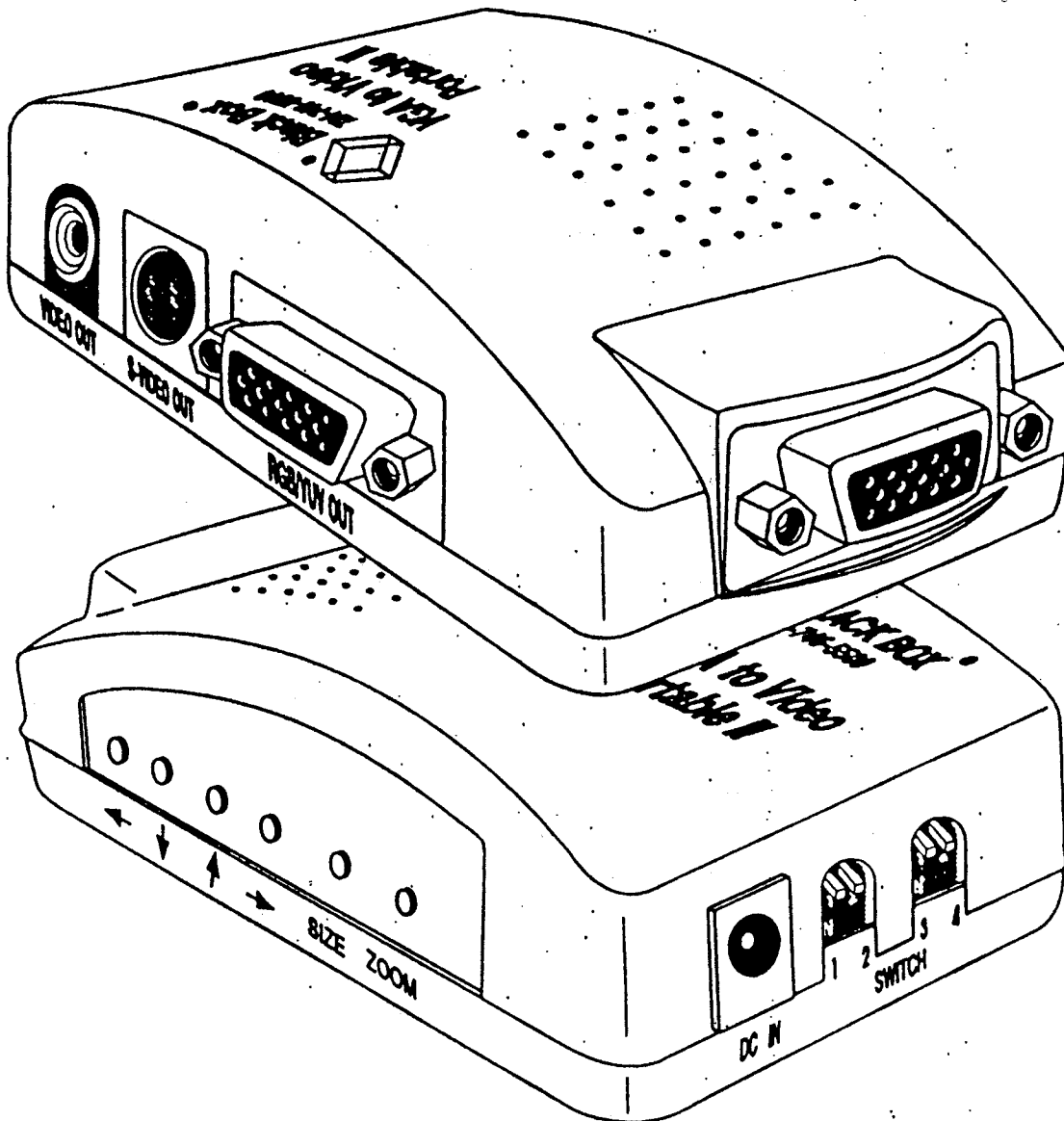




VGA to Video Portable II



CUSTOMER SUPPORT INFORMATION

Call our Technical Support Specialists to discuss your applications.
For 24-hour technical support: Call (412) 746-5500 or fax 1-800-321-0746
To order: Call (412) 746-5500, 8:00 A.M. to 8:00 P.M. EST
Mail order: Black Box Corporation, P.O. Box 12800, Pittsburgh, PA 15241

VGA to Video Portable II

FEDERAL COMMUNICATIONS COMMISSION and CANADIAN DEPARTMENT OF COMMUNICATIONS RADIO FREQUENCY INTERFERENCE STATEMENT

Class B Digital Device. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or telephone reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different room that to which the receiver is connected.
- Consult an experienced radio/TV technician for help.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To meet FCC requirements, shielded cables and power cords are required to connect this device to a personal computer or other Class B certified device.

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

**CERTIFICATION NOTICE FOR
EQUIPMENT USED IN CANADA**

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications-network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly (extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility - in this case, your supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution:

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The LOAD NUMBER (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices, subject only to the requirement that the total of the load numbers of all the devices does not exceed 100.

NORMAS OFICIALES MEXICANAS (NOM) ELECTRICAL SAFETY STATEMENT

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación , o como se indique en el aparato.
 12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
 13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
 14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
 15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
 16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
 17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
 18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.
-

VGA to Video Portable II

TRADEMARKS USED IN THIS MANUAL

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MS-DOS is a registered trademark of Microsoft Corporation.

Windows and Windows 95 are trademarks of Microsoft Corporation.

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1. Specifications

- Resolution –** Supports resolutions up to 1024x768 (NTSC and PAL)
- Memory Requirements –** 640K RAM
- System Requirements –** MS-DOS® ver. 3.3 or later; Windows™ 3.1/95/98/NT 4.0/2000
- Monitor –** VGA, S-VGA or XGA
- Hardware Requirements –** IBM®PC compatible desktop or laptop with VGA/CRT port; PS/2 or AT keyboard port
- Video Input Standards –** VGA analog input from VGA/CRT port
- Video Output Standards –** NTSC or PAL (switch-selectable); Composite Video, S-Video, RGB/YUV Video; VGA signal pass-through

VGA IN Connector

Analog RGB Signal from DB15HD VGA output port
of PC

Pin Number -

1

Signal Description

Red out, 0.7 Vpp, 75 ohms

2

Green out, 0.7 Vpp, 75 ohms

3

Blue out, 0.7 Vpp, 75 ohms

4

DDC2B bus, SDA signal

5

Green in, 0.7 Vpp, 75 ohms

6

GND

7

GND

8

GND

9

Red in, 0.7 Vpp, 75 Ohms

10

Blue in, 0.7 Vpp, 75 Ohms

11

HSYNC in, TTL level

12

VSYNC in, TTL level

13

HSYNC out, buffered

14

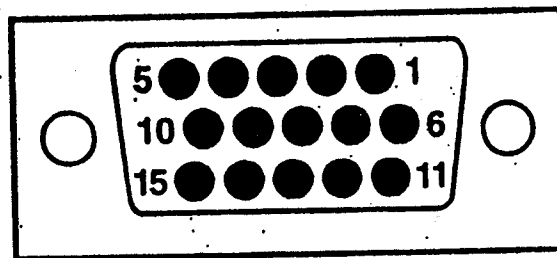
HSYNC in

15

VSYNC out, buffered

VSYNC in

DDC2B bus, SCL signal



VGA IN Connector

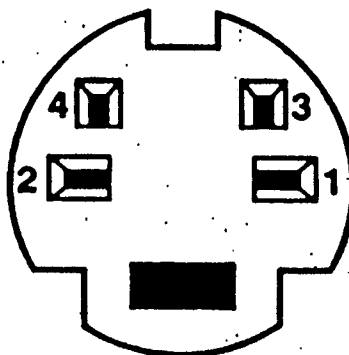
VIDEO OUT Connector

Composite video out, 1.0 Vpp±0.2 Vpp, 75 ohms,
negative sync

S-OUT Connector

4-pin mini-DIN connector

Pin Number -	Signal Description
1	(C) GND
2	(Y) GND
3	Y (Luminance), 0.7 Vpp±0.2 Vpp, 75 ohms, negative sync
4	C (Chrominance), 0.3 Vpp±0.1 Vpp



Female S-OUT Connector

Power

5V @400mA, 2 watts power consumption

Size

1"H x 2.1"W x 3.9"D (27.5mm x 55.3 mm x 94mm)

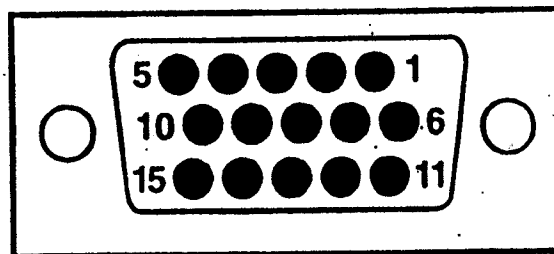
Weight

0.2 lb. (0.07 kg)

**RGB/YUV
OUT**

Output is 15 pin D-type female connector. It can output either RGB or YUV component signals. If PIN 13 short with PIN14, or turn on dip-switch 4, RGB format is enabled. If PIN 13 short with PIN 12, YUV format is enabled. RGB and YUV formats cannot be enabled simultaneously.

Pin Number –	Signal Description
1	Blue/V component output, 75 Ohms
2	Green/Y component output, 75 Ohms
3	Blue/U component output, 75 Ohms
4	TV CSYNC, negative sync, 0.6Vpp
5	GND
6	GND
7	GND
8	GND
9	No connection
10	GND
11	No connection
12	YUV enable, short with PIN 13, enables YUV output
13	+5V
14	RGB enable, short with PIN 13, enables RGB output
15	DDC2Bbus, SCL signal

**RGB/YUV OUT Connector**

2. Introduction

2.1 VGA to Video Portable II

With the VGA to Video Portable II, you can display a VGA signal on a television set or monitor, or you can record a VGA picture on a VCR. At the same time, you can still see the display on your original VGA monitor. To begin, all you need to do is connect the cables.

It's ideal for presentations, training, and exhibitions. VGA to Video Portable II turns a computer into a complete presentation system, replacing slides, projectors, and overhead projectors. Use the TV or VCR sound, or connect to a public-address sound system for large audience presentations.

2.2 System Requirements

- IBM® PC compatible 286,386, 486 or faster with VGA Display card 1024 x 768 resolution, compatible, notebook, laptop computer, or IBM PS/2.
- Hard disk (recommended).
- MS-DOS ver. 3.3 or later, Windows™ 3.1/95/98/NT 4.0/2000
- VGA monitor
- TV, VCR, or large-screen display with composite Video input (RCA jack), S-Video input.
- PS/2° or AT Keyboard Port

2.3 Features

- Supports VGA mode:
 - Supports standard VGA mode (0-13)
 - NTSC system supports up to 1024 x 768 in 16, 256, 32,000, 64,000, or 16 million colors
 - PAL system supports up to 1024 x 768 in 16, 256, 32,000 or 64,000 colors.
- You can see the same image on the TV and your VGA monitor simultaneously.
- Compatible with most VGA chips.
- For most applications, you won't have to change your configuration.
- NTSC or PAL, switch-selectable.

2.4 Package Contents

- 3-m (9.8 ft.) S-Video cable
- 3-m (9.8 ft.) RCA Video cable
- VGA to Video Portable II converter box
- Keyboard power cable
- PS/2 keyboard power cable

- This User's manual
- VGA Y-cable (2 ft.)

3. Installation

The VGA to Video Portable II has four dip-switches. The switches are used to select the desired video standard depending on your system.

Television Standard	Switch			
	1	2	3	4
NTSC (US Standard)	ON	ON	ON	OFF
NTSC-EIA	OFF	ON	ON	OFF
PAL-M	ON	OFF	ON	OFF
PAL-N	ON	ON	OFF	OFF
PAL-B/D/G/H/I	OFF	ON	OFF	OFF
PAL - Combination N	OFF	OFF	OFF	OFF
RGB OUT enabled				ON

3.1 Hardware Installation

1. MAKE SURE YOUR COMPUTER SYSTEM IS OFF!
2. Connect the end of the VGA Y-cable labeled "PC" to the VGA/CRT port of your computer.
3. Connect the end of the VGA Y-cable labeled "SCAN CNVRTR" to the VGA IN/OUT port of the VGA to Video Portable II.
4. Connect the end of the VGA Y-cable labeled "MONITOR" to a VGA monitor (Optional).
5. With one of the supplied video cables, connect "VIDEO OUT" on the VGA to Video Portable II to your TV or VCR's video input.
6. Connect the keyboard power cable into your computer's keyboard port. Connect the other end of the keyboard power cable into the "DC IN" on the VGA to Video Portable II. Plug your keyboard into the keyboard power adapter (optional).

NOTE

The VGA to Video Portable II supports high-quality S-VHS. If your TV supports "S-VIDEO IN", we recommend using it for best results.

7. Power on your computer.
8. Turn on your TV or VCR, and switch the channel to the "VIDEO-IN". Usually there is a button on the front panel of the TV or VCR or on the remote that refers to the input selection.

4. Signal Adjustment

4.1 Arrow Buttons

The four arrow buttons on the VGA to Video Portable II move the image on the TV in the direction indicated. In ZOOM mode, different portions of the screen can be made visible using the arrow keys.

4.2 Size

The SIZE button toggles between overscan and underscan. When displaying 1024x768 resolution, only underscan mode is available.

4.3 Zoom

The ZOOM button enlarges the display x200. Use the arrow keys to change the displayed portion of the image.

5. Sizing Windows to Fit Your Screen

To make Microsoft Windows software easier to see on the TV, you might have to change the sizes of the windows. If you're not familiar with Windows, the following information will help you adjust the windows size so that it fits properly on the television screen.

The Sizing Buttons are found in the upper right corner of the window. The button on the left will minimize the window, so that it appears as an icon at the bottom of the screen. The button on the right is for maximizing the window size, so that the window fills the whole screen.

Instead of aiming for the maximize button, you can also maximize a window by double-clicking its title bar. Similarly, you can restore a maximized application by double-clicking its title bar.

To change the size of a window with the mouse, simply position the pointer on the border you want to adjust. The mouse pointer changes from a single headed arrow to a double-headed one. Press and hold the left button, move the border as you please, and then release the button.

You can also move the two adjacent borders at once by positioning the mouse pointer in the corner between those borders.

To cancel a sizing operation, press [Esc] before releasing the mouse button.

6. Troubleshooting

6.1 Common Questions

Q: *My TV doesn't have an RCA jack (composite video connector). How can I connect the PC to the TV converter?*

A: Connect through your VCR as Follows:

1. Connect the VGA to Video Portable II according to the instructions in this manual; however, connect the composite video cable to the Video IN RCA jack on the VCR.
2. Power on the VCR and TV. Switch the TV to the channel that takes the VCR input. Play a tape for a moment on the VCR to make sure you can see the program on the TV screen; then remove the tape from the VCR.
3. Set the VCR to Video Mode (a VCR generally has three input sources: Video, TV, and Tape).

Another option is the RF modulator method. An RF modulator can convert a composite video signal to an RF signal which can be used as antenna input (VHF-UHF) on the TV. You can get an RF modulator at any good electronics store.

Q: *Why aren't text and images displayed at the top of the screen?*

A: Overscan may be occurring. This happens because the VGA has more display lines than the TV can display. In general, a TV has only 420 lines, whereas VGA has 480 lines in 640 x 480 mode. Images may be out of range or truncated. Use the Size button to adjust the screen position to get the picture on top or bottom. This phenomenon also occurs in the PAL system, when VGA is in 800 x 600 mode.

Q: *Why does the display shrink in a PAL system?*

A: PAL systems have 625 scan lines. If your VGA card is set for a 640 x 480 display, there is no problem. If the display is 200 lines (320 x 200), however, the image will shrink.

Q: *How can I enhance display quality?*

A: You can adjust the TV's "Contrast" and "Sharpness" controls. For the best results, lower the "Brightness" control to minimize flicker and "dot-crawl".

Q: *Why does the TV have some noise lines and how can I eliminate them?*

A: Adjust the Brightness control on the television.

Q: *I am connected using my laptop, but no output is displayed on the TV. What is the problem?*

A: Check your computer hardware operating manual for the method of enabling the CRT output. Typically, it is a combination of holding down the "Fn" key and one of the function keys (F1 through F12).

Q: *Can I use a standard VGA cable instead of the VGA Y-cable?*

A: No. The VGA Y-cable is by-directional and must be used with the proper ends connected to the correct hardware according to this user's manual.

Q: *Do I have to use the provided keyboard power adapter?*

A: No. You can also use an external, wallmount power supply that is 5V, between 500mA and 1A, with a center positive plug.

Q: *What resolutions and refresh rates are supported by the VGA to Video Portable II?*

A: 640x480@60/72/75/85Hz; 800x600@56/60/72Hz; and 1024x768@60Hz.

6.2 If You Have Problems

Sometimes a minor adjustment is all it takes to eliminate problems you're having with the VGA to Video Portable II. Refer to the chart below for possible solutions. If you are still having problems, contact technical support.

Symptom	Did You Check...	Solution
No picture on the TV or VGA monitor	...that the power adapter is plugged in? ...that the VGA pass-through cable is connected?	Plug in the adapter. Connect the cable
No picture on the TV, but there is one on the VGA monitor.	...if the video cable is connected properly?	Make a secure connection.
The TV's picture is abnormal (Unreadable or no picture)	...the TV input source? ...the NTSC/PAL switch?	Select the proper input. Make sure the switch is set properly to your TV system..