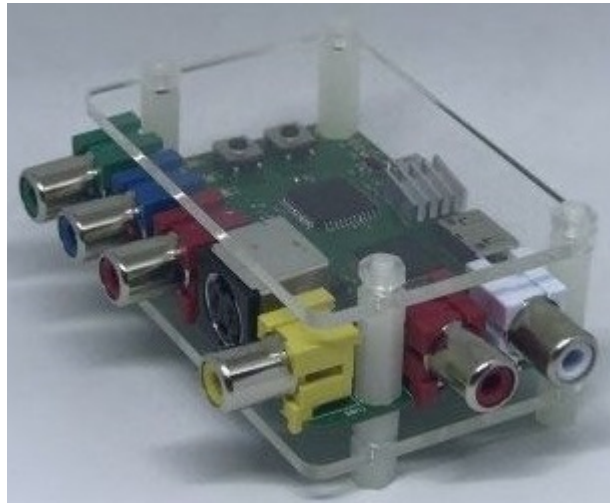


RetroTINK



RetroTINK 2X - Quick Start Guide



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RetroTINK 2X - Quick Start Guide

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Thank you for purchasing the RetroTINK 2X. Please take time to read through this short document before you start using the unit.

Important safety information

Please observe the following safety precautions when using your RetroTINK 2X.

Connect only one input at once – Please connect only one input to your RetroTINK 2X at a time. If you need to connect more than one device (e.g a composite and S-Video source), ensure that only one connected device is powered on at any one time.

Use the correct power supply – RetroTINK 2X is designed to run with a 5 volt MicroUSB power supply unit (PSU) supplying at least 1 amp of current. Please ensure your power supply meets these requirements. Never connect a power supply that supplies more than 5 volts. Doing so can damage the RetroTINK 2X.

Turn off the power before connecting/disconnecting equipment – To prevent damage of the RetroTINKs integrated circuits, always turn off the power before connecting to a display or a device.

Be careful when connecting and disconnecting cables – Do not apply excessive force especially to the USB or HDMI output connectors. When using MiniHDMI to HDMI adapters, be careful not to bend the socket or apply excessive pressure to the connectors.

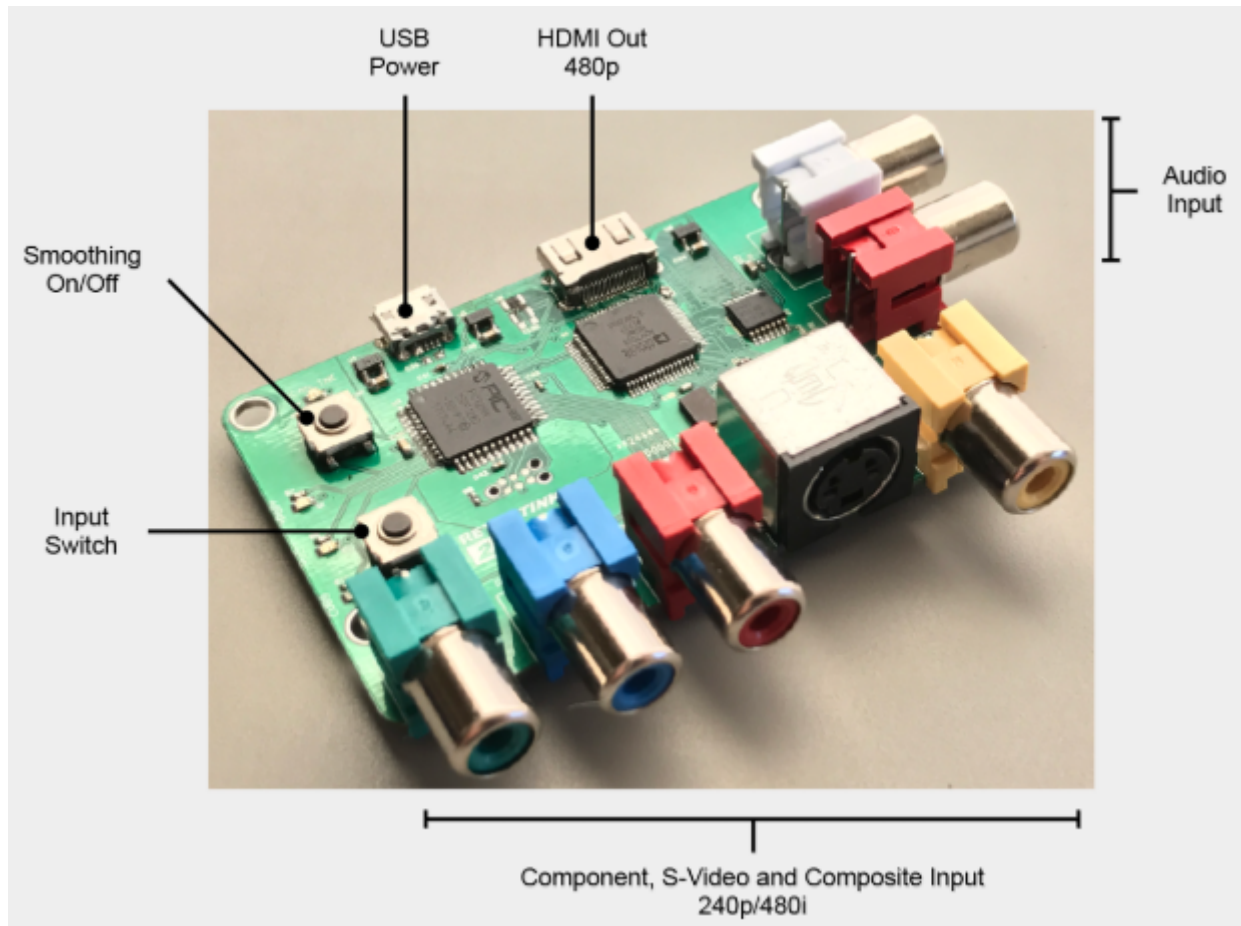
Do not expose to moisture – Droplets of moisture may contact the PCB and cause a short circuit. Never submerge the unit in water.

Keep away from fire or high heat sources – RetroTINK 2X is not flammable but high temperatures, such as those from a fire or electric heater may melt the plastic casing.

Please supervise children – RetroTINK 2X is not a toy and is not designed for use by children. Please supervise children if they use the RetroTINK 2X.

Beware of using the RetroTINK 2Xs deinterlacer on sources that display static graphics or text for a long period of time – RetroTINKs deinterlacer produces a constant flickering effect. This can cause image retention/burn-in to occur faster than normal. See page 6 for more information.

Overview



USB Power – Connect a standard MicroUSB cable between an active USB port and the RetroTINK 2X to provide power. Alternatively, use one of our approved power supplies and USB adapter.

HDMI Out 480p – Connect this output to your display or secondary scaler/converter using a standard Mini HDMI cable.

Audio Input – Connect a standard analogue audio source here in order to enjoy digitised audio output via the HDMI out connector.

Component, S-Video and Composite input – Connect the appropriate video input to these ports. Composite video signals should connect to the yellow composite video connector on the right. S-Video signals should connect to the black DIN connector. Component video signals require three separate signal wires and these connect to the three RCA connectors on the left.

Input Switch – Press this button to cycle through the three inputs. A LED light indicator on the RetroTINK 2X, below the input select button, will illuminate to show the currently active input.

Smoothing on/off – Press this button to cycle through the three output modes. These modes are explained in the next section.

RetroTINK 2X output modes

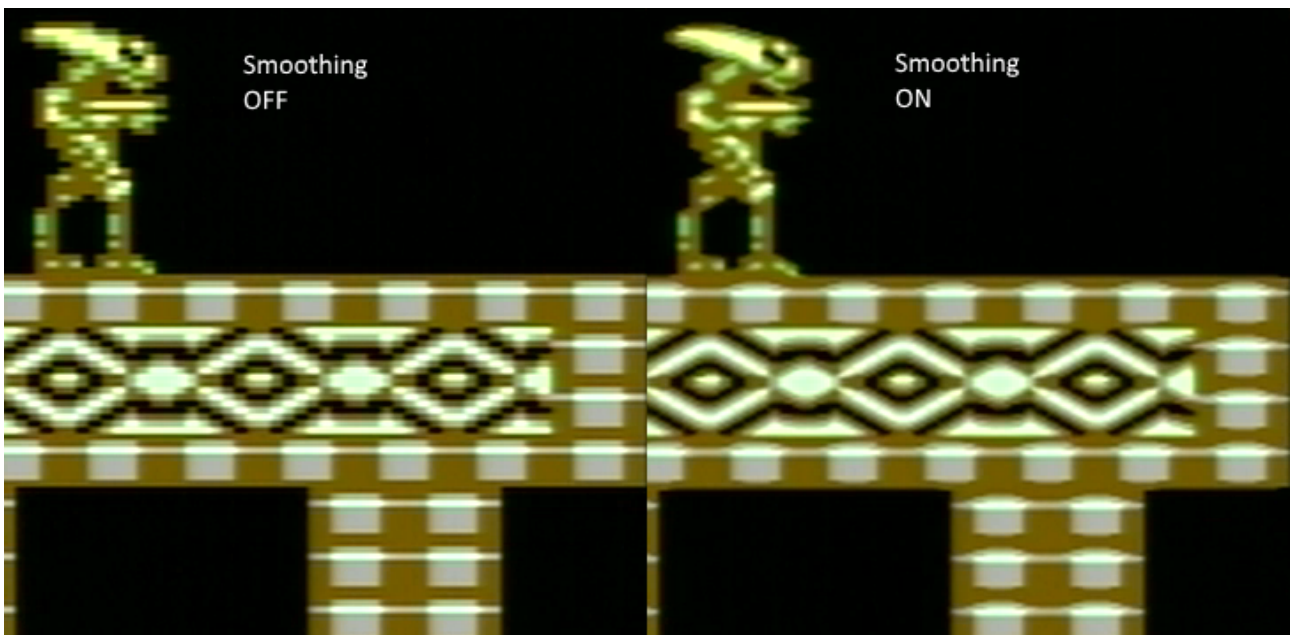
The RetroTINK 2X has three output modes, which can be selected by pressing the “Smoothing” button. There are two small LED lights to the left of the USB port that will illuminate to show which mode is selected.

Mode 1 – Transcoding Only (all LEDs off) – In this mode the RetroTINK 2X will perform digitisation only. Whatever resolution is fed in will be output. Note that many HDMI televisions do not support 240p input via HDMI at all. This mode is useful for users who wish to use the RetroTINK 2X with a HDMI to VGA adapter. The signal can then be fed into legacy analogue video equipment such as BVM monitors, or chained through another scaler such as the OSSC.

Mode 2 – Line Doubling (2x LED on) – In this mode, a 240p signal will be converted to a 480p signal. A 480i signal will also be converted to a 480p signal using a simple “bob” deinterlacing technique. **Beware of using the RetroTINK 2Xs deinterlacer on sources that display static graphics or text for a long period of time** – RetroTINK 2Xs deinterlacer produces a constant flickering effect, this can cause image retention/burn-in to occur faster than normal. See page 6 for more information.

Mode 3 – Doubling + Smoothing (both LEDs on) – In this mode the RetroTINK 2X will apply an image smoothing filter to the output. This filter can smooth some of the jagged edges that appear in classic video games console graphics output. Setting this option is entirely a matter of taste, there is no right or wrong setting.

The picture below shows an example of how the smoothing filter changes the image.



Interlace video and the RetroTINK 2X

Certain retro consoles and computers (e.g Sony PS2, Nintendo Gamecube) output in interlace modes. These modes send alternating scanlines to the display in each frame and were how standard definition analogue television was broadcast. To display interlace video on modern displays, it must be deinterlaced first. As with 240p sources, the RetroTINK 2X can deinterlace content like this with no input lag. However, the image that is produced tends to exhibit some flickering and combing artefacts.

RetroTINK 2X is a line doubler and therefore cannot perform sophisticated deinterlacing because it does not have a frame buffer. Because of this, you may prefer to use the “Transcoding Only” mode with interlace sources.

The rule of thumb is, if your priority is a good picture, use your displays deinterlacer. If your priority is reducing input lag, let the RetroTINK 2X handle deinterlacing.

Try to avoid interlace software and modes where possible. It is not possible to have both low input lag and excellent picture quality with interlace sources. Please also keep in mind that the RetroTINK 2X does not support input resolutions of 480p (or higher).

Beware of using the RetroTINK 2Xs deinterlacer on sources that display static graphics or text for a long period of time. The constant flickering can cause image retention/burn-in to occur faster than normal.

Using RetroTINK 2X with CRT monitors or OSSC

In transcoding only mode, the RetroTINK 2X can be used as a generic composite, S-Video and Component video to RGB transcoder. No upscaling, line doubling or other processing will be applied to the input signal in this mode.

Since the RetroTINK 2X only offers digital output and most legacy 15khz displays only have analogue inputs, it may be necessary to use a simple digital to analogue converter. HDMI to VGA adapters are readily available, but please be aware that not all models of these converters support 15khz video. A suitable model that does support 15khz can be purchased at <https://www.videogameperfection.com/products/hdmi-to-vga-adapter/>

Once converted, the signal from RetroTINK 2X can be fed into another scaler or line doubler, such as the OSSC, or into a monitor such as a Sony PVM/BVM. For more information on this or for recommended settings, please see the Wiki page here:- <http://junkerhq.net/xrgb/index.php?title=RetroTINK2X>

Troubleshooting

Symptom	Possible Cause	Solution
No image	Sync lost	Power cycle RetroTINK 2X
No image	480p (or higher) signal fed in	Change input resolution. RetroTINK 2X supports 240p and 480i signals only
No image/distorted image	Transcoding mode selected on HDMI device	Select line double mode, most HDMI devices do not support 240p via HDMI
Image has a vertical flicker/shimmer effect	Interlace source connected	This is a normal side effect of lag-free deinterlacing, no action is required
Picture is black and white	Wrong input selected	Press input button and select appropriate input
RetroTINK 2X resets itself	Power supply insufficient	Use a different USB port that provides at least 1 amp of current, or purchase a dedicated power supply

More information

For more information on using your RetroTINK 2X, see the RetroTINK 2X Wiki page here – <http://junkerhq.net/xrgb/index.php?title=RetroTINK2X>

For technical support, visit the support forums here - <https://www.videogameperfection.com/forums/forum/retrotink-2x/>

Disposing of your RetroTINK 2X



If your RetroTINK 2X malfunctions, please contact us via e-mail or through our website to arrange repair or replacement. All RetroTINK 2X units sold by VideogamePerfection.com/ACEL Systems come with one years warranty. Outside of warranty, we can service and repair most faulty units.

Please consider contacting us before disposing of your RetroTINK 2X, even if you no longer want it. If you do need to dispose of the unit, in most countries you can recycle the unit for free at your local recycling centre. To find your nearest centre in the UK, visit the Recycle More website at <http://www.recycle-more.co.uk> and type in your postcode.

If you live outside of the UK, please check with local authorities or contact us to arrange for a return of your unit.