GBSC PRO

Quick Start Guide

Welcome to Use

Before using the device, please read the user manual carefully and store it properly.

You can scan the QR code to follow our social media account, where there are all kinds of video guides.

Twitter

Facebook

YouTube

Discord

Tiktok

Catalog

Important Safety Information

Please observe the following safety precautions when using your GBSC PRO.

Use the correct power supply:

GBSC PRO is designed to run with a 5 volt, 2.1 x 5.5mm positive tip power supply unit (PSU) supplying at least 4 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 GBSC PRO.

Turn off the power before connecting/disconnecting equipment:

To prevent damage of the GBSC PRO integrated circuits, always turn off the power before connecting to a display or a device.

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:

GBSC PRO is not flammable but high temperatures, such as those from a fire or electric heater may melt the plastic casing.

Please supervise children:

GBSC PRO is not a toy and is not designed for use by children. Please supervise children if they use the GBSC PRO.

Introduction

The GBSC PRO Video Converter is an advanced multifunctional device designed to connect retro game consoles, DVD players, and other vintage equipment to modern HD displays. It supports a variety of input signals, including S-Video, Composite(AV), RGBS, Scart, Component and VGA, ensuring compatibility and easy connection. This converter can deliver up to 1080p HD output, providing clear and smooth visuals.

Features

1. Multiple Input Signal Support

The GBSC PRO supports various input signals, including **S-Video**, **Composite**, **RGBS**, **SCART**, **Component** and **VGA**, for easy connection to retro consoles and DVD players. Users can quickly select the best display option without complex setups, ensuring effortless enjoyment of classic devices.

2. HDMI Output Support

Supports resolutions of 1080p, 1024p, 960p and 720p, ensuring compatibility with various display devices for a clear and detailed visual experience.

3. OSD & Smart Remote Control Operation

Easily navigate the OSD (On-Screen Display) menu with the remote control to adjust output resolution and image settings, which enhances your overall user experience.

4. OLED & Knob Control Function

The GBSC PRO allows users to quickly control the OLED display menu using a knob, simplifying the setup and adjustment of parameters for an enhanced gaming experience.

5. Web Control Function

Users can conveniently control the device and adjust settings via WiFi, allowing for parameter changes anytime, anywhere.

6. Image Enhancement

The GBSC PRO HD Converter enhances video quality with features like RGB adjustment, ADC gain, scanline optimization, linear filtering and sharpening.

7. Profile Functionality

Quickly save and load settings to ensure consistency and efficiency, streamline the workflow, and meet individual user needs.

8. Low Latency Real-Time Processing

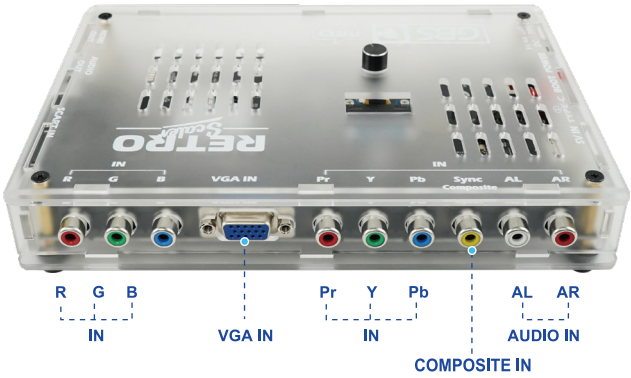
Utilizing advanced signal processing technology, this converter ensures low-latency output, making it especially ideal for gamers.

9. Durable Design

Crafted from high-quality materials, the GBSC PRO is built for durability and stability.

GBSC PRO Overview

Front And Rear Views



Left And Right Side Views

Buttons, Connectors And External Controls

TYPE-C ①

Used for GBSC PRO esp wifi module firmware updates.

TYPE-C ②

Used for GBSC PRO AV/SV module firmware updates.

BOOT BUTTON

Used to update the GBSC PRO AV_SV module firmware.

POWER BUTTON

Connect a suitable 5-volt, 2.1 x 5.5mm positive tip power supply unit (PSU) that provides at least 4 amp of current.

SV IN

Connect an S-Video sources to this input.

AUDIO IN

Standard RCA connectors.
Connect the audio sources.

COMPOSITE IN

Standard RCA connector.
Connect the sync signal of the RGBS or the Composite video sources.

COMPONENT/YPBPR IN

Standard RCA connectors.
Connect the Component/YPBPR video sources.

VGA IN

Standard D-Sub15 (VGA) connector.
You can connect VGA video sources, such as the Sega Dreamcast, retro gaming PCs, or other devices that support VGA signals.

Supports horizontal frequencies of 15.7 kHz, 31.5 kHz, 37.9 kHz.

RGBS IN

Standard RCA connectors.
Connect RGBs video sources.

SCART IN

Connect an RGB/Composite video source.

AUDIO OUTPUT

Standard 3.5mm stereo headphone plug type connector.

HDMI OUTPUT

The input signals are converted into digital signals and output to the display via the HDMI connector.
Support 720P/960P/1024P/1080P resolutions.

IR SENSOR

Receives commands from the remote control unit. Line of sight is required.

OLED DISPLAY

Displays GBSC PRO's menus and information.

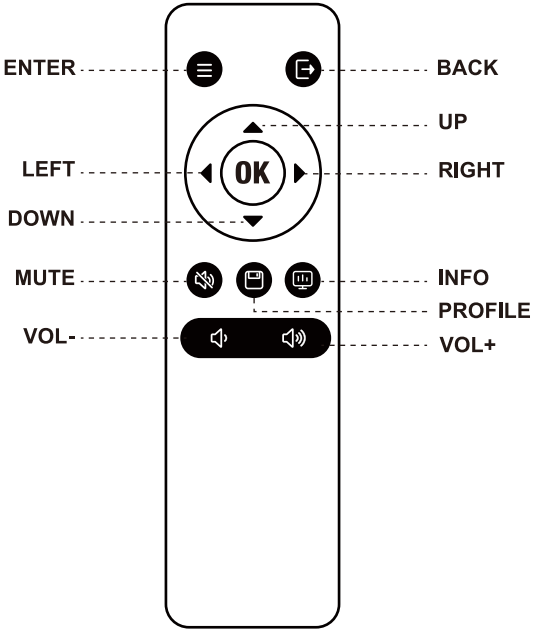
KNOB

Used to control the GBSC PRO menu.

Remote Control Introduction

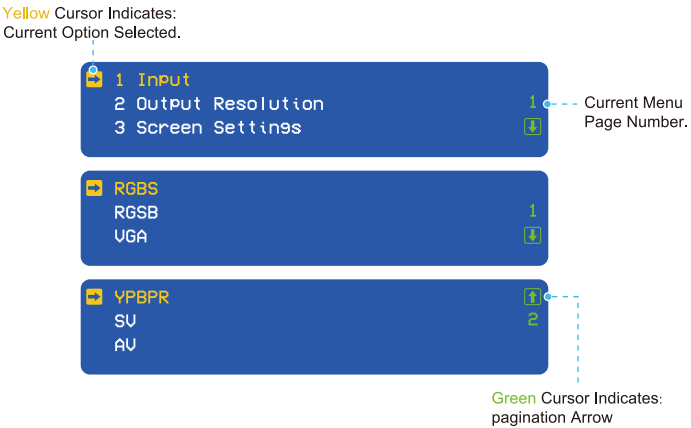
In the new version of the GBSC PRO, you can control the OSD menu with the remote and adjust parameters such as **input,output resolution, screen settings, system settings** and **picture settings**.

Remote Control Layout



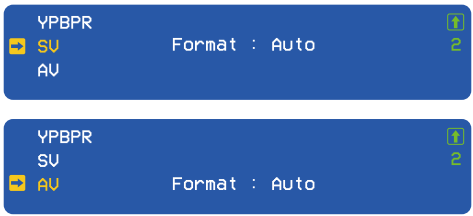
Select the input signal

1. Press the **ENTER** button to bring up the **OSD menu**.
2. Select **Input** and press the **OK** button to enter the signal selection sub menu.
3. Select the input signal and press the **OK** button to complete the signal switch.



NOTE:
The GBSC PRO supports S-Video and Composite video signals in formats such as PAL, PAL-M, PAL-N, PAL-60, NTSC, NTSC443, SECAM and SECAM525.

After selecting the SV/AV signal, you can use the **LEFT** and **RIGHT** buttons to choose the video format (default: AUTO).

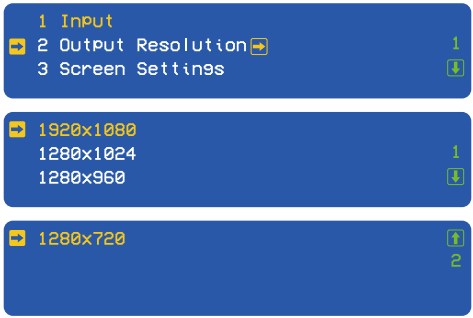


Switch The Output Resolution

1. Press the **ENTER** button to bring up the **OSD menu**.

2. Select **Output Resolution** and press the **OK** button to enter the resolution selection menu.

3. Select the resolution and press the **OK** button to complete the switch.



NOTE:
The 1280x960 resolution is only compatible with NTSC format input signals. If the NTSC format signal is set to 1280x1024, it will automatically switch to 1280x960.

The 1280x1024 resolution is only compatible with PAL format input signals, If the PAL format signal is set to 1280x960 , it will automatically switch to 1280x1024.

Screen Settings

1. Press the **ENTER** button to bring up the **OSD menu**.

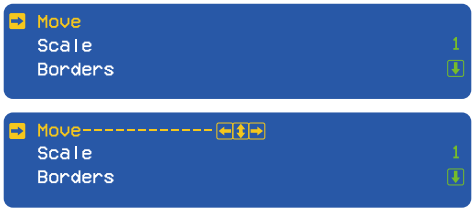
2. Select **screen settings** , press the **OK** button to enter the **screen settings** menu.

In the screen settings menu, you can make the following adjustments:

MOVE

(Image Position Adjustment)

1. Select **Move** and press the **OK** button to enter image adjustment mode.
2. Follow the on-screen instructions, and use the **UP**, **DOWN**, **LEFT**, and **RIGHT** buttons on the remote to adjust the position of the displayed image.
3. After completing the adjustments, press the **OK** button to exit.

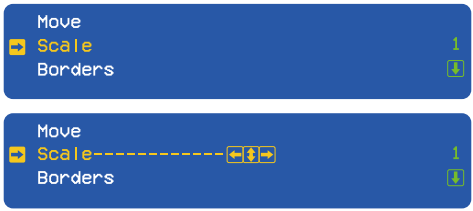


SCALE

(Image Scaling Adjustment)

NOTE:
Image scaling only allows for minor adjustments; otherwise, green lines may appear, or the image may not display correctly.

1. Select **Scale** and press the **OK** button to enter image adjustment mode.
2. Follow the on-screen instructions, and use the **UP**, **DOWN**, **LEFT**, and **RIGHT** buttons on the remote to zoom in or out on the image.
3. After completing the adjustments, press the **OK** button to exit.



Borders

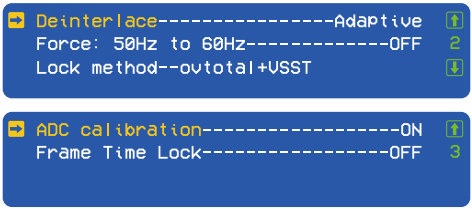
(Image Border Adjustment)

Adjust the borders or edges of the image to change its display size or aspect ratio.

1. Select **Borders** and press the **OK** button to enter image adjustment mode.
2. Follow the on-screen instructions, and use the **UP**, **DOWN**, **LEFT** and **RIGHT** buttons on the remote to adjust the borders of the image.
3. After completing the adjustments, press the **OK** button to exit.

System Settings

1. Press the **ENTER** button to bring up the **OSD menu**.
2. Select **System Settings**.
3. Press the **OK** button to enter the **System Settings menu**.



SV/AV Input Settings

In the System Settings menu, you can make the following adjustments:

DoubleLine

- The DoubleLine mode enhances video quality by converting interlaced signals to progressive, resulting in clearer images.

Press the **OK** button on the remote to select either 1X or 2X mode.

Smooth

- This mode adds a filtering option to minimize imagea liasing for the 480p/576p output. (It can only be activated in 2x mode.)

Press the **OK** button on the remote to turn on or off.

Bright /Contrast/Saturation

- Press the **LEFT** and **RIGHT** buttons on the remote control to adjust the screen parameters.

Default

- When the screen parameters are distorted, you can restore the default settings through this option.

Compatibility Mode

- When connecting the Sega 32X/Neo Geo AES console, you need to turn on the compatibility mode . then restart the GBSC.
- Other consoles stay in OFF.

Press the **OK** button on the remote to turn on or off.

Matched Presets

- If enabled. default to 1280x960 for NTSC 60 and 1280x1024 for PAL 50 (does not apply for 720p/1080p presets)

Use the **OK** button on the remote to turn on or off.

Deinterlace

- GBSC PRO detects interlaced content and automatically toggles deinterlacing.
- **Motion Adaptive:** removes flicker and shows some artefacts in moving details (It is recommended to enable this option.)
- **Bob Method:** essentially no deinterlacing, no added lag but flickers can be combined with scanlines(Not recommended for use.)

Press the **OK** button on the remote to switch between **Motion Adaptive** and **Bob Method**.

Force:50Hz to 60Hz

- If your TV does not support 50Hz sources (displaying unknown format, no matter the preset), try this option.
- The frame rate will not be as smooth. Reboot require

Press the **OK** button on the remote to turn on or off.

Frame Time lock

- It is recommended to disable this option.
- This option keeps the input and output timings aligned, fixing the horizontal tear line that can appear sometimes.
- Two methods are available. Try switching methods if your display goes blank or shifts vertically.

Press the **OK** button on the remote to turn on or off.

Lock method

- 0Vtotal+VSST
- 1Vtotal only

Press the **OK** button on the remote to switch between 0Vtotal+VSST and 1Vtotal only.

ADC calibration

- GBSC PRO calibrates the ADC offsets on startup.
- In case of color shift problems, try disabling this function.

Press the **OK** button on the remote to turn on or off.

Picture Settings

1. Press the **ENTER** button to bring up the **OSD menu**.
2. Select **Picture Settings**.
3. Press the **OK** button to enter the **Picture Settings** menu.

In the **Picture Settings** menu, you can make the following adjustments:

R, G and B Color Settings

R: Red component, representing the intensity of red in the image.

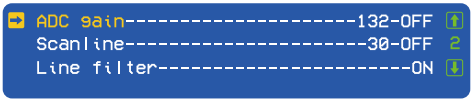
G: Green component, representing the intensity of green in the image.

B: Blue component, representing the intensity of blue in the image.

Press the **LEFT** and **RIGHT** buttons on the remote control to adjust the values of the RGB colors.

ADC gain Settings

- Automatic Gain Control for Brightness Adjustment **(Not recommended to enable.)**



Press the **OK** button on the remote to turn on or off.

Scanlines Settings

Scanlines are a visual effect commonly used to simulate the display style of old monitors or televisions.

Only applicable to consoles that output 240P/288P signals.

- Press the **OK** button on the remote to turn on or off.
- Press the **LEFT** and **RIGHT** buttons on the remote control to adjust the values of the components.

Line filter Settings

- Line Filter is an image processing technique primarily utilized to enhance the quality and clarity of images.

Press the **OK** button on the remote to turn on or off.

Sharpness Settings

- Use it primarily to enhance the clarity and detail of the image.

Press the **OK** button on the remote to turn on or off.

Peaking Settings

- Use it to enhance the contrast and clarity of the image.

Press the **OK** button on the remote to turn on or off.

Step Response Settings

- Use the step response to evaluate and optimize the performance of image filters, edge detection, and image restoration algorithms.

Press the **OK** button on the remote to turn on or off.

Default: color

- Press the **OK** button on the remote control to restore screen color to factory settings.

Reset Settings

- Restore the device to its default factory settings.

Press the **OK** button on the remote to turn on.

Loading and Saving Profile Settings

- This profile setting is synchronized with the web page interface.

Press the **PROFILE** button to enter the profile settings menu.

Load profile

- Select the preset using the **LEFT** and **RIGHT** buttons, then click the **OK** button to load it.

Save Profile

- Save the current parameters of Output Resolution, **Screen Settings**, **System Settings** and **Picture Settings** as a profile.

Press the **OK** button to save the profile.

Active save

- Display the currently loaded profile.

Knob Control Introduction

The main menu page has a total of **seven** options.

1. Input
2. Output Resolution
3. Settings
4. Presets
5. Wifi Info
6. Current Output
7. Reset/Restore

You can use the knob to select menu items.

- Turn left = Up

- Turn right = Down

- Press down = Ok

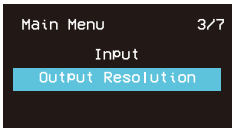
Input

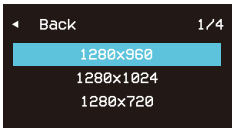
GBSC PRO supports six types of input signals, and you can select the input mode based on the input signal source.

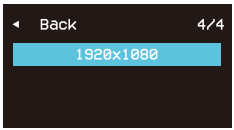
1. RGBs
2. RGsB
3. VGA
4. YPBPR
5. SV
6. AV

Output Resolution

Select Output Resolution, then press the knob to enter the resolution menu, which offers four available resolutions.







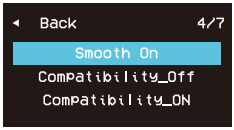
NOTE:

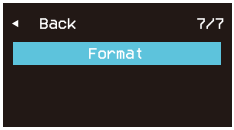
- The 1280x960 resolution is only compatible with NTSC format input signals. If the NTSC format signal is set to 1280x1024, it will automatically switch to 1280x960.
- The 1280x1024 resolution is only compatible with PAL format input signals, If the PAL format signal is set to 1280x960, it will automatically switch to 1280x1024 .

Settings

In the menu, you can set the attributes for the input signals SV/AV, including Double Line, Smooth, Compatibility and Format values.

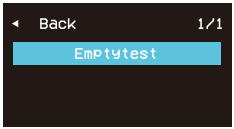
- **The default format for S-Video and AV signals is set to Auto (not recommended to change).**





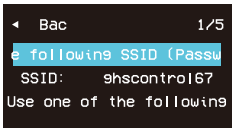
Presets

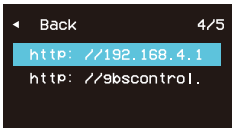
- Presets saved from the web interface and remote control menu can be loaded.
- To load a preset, select the desired option and press the knob.



Wifi Info

This menu item provides the Wi-Fi information for the GBSC PRO, including the account credentials, password and web login address.

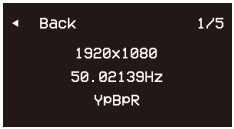




Current Output

Display the current input and output information of the device.

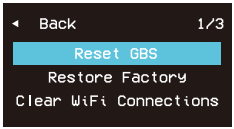
- Output resolution.
- Output frequency.
- Input signal.



Reset/Restore

Device restart/factory reset, clearing all configuration information.

- Reset GBSC PRO
- Restore Factory
- Clear WiFi Connections



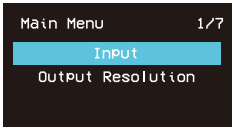
Connecting Your GBSC PRO

1. Connect the GBSC PRO to a proper 5V 2A power supply.

2. Turn on the GBSC PRO. The OLED display will show the Retroscaler logo followed by the main menu interface, as shown in the image below.

3. Use an HDMI cable to connect the monitor to the GBSC PRO. If everything is working properly, pressing the **INFO** button will display the GBSC PRO output information on the monitor.

4. Connect your console and set the input signal for the GBSC PRO.



Firmware Updates

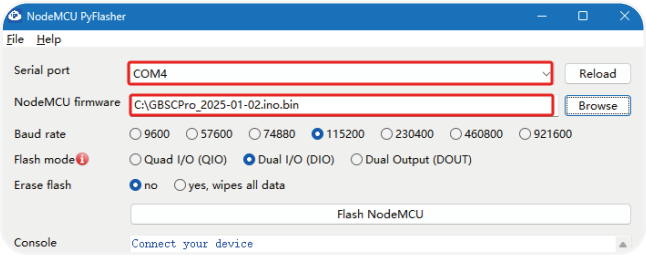
Esp Wifi Module

1. Download the NodeMCU-pyFlasher from (https://github.com/marcelstoer/nodemcu-pyflasher/releases)

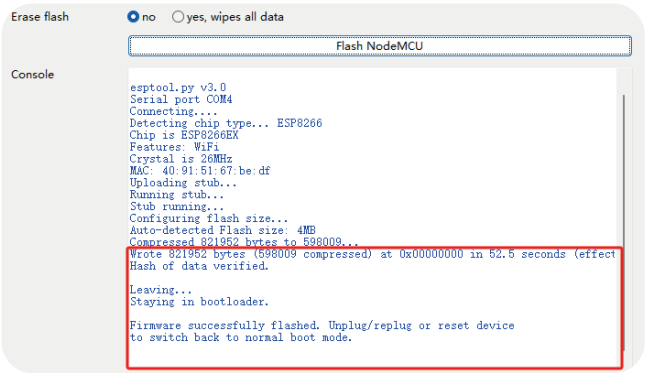
2. Download the GBSC PRO firmware from (https://github.com/RetroScaler/gbsc-pro/releases)

3. Open nodemcu-PyFlasher and connect the GBSC PRO to your computer using a **TYPE-C** cable. (TYPE C ① Port)

4. Select the proper COM port for your computer and choose the latest GBSC PRO firmware(GBSCPro_xxxx-xx-xx.ino.bin)

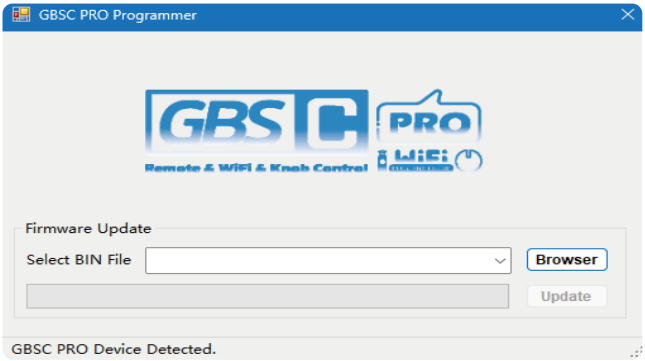


5. Click Flash NodeMCU. then wait for the installation to complete.

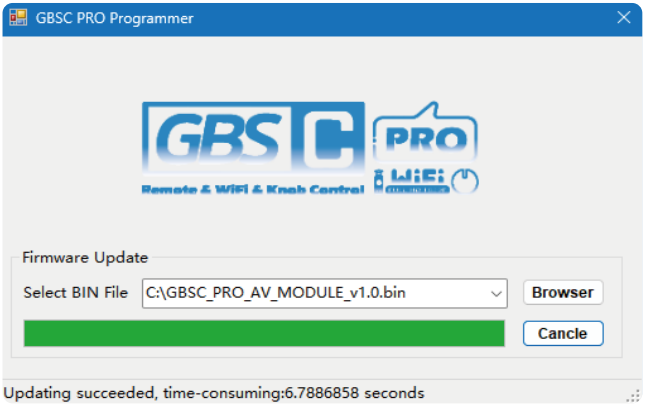


Composite/SV Module

1. Download the firmware from (https://github.com/RetroScaler/gbsc-pro/releases)
2. Open GBSC PRO Programmer
3. Press **BOOT** button and Connect the GBSC PRO to your computer using a **TYPE-C** cable. (TYPE C ② Port)
4. If the connection is successful, the GBSC PRO logo will light up, and the bottom left will display that the device has been detected.



5. Select the latest GBSC PRO firmware(GBSC_PRO_AV_MODULE _xxx.bin)， and Click Send. Then wait for the update to complete.



WELCOME TO THE RETROSCALER COMMUNITY


Twitter


Facebook


YouTube


Discord


Tiktok

Support: barry@retroscaler.com
Official Website: www.retroscaler.com