CV GRAPHIC

MANUAL V1.0

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CV GRAPHIC

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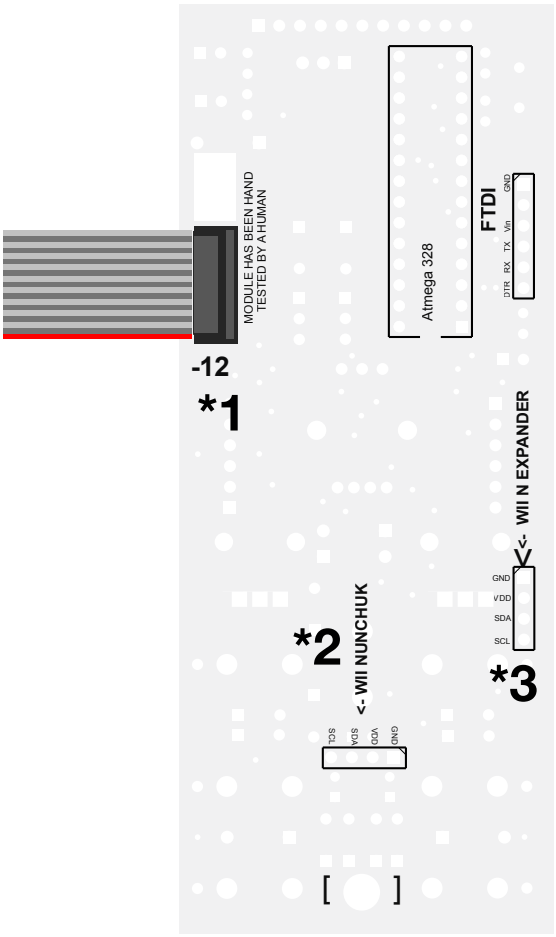
#cvgraphic



The **CV Graphic** is built around an Atmega328 chip, an 128.128 OLED screen and two DAC. **The main idea behind the module is to provide interraction between CVs and Graphics**, where graphics become a virtual partner in the musical creative process.

The module is divided in X and Y colums with a XY set for each input or output except for the clock CLK IN.

In most of the sketches, the XY CV OUTs are driven by the XY coordinates of pixels on the screen.

The output voltage generated by the CV Graphic are in the 0 to 5V range.

Please do not feed the CV GRAPHIC with incoming voltage above 10V, you may destroy it's brain.

The CVGRAPHIC run on +12v .
Double check the polarity when you first plug the CV Graphic to your Eurorack system, **look for the -12 text on the top left back corner of the board**. **(*1)**

The **CV Graphic** can be connected to a **WI Nunchuk**, please use an original WII Nunchuk (Nintendo) as some of the cheap one do not work properly with the CV Graphic.

You can connect the WII Nunchuk directly on the back of the module **(*2)** or via the **WII N expander** if you have the **CVGRAPHIC WII XYZC VERSION.**

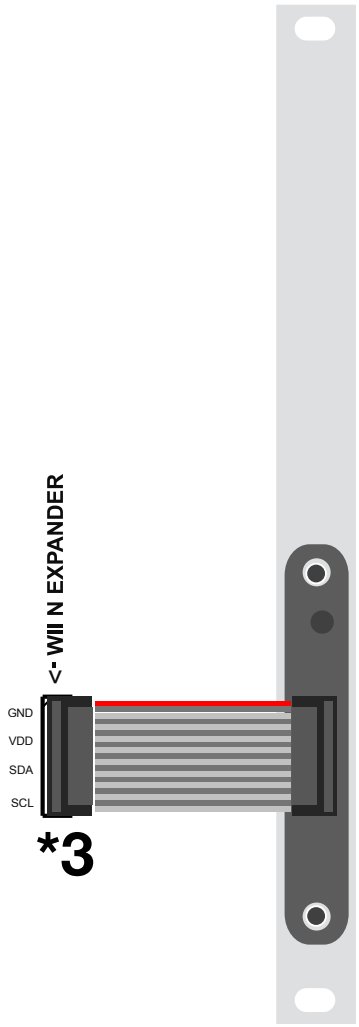
The installation of the WII Nunchuck is cover in the next page.

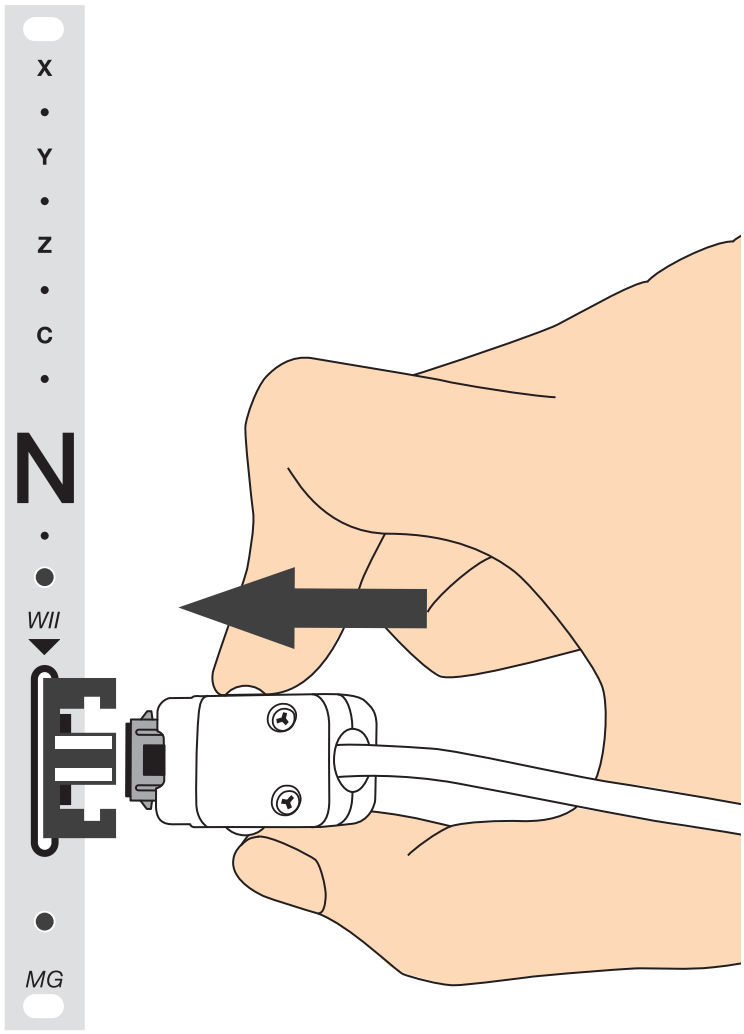
The WII Nunchuk allowed advanced interaction with the CV Graphic by adding a Joystick, a gyroscope and two buttons.

All the negative modes required a WII Nunchuck, however if you dont have a WII Nunchuck you can still use all the positive modes. But just get a WII Nunchuck it's much more fun !

Each **CV GRAPHIC** as been manually assembled and tested.

WII N SETUP





This page cover the instalation of the WII Nunchuck with **XYZC expander**.

The **CV GRAPHIC** as been individually calibrated for the included WII Nunchuck.

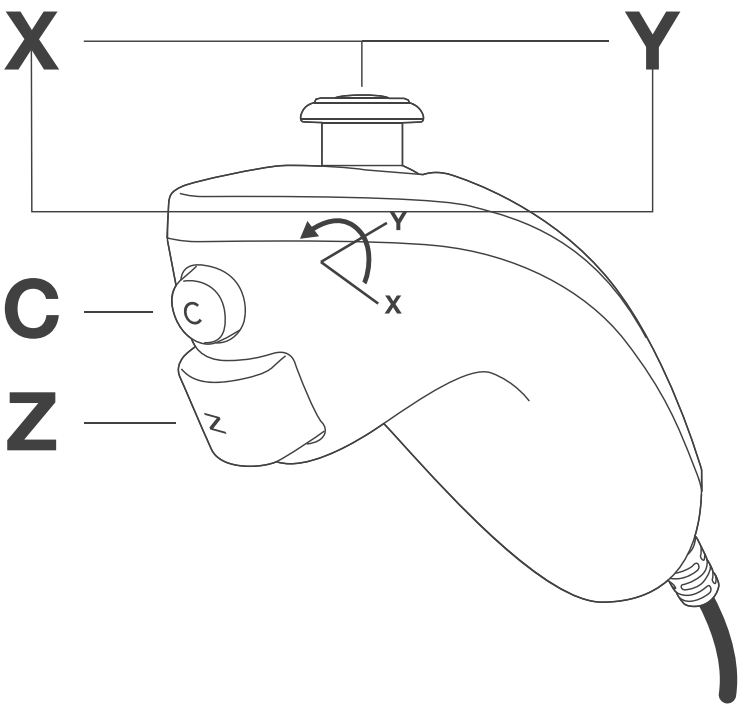
Always connect/disconnect the WII Nunchuck when the power is OFF.

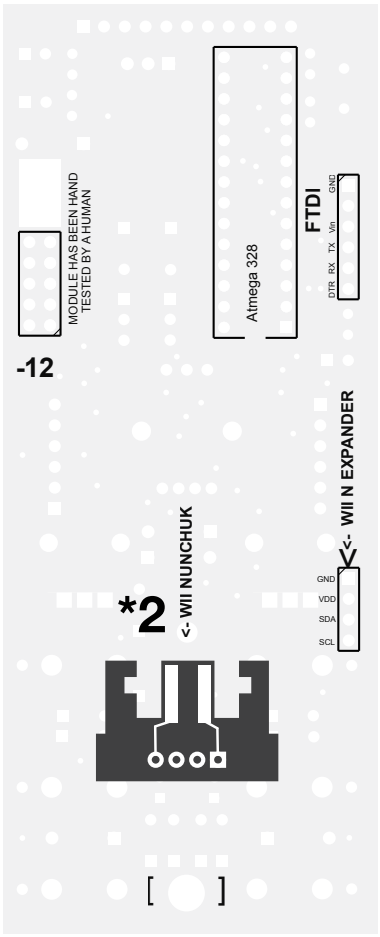
Start by connecting the ribbon cable to the **XYZC expander** module, align the red stripe as shown above. Then connect the ribbon cable to the back of the **CV GRAPHIC** module, **the red stripe is align with GND(*3).**

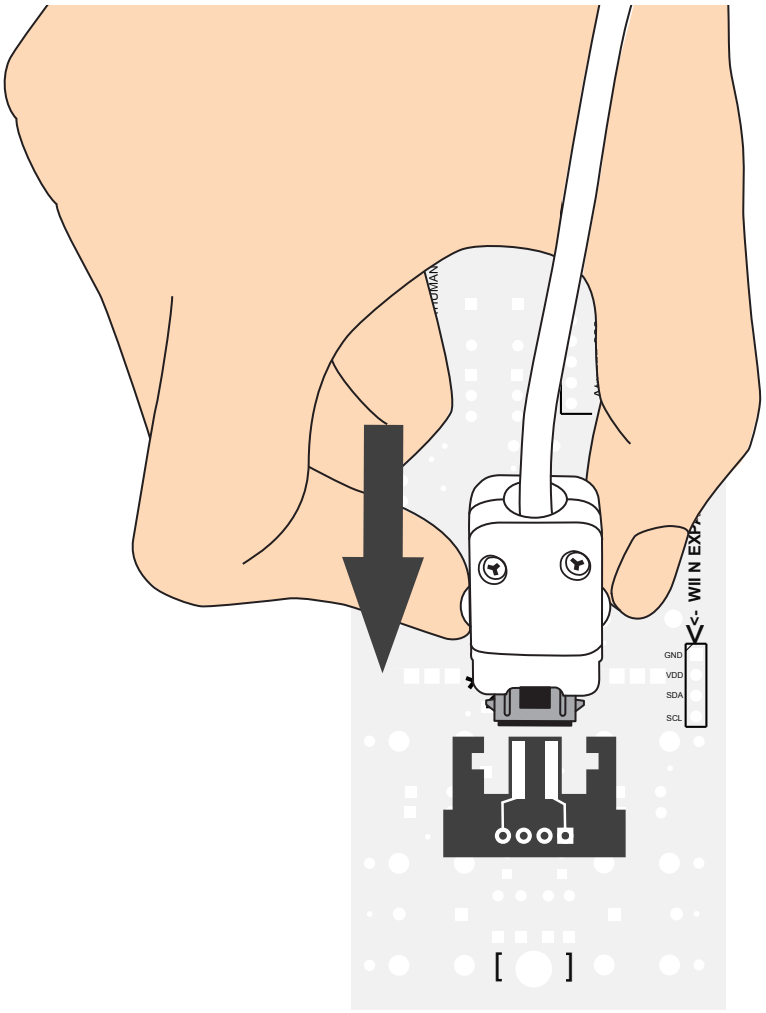
Instal both module in your system and then connect the WII Nunchuck, **note the orientation of the connector with the connector screw facing left.**

Turn ON your system.

The WII Nunchuck as 3 types of sensors :
- XY Joystick
- XY Accelerometer
- Z and C press button







This page cover the instalation of the WII Nunchuck without the **XYZC expander**.

Always connect/disconnect the WII Nunchuck when the power is OFF.

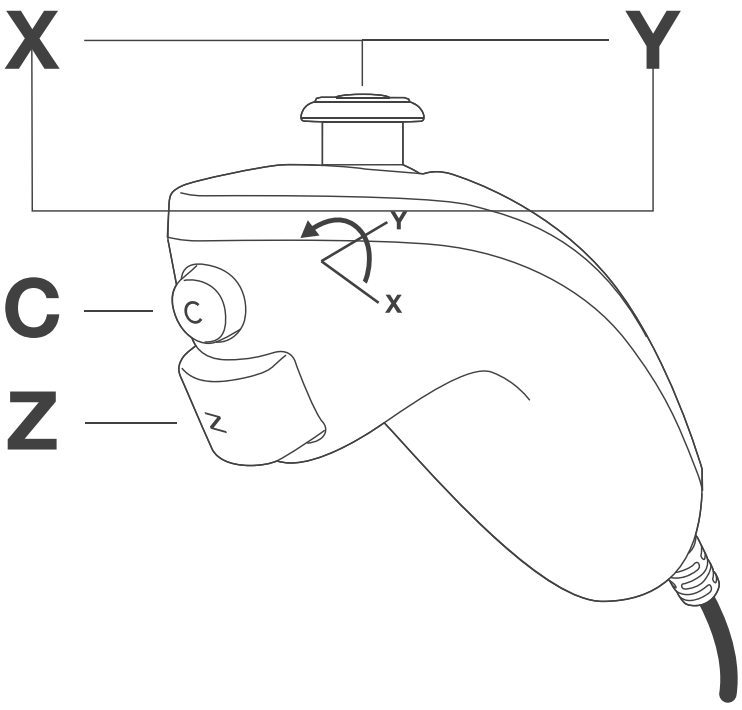
Please use an original WII Nunchuk (Nintendo) as some of the cheap one do not work properly with the CV Graphic.

Connect directly the WII Nunchuck to the back of the CV GRAPHIC module, **note the orientation of the connector with the connector screw facing up.**

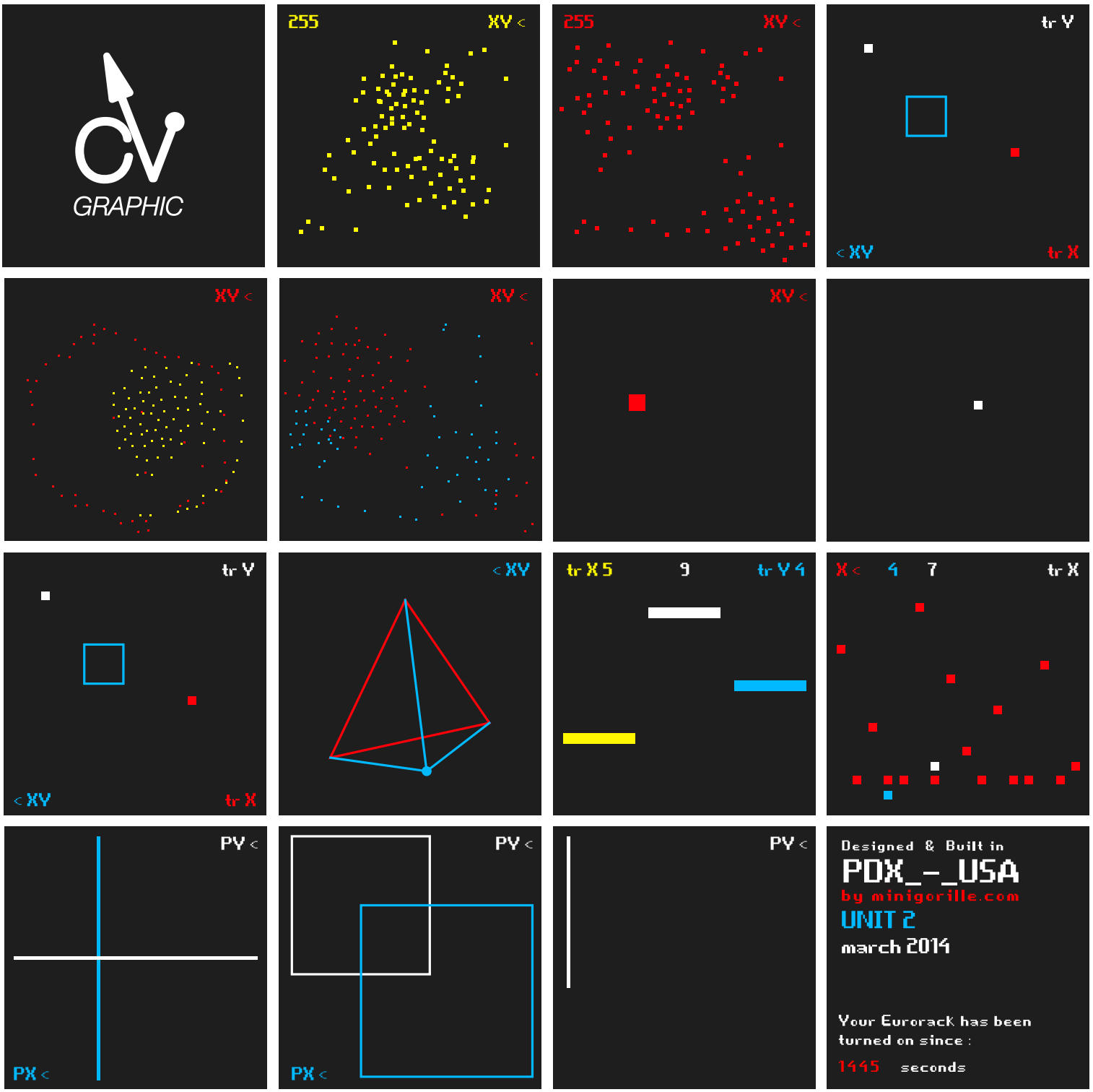
Instal module back in your system.

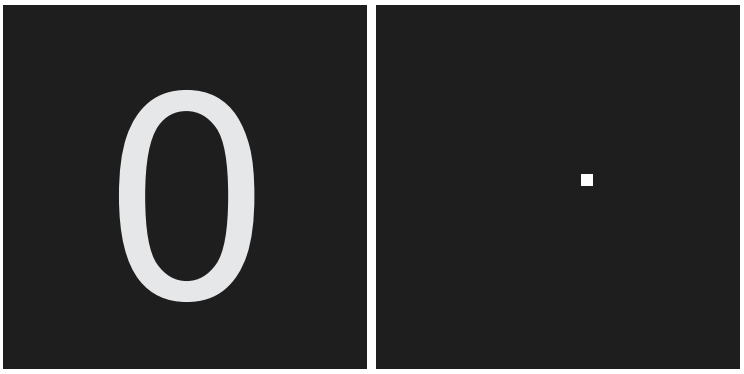
Turn ON your system.

The WII Nunchuck as 3 types of sensors :
- XY Joystick
- XY Accelerometer
- Z and C press button



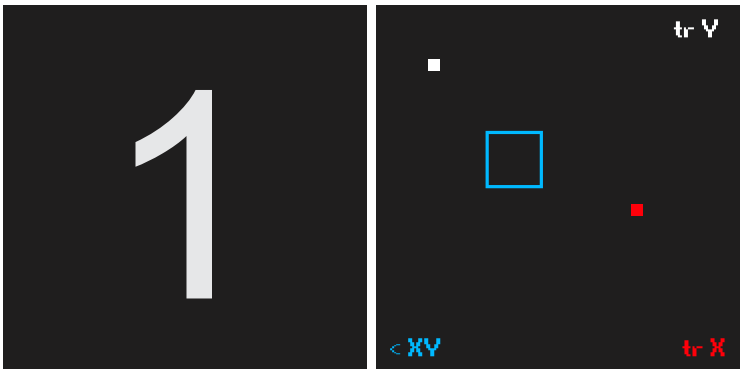
MODE


CV
GRAPHIC
255
XV <
255
XV <
tr V
< XV
tr X
XV <
XV <
XV <
tr V
< XV
tr X
< XV
tr X 5
9
tr Y 4
X <
4
7
tr X
PY <
PX <
PY <
PX <
PY <
Designed & Built in
PDX_-_USA
by minigorille.com
UNIT 2
march 2014
Your Eurorack has been
turned on since :
1445
seconds



SLEEP MODE

This is the start screen when the **CV GRAPHIC** is turned ON, in order to save the life of the OLED screen try to return to this mode if you are not using the **CV GRAPHIC**.



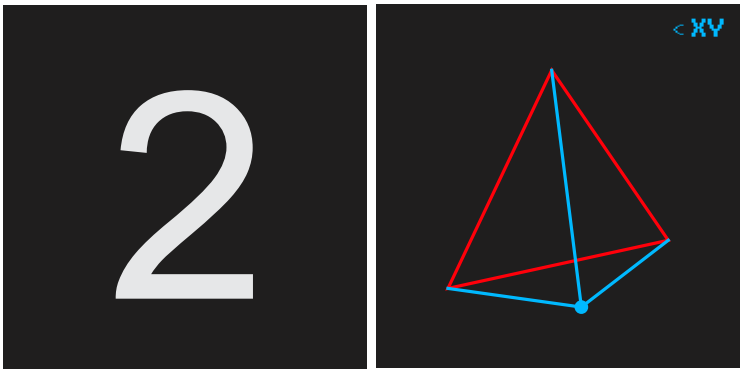
XY PONG TRIGGER & **XY CV OUT**

In this mode use **POT X & POT Y** to control the **XY coordinates of the BLUE square**. Every time one of the balls hits the edges of the screen, **a trigger is sent to TR X or TR Y.**

If one of the balls hits the square it sends a trigger out and a XY CV based on the XY coordinates of the square.

Try to patch a slow LFO to CV IN X or Y and watch the square move !

CV XY OUT **TR X OUT** **TR Y OUT**



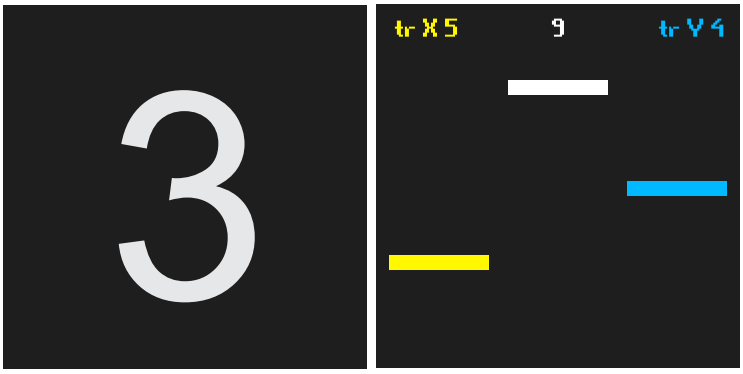
CV XY TRIANGLE & **TRIGGER XY**

In this mode use **POT X & POT Y** to **control the XY coordinates of the BLUE dot**, it will generate the corresponding **CV X & Y OUT**.

If you hit the top of the screen with the dot, **a trigger to TR X OUT is sent**. If you hit the bottom of the screen, **a trigger to TR Y OUT is sent**.

Try to patch a slow LFO to CV IN X or Y and watch the dot move !

CV XY OUT **TR XY OUT**

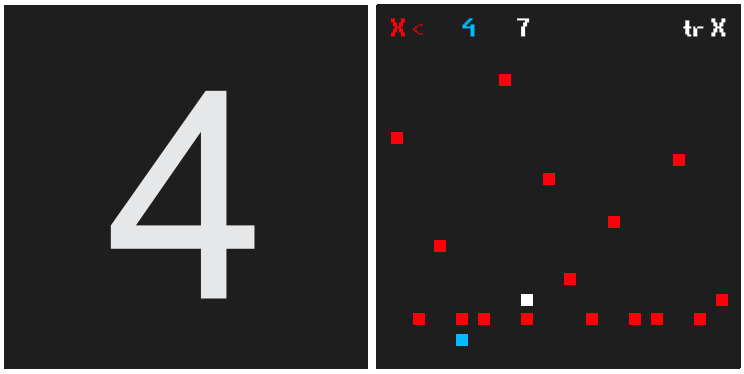


GRAPHIC CLOCK DIVIDER XY

This mode is a simple clock divider, **patch an incoming clock to CLK** and use **POT X and POT Y to select the divider.**

The YELLOW bar is TR X OUT
The BLUE bar is TR Y OUT
The WHITE BAR is the incoming clock

TR X OUT **CLK IN** **TR Y OUT**



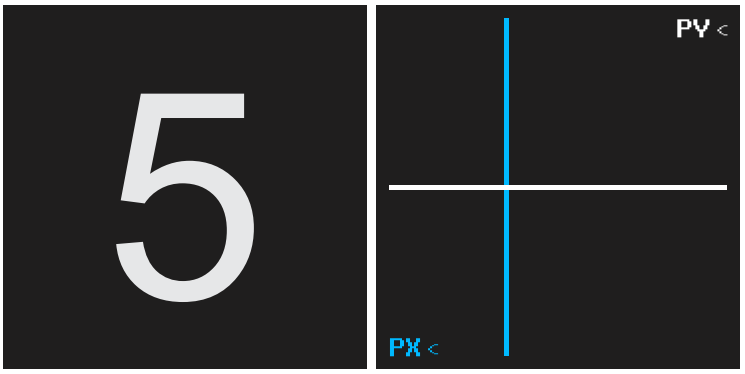
16 STEPS SEQUENCER

This mode is a **16 STEPS SEQUENCER**, you have to use **POT Y to set the current step CV**.
The selected step is represented by a BLUE SQUARE, use POT X to change steps.
Patch a clock signal to CLK and watch the WHITE square run.

TR X OUT is the gate signal & CV X OUT is the CV OUT from the sequence.

TR Y OUT turn high when current step is equal to selected step (blue square).

CV X OUT CLK IN TR X OUT



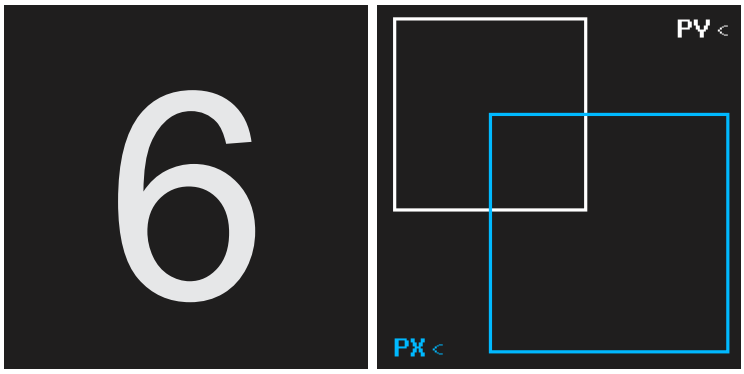
CV XY LINES

In this mode use **POT X to control the X coordinate of the BLUE line and POT Y to control the Y coordinate of the WHITE line**.

CV X and CV Y out will be sent based on the lines coordinates.

Try to use the graphic to remember a CV combo that's interesting !

CV X OUT CV Y OUT



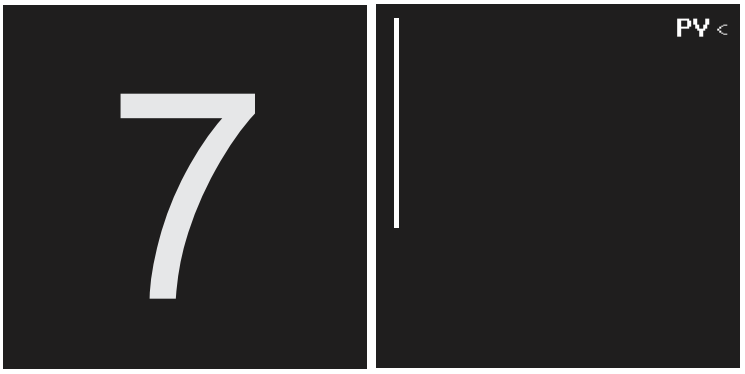
CV XY SQUARES

In this mode **use POT X to control the size of the BLUE square and POT Y to control the size of the WHITE square.**

CV X and CV Y out will be sent based on the sizes of the squares.

Try to use the graphic to remember a CV combo that's interesting !

CV X OUT CV Y OUT



GRAPHIC LFO

In this mode use POT X to set the speed of the rise and POT Y to set the height of the rise

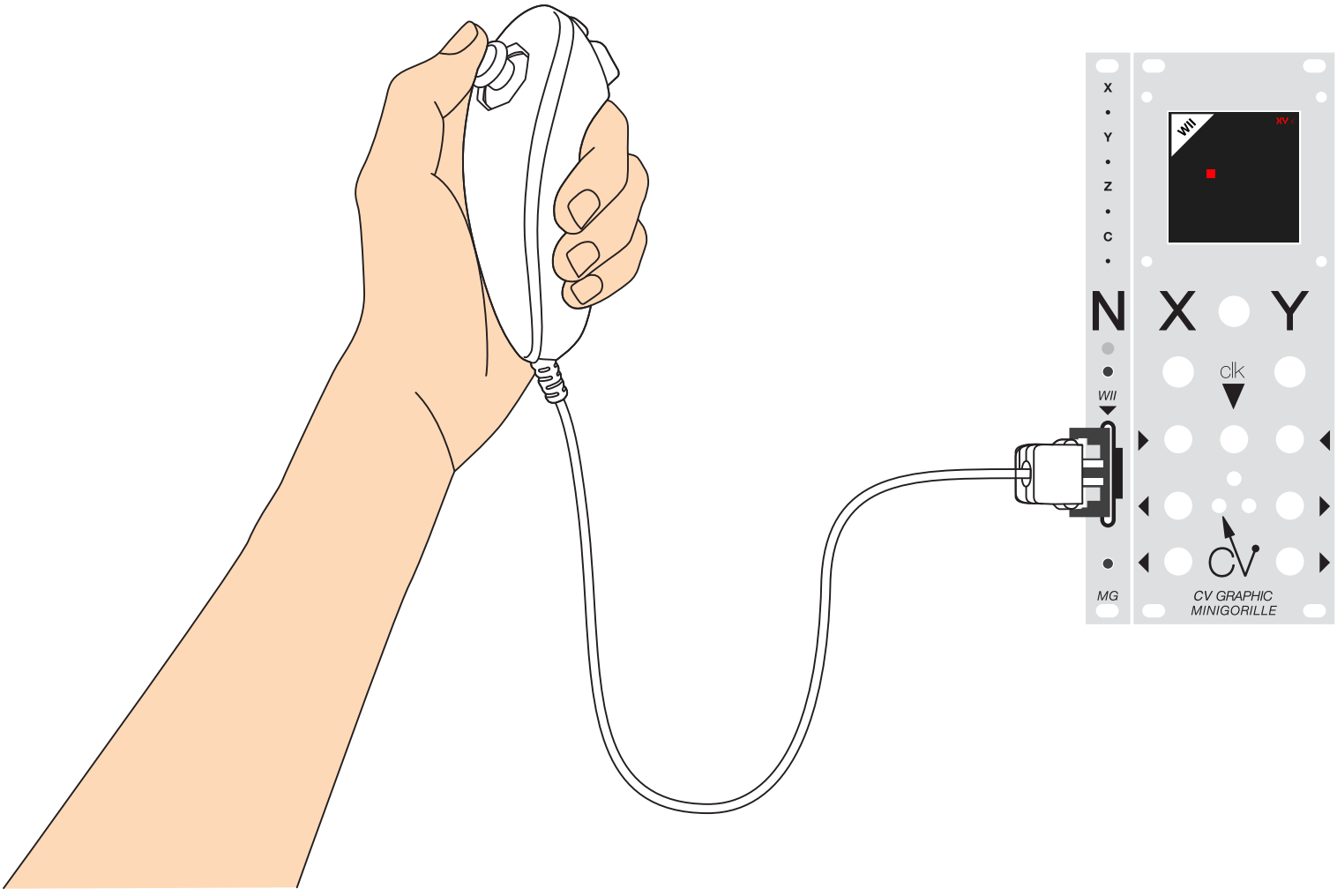
TR X OUT is high

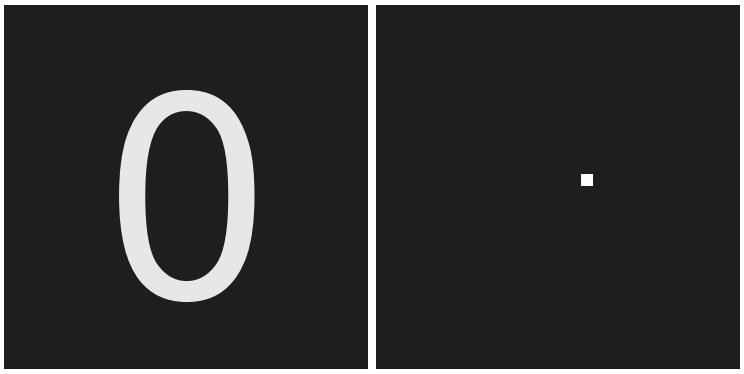
CV X OUT

ABOUT AND EURORACK TURN ON

Information on the unit number, manufacturing date and custom name.

You can also see how long your EURORACK has been turned on for.





SLEEP MODE

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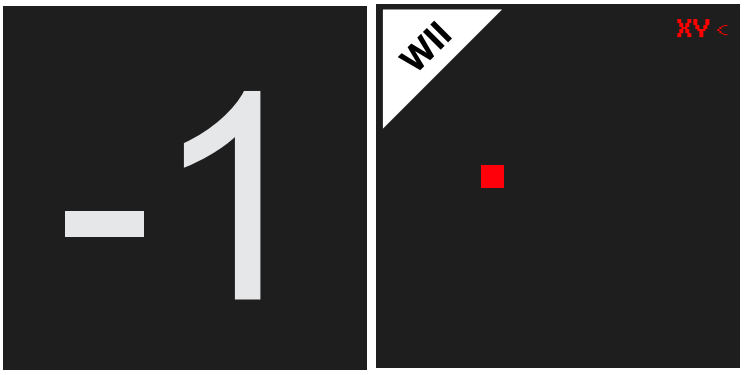
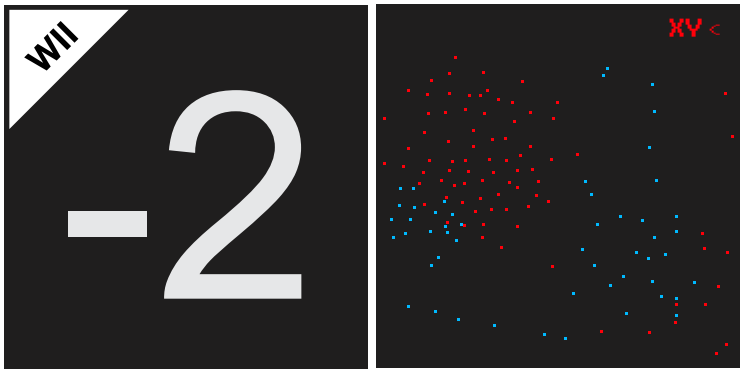


CV XY GENERATOR / ACCELEROMETER

In this mode use the **WII Nunchuck accelerometer to move the RED square**.

It will send CV XY OUT based on the XY coordinates of the square center.

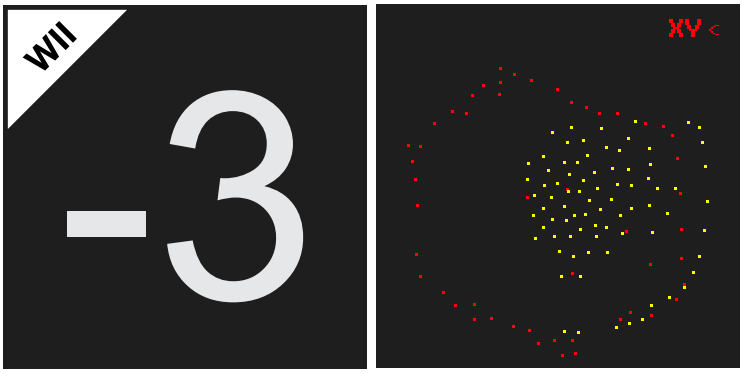
By pressing on Z you set TR Y to high.



CV XY Accelerometer ETCH A SKETCH

In this mode use the **WII Nunchuck accelerometer to sketch CVs XY,** if you **press Z the color changes to BLUE and TR Y turns high**.

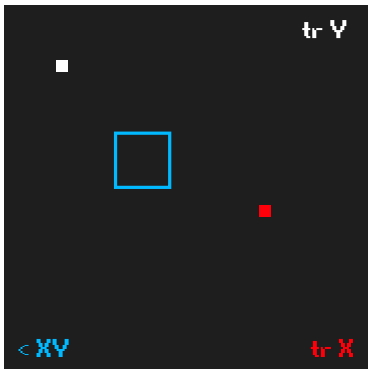
Press C to erase the screen.



CV XY Joystick ETCH A SKETCH

In this mode use the **WII JOYSTICK to sketch CVs XY**, if you **press Z the color changes to YELLOW and TR Y turns high.**

Press C to erase the screen.



PONG MODE / JOYSTICK CONTROLLED

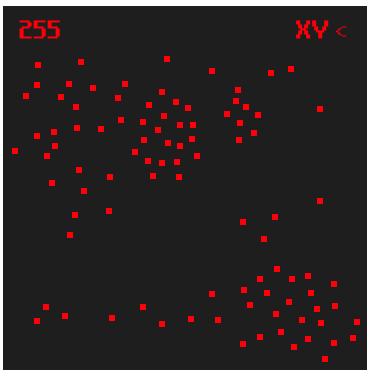
In this mode use the **WII JOYSTICK to control the XY coordinates of the BLUE square**.

Every time one of the balls hits the edges of the screen a trigger is sent to TR X or TR Y.

If one of the balls hits the square it sends a trigger out and a XY CV based on the XY coordinates of the square.

Try to catch the ball in the square to create a vibrato effect !

CV XY OUT TR X OUT TR Y OUT



XY ACCELEROMETER RECORDING

Experimental mode.

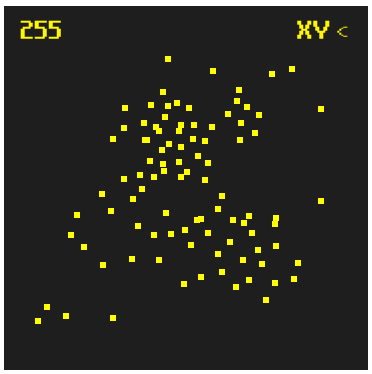
In this mode use the WII N ACCELEROMETER to record a CV XY sketch.

Start recording by pressing C and then sketch your CV.

After 255 samples, the recording stops and you can now re-play the CV recorded by pressing Z.

You can not record again until the end of replay.

CV XY OUT



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CV XY OUT

In general, troubleshooting is the identification of diagnosis of "trouble" in the management flow of a corporation or a system caused by a failure of some kind. The problem is initially described as symptoms of malfunction, and troubleshooting is the process of determining and remedying the causes of these symptoms.

NO POWER

- Check the power/polarity connection on the back of the module.

THE WII NUNCHUCK DO NOT WORK (AT ALL)

Make sure the Connector is plug the right way (check manual) and always plug/unplug the WII nunchuck when the module is power off !

THE WII NUNCHUCK DO NOT WORK PROPERLY (NOT CALIBRATED)

Make sure you are using an official Nitendo WII Nunchuck, the cheaper one do not work properly with the CV Graphic.

FREEZE WHEN RUN SKETCH -5 or -6

Unfortunately you have to turn OFF turn ON your case, -5 and -6 are experimetal sketches, it happend that they crash.