

# GBA Consolizer User Manual



July 9<sup>th</sup>, 2019

Stephen Williams

@Woozle64

## 1.0 Initial Setup

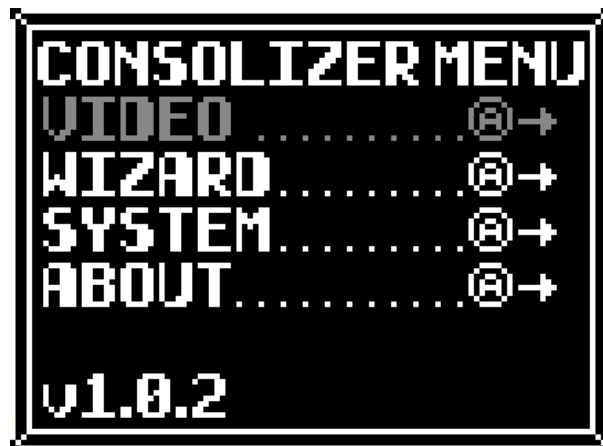
The GBA Consolizer requires a USB-Micro cable with a 5V/1A source and an HDMI-Mini cable. A Super Nintendo gamepad is used to control the game.

## 2.0 Hotkeys and Menu Navigation

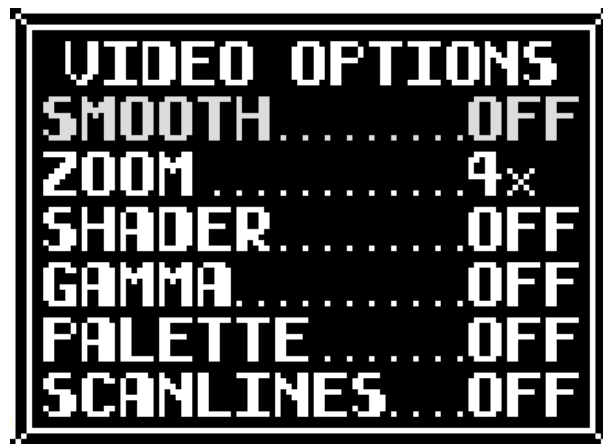
To access the on-screen display (OSD) from which user settings can be modified, press Down on the D-Pad + the Select button on either the SNES game pad or the GBA itself. The Up and Down buttons on the D-Pad are used to select the different menu options, pressing the A button enters the selected sub-menu and pressing the B button returns to the main-menu. Individual settings can be changed using the Left and Right buttons on the D-Pad. To reset all user settings to their default values, press L+R+Start+Select while the OSD is open. The current firmware version is displayed in the lower section of the main menu.

## 3.0 User Settings

The GBA Consolizer provides a wide range of options allowing the user to modify the functionality of the device. Two profiles are provided, one for Game Boy and Game Boy Color games and another profile for Game Boy Advance games. The correct profile is automatically loaded when the device starts-up.



### 3.1 Video Options



*Smooth (2x, 4x)*: This option uses an edge-aware upscaling method to smooth out jagged edges in the image as the image size is increased. Using Smooth 2x will apply 2x Nearest Neighbor followed by the Scale2x algorithm for an effective zoom of 4x. Using the Smooth 4x will further enhance the Smooth 2x option by applying interpolation to the smoothed-out corners and edges.



Off



Smooth 2x



Smooth 4x

*Zoom (4x, 4.5x, 5x)*: This controls how big the image appears on screen. 4x and 5x applies nearest neighbor integer scaling and 4.5x applies bilinear scaling to the source GBA image. 5x is recommended for Game Boy and Game Boy Color games.



4x



4.5x



5x

*Shader (GBA, NDS, PSP, CW1)*: This allows the user to modify the color of the image to better match the original LCDs used in the various handhelds that the options are named after. In practice this slightly desaturates the color of the image to offset the garish colors game developers used to compensate for the poorly lit GBA screen. Selecting *CW1* which is the “Color Wizard Profile 1” option allows the user to take complete control of the color correction option in the Color Wizard Menu. The effect is more noticeable on a larger screen.



Off, GBA



NDS, PSP

*Gamma* (2.2, 2.4): This option applies a non-linear brightness correction to the image and can only be used when a Shader option is selected. The provided Gamma settings allow the user to darken the image only.



Off/2.2



2.4



*Palette (A1-E7):* For use with Game Boy games only, this option lets you swap out the 4-tone color palette used by Game Boy games. 35 palette options are available to choose from. The palette option can also be combined with the Color Wizard option to create thousands of possible palettes.

To use this option, you have to first select a palette option and then save the settings by going to the “System” sub-menu. Then power-cycle the GBA Consolizer. Your chosen palette is loaded and you’re free to select any other palette. (Q) why does the user have to power-cycle the Consolizer when first selecting a palette? This is due to the way the GBA visually alters GB games by adding a 5<sup>th</sup> color to the image, typically making the character sprite a different color. When the Consolizer starts up it checks to see if a palette option has been selected, if so, it will force the GBA to boot into grayscale mode. The Consolizer then applies the palette swapping to the grayscale GBA image.



*Scanlines*: This option selectively darkens rows and columns in the image. The gridline option overlays a dark grid on the image and is available in three different intensity levels. This option is used to mimic the GBA LCD structure. Traditional horizontal scanlines are also available with three intensity levels to choose from. Zoom in to see the effect in more detail.



Gridlines Level 1, Scanlines Level 1



Gridlines Level 2, Scanlines Level 2

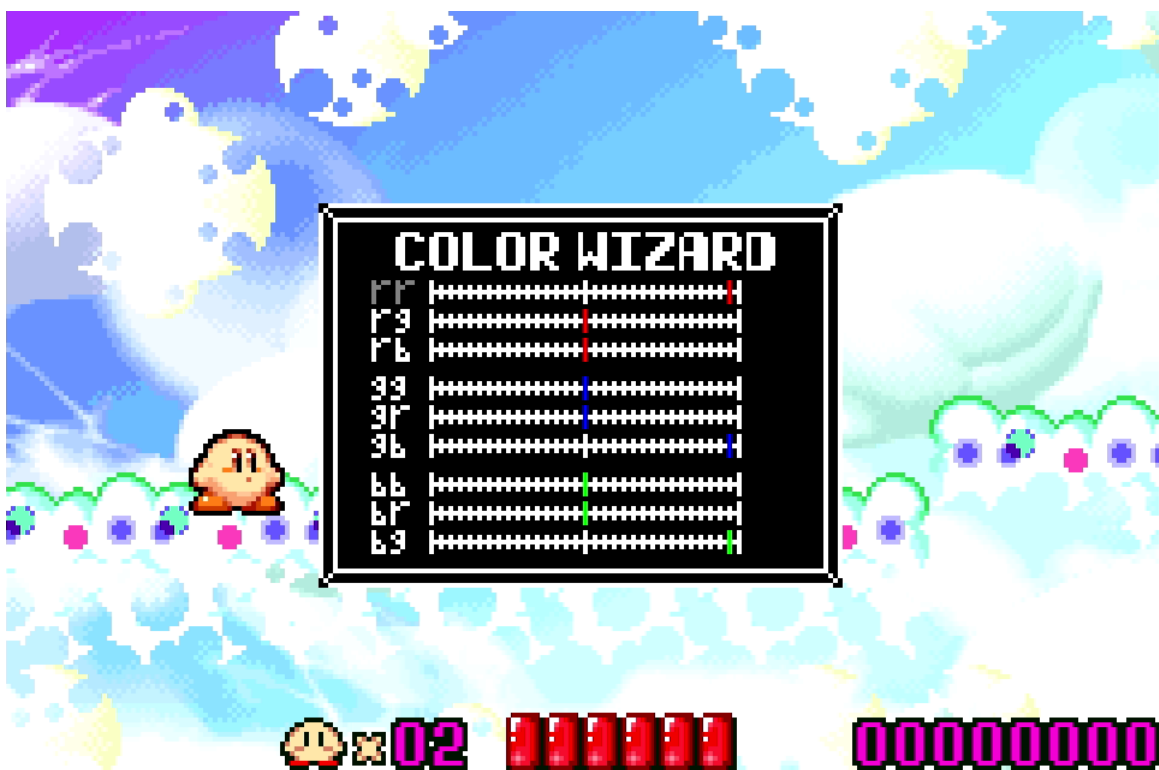
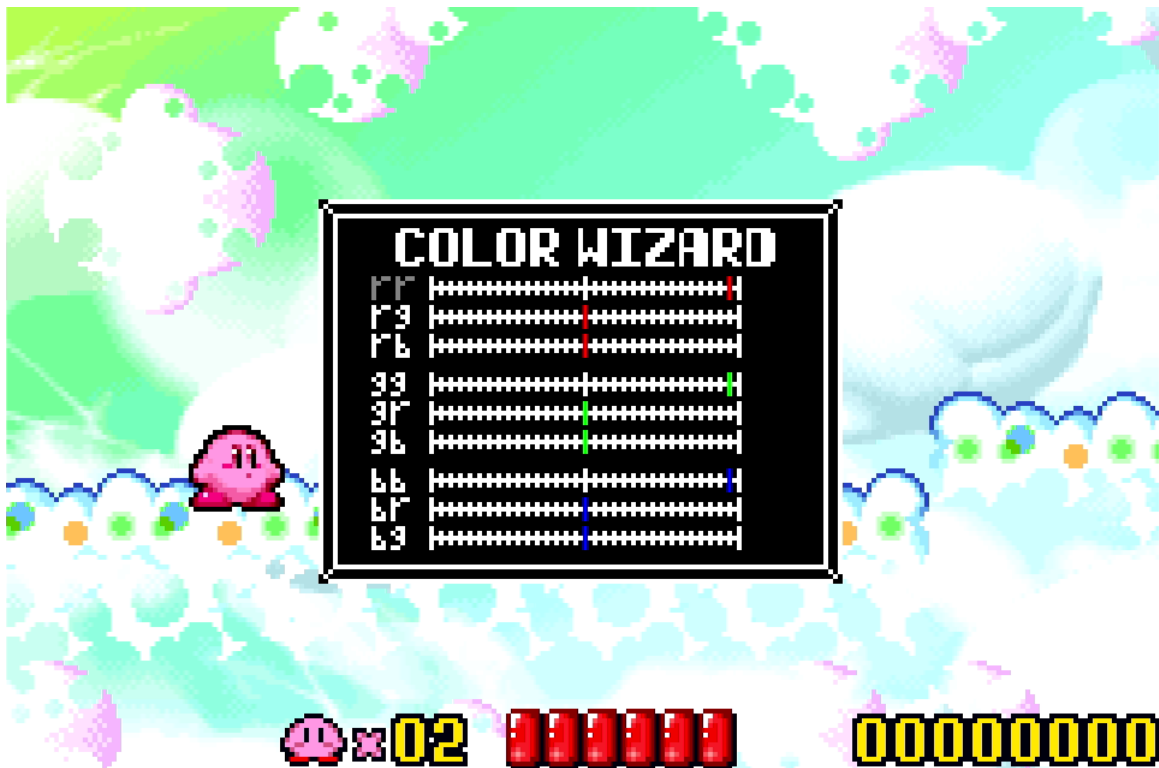


Gridlines Level 3, Scanlines Level 3

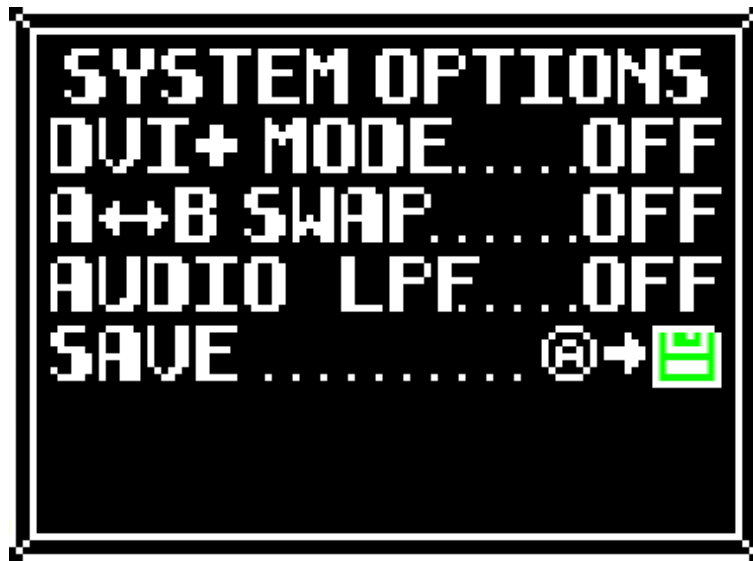


### 3.2 Color Wizard

The Color Wizard menu provides the user with 9 knobs which can be used to tune the Shader functionality. In the example below, the Color Wizard was used to swap the green and blue channels.



### 3.3 System Options



*DVI+ Mode:* When enabled, the Consolizer will output a modified DVI video stream which also includes digital 48KHz audio. As this is far from an official video specification, compatibility with TVs and capture devices is low. If your TV is incompatible with DVI+ mode, then you should use the plain DVI mode which is a video-only mode. When using DVI mode the headphone jack on the GBA must be used for audio.

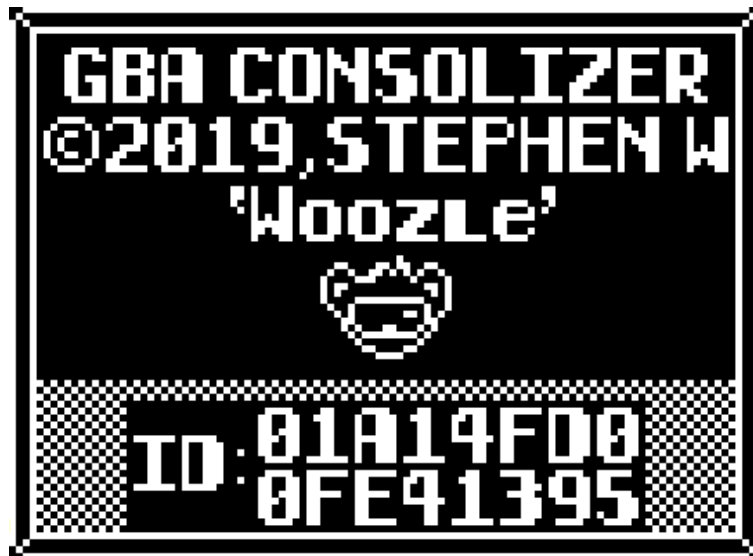
*A <-> B Swap:* This option swaps the A and B buttons to give the user flexibility in their control scheme. This does not swap the A and B button for menu navigation or hotkey usage.

*Audio LPF:* This applies a FIR lowpass filter at ~10KHz to the GBA digital audio stream, it works to soften the audio by removing higher frequencies. Only applicable in DVI+ mode.

*Save:* Stores the current user settings in memory. A green icon indicates that the current settings are saved in memory, a red icon means that the current settings aren't saved. These settings are loaded at power-on.

### 3.4 About

This menu shows your Consolizer's unique ID code.



### 4.0 Updating the Firmware

Both JTAG and SPI programmers can be used to update the Consolizer's firmware. Firmware files are available at [game-tech.us](http://game-tech.us). The \*.MCS firmware file is used for JTAG programmers and the \*.BIN file is used for SPI programmers. Details of how to use specific programming devices is not covered here, the user should consult their programming devices user guide.

### 5.0 Useful References

Where to purchase the GBA Consolizer: <https://www.game-tech.us/product/gba-consolizer/>

Detailed video installation guide: <https://youtu.be/De9FZVoXgMQ>