NC GBS-8100

User Manual: Arcade Game VGA to CGA RGBS/CVBS/S-Video Video Converter Board

Model: GBS-8100
Brand: NC

1. Product Overview

The NC GBS-8100 is a versatile video converter board designed for arcade game systems. It facilitates the conversion of VGA/SVGA/XGA/SXGA signals to CGA, RGBS, CVBS, or S-Video outputs, making it compatible with a wide range of display devices, including older arcade monitors and standard definition televisions. This board features true digital 24-bit A/D conversion for accurate color reproduction and offers user controls for image adjustment.

Key Features:

- **Power Input:** DC 5V/2A via 6.3mm connector.
- **Input Signal Support:** VGA/SVGA/XGA/SXGA resolutions (640x480, 800x600, 1024x768, 1280x1024).
- **Output Options:** CGA (15K), VGA bypass, Video (CVBS), S-Video.
- **Image Control:** Supports position and zoom adjustments.
- **Color Depth:** True digital 24-bit A/D converter for 16.7-million color conversion.
- **OSD Menu:** English On-Screen Display for adjustments.
- **User Controls:** Dedicated keys for Output Switch, Image Zoom, Image Position, and Output Adjust.
- **Compatibility:** Supports NTSC and PAL video standards.

Package Contents:

- 1x Video Output Converter Board (GBS-8100)
- 1x Power supply wire

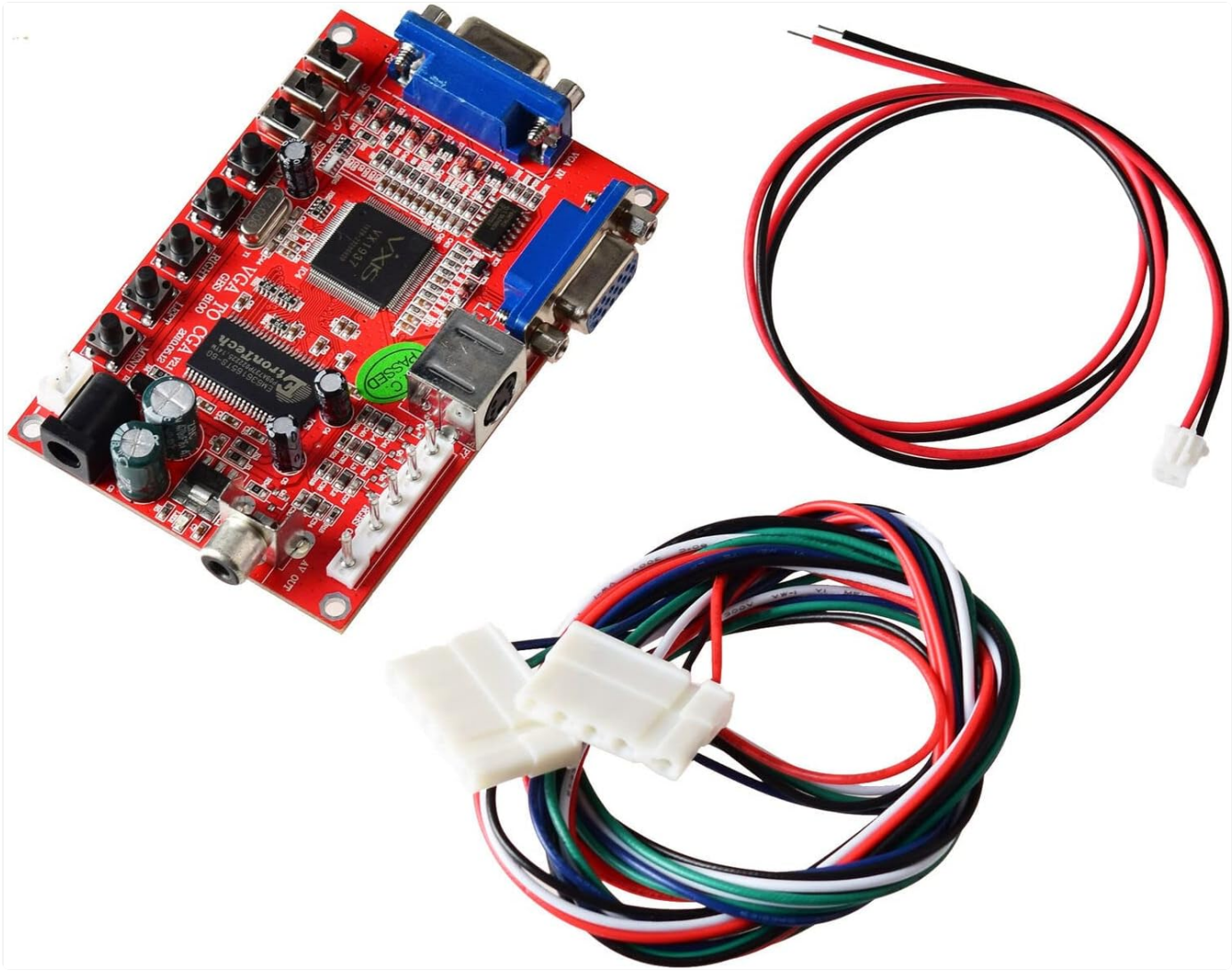

Figure 1: The GBS-8100 converter board along with the included power supply wire and a multi-color signal cable.

2. Setup and Installation

This section provides instructions for connecting and setting up your GBS-8100 converter board.

2.1. Component Identification

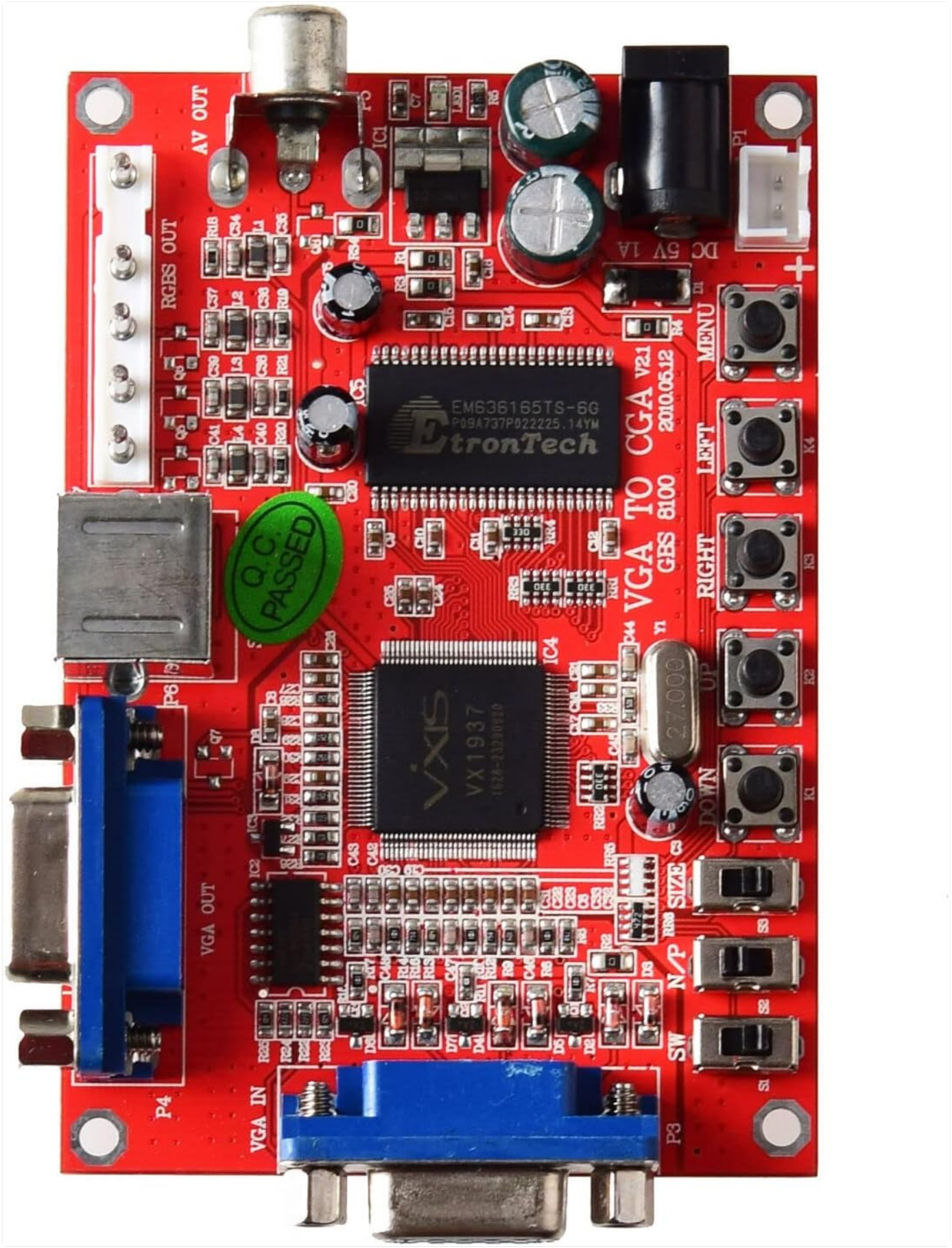

Figure 2: Top view of the GBS-8100 board, highlighting VGA IN, VGA OUT, AV OUT, RGBS OUT, S-Video port, DC 5V input, and control buttons.

1. **VGA IN (P3):** Connect your source device (e.g., PC, game console) with a VGA output here.
2. **VGA OUT (P4):** For VGA bypass, connect a VGA monitor here.
3. **RGBS/CGA OUT (P7):** Connect to an arcade monitor or display that accepts RGBS or CGA signals.

4. **AV OUT (P5):** Connect to a standard definition TV using a composite video cable.
5. **S-Video OUT (P6):** Connect to a TV or display using an S-Video cable.
6. **DC 5V/2A Input:** Connect the included power supply wire here. Ensure the power supply provides 5V DC at 2A.
7. **Control Buttons:** Buttons for MENU, UP, DOWN, LEFT, RIGHT, Output Switch, Image Zoom, Image Position, Output Adjust.

2.2. Connection Steps

1. **Power Connection:** Connect the provided power supply wire to the DC 5V/2A input on the GBS-8100 board. Connect the other end to a suitable 5V DC power source (not included, typically a power adapter).
2. **Input Source:** Connect your VGA source (e.g., PC, arcade JAMMA board with VGA output) to the**VGA IN (P3)** port on the converter board.
3. **Output Display:**
    - For **CGA/RGBS** output: Connect your arcade monitor or display to the**RGBS/CGA OUT (P7)** port.
    - For **Composite Video (AV)** output: Connect your TV to the**AV OUT (P5)** port.
    - For **S-Video** output: Connect your TV to the**S-Video OUT (P6)** port.
    - For **VGA Bypass**: Connect a VGA monitor to the**VGA OUT (P4)** port.
4. **Audio (Optional):** If your source provides audio via VGA, ensure your display setup can handle it, or use a separate audio solution as this board primarily handles video.

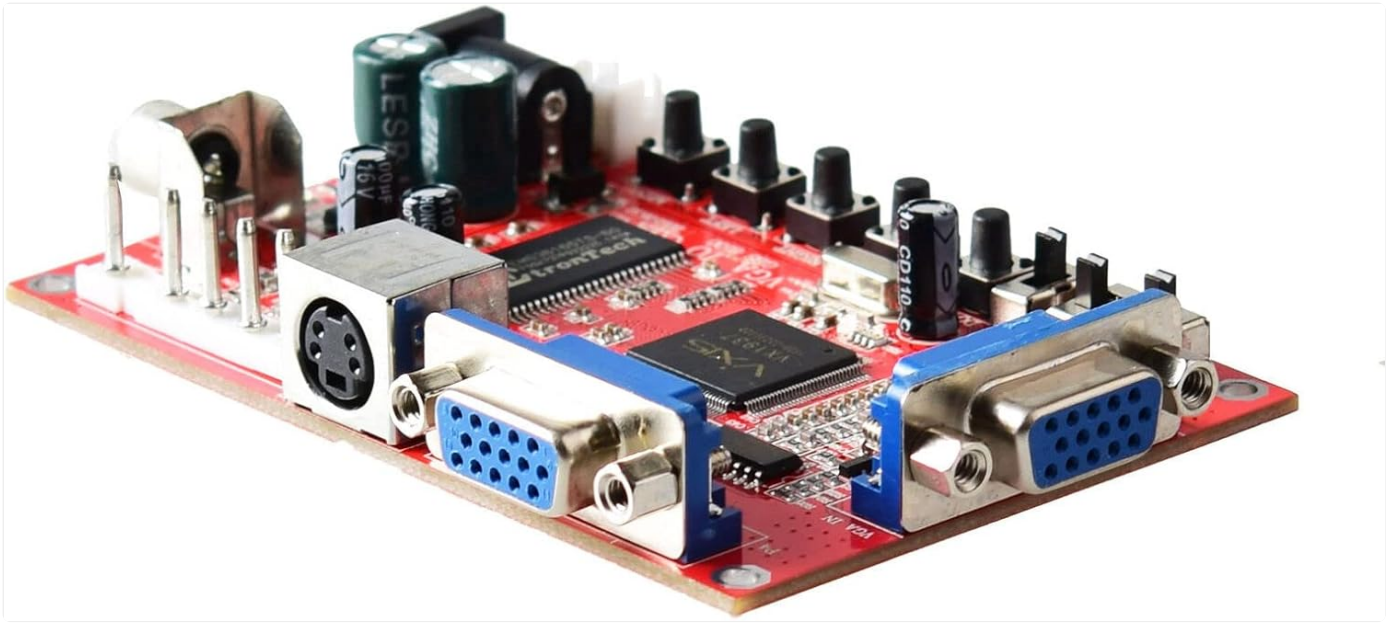

Figure 3: Close-up view of the VGA IN, VGA OUT, and S-Video ports on the GBS-8100 board.

3. Operating Instructions

Once connected, power on the GBS-8100 board and your display. The board will automatically detect the input signal. Use the onboard buttons to navigate the OSD menu and adjust settings.

3.1. On-Screen Display (OSD) Menu

Press the **MENU** button to access the OSD. Use the**UP** and **DOWN** buttons to navigate through menu options, and**LEFT** and **RIGHT** buttons to change values or select sub-menus.

3.2. User Controls

- **Output Switch:** Cycles through available output modes (CGA, Video, S-Video, VGA Bypass).
- **Image Zoom:** Adjusts the zoom level of the displayed image.
- **Image Position:** Adjusts the horizontal and vertical position of the image on the screen.
- **Output Adjust:** Fine-tunes specific output parameters.

3.3. Supported Input/Output Resolutions

Category	Details
Input Signal (Auto Scan)	640 x 480 @ 60 / 72 / 75 / 80 / 85 Hz 800 x 600 @ 60 / 72 / 75 / 80 / 85 Hz 1024 x 768 @ 60 / 72 / 75 / 80 Hz 1280 x 1024 @ 60 / 72 / 75 Hz
Output Signal	**CGA:** 640 x 480 (P7) **VGA:** By Pass (P4) **Video (CVBS):** 480p NTSC and PAL (P5) **S-Video:** 480p NTSC and PAL (P6)

4. Maintenance

The GBS-8100 converter board is designed for durability and requires minimal maintenance.

- **Cleaning:** Use a soft, dry cloth to gently wipe the surface of the board. Avoid using liquid cleaners or solvents, as they may damage the electronic components.
- **Environment:** Operate the board in a clean, dry environment, away from excessive dust, moisture, and extreme temperatures.
- **Handling:** Handle the board by its edges to avoid touching components, especially when powered on.
- **Power Off:** Always disconnect power before making or changing any connections.

5. Troubleshooting

If you encounter issues with your GBS-8100 converter board, refer to the following common problems and solutions:

Problem	Possible Cause / Solution
No image on display.	Ensure the 5V DC power supply is correctly connected and providing power. Verify all video cables (input and output) are securely connected. Check if the display is set to the correct input source (e.g., AV, S-Video, VGA, RGB). Confirm the input signal resolution is supported by the GBS-8100 (refer to Specifications). Try cycling through output modes using the "Output Switch" button on the board.

Problem	Possible Cause / Solution
Image is distorted or flickering.	Check for loose cable connections. Ensure the input signal is stable. Adjust image position and zoom settings via the OSD menu. Verify the display device supports the output signal type (NTSC/PAL for Video/S-Video, correct sync for CGA).
OSD menu not appearing or unresponsive.	Ensure the board is powered on. Press the "MENU" button firmly. If buttons are unresponsive, power cycle the board.
Colors are incorrect.	Check the input source's color settings. Ensure the output display is correctly calibrated. For CGA/RGBS, verify the sync polarity and signal levels are compatible with your monitor.

6. Specifications

Detailed technical specifications for the GBS-8100 converter board.

Parameter	Value
Model Number	GBS-8100
Power Supply Input	DC 5V/2A (6.3mm connector)
Input Signal Support	VGA/SVGA/XGA/SXGA (640x480, 800x600, 1024x768, 1280x1024)
Input Signal Frequencies	640x480 @ 60/72/75/80/85 Hz 800x600 @ 60/72/75/80/85 Hz 1024x768 @ 60/72/75/80 Hz 1280x1024 @ 60/72/75 Hz
Output Signal Types	CGA (15K), VGA (Bypass), Video (CVBS), S-Video
Output Signal Resolutions	CGA: 640x480 Video/S-Video: 480p NTSC and PAL
Color Conversion	True digital 24-bit A/D converter (16.7 million colors)
OSD Language	English
Dimensions (Approx.)	3.94 x 3.15 x 1.18 inches (Package Dimensions)
Item Weight	3.52 ounces (0.1 Kilograms)

7. Warranty and Support

This section provides information regarding product warranty and customer support.

7.1. Warranty Information

Specific warranty details for the NC GBS-8100 converter board are typically provided at the point of purchase or within the product packaging. Please refer to your purchase receipt or contact the seller for precise warranty terms and conditions. Generally, electronic components may come with a limited manufacturer's warranty covering defects in materials and workmanship.

7.2. Customer Support

For technical assistance, troubleshooting beyond this manual, or inquiries regarding your product, please contact the seller or manufacturer directly. Contact information can often be found on the product packaging, the seller's website, or your purchase documentation.
For general inquiries, you may visit the NC Store on Amazon.

Manual Version: 1.0