

# 2H-MINI

## User Manual

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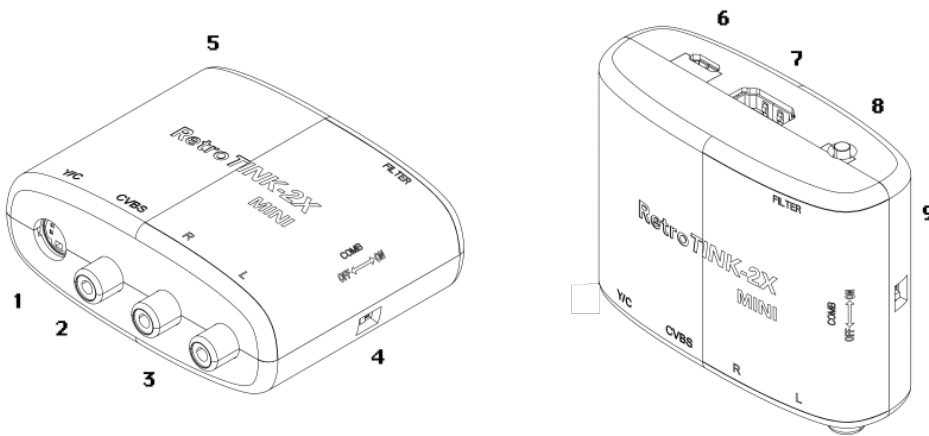




## Introduction

The RetroTINK-2X MINI (hereinafter, "MINI") is a device capable of line-doubling standard definition sources from composite and S-Video signals from retro consoles to 480p/576p, which can be readily accepted by modern displays. All processing are essentially "zero added lag" to preserve the original gaming experience.

The MINI supports multi-region decoding of NTSC/PAL/PAL-60 and other encoded formats.

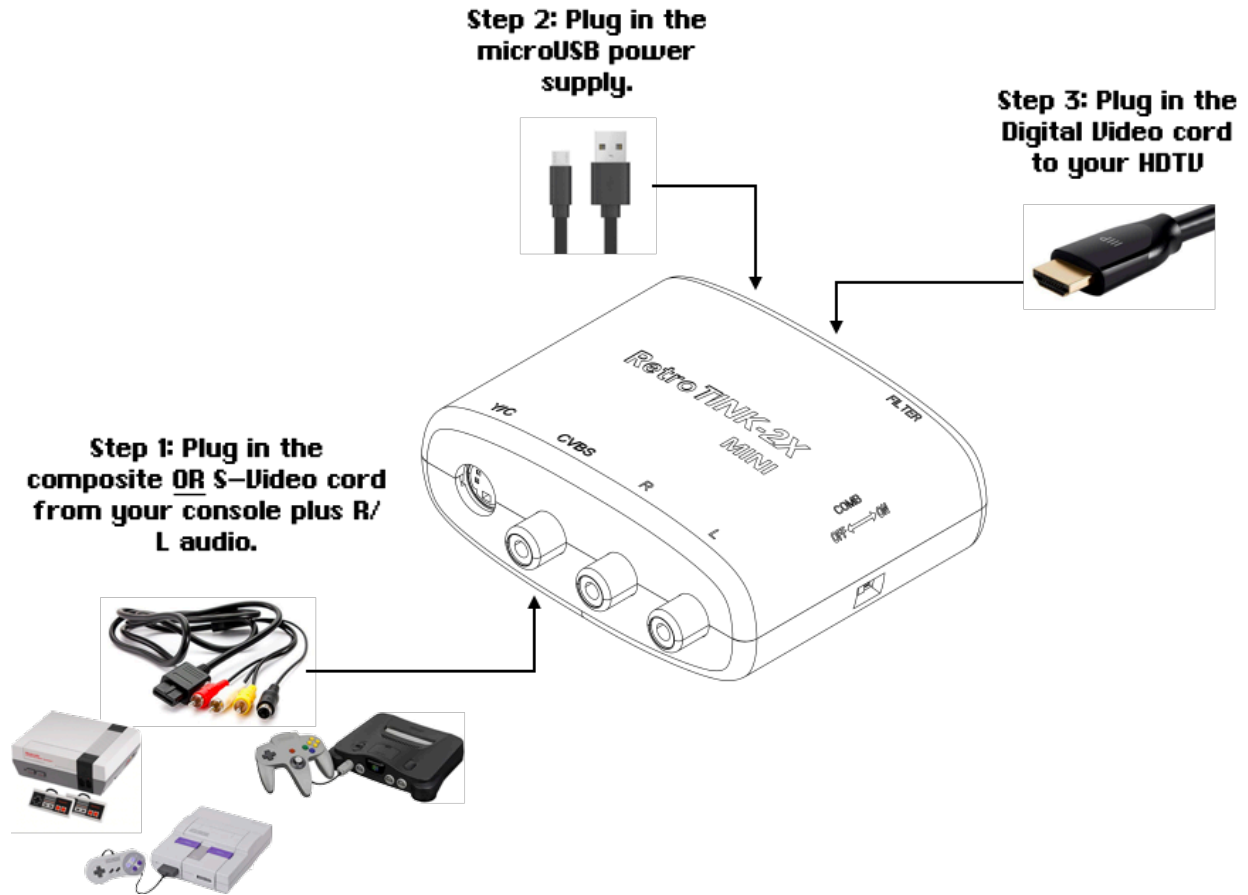


## Description

1. S-Video input.
2. Composite input.
3. Audio input.
4. COMB switch. Toggles between notch (Retro) and comb (Auto) filtering for composite video. Auto also engages high frequency luma noise rejection for PAL S-Video.
5. Indicator LED:
  - Flashing: No input detected.
  - White: S-Video input.
  - Yellow: Composite input.
6. MicroUSB power input. Connect to any microUSB power source capable of supplying 500 mA or more.
7. Digital Video output to your HDTV.
8. FILTER button. Cycles between normal and smoothed modes.
9. Indicator light for Smoothing Filter. Blue when smoothing filter is on.



### Quick Start





## Advanced Features

### COMB Switch

The MINI's comb switch is primarily used to toggle between a notch style composite decoder (Retro) or an automatic 5-line comb filter (Auto) mode.

Many older off-spec systems such as the NES will look better with a notch style filter. Other systems such as the PC Engine may look better in (Auto) due to their higher quality composite output.

The 'Auto' setting also engages a high frequency luma filter in S-Video mode. This reduces the luma sharpness slightly but eliminates chroma cross-talk noise. This setting is mainly useful for PAL/PAL-60 N64 users as chroma noise may be a problem unless you are using shielded S-Video cables. In the case of the N64, since the image is already blurry, the slight loss of luma resolution is negligible.

### Multiple Inputs

You can connect both composite and S-Video inputs to the MINI at the same time. The MINI will automatically detect and select the first active input. When the selected input is turned off, the MINI will go back into search mode until a new valid source is found.

The audio inputs are shared. If you are connecting two consoles, you may use a Y-splitter for each audio input to accommodate both sources. Of course, you will only want to have one console on at a time, or else the sound will mix together.

You can also connect a S-Video/composite switch to the MINI using a Y-splitter, and the MINI will automatically work with the switch to go to your selected input.



## Troubleshooting

*Q: Only colorbars are shown.*

A: Colorbars is the default pattern when no signal is received from the console. This indicates an error with your console, cart or video cable. The first thing to do is to clean your cart carefully and make sure your console is in good working condition.

*Q: No image is shown.*

A: Double check that the MINI is powered up and that the Digital Video cable from the MINI is securely plugged into your TV. Try another TV and Digital Video cable. Without any console connected, you should see a blue screen. If you do not, contact your seller for additional assistance.

*Q: Picture is noisy and/or interference is seen.*

A: In almost every case, the noise originates from the console, console's power supply and/or the cables used to connect the console to the MINI. The noise almost never originates from the MINI itself. In addition, to preserve image sharpness, the MINI does minimal filtering to attempt and smooth out noisy sources. For the best image quality, always use official power supplies for your console and shielded video cables.

For PAL/PAL-60 users, try setting the 'COMB' switch to 'Auto,' which increases noise filtering of PAL chroma noise at the expense of slightly reduced luma sharpness.

*Q: No sound is heard.*

A: Double check to make sure the audio cables are connected correctly. Try another TV. The off-spec video timing of some-retro consoles causes some displays to reject the audio stream in the Digital Video connection. Alternatively, directly connect the audio output from your console to your sound system and bypass the MINI..

## Specifications

<b>Input Connections</b>	CVBS, S-Video and Analog Stereo Audio
<b>Output Connection</b>	Digital Video Connector, TMDS
<b>Supported Formats</b>	240p, 288p, 480i, 576i and 480p
<b>Supported Standards</b>	NTSC, PAL, PAL-60
<b>Latency</b>	< 100 $\mu$ S from analog input to Digital Video output
<b>Power</b>	< 300 mA over microUSB, 500 mA PTC fuse for overcurrent protection

## Disposal

If your RetroTINK malfunctions, please contact the place of purchase via e-mail or through their website to arrange repair or replacement. All RetroTINK units come with a one year warranty. Outside of warranty, resellers may also offer repair services at their discretion.

If you do need to dispose of the unit, in most countries you can recycle the unit for free at your local recycling center. To find your nearest center in the UK, visit the Recycle More website at <http://www.recycle-more.co.uk> and type in your postcode. In the Republic of Ireland, visit <https://www.weeireland.ie/household-recycling/where-can-i-recycle/>.

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

