

VideoGamePerfection.com – Nintendo RGB Bypass Amp Model 4.1a (retired January 2019)

The Nintendo RGB Bypass Amp is a professionally made RGB amplifier for Nintendo Super Famicom Junior and SNES Mini consoles. The part is ideal if you want to RGB modify your SNES Mini console. The part also works in 1-chip Super Nintendo/Super Famicom consoles and may give a better, more vibrant picture compared to the stock RGB encoder ([check here](#) if you're unsure about SNES console revisions).

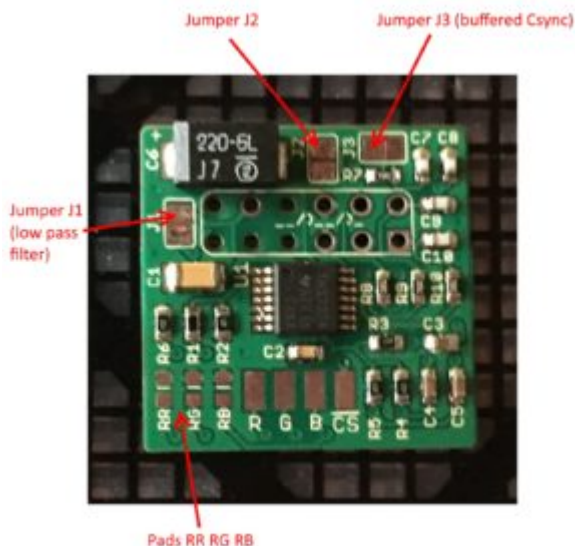
For fitting instructions, [please see this page](#).

Our newest revision of the amp includes several improvements:-

- Uses the THS7374 amplifier, which can generate a sharper image.
- User selectable low-pass filter.
- Optional buffered CSYNC (clean composite sync).

Instructions for use

Please follow the installation guide as provided by Borti4938 [here](#). The guide assumes some familiarity with the internals of the SNES console.



Key points:

1. This amp has been configured for use with an NTSC spec RGB SCART cable. Please use a SCART cable designed for an NTSC Super Nintendo/Super Famicom console, **even if you install the mod in a PAL machine.**
2. Because the amp has been configured for use with an NTSC cable, if you have a PAL console and your RGB cable uses composite video for sync then you will need to select the "I have a PAL SNES" option above and replace R18 on the SNES main board with a 75 ohm 0805 package resistor that will be provided with your order.
3. Brightness fixing - Our old RGB amp produced an excellent picture but one that was slightly too bright. The original design of this new amp included a brightness fix component, however this has been removed from our final version. ~~Instead, we recommend Borti's new fix which also helps remove the ghosting effect that the 1CHIP and SNES Mini usually suffers from.~~ [See the guide here](#) for details of how to perform the fix.

For instructions on how to fix the brightness, [see this link](#). Note this fix no longer addresses the ghosting issue too, to fix the ghosting issues, replace capacitor C11 on the SNES mainboard, as per the instructions on Borti's Github.

Pads RR, RG and RB have been left on the RGB amp for the old brightness fix if you prefer to use that method. You will need to acquire and then solder 3 x 1.2k ohm 0603 resistors to the pads for the SNES mini/SFJr system or 3 x 750 ohm 0603 resistors to the pads for the NTSC or PAL 1CHIP system.

Do NOT install both brightness fixes simultaneously.

4. Before installing the RGB amp, make sure to remove the following components from the SNES mainboard.

PAL and NTSC SNES systems:

- Remove C44, C45 AND C47.

New-Style Super NES (commonly referred to as SNES Mini or SNES Jr):

- There are no components to remove (the above components should not be present anyway).

Whilst removing these components you will also need to either remove R15, R16 and R17 or lift pins 20, 22 and 24 of the S-RGB chip on the SNES mainboard. Again, for New-Style Super NES systems this step is not necessary as these components are also not present.

5. If you wish to use the buffered Csync on the RGB amp then you will need to solder bridge jumper "J3". You must also ensure that pin 3 of the MultiAV on the SNES is freed before starting the installation. To do this, remove components from the SNES main board as follows.

On PAL SNES systems:

- Remove R28 and C46 from the bottom side of the SNES mainboard.
- Optionally also remove D1.

On NTSC SNES systems:

- Remove R12, R12 and C46.
- Optionally remove also Q1, R9 and R10.

On New-Style Super NES (SNES mini/SF Jr) systems

- There is no need to remove anything. The above components should not be present.

6. If your device doesn't work well with the buffered Csync on the RGB amp then try solder bridging jumper "J2" to bypass C43.

7. This board has been configured with 75 ohm terminated Csync. If your device only accepts TTL Csync then the Csync buffer may not be compatible. If your SNES SCART cable has a resistor on the sync line you can safely remove it when this mod is installed.

If you need a new Csync cable to use with your modified console, you can use the [NTSC SNES PackAPunch cable available here](#). Choose the "CSYNC TTL 2.5 Volt" option when configuring the cable. Since your console already outputs 75ohm sync you do NOT need a cable that is corrected for this, so the TTL cable is the right one.

8. Jumper "J1" is for the low pass filter.

- Leave J1 open: internal filter of EACH channel is NOT bypassed (low pass filter is ON).
- Close J1: internal filter of EACH channel is bypassed (low pass filter is OFF).

Important - Missing top line issue

It has come to our attention that installing the RGB bypass amp may cause some games to lose the top few scanlines from the picture. Below is an example of this phenomenon.



The issue only affects a small number of games. We believe this is an acceptable trade-off for improved picture quality. We are always actively researching and improving our mods and should a fix appear for this issue we will incorporate it into our work.

Please note these parts are intricate and require soldering skills to fit. We cannot provide technical support with fitting, if you require a professional fitting service see our [console mods section](#). While we cannot offer technical support for DIY installations/parts, community based support for our mods is available in the [forum here](#).

Based on an open source design by Borti4938. Interested in building your own? Check out the [Github page here](#).