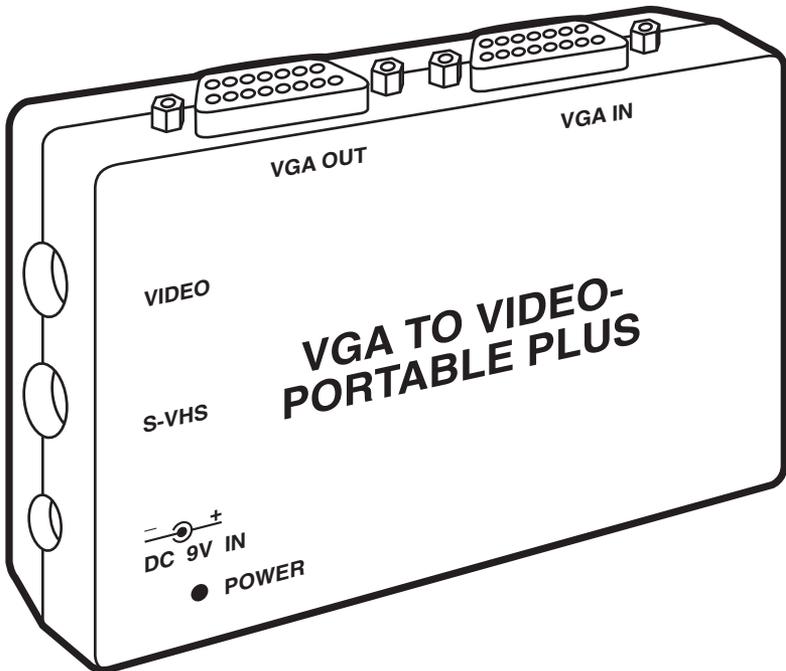




VGA to Video—Portable Plus



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1. Specifications

System Requirements — PC or compatible with VGA card, MS-DOS® 3.0 or higher, 640K memory or larger

Input Frequency — 0.7 V peak to peak

Resolution — all standard VGA modes up to 640x480

Inputs —

- Analog RGB signal from notebook PC
- HD15 pin connector, cable supplied
- 0.7 V P-to-P
- Horizontal frequency: 31.5 KHz
- Vertical frequency: 70.0 Hz
- Resolution up to 640 x 480, 32,768 colors

Outputs —

- Output 1: Pass-through for local monitor, HD15S
- Output 2: Composite, NTSC, color; RCA® phone jack, cable supplied; 1 V P-to-P; Horz Freq—15.7 KHz; Vert Freq—60.0 Hz

Display Speed — Real time

Drivers — Windows™ 3.1

Compatibility — Compatible with windowing boards (IBM® M-Motion, etc.)

Connectors — (2) DB15

Power — 9 VDC, 500 mA

Size — 5.5"H x 4"W x 1"D
(14 x 10.2 x 2.5 cm)

Weight — 1.5 lb. (0.7 kg)

2. Introduction

The VGA to Video—Portable Plus gives you the capability to display computer-generated text and images on large television displays without the hassle and expense of extra monitors. Even the novice can record computer generated presentations or animations to video tape.

You can use the unit in the home or office for business or pleasure. At the office, the VGA to Video—Portable Plus is great for presenting graphs, spreadsheets, training sessions, and business presentations. At home, the VGA to Video—Portable Plus is perfect for displaying computer games on a large TV screen. The VGA to Video—Portable Plus is the ultimate link to video for the DOS or Windows user.

2.1 Introduction to Video Standards

The VGA to Video—Portable Plus takes your computer's VGA video signals and turns them into standard television signals.

2.1.1 TELEVISION

Most video systems use AV composite signal or S-Video signal to carry image data. The standard in the U.S. is NTSC, named for the National Television Standard Committee, the organization that specified the television standard used in North America and several other countries. The NTSC standard uses 525 lines, 60 frames per second, and 2 frames per field.

2.1.2 VGA

VGA, the primary display device supported by PCs is by far the best display media on the low-end PC graphics market. It possesses gray-level capabilities and circuits for displaying real-world images instead of artificial computer graphics. The standard VGA can be operated in 320 x 200 resolution, 256 colors/64 gray scale and 640 x 480 resolution, 256 colors.

VGA Compared to TV:

- Horizontal frequency
 - VGA: 31.5 KHz
 - TV: 15.7 KHz
- Vertical frequency
 - VGA: 70.0 KHz
 - TV: 60.0 KHz
- Interlace vs. Non-Interlace
 - VGA: Non-Interlace
 - TV: Interlace

You can see from the information above that the image quality of VGA is superior to TV quality.

2.2 Hotkeys and TSR Programs

Programs such as SideKick® or DOS graphic execution files are executed and kept in a PC's RAM or Random Access Memory. This means once they are activated, they are stored in memory for instant use when needed. This type of program is called a TSR (Terminate and Stay Resident) Program. A TSR allows you to activate the program with a hotkey. A hotkey is a sequence of keystrokes or combination of keystrokes that when touched activate the program.

The VGA to TV—Portable Plus provides a TSR program. Once the program is installed, you can bring up the display switch functions by pressing the predefined hotkey.

2.3 VGA to Video—Portable Plus

The VGA to Video—Portable Plus works as an interface between the VGA signals of your PC and the video signal that your TV accepts. The VGA to Video—Portable Plus converts the VGA signal to standard TV (NTSC) signal. The VGA to Video—Portable Plus consists of two parts:

- VGA to Video—Portable Plus Encoder Box
- VGA to Video—Portable Plus “flicfree” software

2.3.1 VGA TO VIDEO UNIT

The unit is small, lightweight, and easy to use. It has been specifically designed to be used primarily with desktop PCs, but it can also be used with portable and notebook computers. You can securely attach the unit to your VGA card's 15-pin output by tightening the screws on the connector, just as you would connect your color VGA monitor. The cable provided connects from your PC to the "VGA IN" port. The other cable provided connects to the "VGA OUT" port and plugs into the cable coming out from your VGA monitor. You can connect output to the TV to the AV connector port or to the S-Video port.

2.3.2 VGA TO VIDEO—PORTABLE PLUS SOFTWARE

Once you install the TSR program, it stays in the system memory until you turn the PC off. You can use the software to adjust the position and resolution of the computer text or graphic on the TV.

2.4 The Complete Package

Your package should contain the following items:

1. VGA to Video—Portable Plus unit
2. Composite Cable
3. S-Video Cable
4. AC Power Adapter
5. VGA Adapter Cable
6. This User's Manual
7. Flicfree Software Diskette

If any of these items are missing, contact your dealer.

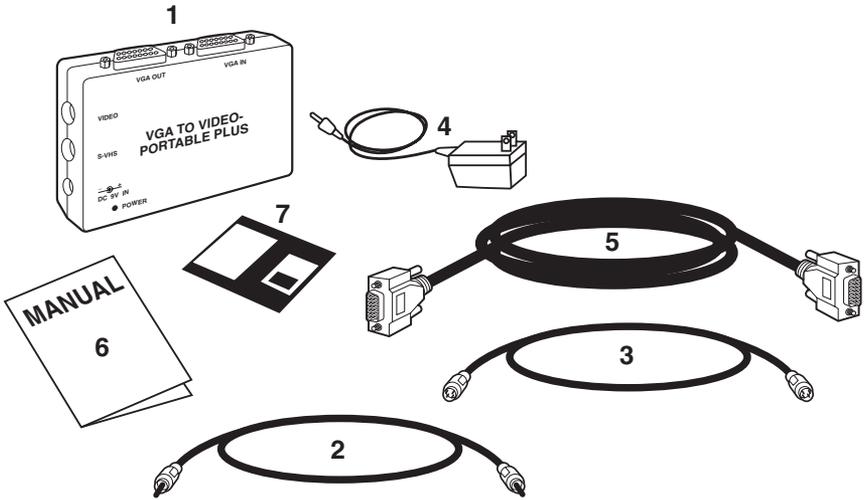


Fig. 2-1. VGA to Video—Portable Plus Complete System Package.

3. Installation

3.1 Hardware Installation

Follow these steps to install the VGA to Video—Portable Plus encoder box.

1. Turn off the power to your PC.
2. Connect the VGA to Video—Portable Plus encoder box to the 15-pin port on your PC's VGA card with the cable marked item #5 in Fig. 2-1 and connect to the "VGA IN" port on the unit.
3. Connect your VGA monitor cable to the "VGA OUT" port on the unit.
4. Connect the VGA to Video—Portable Plus encoder box to your TV with one of the two video cables provided.
 - Composite output: AV cable to video input of your TV
 - S-Video output: S-Video cable to video input of your TV

NOTE

Use the S-Video input if your TV has one. S-Video is a new standard for video in which the Luminance and Chrominance elements of a video signal are isolated from each other, resulting in a clear image with significantly higher resolution.

5. Connect the AC power adapter to the VGA to Video—Portable Plus unit.
6. Turn ON the power of your PC.
7. Turn ON the power of your TV set. Switch the TV/VIDEO channel or input selector to VIDEO.

NOTE

If your TV has only a UHF or VHF antenna connector, you will need to convert the video signal through a VCR or an RF modulator. Switch the VCR's input to LINE-IN and turn the TV channel to 3 or 4.

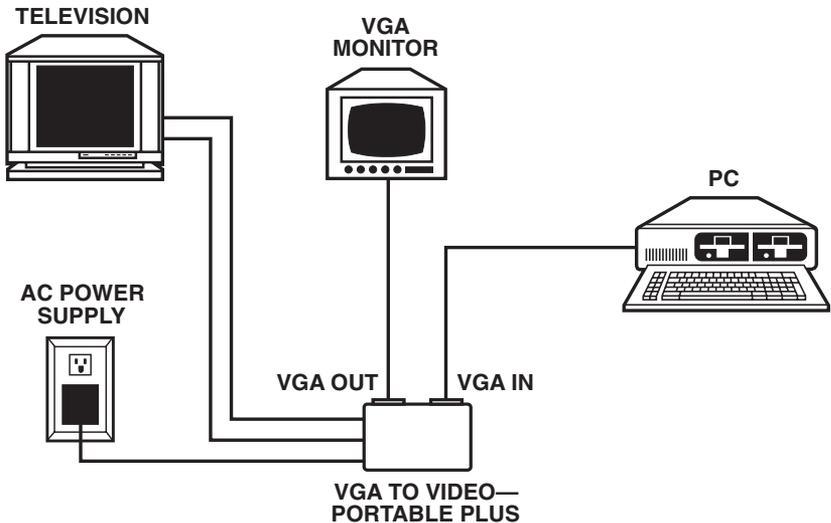


Fig. 3-1. System Layout.

3.2 Software Installation

Backup:

Make a backup copy of the VGA to Video—Portable Plus software and store it in a safe place.

Follow these steps to install the software.

1. Copy your VGA to Video—Portable Plus “Flicfree” software to your PC.

a. Make a directory—type

```
C:>MD FLICFREE <ENTER>
```

b. Copy all the files to the newly created directory.

```
C:>COPY A:\*.* C:\FLICFREE
<ENTER>
```

c. Change to the FLICFREE directory.

```
C:>CD FLICFREE <ENTER>
```

d. Type the FLICFREE command.

```
C:>FLICFREE<ENTER>
```

You should now see the screen display for FLICFREE driver on the TV, as shown next.

The TV screen and monitor should display as shown in Fig. 3-2.

```
FLICFREE DRIVER (VERSION 1.03)

Multi-system TV, Yes or No?
```

Fig. 3-2. Flicfree driver version screen.

NOTE

Multi-system TV accepts 60 Hz (NTSC) vertical frequency. Most standard U.S. TVs are 60 Hz (NTSC).

2. Type in “N” if you do not have a Multi-system TV. You should see the display shown in Fig. 3-3.

```
***FLICFREE driver transfers VGA Frequency to NTSC
frequency***
***Hotkey functions***

Ctrl-Alt-E:      Change display size (only in multi-
                  system TV)
Ctrl-Alt-F:      Toggle Text Fonts (for text mode)
Ctrl-Alt-T:      Toggle TV display type
Ctrl-Alt-I:      Scroll the picture UP
Ctrl-Alt-M:      Scroll the picture DOWN
Ctrl-Alt-K:      Scroll the picture RIGHT
Ctrl-Alt-J:      Scroll the picture LEFT
```

Fig. 3-3. VGA to Video—Portable Plus Driver Menu.

Now you can work on any software and you will see it displayed on the TV and your VGA monitor simultaneously.

3.3 Hotkey Control

You can use the hotkeys as outlined below to enhance the quality of the image for the best resolution for your system configuration.

1. CTRL + ALT + E: To change the size of the display. Use only with Multi-system TV.
2. CTRL + ALT + F: Toggle Text Fonts
 - a. 9 x 16 dot character size
 - b. 8 x 8 dot character size
3. CTRL + ALT + T:

Cycle through 4 different TV display modes.

 - a. Flicker reduction without horizontal overscan
 - b. Flicker reduction with horizontal overscan
 - c. Normal without horizontal overscan
 - d. Normal with horizontal overscan

Select the display mode that offers the best results for your system configuration and software application.

3.4 Screen Movement

Flicfree software can adjust the position of the screen display on the TV. Because of the limitations of TV technology, the NTSC system can only display 460-470 horizontal lines. The TV cannot display the full 480-line output of VGA. For this reason, you may notice overscan while running some software applications. Flicfree software drivers include the following hotkeys that allow you to position your presentation the way you want it on the TV.

1. SCROLL UP:
[CTRL]+[ALT]+[I]

Use this control to move the TV display area up.
2. SCROLL DOWN:
[CTRL]+[ALT]+[M]

Use this control to move the TV display area down.
3. SCROLL LEFT:
[CTRL]+[ALT]+[K]

Use this control to move the TV display area left.
4. SCROLL RIGHT:
[CTRL]+[ALT]+[J]

Use this control to move the TV display area right.

NOTE

You should activate all hotkeys after loading a software application. You can operate all hotkeys in Windows.

When running display modes with 32,000 colors or greater, the horizontal scrolling with “scroll right” or “scroll left” may cause horizontal out-of-lock.

3.5 Command Functions

When you are at the C:\FLICFREE prompt, you can enter the following commands.

- FLICFREE — Installs Flicfree driver
- FLICFREE /D — Releases driver from system memory
- FLICFREE ? — Displays help message

1. FLICFREE — This command will load the FLICFREE drivers and TSR program. After loading drivers, you can select the best VGA mode for your system (Ctrl + Alt + T).
2. FLICFREE /D — This command will release the FLICFREE drivers and TSR program from your system memory. The message displayed in Fig. 3-4 appears.
3. FLICFREE /?: Displays Flicfree driver hotkey menu.

If you have not yet installed the Flicfree driver and use the Flicfree /D command, you will see a message that Flicfree driver is not installed.

```
FLICFREE DRIVER (Version 1.03)
***Thanks for using Flicfree Driver.***
```

Fig. 3-4. Flicfree Driver Message.

3.6 Installation Tips

Create a Batch File

While at the DOS prompt, change to the root directory.

```
C:>cd\<enter>
```

Then create your batch file by typing the following:

```
C:>copy con:FLIC.BAT<enter>  
cd c:\flicfree<enter>  
flicfree<enter>  
cd c:\<enter>  
Press <F6> followed by <enter>.
```

You now have a batch file that will automatically load the FLICFREE software drivers and switch you to the TV mode simply by typing “FLIC” at the DOS prompt.

4. Troubleshooting

Problem: Nothing is displayed on the TV.

Solution:

- A. Make sure the power adapter is connected to the VGA to Video—Portable Plus.
- B. Make sure you selected “Video” input on your TV, or that you selected the proper channel for video display.
- C. Make sure that the VGA to Video—Portable Plus cables are plugged firmly into your VGA connector.
- D. Make sure the video cable is firmly connected to the VGA to Video—Portable Plus and the TV set.
- E. You might have released the FLICFREE driver.

Problem: Some characters change color while switching to TV mode.

Solution: Switch to TV mode before activating application software.

Problem: The top and bottom of the display is clipped for 640 x 480 NTSC mode.

Solution: The TV’s NTSC mode cannot display widely enough for the VGA mode with 480 horizontal lines. The TV can only display 470 lines. You can use the VGA to Video—Portable Plus advanced functions to position the display up, down, left, or right on the TV for the best view.

Problem: Flicker or blinking on TV.

Solution:

- A. The hard drive may be processing data. When the drive is finished, flickers and blinking will disappear.
- B. The flicfree driver may conflict with other TSR programs, such as HIMEM.SYS, installed with DOS Config.sys. Remove other TSR programs.

Problem: Ghost or crosstalk in text and color border.

Solution: Because the computer displays faster than the TV does, the ghosting may appear while the VGA to Video—Portable Plus transfers signals from higher speed VGA signal. You may wish to use the S-Video port instead of the AV port if the TV supports S-Video.

Appendix: Enhancing Your Presentation with VGA to Video

While presenting your demonstration with VGA to Video—Portable Plus, you should have horizontal lines that are doubled or tripled rather than a single horizontal line. This is because the TV's scan is always interlaced, so your presentation will view better if it is designed with many different colors and multiple horizontal lines instead of just a single white line.

Adjust the TV color as dark as possible, because a brighter picture may show TV scan lines.

Check with your dealer for the latest in presentation software. Using presentation software programs with the VGA to Video—Portable Plus can enhance the quality and professionalism of your presentation or demonstration.

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