AC335A
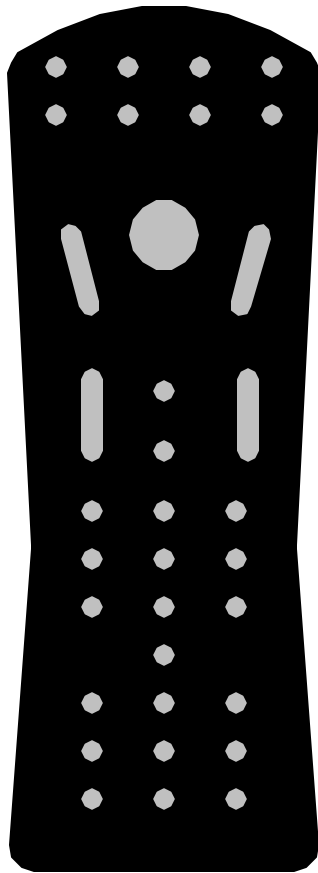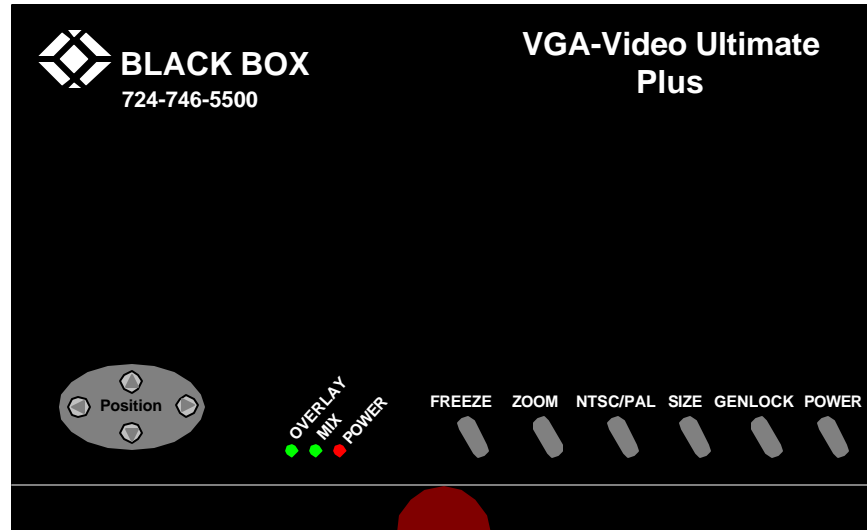
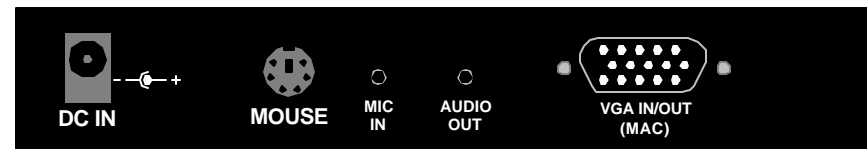**BLACK BOX**
724-746-5500

VGA-Video Ultimate Plus

Position

OVERLAY MIX POWER

FREEZE ZOOM NTSC/PAL SIZE GENLOCK POWER

Remote Control

DC IN   MOUSE   MIC IN   AUDIO OUT   VGA IN/OUT (MAC)

Back Panel View

RGB ↔ Video   RGB OUT   VIDEO OUT   S-OUT

Side View

Specifications:

System Hardware Required: Computer of one of these types:
IBM AT, PS/2, or compatible with VGA output.
TV set with one of these inputs: composite video, S-video, or (with modulator) RF.
Video source with composite or S-video output (required for video overlay).

System Software Required: Microsoft serial mouse driver or included utility (IBM compatibles only)

Interfaces: Input: VGA, mouse, Composite video, S-video
Output: Composite video, S-video, and VGA

Resolutions supported: VGA: Up to 1024 x 768 (56.5 KHz hsync/70 Hz vsync), 800 x 600 (48.1 KHz hsync/72.1 Hz vsync) or
640 x 480 (37.5 KHz hsync/75 Hz vsync);

Color: Full color support, including 24-bit (true color) input.

Horizontal sync supported: 31.5 KHz to 56.5 KHz

Vertical sync (Refresh rates) supported: 56 to 75 KHz (autosensing)

Maximum Distance: 50 ft. (15.2 m) to any input or output device.

User Controls: Top-mounted and remote controls for: Freeze, Zoom, Size (Overscan/Underscan), PAL/NTSC, Genlock, Mix Ratio, Luminance and Power (On/Off)

Indicators: Top-mounted: Power LED, Overlay LED, Mix Ratio LED.

Connectors: (11) Side -mounted:
  (1) DB15HD female for computer video (IN/OUT)
  (1) RCA jack for composite video output;
  (1) 4-pin mini-DIN for S-video output;
  (1) 9-pin mini-DIN female for RGBS video output;
  (1) DB15HD female for computer video (IN/OUT);
  (1) RCA jack for composite video output;
  (1) 4-pin mini-Din for S-video input;
  (1) barrel jack for power output;
  (1) 6-pin mini-Din female for remote mouse
  (1) MIC input
  (1) Audio output

Power: From wallmount power supply:
  Input: 100 to 240 VAC; 47 to 63 Hz
  Output: 7 VDC at 1.2 A

Introduction

The VGA-Video Ultimate Plus is a portable high-resolution computer-to-TV video converter with video overlay. It transfers images from your computer for display on a TV or video projector of any size or for recording on a VCR of any type (VHS, VHS-C, 8mm or Beta), or overlays images from your computer onto existing video for display on a TV or video projector. The Ultimate Plus is completely hardware based - you don't have to run any computer software to make the converter work (A driver is required for the remote mouse function). It's portability, easy installation and use, features and high-resolution display make it perfect for presentations, training, kiosks, education, and a host of other applications.

Features:

- Latest generation filter technology brings you clear, 100% flicker-free video.
- Pure hardware design.
- Composite and S-video inputs for video overlay.
- With "Automatic Mode Detection", the Ultimate supports horizontal synchronization (refresh) rates from 31.5 to 56.5 KHz (autosensing) and vertical synchronization (refresh) rates from 56.3 to 75 KHz (autosensing) for all colors.
- Supports NTSC and PAL (switch selectable) video for the TV output.
- Area Zoom function allows areas of the screen to be enlarged for special emphasis.
- One touch freeze screen function.
- MIC IN and AUDIO OUT allows for microphone use to add narration to presentations.
- Brightness, Contrast, Color, and Hue control.
- Adjustable vertical and horizontal position of image.
- Overscan and underscan control.
- Three video output ports (Composite, S-video and RGBs [SCART].

Installation:

System Requirements:

IBM PC Compatible 386, 486, Pentium or faster with VGA/SVGA/XGA Display card.
Floppy-disk drive.
Hard disk.
Windows 95 or later (for remote mouse only).
VGA monitor.
TV, VCR, or large-screen display with composite video or S-video input.
TV, VCR, or large-screen display with audio input or Audio Auxiliary input on any mixer or PA system.
VCR, Video camera, DVD, or other video source for video overlay.
Microsoft Serial mouse capability (for remote mouse only).

NOTE:
The VGA/Video Ultimate Plus should support any VGA computer that has a vertical display frequency between 56 and 75 Hz, and horizontal display frequency between 31.5 and 56.5 KHz. However, because video circuitry connectors and computer display cards differ widely among manufacturers and devices, we cannot guarantee that the Ultimate Plus will function correctly in any nonstandard application.

Installation Procedures:

VGA Systems:

Take these steps to install your Ultimate Plus:

1. Turn off your computer.
2. Plug the supplied VGA Y-cable (the end with the Y-connection) into your computer's VGA output and the other end into the VGA IN/OUT of the Ultimate Plus.
3. If using a local monitor plug the monitor's VGA cable into the short end of the Y-cable.
4a. If using the composite video output, plug one end of the included composite video cable into the Ultimate Plus's VIDEO OUT and the other end into the VIDEO IN on your TV, VCR, etc.
4b. If using the higher quality S-Video video output, plug one end of the included S-Video cable into the Ultimate Plus's S-VIDEO OUT and the other end into the S-VIDEO IN on your TV, VCR, etc.
4c. If using the RGBS video output, plug the DB9 end of an RGBS cable (not included) into the Ultimate Plus's RGB VIDEO OUT. If the other end of this cable is a SCART connector, plug it into the SCART connector of your TV, VCR, etc. If, however, the other end of this cable has four BNC connectors, plug them into the RED, GREEN, BLUE, and SYNC connectors of the RGBS VIDEO IN port of your TV, VCR, etc. If you need an RGBS cable, contact Black Box Corporation for technical assistance.
5. Plug the output cord of the Ultimate Plus's power supply into the DC IN jack on the Ultimate Plus. Plug the power supply into a working electrical outlet.
6. Connect a composite video and/or and S-Video source (from a VCR, DVD, Video camera, etc.) from the video out of the source to the corresponding video input on the Ultimate Plus (either Video 1 or Video 2). You can connect a video source to each of the inputs, and use the Video 1 - Video 2 switch on the converter to determine which source is displayed in overlay mode.
7. If using a local monitor with the Ultimate Plus, plug it into a working electrical outlet and turn it on.
8. Plug the Serial Mouse cable into the MOUSE port of the Ultimate Plus, and plug the other end into the serial port on your computer. (Use the DB9 to DB25 adapter if necessary).
9. Turn on the Ultimate Plus.
10. Turn on your computer.

NOTE:
Some portable computers require that the VGA output be activated for the external VGA port to function. If the Ultimate Plus is connected correctly and you have no picture on the receiving TV or projector, this may be the cause. Consult the User's Guide that came with your computer if you're unsure how this is accomplished. The portable computer's LCD display may need to be de-activated with this procedure.

11. Insert (2) AAA batteries into the remote control.
12. Turn on your TV, VCR, etc. If necessary, select VIDEO IN (or S-VIDEO IN or RGBS VIDEO IN) as the receiving device's video input source. If you're unsure how this done, consult the Owner's Manual for the receiving device.
13. Insert the "VGA-Video Ultimate Plus" installation disk.
14. Run "SETUP".
15. Choose COM port setting that corresponds with COM port to which you connected the mouse cable.
16. The folder "VGA-Video Ultimate Plus" is created in the Programs Menu.

NOTE:
The power ON/OFF switch toggles the power for the Ultimate Plus, but the remote mouse will continue to function if connected with the power off.

Operation:
While plugged in and securely connected with the power on, the Ultimate Plus performs signal conversion more or less automatically. For this reason, operating Ultimate Plus consists primarily of using its controls to fine-tune your application. The controls are detailed below:

- **HORIZONTAL/VERTICAL position adjustments**
    Indicated by arrows on the converter and on the remote.

- **FREEZE button**
    Toggle between frozen and normal display. (Also available on remote).

- **ZOOM button**
    Toggle between Zoom and Normal display. (Also available on remote).

NOTE:
When the image has been enlarged using the ZOOM controls, the V.POS, H.POS and FREEZE functions will operate. The SIZE control will not operate.

- **SIZE button**
  This button is used to control the size of the output on TV. Size adjustments are not available in overlay mode. (Also available on remote)

- **GENLOCK**
  This button toggles between VGA display only, VGA and video mix, and VGA with video overlay. (Also available on remote)

- **NTSC/PAL button**
  This switch selects the output video standard. Normal selections are NTSC (common in North America and Japan) and PAL (common in Europe). Setting this switch to the wrong mode will result in a loss of color and/or vertical sync.

- **Video 1 - Video 2 switch**
  This switch enables the various inputs. On VIDEO 1, the composite video input is enabled. On VIDEO 2, the S-video output is enabled.

- **Power button**
  Toggle between power on & off. But even when powered off, the wireless mouse is still functional. (Also available on remote)

Remote Control:

- **Area Zoom**
  The nine buttons on the remote labeled with a grid represent the Area Zoom, and when pressed zooms the corresponding quadrant of the TV display.

- **LM and RM**
  Left mouse button and right mouse button: the buttons can be switched using the Ultimate Plus's settings. Enter the settings window by clicking on the Ultimate Plus's icon in the task bar.

- **SCROLL**
  When browsing a window, click either SCROLL button and move the mouse cursor to quickly scroll through the window's contents.

- **MIX RATIO**

  Increase or decrease the mix ratio between the video and the VGA signals in overlay mode.

- **LUMI KEY**

  Increase or decrease the range of the chosen chroma key in overlay mode.

- **PC/VIDEO**

  This button toggles between the PC signal and the Video signal.

- **MIN/MAX**

  This button minimizes or maximizes the window currently in use.

- **Start Button (indicated by the Windows logo)**

  This button is a short-cut to the 'Start' menu in Windows.

- **Contrast, Color, Hue, Brightness**

  These eight buttons adjust aspects of the video display. The same adjustments are available in most TVs. Use the adjustments on the remote control when you only want the settings to apply when using the Ultimate Plus.

Video Overlay

For best results, it is highly recommended that you have presentation software that provides you the ability to have full-screen slides with solid black backgrounds. The default chroma key is black. In video overlay/genlock mode, everything on your VGA screen that is black will appear on the TV as transparent, thus allowing the video source to be seen.

Literally any element (text, graphics, etc.) that can be generated within your computer can be displayed over video. Keep in mind while developing your content that the default chroma key is black. Avoid using this color in any content that you want to view over video.