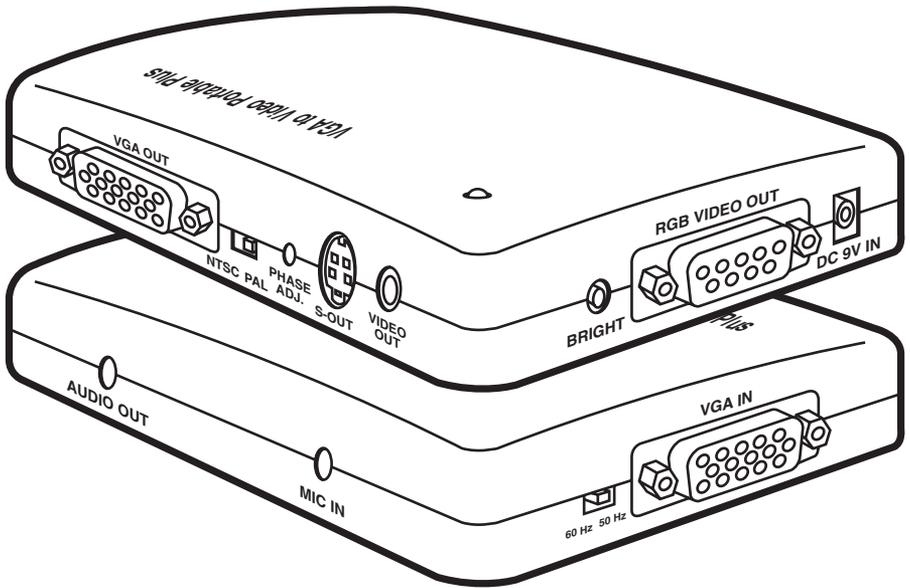




VGA to Video Portable Plus



**CUSTOMER
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INFORMATION**

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**FEDERAL COMMUNICATIONS COMMISSION
AND
INDUSTRY CANADA
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 from 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 Industry Canada.

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

README

The README file on the VGA to Video Portable Plus Utility diskette contains information about the latest changes and revisions. To view this file, insert the utility diskette in to drive A or B and type:

A: README [ENTER]

or

B: README [ENTER]

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1. Specifications

Resolution —	NTSC (North America) supports up to 640 x 480 16/256/32K/64K/16M colors; PAL (Europe) supports up to 800 x 600 16/256/32K/64K colors
Memory Requirements —	640K RAM
System Requirements —	MS-DOS® ver. 3.3 or later; Windows™ 3.1 optional
Monitor —	VGA or S-VGA
Hardware Requirements —	IBM® PC compatible, 286, 386, 486 with VGA display card or CRT port of notebook computer or IBM PS/2®; floppy-disk drive, hard disk recommended
Video Input Standards —	VGA analog input from VGA card or CRT port of notebook computer; Microphone input (capacitance-type microphone)
Video Output Standards —	NTSC or PAL (switch-selectable); Composite Video, and S-Video; VGA signal pass-through; Audio output; Analog RGB video with special-order cable
Audio Out —	52 dB amplifier with microphone input; Maximum output: 3Vpp
VGA IN Connector —	Analog RGB Signal from DB15HD VGA output port of PC or notebook PC

Pin Number	Signal Description
1	Red, 0.7 Vpp, 75 ohms
2	Green, 0.7 Vpp, 75 ohms
3	Blue, 0.7 Vpp, 75 ohms
4	Monitor Id2, TTL level
5	GND
6	GND
7	GND
8	GND

9	No connection
10	GND
11	Monitor ID0, TTL level
12	Monitor ID1, TTL level
13	HSYNC, TTL level
14	VSYNC, TTL level
15	No connection



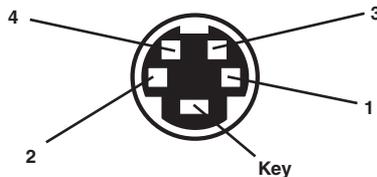
VGA IN Connector.

VGA OUT Connector — DB15 female connector; pin assignment is the same as VGA IN connector; connect to VGA monitor

VIDEO OUT Connector — Composite video out, 1.0 Vpp \pm 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 V pp \pm 0.2 Vpp, 75 ohms, negative sync
4	C (Chrominance), 0.3 Vpp \pm 0.1 Vpp



Female S-OUT.

RGB VIDEO Connector — DB9 female connector.

Pin Number	Signal Description
1	GND
2	No Connection
3	Red, 0.7 Vpp \pm 0.2 Vpp, 75 ohms
4	Green, 0.7 Vpp \pm 0.2 Vpp, 75 ohms
5	Blue, 0.7 Vpp \pm 0.2 Vpp, 75 ohms
6	Composite Sync, TTL level, negative sync
7	Composite Sync, 1V, 75 ohms, negative sync
8	TV HSYNC, TTL level, negative sync, 15734 Hz in NTSC, 15625 Hz in PAL
9	TV VSYNC, TTL level, negative sync, 60 Hz in NTSC, 50 Hz in PAL

Software — TSR Utility (VGA to Video Portable Plus Installation Disk)

Power — 115/230 VAC, 60/50 Hz, 12 watts (power consumption 5 watts, excluding DC adapter); secondary 9 VDC @ 650/600 mA

Size — 2.4"H x 12.5"W x 8"D (6.1 x 31.8 x 20.3 cm)

Weight — 0.3 lb. (0.1 kg)

2. Introduction

2.1 VGA to Video Portable Plus

With the VGA to Video Portable Plus, 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 and install the VGA to Video Portable Plus Utility Program.

The VGA to Video Portable Plus comes with a diskette that contains the utility software. This software is a TSR (Terminate-Stay-Resident) type program. After you install the VGA to Video Portable Plus program, you're ready to use the VGA to Video Portable Plus.

Your VGA to Video Portable Plus includes a lavalier microphone and has a built-in microphone input and audio output. It's ideal for presentations, training, and exhibitions. VGA to Video Portable Plus 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 or compatible 286, 386, or 486 with VGA Display Card 640 x 480 resolution, compatible, notebook, laptop computer, or IBM PS/2.
- Floppy-disk drive.
- Hard disk (recommended).
- 640 KB RAM.
- MS-DOS ver. 3.3 or later.
- VGA monitor (31.5 KHz).
- TV, VCR, or large-screen display with composite Video input (RCA jack), S-Video input, or Analog RGB Video input.
- TV, VCR, or large-screen display with audio input or Audio Auxiliary input on any mixer or PA system.

2.3 Features

- Supports VGA mode:
 - Supports standard VGA mode (0-13).
 - NTSC system supports up to 640 x 480 in 16, 256, 32,000, 64,000, or 16 million colors.
 - PAL system supports up to 800 x 600 in 16, 25, 32,000, or 64,000 colors.
- Can transfer Microsoft Windows overlay video signal to your video display.
- You can see the same image on the TV and your VGA monitor simultaneously.
- Compatible with most VGA chips.
- Simultaneous composite video, S-Video, and RGB Video output.
- For most applications, you won't have to change your configuration.
- With the TSR software, simple hotkeys move the screen, switch between interlaced and noninterlaced modes, change the text font, and invoke the memory function.
- PAL TV system field rate can be changed to 60 Hz, to eliminate field flicker.
- Lavalier microphone included for audio presentations.
- NTSC or PAL, switch-selectable.

2.4 Package Contents

- 3-m (9.8-ft.) S-Video cable
- Lavalier microphone
- 3-m (9.8-ft.) RCA Video cable
- VGA to Video Portable Plus converter box
- 3-m (9.8-ft.) stereo audio cable w/RCA phono plugs
- Floppy diskette (Video to Portable Plus TSR Utility and Program)
- 1-ft. (30.5-cm) DB15 male-to-male VGA pass-through cable
- AC/9VDC power adapter
- Small screwdriver
- This user's manual

3. Installation

The VGA to Video Portable Plus (Figure 1) has one input connector and three output connectors. VGA IN connects with the VGA output of a PC or notebook computer. VGA OUT connects to a VGA monitor. There are three video outputs: Video, S-Video, and RGB Video.

The VGA to Video Portable Plus has two switches. One selects either the NTSC or the PAL broadcast system. The other changes the field rate to 50 or 60 Hz. (See **Section 5.3** for more information.)

3.1 Hardware Installation

1. Turn off the power to your laptop, notebook, or desktop PC.
2. Make sure the NTSC/PAL switch is set to the correct position, either NTSC (U.S.) or PAL (Europe).
3. If your TV system is PAL, set the Field Scan Rate to 50 Hz. If your system is NTSC, set it to 60 Hz.
4. Connect one end of the DB15 cable to your computer's VGA output, and the other to "VGA IN" on the VGA to Video Portable Plus.
5. With one of the supplied video cables, connect "VIDEO OUT" on the VGA to Video Portable Plus to your TV or VCR's video input.

NOTE

The VGA to Video Portable Plus supports high-quality S-VHS and RGB Video. If your TV or VCR supports "S-VIDEO IN" or "RGB VIDEO IN," we recommend using them for the best results.

6. Connect your VGA monitor cable to the VGA to Video Portable Plus "VGA OUT" connector on the VGA to Video Portable Plus.
7. Power on your computer.
8. Plug the 9V power adapter to the "DC 9V in" connector, and into a standard AC outlet.
9. Turn on your TV or VCR, and switch the channel to the "VIDEO IN." Refer to the connections diagram on page 8.
10. Follow the instructions in **Section 3.2** to install the VGA to Video Portable Plus Utility diskette.

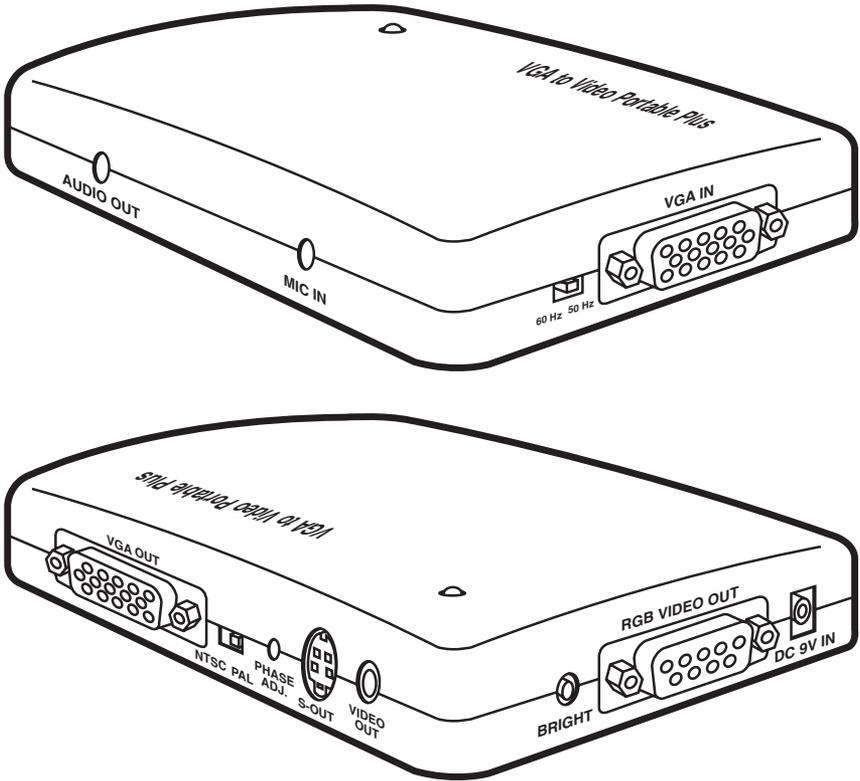


Figure 1. The VGA to Video Portable Plus.

VGA to Video Portable Plus

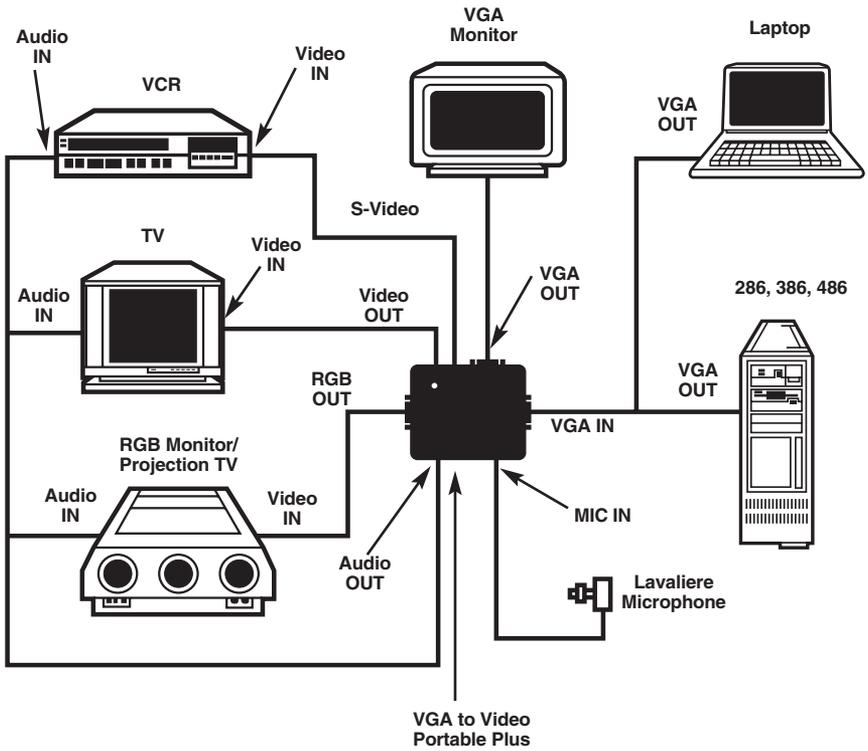


Figure 2. VGA to Video Portable Plus System Connections.

3.2 Software Installation

1. Insert the “VGA to Video Portable Plus Utility diskette” into floppy disk drive A or B.
2. At the DOS prompt, type:

A:\INSTALL/N [ENTER] (for installing NTSC system) or

A:\INSTALL/P [ENTER] (for installing PAL 50-Hz system in Europe),

OR

B:\INSTALL/N [ENTER] (for installing NTSC system) or

B:\INSTALL/P [ENTER] (for installing PAL 50-Hz system in Europe.)

NOTE

Put the 50/60 Hz switch in the 50-Hz position when using the PAL system.

3. Follow the instructions until the installation process is completed. We recommend that you make a backup copy of the distribution diskette.

4. Software Operation

4.1 Software Description

To show your VGA image on the TV screen, all you have to do is type “BBOXP” from DOS. That activates the VGA to Video Portable Plus driver, BBOXP.COM. There are also other programs for specific functions.

4.1.1 BBOXP.COM

- “BBOXP” installs the VGA to Video Portable Plus driver. It also transfers the VGA picture to the TV screen.
- “BBOXP/U” releases the VGA to Video Portable Plus driver from the computer’s main memory.
- “BBOXP?” lists all operational information of the VGA to Video Portable Plus software.

4.1.2 AUTOSAVE.COM

The Autosave function saves the position of the screen to the BBOXP.COM file when you adjust the position of screen.

- “AUTOSAVE/E” enables the Autosave function.
- “AUTOSAVE/D” disables the Autosave function.

4.1.3 SETPATH.COM

If you move the VGA to Video Portable Plus driver to another directory, run this program to reorganize your directories and files.

4.1.4 SETKEY.COM

“SETKEY” is used in the following situations:

- You want to change the hotkey sequence.
- You use the present hotkey sequence, but there is conflict with a default hotkey already used for another function on the computer.

4.1.5 SETNTSC.COM

Set the VGA to Video Portable Plus driver to NTSC system.

4.1.6 SETPAL.COM

Set the VGA to Video Portable Plus driver to PAL (50 Hz) system.

4.2 Using the Hotkeys

After you've typed "BBOXP" to activate the driver, this message appears.

```
Video to Portable Plus TSR Driver Version 3.09 (NTSC or  
PAL)
```

HOTKEY FUNCTION:

```
Alt_Shift_UP-Arrow ==> Scroll the Screen UP  
Alt_Shift_DOWN-Arrow ==> Scroll the Screen DOWN  
Alt_Shift_LEFT-Arrow ==> Scroll the Screen LEFT  
Alt_Shift_RIGHT-Arrow==> Scroll the Screen RIGHT  
Alt_Shift_Page-Up ==> Scroll the Screen to the TOP  
Alt_Shift_Page-Down ==> Scroll the Screen to the BOTTOM  
Alt_Shift_F ==> Toggle Text Font (for text mode)  
Alt_Shift_D ==> Change Screen Size (Toggle 50/60  
Hz)  
Alt_Shift_R ==> Reset Screen Position  
Alt_Shift_T ==> Flicker Free Switch
```

- You can use the [Alt] + [Shift] + [Arrow] (or [Page Up], [Page Down]) keys to adjust the position of the image on the screen.
- You can use the [Alt] + [Shift] + [F] keys to toggle the size of the text font (only used for text mode).
- You can use the [Alt] + [Shift] + [D] keys to change the size of the image on the TV screen (only used for PAL system, or Multi-System TV).

NOTE

After pressing the [Alt] + [Shift] + [D] keys, you must slide the Field Scan Rate switch to 60 Hz. If you press the hotkey again, slide the Field Scan Rate switch back to 50 Hz. If you don't, you'll have an unreadable television picture.

- You can use the [Alt] + [Shift] + [R] keys to reset the position of the image on your TV screen.
- You can use the [Alt] + [Shift] + [T] keys to switch to an interlaced or non-interlaced system.

5. Signal Adjustment

5.1 Phase Adjustment

When there's no color or a rainbow pattern on the TV, use the screwdriver (included) to adjust the burst signal's phase. "The PHASE ADJ." control is next to the S-OUT connector (see Figure 1 on page 7).

5.2 Brightness Adjustment

Brightness is factory-preset. If you need to adjust the brightness or correct horizontal or vertical striping, use the screwdriver to adjust the "BRIGHT" control (next to the RGB VIDEO OUT connector—see Figure 1 on page 7).

5.3 50/60 Hz Switch (Field Range Adjust Switch)

This switch supports two functions. In a standard PAL system, the field-scan rate (vertical sync frequency) is 50 Hz. PAL has more field flicker than NTSC (60 Hz). If your TV is multi-system and supports PAL (60 Hz) or the NTSC 4.43-MHz system, you can slide this switch to the 60 Hz position and then press <Alt-Shift-D>. The VGA to Video Portable Plus changes to PAL (60 Hz) or NTSC (4.43 MHz). This expands your TV picture vertically and produces less field flicker.

The 50/60 Hz switch is used to eliminate noise in NTSC systems. However, the VGA output level differs from computer to computer. If you hear unwanted noise on your TV, slide this switch to the other side.

6. 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 window size so that it fits properly in the television screen.

The Sizing Buttons are found in the upper right corner of the window in Restored Mode. 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 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.

The Buttons in Maximized Mode look like the ones pictured below. The double-headed arrow on the right is the restore button, which restores the window to the size it was before you maximized it. The arrow on the left minimizes the window to an icon.



NOTE

Sizing must be done while the window is in Restored Mode. It isn't possible to adjust the window's size in Maximized Mode. If you need to adjust the window size and you're in Maximized Mode, you must click the double-headed arrow to return to Restored Mode.

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 two adjacent borders at once by positioning the mouse pointer in the corner between those borders.

To change a window's size with the keyboard, start by pressing [Alt] + [Spacebar] + [S]. A four-headed pointer will appear in the center of the window. Use one of the direction keys to move that pointer to the border whose position you want to adjust. Then use direction keys to adjust the border. When you have the border where you want it, press [Enter].

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

7. Troubleshooting

7.1 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 Plus according to the connection diagram shown on page 8; 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 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).
4. On your computer, type "BBOX" to invoke the VGA to Video Portable Plus driver and switch to TV display. If you can't get a stable display, adjust the screen synchronization with the hotkeys as described in **Section 4.2**.

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 does the TV screen only show a gray image?*

A: The chrominance of your PC to TV Converter has run out of range. This can be fixed by adjusting the signal. Please refer to **Section 5.1**.

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

A: Overscan may be occurring in an NTSC system. 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 hotkeys (see **Section 4.2**) to adjust the screen position to get the picture on top or bottom. This phenomenon also happens in the PAL system; VGA is 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's no problem. If the display is 200 lines (320 x 200), however, the image will shrink.

Q: *How can I enhance the display quality?*

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

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

A: Adjust the Brightness control on the VGA to Video Portable Plus.

Q: *My notebook PC supports simu-scan function. Why don't the hotkeys work?*

A: Most notebook PC LCD VGA controllers lock the CRT parameter to 60 Hz, so the BBOXP utility can't adjust positions. Set the notebook to CRT output only; then the BBOXP utility should work normally.

7.2 If You Have Problems

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

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.
Rainbow pattern on TV.	_____	Use a screwdriver to adjust the Phase Adjust knob.
No picture on the TV, but there is one on the VGA monitor.	...if the video cable or S-Video cable is connected properly to the TV?	Make a secure connection.
The TV's picture is abnormal (unreadable or no picture).	...the TV input source? ...the NTSC/PAL switch? ...the Field Scan Rate switch?	Select the proper input. Make sure the switch is set properly to your TV system. Set the switch to the right position (50 or 60).



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