

*Owner's*

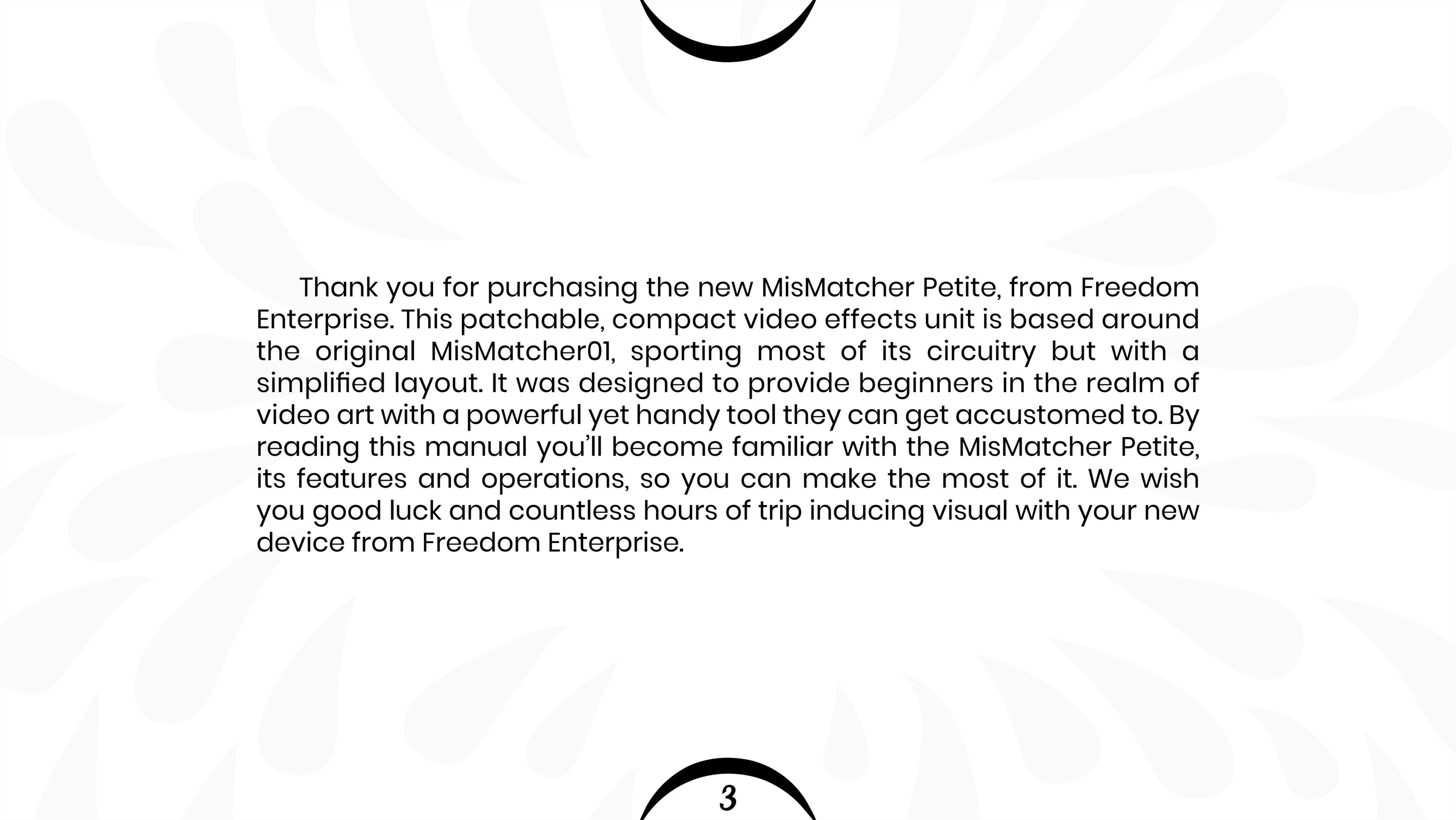
*Manual*



# *Important Safety Instructions*

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.



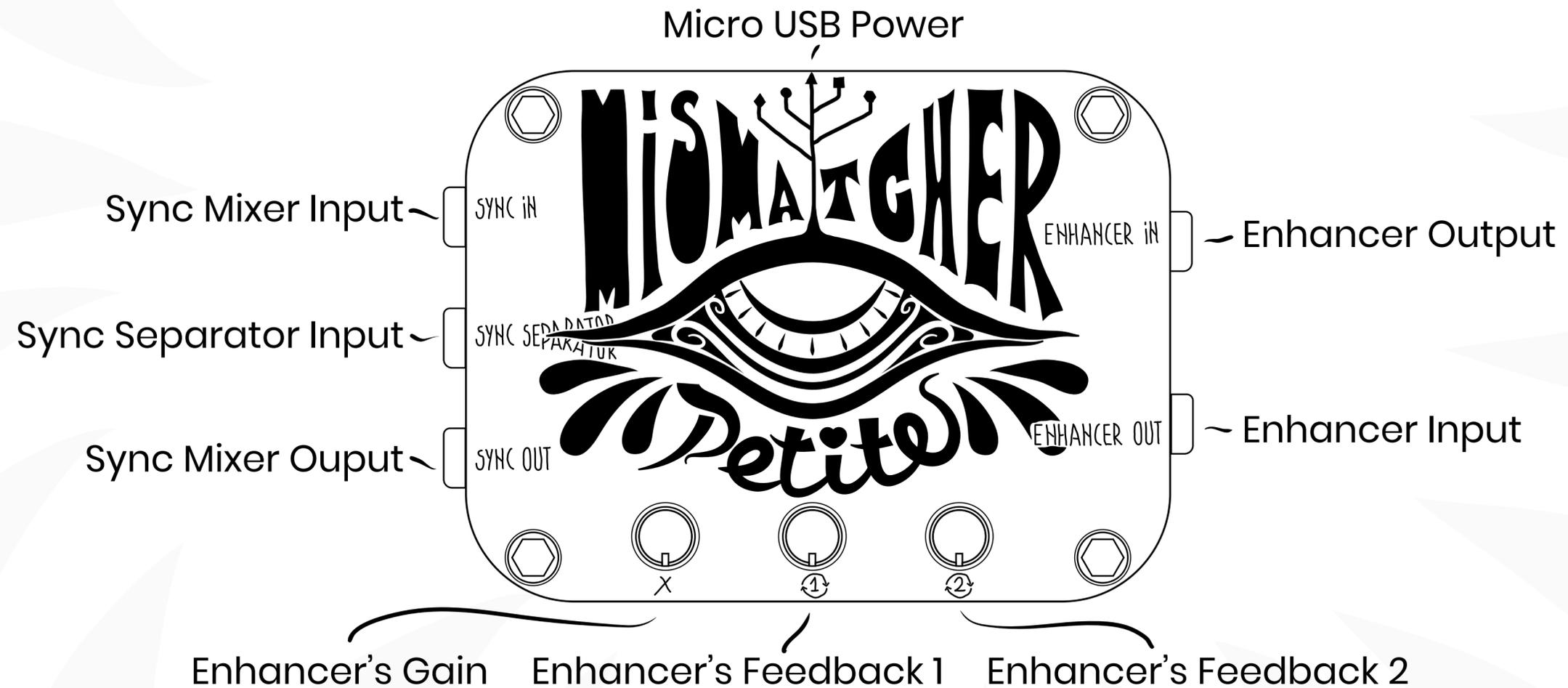
Thank you for purchasing the new MisMatcher Petite, from Freedom Enterprise. This patchable, compact video effects unit is based around the original MisMatcher01, sporting most of its circuitry but with a simplified layout. It was designed to provide beginners in the realm of video art with a powerful yet handy tool they can get accustomed to. By reading this manual you'll become familiar with the MisMatcher Petite, its features and operations, so you can make the most of it. We wish you good luck and countless hours of trip inducing visual with your new device from Freedom Enterprise.

# Contents

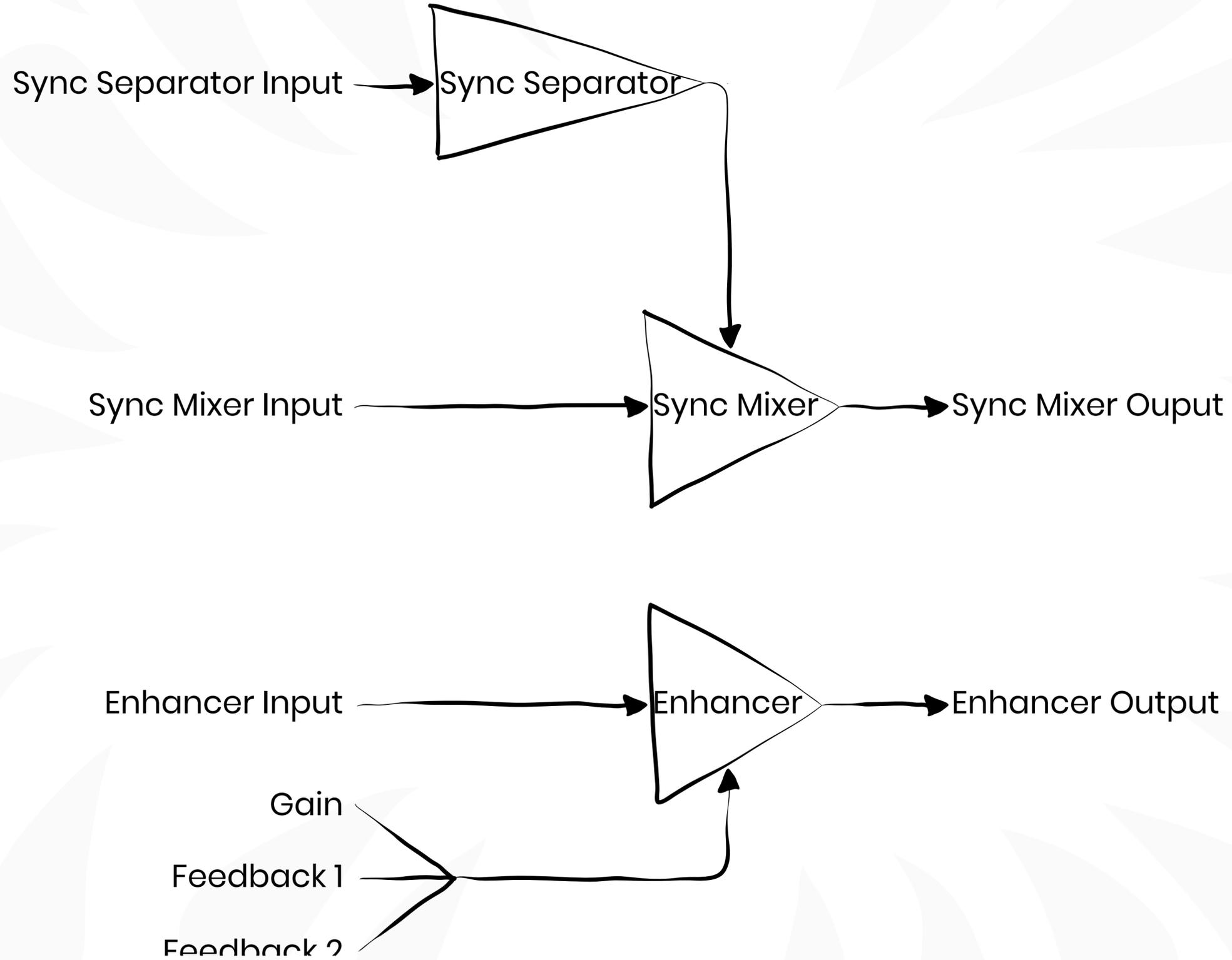
Important Safety Instructions	2
Contents	4
User Interface	5
Principle of operation	6
Basics of Analog Video Signals	8
Sync Separator And Sync Mixer	10
Enhancer	11
Patch Examples	12
Specifications	15
Warranty	16

# User Interface

Please note that, due to a manufacturing mistake, the Enhancer's Input and Output are inverted.



# Principle of operation





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

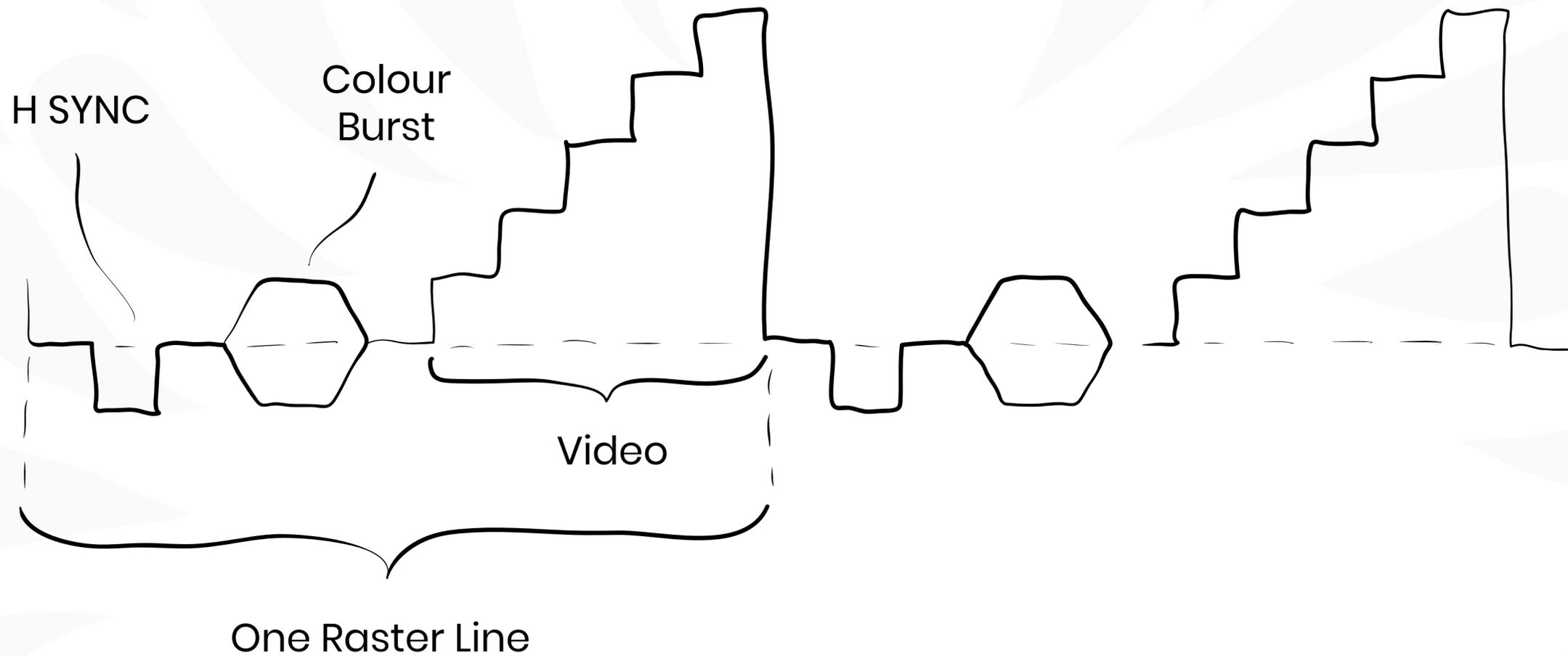
The MisMatcher Petite works with composite video, the yellow RCA jack from cameras and monitors, and contains three different analog circuits, Sync Separator, Sync Mixer and Enhancer. Feedback and gain controls are available for the Enhancer. These circuits can be used individually or interconnected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

To connect cameras and monitors to the MisMatcher Petite's 3.5mm jacks, you'll need an RCA to Mono 3.5mm adapter. To connect the same camera to more than one part of the circuit, or one output of the MisMatcher Petite to various monitors, you'll need a 3.5mm splitter. To interconnect the various circuits within the MisMatcher Petite, you'll need mono 3.5mm patch cables.

The MisMatcher Petite, like a guitar pedal, is used inline in between the source of the signal and its destination. A quick example would be a camera connected to the Enhancer In and the Enhancer Out connected to a monitor.

To power the MisMatcher Petite, you'll only need a USB charger and Micro USB cable. If you see horizontal lines in the screen, this is due to a noisy USB charger. Replacing the charger will resolve the issue.

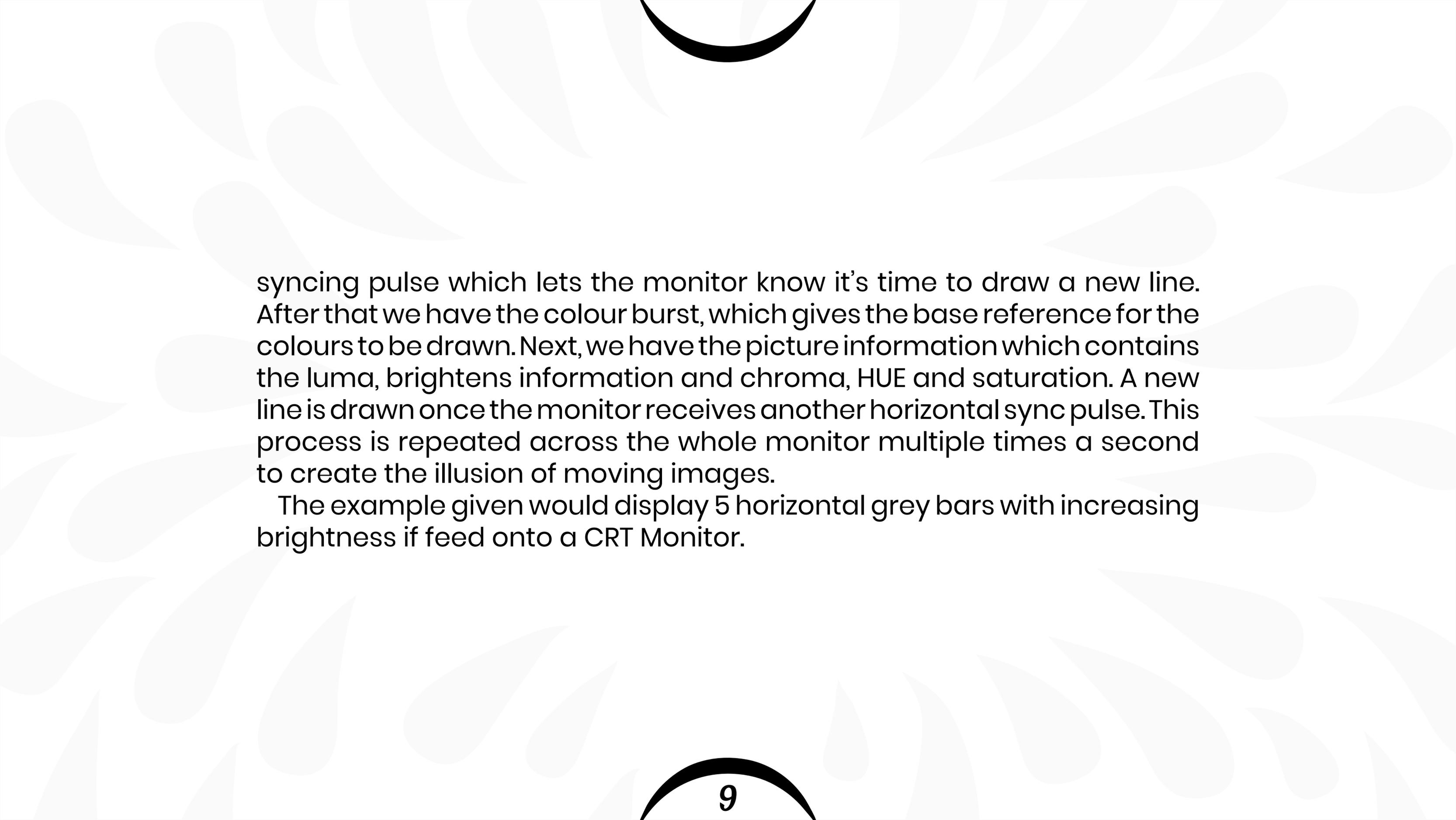
# Basics of Analog Video Signals



A composite video signal, or CVBS, is comprised of colour or chroma, video or luma, blanking and sync information in only one channel.

CRT monitors draw images using a process called raster scan, where the image is drawn line by line, from top to bottom, left to right.

Looking at a video signal through the help of an oscilloscope we can determine some of its components. Each line starts with the horizontal



syncing pulse which lets the monitor know it's time to draw a new line. After that we have the colour burst, which gives the base reference for the colours to be drawn. Next, we have the picture information which contains the luma, brightness information and chroma, HUE and saturation. A new line is drawn once the monitor receives another horizontal sync pulse. This process is repeated across the whole monitor multiple times a second to create the illusion of moving images.

The example given would display 5 horizontal grey bars with increasing brightness if feed onto a CRT Monitor.

# *Sync Separator And Sync Mixer*

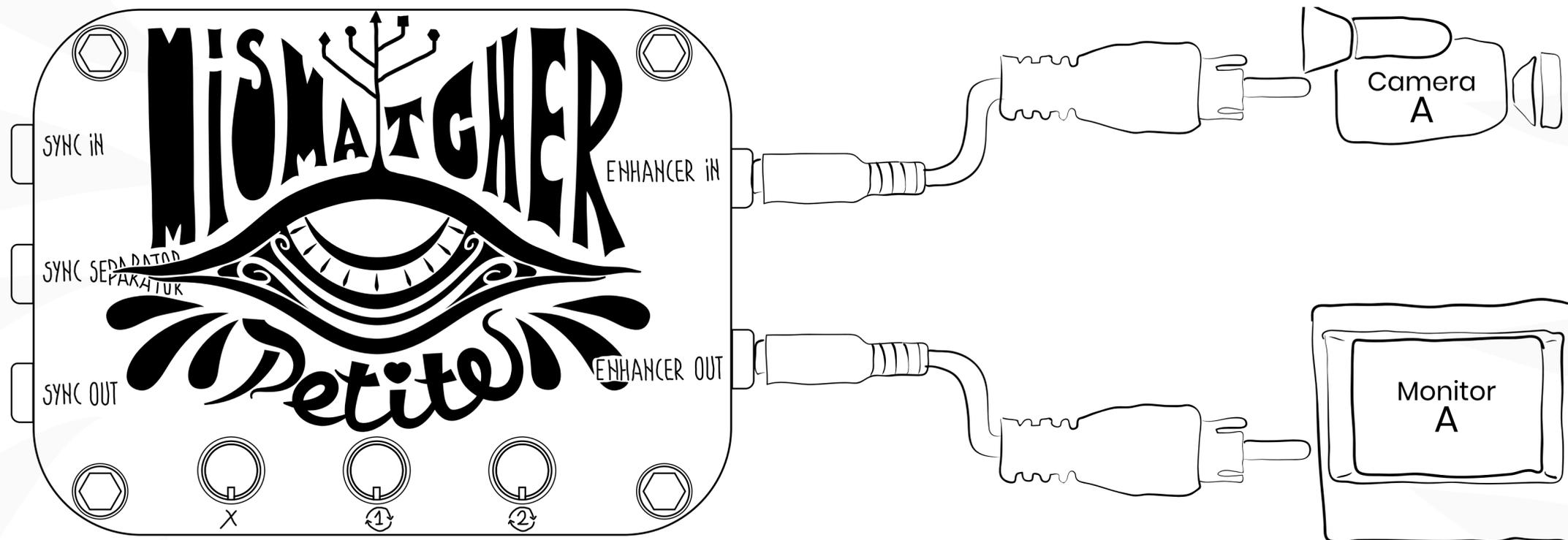
The key to a stable picture is a good sync signal. The distortion of video signals can deteriorate sync, leading to horizontal or vertical scrolling of video on screen. When the loss of sync is undesired by the user, the Sync Separator and Sync Mixer can come into play. The Sync Separator extracts the sync portion of the video signal. The Sync Mixer then takes the video signal connected at the Sync Mixer In and remixes it with the sync provided by the Sync Separator, resulting in a stable image. Instead of restoring the sync of a video signal, the user can also remix one video source with the sync signal from another video source, resulting in a scrolling image with constructive and destructive interference.

# *Enhancer*

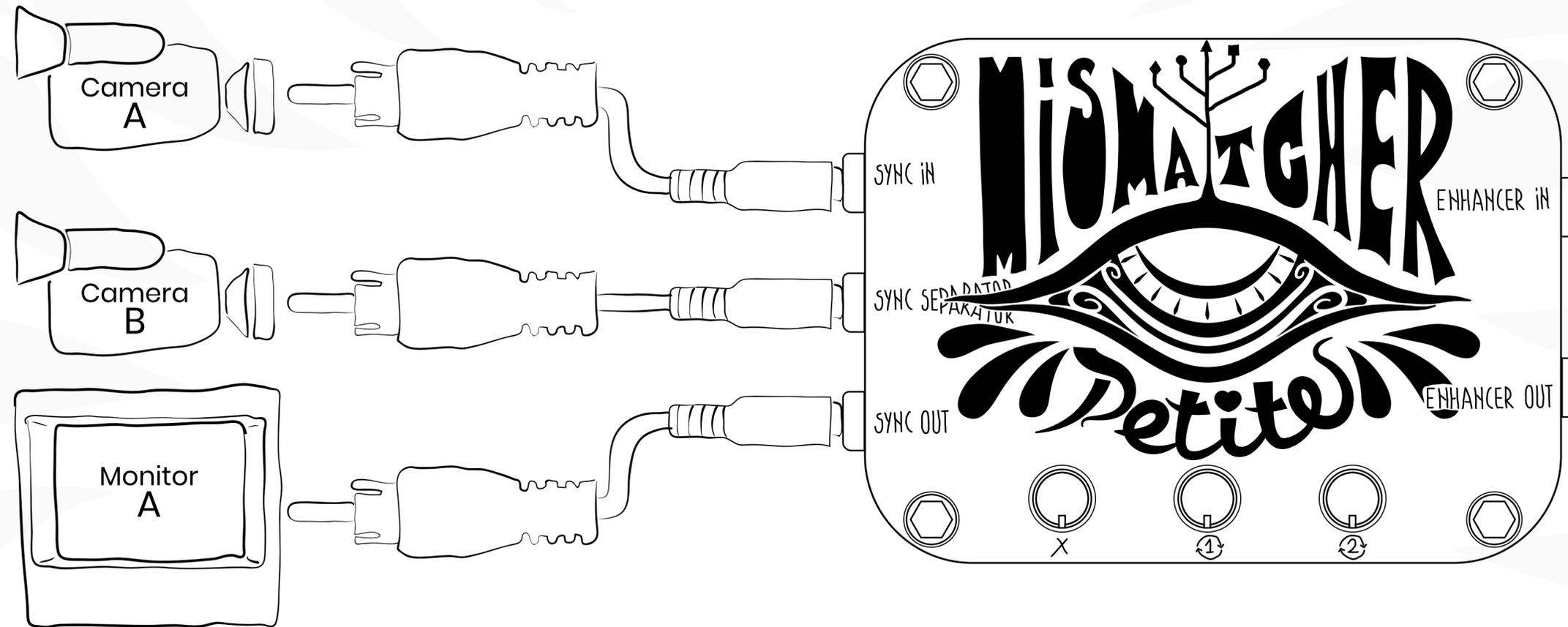
This enhancer can be used to either boost saturation and sharpness of the video or, using the provided Gain and Feedback 1 and 2 controls, to distort the video and create interesting effects. The gain controls how much the signal is amplified. Feedback 1 and 2 takes video from different stages of the circuit and feeds it back into the Enhancer's input.

# Patch Examples

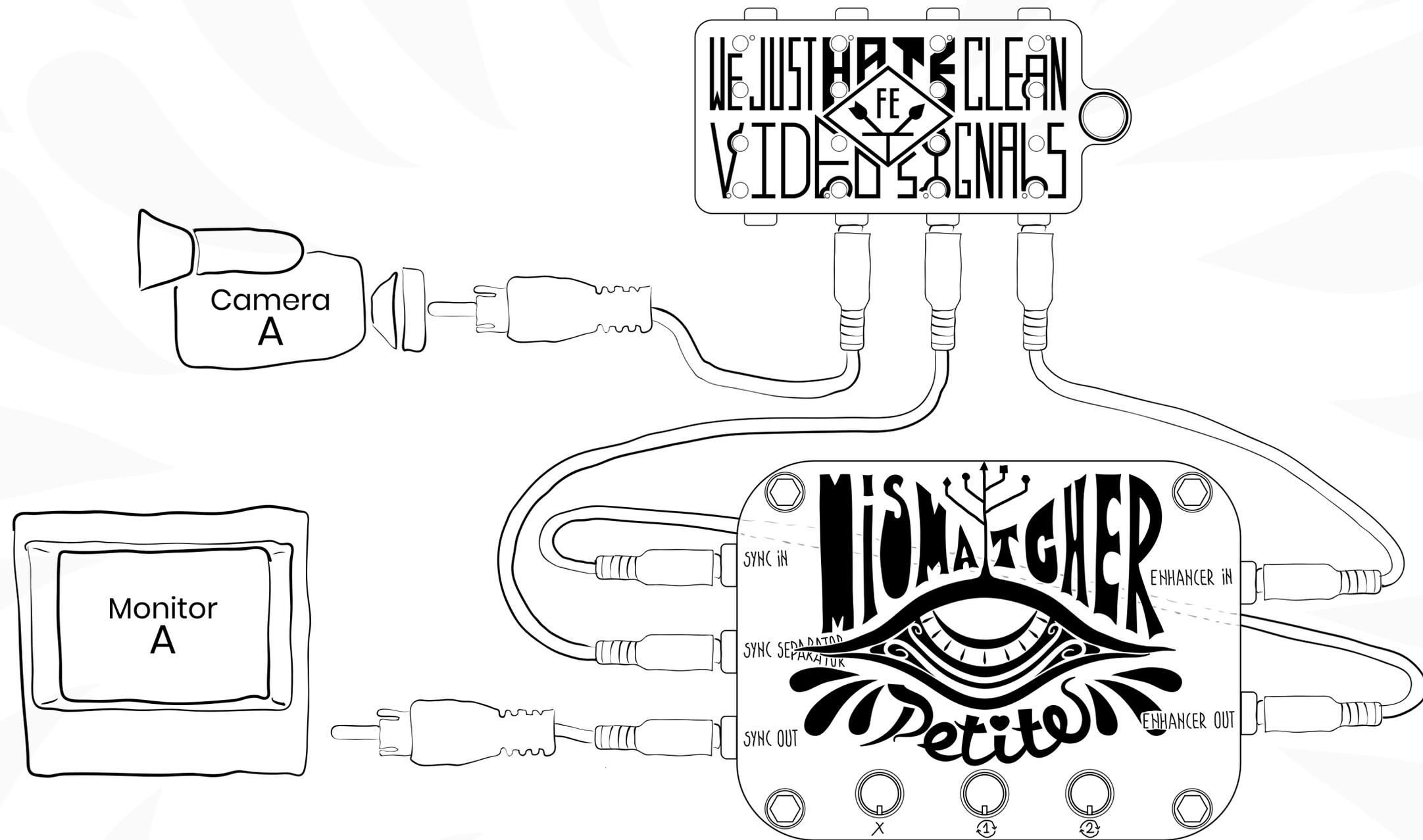
The following are examples of possible patches on the MisMatcher Petite. You should explore all possible connections within the MisMatcher Petite and with other effects, even sound oriented effects like guitar pedals.



Here we simply connect a camera to the enhancer In and a monitor to the enhancer out. The knobs are used to control the effect.



In this instance we resync camera A to camera's B sync signal, resulting in a scrolling image in monitor A.



In this example we use the enhancer to distort a video signal, then run it through the sync mixer to restore its sync, so we can always obtain a stable picture in Monitor A.

# *Specifications*

Size:  
DC Input: 5 V

# *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 Petite | Owner's Manual | Revision A February 2021

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Note: Specifications subject to change without notice