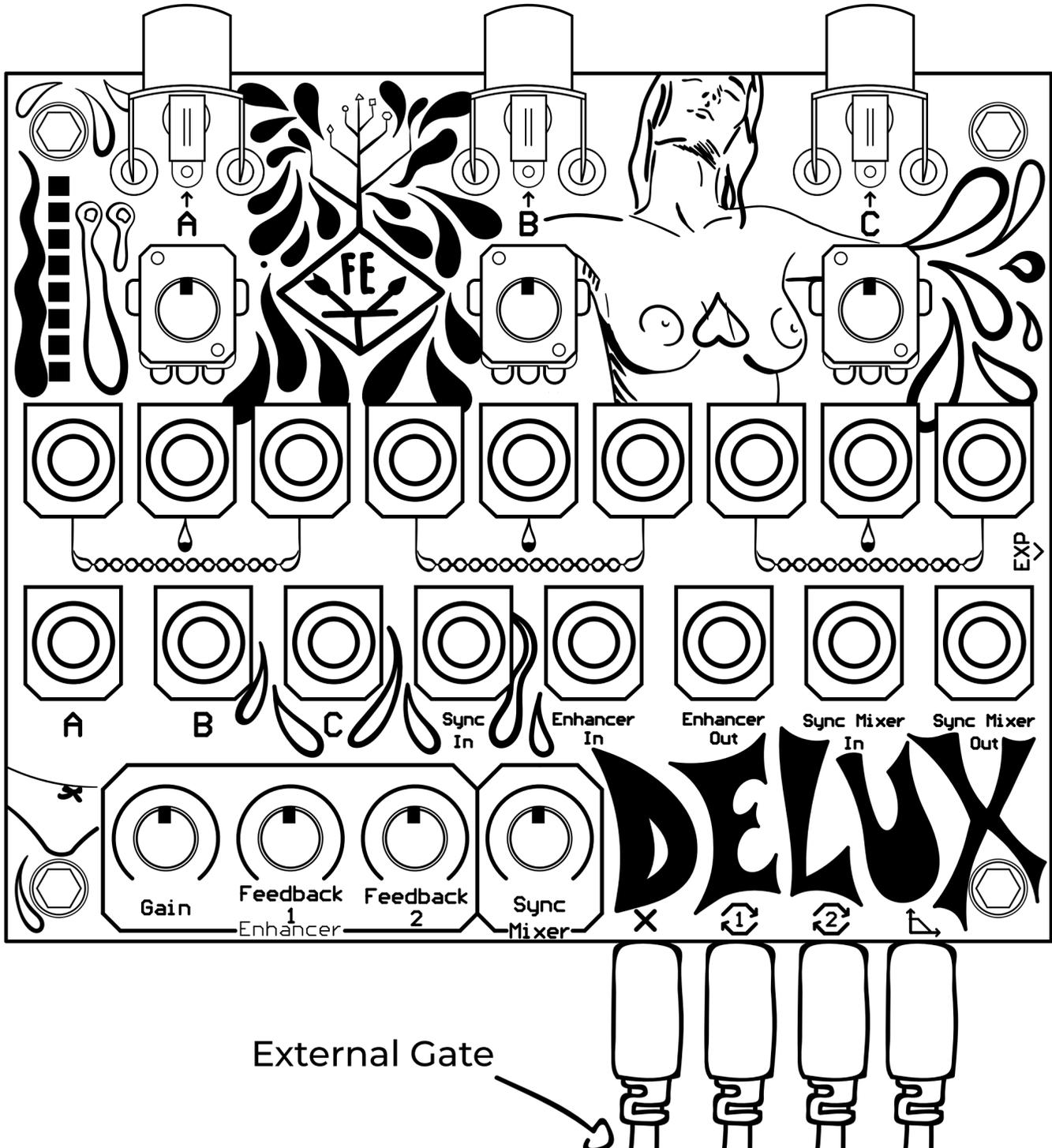
- Connect camera A to RCA A, monitor A to RCA B and monitor B to RCA C.
- Split camera A into the first pot's fixed end, Sync Mixer In and Enhancer In.
- Patch the first pot's wiper to Sync In.
- Patch Sync Out to monitor A and Enhancer Out to monitor B.

Patching Examples - 6



To enable and disable the Gain, Feedback 1 and 2, and Low Pass Filter, connect the SwitchBoard Expansion Pack, aligning the two EXP arrows.

Patching Examples - 7



You can also use an external source, such as a function generator, to enable and disable the previous parameters.



Troubleshooting



Problem	Possible solution
Unit doesn't power on	<ul style="list-style-type: none">↪ Try both Micro USB and USB-C power ports.↪ Replace Micro USB / USB-C cable.↪ Replace power adapter.
No video output	<ul style="list-style-type: none">↪ Ensure your unit is powered.↪ Ensure you're using RCA cables in the top RCA ports.↪ RCA to 3.5mm cables that commonly come with video cameras won't work.↪ Ensure you're using proper 3.5mm TS or TRS patch cables for patching, with signal on the Tip.↪ Double check your patching.
Unstable video on screen	<ul style="list-style-type: none">↪ Patch the Sync Mixer after the Enhancer to restore video sync (Example 2).↪ Ensure the Sync Mixer knob isn't at full CCW position.↪ Dial down the Gain, Feedback 1 and Feedback 2 knobs.
No reaction from the Gate inputs	<ul style="list-style-type: none">↪ Use patch cables with the Gate signal on the Tip.↪ Ensure the Gate signal is more than 3V and less than 10V.

Specifications



Size	100x83 mm (Standalone)
DC Input	5 V
Power Consumption	350 mA @ 5 V
Gate Input	[3;10] V, 5 V nominal
Video Format	NTSC, PAL, SECAM
Video Level Input / Output	2 V _{pk-pk} , 75 ohm termination

Warranty



Fully assembled versions of this product are covered by warranty for one year following the date of purchase. This warranty covers any defect in the manufacturing of this product, such as assembly errors or faulty components. This warranty does not cover any damage or malfunction caused by incorrect use, such as, but not limited to, power cables connected backwards, excessive voltage levels, or exposure to extreme temperature or moisture levels. The cost of returning a product for repair or replacement is paid for by the customer. DIY kits and bare printed circuit boards are not covered under any warranty and come with no guarantee of assembly troubleshooting or customer support.



MisMatcher Delux | Owner's Manual
Revision A July 2022

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Note: Specifications subject to change
without notice