

VAMP Slim-Vista

User Manual

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Computer Dynamics, Inc.**

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REVISION HISTORY

REV	DATE	BY	DESCRIPTION
A-01	5/8/00	R. W. Wilkins	Initial Release

FCC Testing

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

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1 INTRODUCTION

1.1 System Description

The VAMP-SlimVista™ is an enclosed, multi-sync video digitizer with LCD display and resistive touchscreen. The system is designed for use as a display and input device for a standard P.C. Host Computer. The system includes a VAMP XGA3 main board, touchscreen controller, backlight inverter and flat panel display adapter.

The VAMP-XGA3 main board incorporates the components necessary to digitize analog RGB, VGA, SVGA and XGA video input signals. Video processing includes input video frame rate conversions, video scaling from low resolution inputs to higher resolution LCD panels, with output timing and control to maintain a set output frame rate required by the LCD target panel.

An on-board micro-controller functions as the main system controller, responsible for system initialization, On Screen Display (OSD) user interface, input mode auto-detection, and other housekeeping functions.

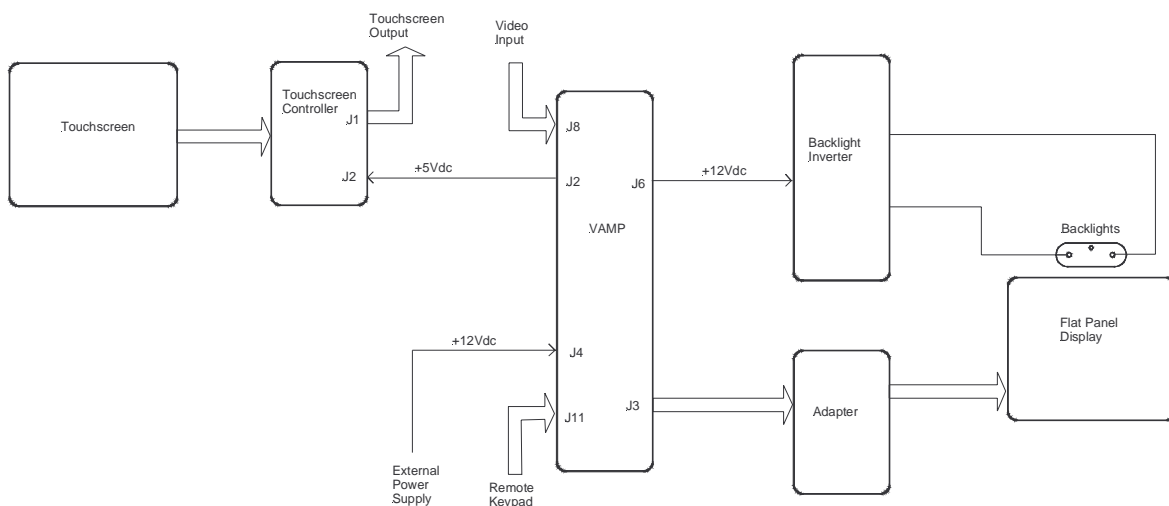


Figure 1-1 System Block Diagram

1.2 System Features

- ❑ Accepts analog RGB inputs up to 1024 x 768 at 85Hz.
- ❑ Supports Frame Rate Conversion for over 20 different input formats.
- ❑ Drives 1024x768 LCD panels at 60 Hz frame rates via an LVDS interface. (The LCD backlight is controlled via a separate connector.)

- ❑ Remote keypad connector allows the user to sequence through on-screen menus, allowing adjustments to the system.
- ❑ High Performance Flat Panel Interface
 - ❑ LVDS direct Flat Panel interface connector

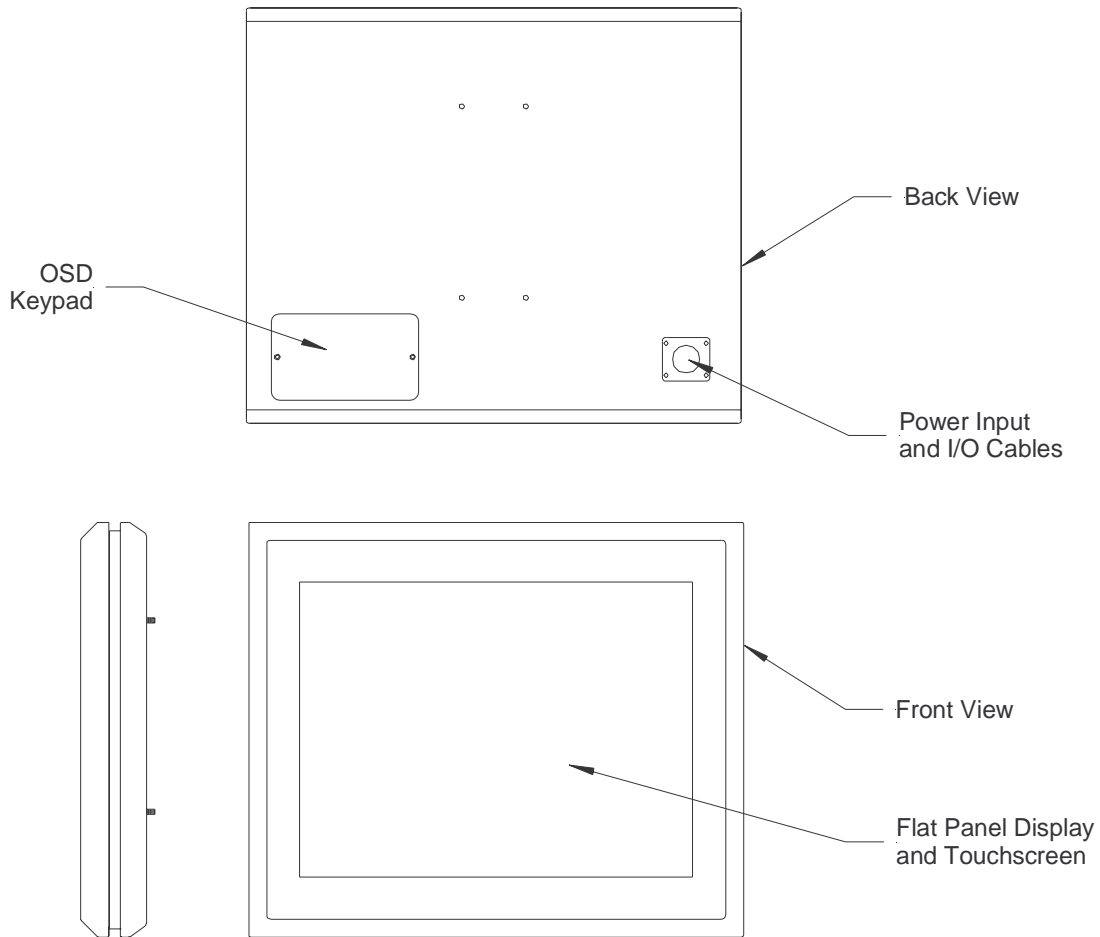


Figure 1-2 VAMP SlimVista™ Outline

2 COMMISSIONING PROCEDURES

2.1 Unpacking System

Your VAMP SlimVista™ was packed at the factory for maximum protection during shipment. If any shipping damage is noted upon receipt, report it to your shipper. When unpacking, the following items should be included:

VAMP SlimVista™ Display

Cables

Power Supply and Cable (when ordered with separate Power Supply)

Touchscreen Driver Disks

QuickInstall Instructions

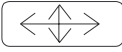
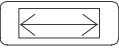
2.2 Pre-Installation Checklist

- ❑ Make sure your Video Card can supply the video resolution and color depth desired.
- ❑ Make sure the latest video drivers have been installed on your computer.
- ❑ Make sure you have the proper cables needed to complete the installation.

2.3 Initial Installation

1. Determine mounting means and location. Utilizing the 4ea. 8-32 x .26" mounting studs on rear of enclosure install with brackets needed for the application. See the Appendix for dimensions.
2. Connect the Power connector of the Host Computer Interface cable to a matching power connection in the computer (supplied adapter cable may be necessary). Optionally a separate power supply may be ordered to be independent of the host computer power.
3. Connect the Video Cable (DB 15M) to the video output of the host computer.
4. Connect the Touchscreen cable (DB 9F) to COM1 or COM2 of the host computer.
5. Check all of the connections again. Power on the SlimVista™ and your Host Computer.

2.4 Setup Procedures

1. If no video image is seen, check all power and cabling. If the SlimVista™ Display does not detect video, a message will be displayed, check the video source and drivers.
2. Remove 2 Phillips head bolts securing the remote keypad to the rear housing. Pull keyboard out of rear housing for use.
3. On the Remote Keypad, press the **FCTN** key to enter the On Screen Display Menu. See Software Configuration Section for details of the Menus.
4. If running Windows™, opening a full screen window will help in positioning the display image (File Manager or Explorer works well).
5. Select Video Position  in the Menu, then using the ◀ and ▶ keys, align the left edge of the open window with the left edge of the display panel viewing area. Using the ▲ and ▼ keys, align the top of the window with the top edge of the viewing area.
6. Select Width  in the Menu, then using the ◀ and ▶ keys, adjust the display image to fill the panel horizontally.

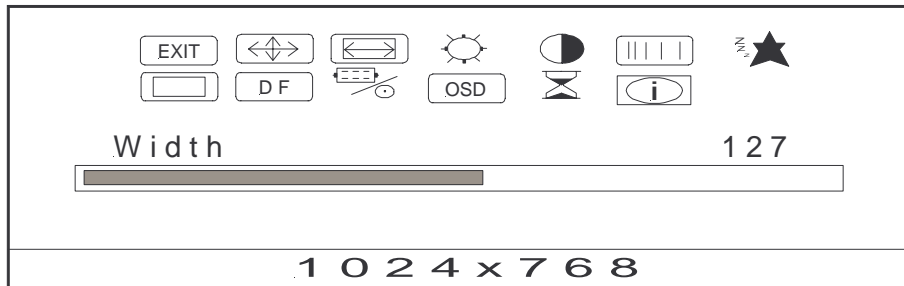
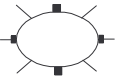





Figure 2-1 Video Display Control Menu

7. Select Brightness  in the Menu, then using the ◀ and ▶ keys, adjust the display image to the viewing preference of the user.
8. Select Contrast  in the Menu, then using the ◀ and ▶ keys, adjust the display image to the viewing preference of the user.
9. After settings have been completed, select Exit  in the Menu, to remove the OSD from the display. Press the  key to complete this command.

2.5 TouchScreen Setup

The following instructions are based on the Windows 95 operating system, others are similar.

1. Place the Universal Touchscreen Driver diskette for your operating system into your computers floppy drive.
2. Click the Start button, and then click Run.
3. Type “a:\setup” in the space provided and press Enter.
4. Follow the directions on the screen.
5. Restart Windows 95.
6. Click the Start button, then click Settings, then click Control Panel.
7. Double-click Elo Touchscreen to run the Touchscreen Control Panel.
8. Click the Calibrate button and touch each of the three targets as they appear on the screen. Click Yes when the cursor lines up correctly with your finger. Click OK to close the Touchscreen Control Panel.

3 HARDWARE CONFIGURATION

3.1 Major Components

The SlimVista™ Display interface cable connects to your host computer power, video output for the display and an RS-232 input for the Touchscreen. The following drawings and discussion describe the major system components.

Power is supplied from the host computer to the main display control board, the VAMP XGA3. The XGA3 distributes power as needed by the other boards in the system. The LCD Flat Panel Display is illuminated from behind by a Panel Backlight. The Backlight is powered by a Backlight Inverter, which increases the supply voltage to that needed to light the Backlight bulbs.

In front of the Flat Panel Display is a resistive Touchscreen, which senses the location of the applied pointing device when decoded by the A-Touch Controller.

The Display Control Electronics (VAMP-XGA3) digitizes the analog RGB, VGA, SVGA or XGA video input signals. An on-board micro-controller functions as the main system controller, responsible for system initialization, On Screen Display (OSD) user interface, input mode auto-detection, and other housekeeping functions.

The VAMP XGA3 outputs display data using Low Voltage Differential Signalling (LVDS) to protect the signal from external interference. The FPINC LVDS Interface Board converts this to levels needed by the LCD Flat Panel Display.

The Remote Keypad, stored in the rear enclosure, is used for display configuration in conjunction with the On Screen Display.

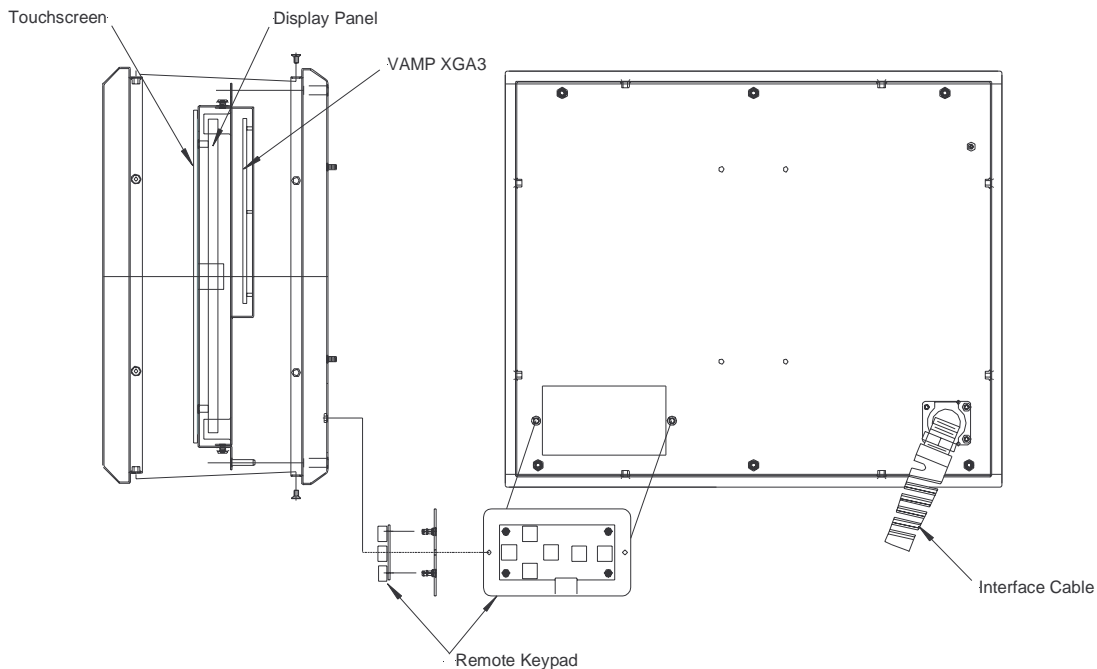


Figure 3-1 Interior Components

3.2 Interface Cable

The Interface Cable is attached to the rear enclosure of the Slim-Vista and splits to 3 connectors on the remote end for video input, touchscreen output and power supply input.

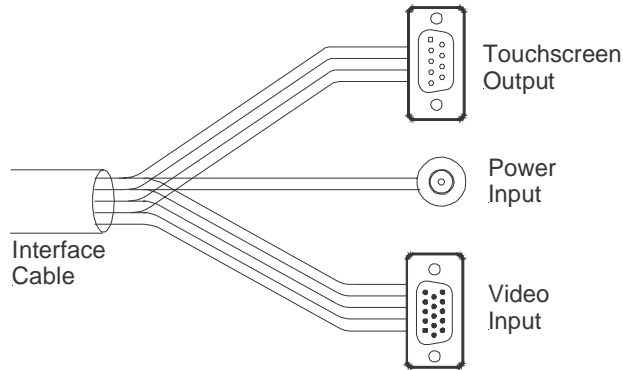


Figure 3-2 Interface Cable Connectors

The following sections define the connections for each of these connectors.

3.2.1 Video Interface

Video inputs are supplied via a standard DB-15 connector using a High Density, 15 pin, Male, SHIELDED D-shell connector, the pinouts are shown in the following table:

Pin	Function	Pin	Function	Pin	Function
1	Red	6	Gnd	11	Monitor ID 0
2	Green	7	Gnd	12	Monitor ID 1
3	Blue	8	Gnd	13	Hsync
4	Monitor ID 2	9	N/C	14	Vsync
5	Self Test-Gnd	10	Gnd	15	Monitor ID 3

Table 1 Video Connections

3.2.2 Serial Port

One serial port is provided on the Interface cable for communication of Touchscreen data to the host computer. It supports 16C550 compatible enhanced serial ports. Cable has a standard Female DB-9 connector using a SHIELDED D-shell, the pinouts are shown in the following table:

Signal	Pin	Pin	Signal
DCD	1	6	DSR
Rx Data	2	7	RTS
Tx Data	3	8	CTS
DTR	4	9	RI
Gnd	5		

Table 2 Serial Port Connections

3.2.3 Power Connector

Power for the VAMP-SlimVista is supplied via a 2 conductor coaxial plug with pinout as defined below:

Pin	Function
1 (Center)	+12 Volts
2 (Shield)	GND

Table 3 Input Power Connections

4 SOFTWARE CONFIGURATION

4.1 User Interface Overview

An external switch box interface (J11) to the micro-controller accepts user selections in response to OSD Input Selection and Display Control menu options. The remote switch layout is shown below. On-board firmware monitors switch activity and responds accordingly. The OSD menus provide the user with visual confirmation of selections and adjustments by highlighting selections and modifying on-screen bar-graph levels.

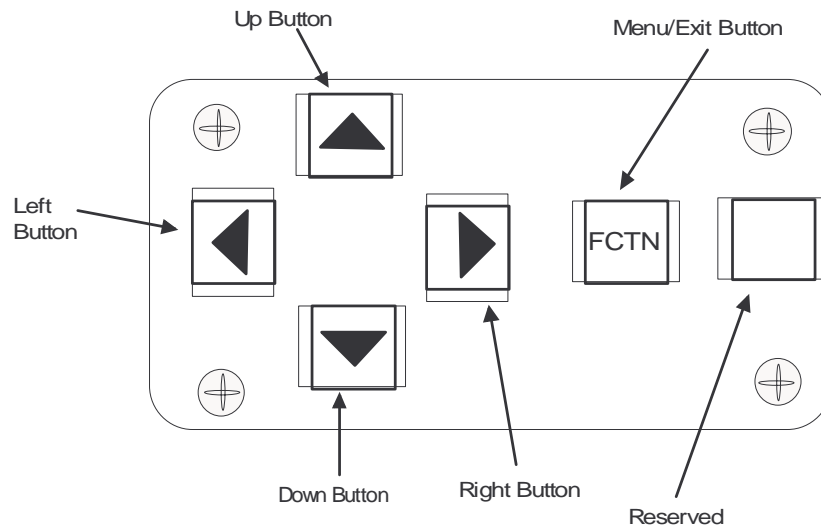


Figure 4-1 Remote Switch Layout







The switch box buttons select the menu icons and provide the following functions:

FCTN	(activate Input Select Menu, exit all menus)
LEFT	(decrease selected parameter value or move image left)
RIGHT	(increase selected parameter value or move image right)
UP	(move image up)
DOWN	(move image down)

4.2 Power On Default Settings

The VAMP SlimVista™ is initialized during power-on to the last known saved conditions. All parameters are saved whenever the user exits the menus, or by a user definable time out.

4.3 Display Control Menus

The PC Graphics Display Control menu appears when the  key is pressed with the VAMP-SlimVista™ properly connected and powered up. The 'LEFT'  and 'RIGHT'  keys highlight the desired parameter and adjust the parameter value. The  and  keys are used to move between the upper and lower row of icons on the display. The displayed bar graph indicates the relative level for each parameter. To exit the Display Control menu, press the  key.

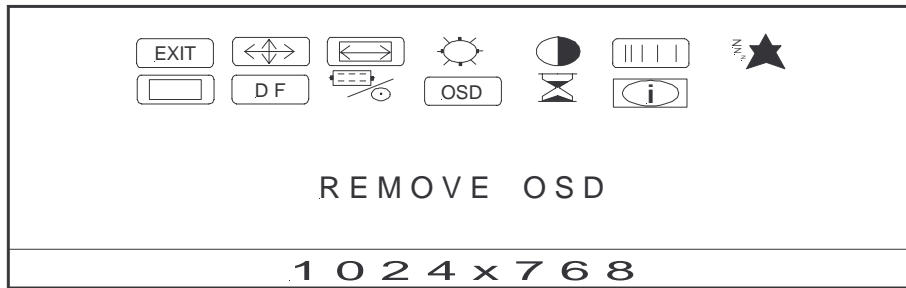




Figure 4-2 PC Graphics Display Control Menu





Not making a selection or adjustment within the user definable time-out period of activating the Display Control menu will result in the system exiting from the menu.

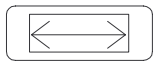
 Remove OSD

This menu selection allows the manual removal of the On Screen Display from the active view. Press any of the arrow keys on the keypad to select the icon, then press  to complete this command.


 Video Position Adjustment



This menu selection allows the adjustment of the picture on the Panel. Press any of the arrow keys on the keypad to select the icon, then press  to begin this command.

The  or  keys are used to center the image horizontally on the display by moving the input image capture window left or right. The  and  keys are used to center the image vertically on the display by moving the input image capture window up or down. The image window may be moved anywhere in the input frame except within the V-sync period.



Width Adjustment

This menu selection allows the adjustment of the horizontal width of the picture on the Panel. Press any of the arrow keys on the keypad to select the icon, then press  to begin this command.

The  or  keys are used to adjust the display image to fill the panel horizontally. A scroll bar will appear on the display to indicate the relative setting.

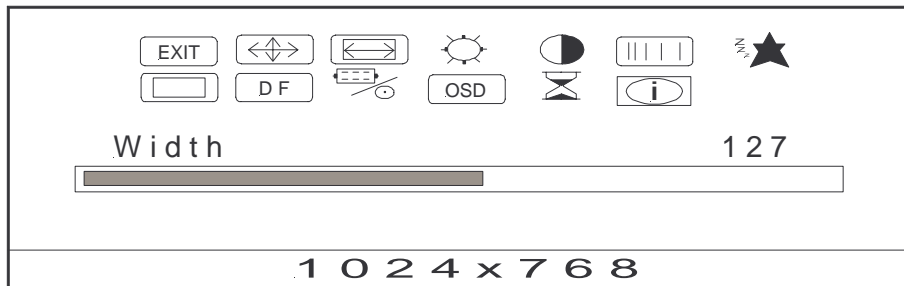
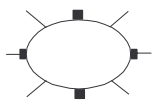





Figure 4-3 Video Display Control Menu




Brightness



The Brightness control adjusts the brightness level of the input source. Press any of the arrow keys on the keypad to select the icon, then press  to begin this command.

The  or  keys are used to adjust the display image to the viewing preference of the user. A scroll bar will appear on the display to indicate the relative setting.



Contrast

The Contrast control adjusts the contrast ratio of the input source +/-3dB from the nominal 0.714V. Press any of the arrow keys on the keypad to select the icon, then press  to begin this command.



The  or  keys are used to adjust the display image to the viewing preference of the user. A scroll bar will appear on the display to indicate the relative setting.



Phase Adjustment


The ADC Clock Phase adjustment is available for PC Graphics inputs only. Phase adjust alters the sub-pixel sampling (fine pixel adjust). The phase of the ADC sample pixel clock may be adjusted from 0 to 360 degrees for PC Graphics inputs.

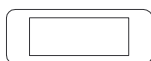
Press any of the arrow keys on the keypad to select the icon, then press  to begin this command.

The  or  keys are used to adjust the display for the clearest image. A poor adjustment is indicated by horizontal streaks on a 50% grey background. There may be several levels where no change is noticeable. Leave the adjustment in the center of this stable region. A scroll bar will appear on the display to indicate the relative setting.




DPMS Enable

This function toggles the Display Power Management Signalling (DPMS) feature of the VAMP. With DPMS disabled, the computer will not have the ability to control the power down and power restore functions of the panel. Press any of the arrow keys on the keypad to select the icon, then press  to toggle this feature.





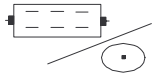
Zoom Enable

This function toggles the Zoom feature of the VAMP. With Zoom disabled, a video resolution lower than the maximum the panel supports, will fill only a portion of the whole screen. With Zoom enabled, the VAMP XGA3 will stretch the lower video resolution image to fill the display screen. Press any of the arrow keys on the keypad to select the icon, then press  to toggle this feature.




Restore Factory Settings

Press any of the arrow keys on the keypad to select the icon, then press  to select this feature. Press  to reset all Display Control menu parameters to their FACTORY DEFAULT settings.








Video Source

Press any of the arrow keys on the keypad to select the icon, then press . The Input Select Menu will not be available on this configuration of the product.




Menu Position Adj.



Press any of the arrow keys on the keypad to select the icon, then press  to select this feature.

The  or  keys are used to move the OSD horizontally on the display. The  and  keys are used to move the image vertically on the display.



Menu Timeout

Menu Timeout allows adjustment of the length of time the menu will be displayed before it is automatically removed from the display. Press any of the arrow keys on the keypad to select the icon, then press  to select this feature.

The  or  keys are used to decrease or increase the length of time the OSD is displayed. A scroll bar will appear on the display to indicate the relative setting.



Status

The Status display includes the Software Version, Number of Lines, Refresh Frequency and Resolution currently being displayed. Press any of the arrow keys on the keypad to select the icon, then press **FCTN** to select this display.



Figure 4-4 PC Graphics Display Control Menu

5 TROUBLESHOOTING

5.1 Major System Failures

5.1.1 No Response on Power-up

1. Check Power Supply

With Power applied check for +12 Vdc supply power at the Host Computer connector.

Input Voltage must be between +11.50 and +12.50 Vdc.

Insure the system provides good power grounding.

2. Check Power Cabling

Visually check Power connector and Interface cabling for any signs of damage.

5.1.2 No Display with Backlight lit

1. Check Video Cabling

Make sure the video cable is securely seated in its socket on the host computer Video Card.

Make sure the Video Card is also secured in the host computer bus connector.

Visually check Interface cable for any signs of damage.

2. Check Video Card

Temporarily connect the Video output of the host computer to a standard monitor.

5.2 Touch Panel

5.2.1 No response from Touch Panel

1. Check Touch Panel cabling

Make sure the serial cable is securely seated in its socket on the host computer.

Visually check Interface cable for any signs of damage.

2. Check Power Supply

With Power applied check for +12 Vdc supply power at the Host Computer connector.

Input Voltage must be between +11.50 and +12.50 Vdc.

Insure the system provides good power grounding.

3. Run TouchTst software and recalibrate the touch panel.

5.2.2 Missed Touches

1. Run TouchTst software and recalibrate the touch panel.

5.2.3 Improper placement of Cursor upon Touch

1. Run TouchTst software and recalibrate the touch panel.

5.3 Flat Panel Display

5.3.1 Visual Noise in Display

1. Make sure that all of the latest drivers have been installed on the host computer.
2. Make sure that the proper Resolution and Refresh Rates have been selected on the host computer.
3. Check Video Cabling

Make sure the video cable is securely seated in its socket on the host computer Video Card.

Make sure the Video Card is also secured in the host computer bus connector.

Visually check Interface cable for any signs of damage.

4. Please return this unit to the factory for repair. Factory technicians must complete further procedures.

5.3.2 Multiple Display Images

1. Make sure that all of the latest drivers have been installed.
2. Make sure that the proper Resolution and Refresh Rates have been selected.

3. Check Video Cabling

Make sure the video cable is securely seated in its socket on the host computer Video Card. Make sure the Video Card is also secured in the host computer bus connector. Visually check Interface cable for any signs of damage.

5.3.3 Missing Pixels

NOTE: It is not unusual for a panel to have one or two missing pixels, less than ten are considered acceptable.

1. Please return this unit to the factory for repair. Factory technicians must complete this procedure.

5.3.4 Pixels stuck on

NOTE: It is not unusual for a panel to have one or two pixels stuck on, less than ten are considered acceptable.

1. Please return this unit to the factory for repair. Factory technicians must complete this procedure.

5.4 Display Backlight

5.4.1 Dim or No Backlight

1. Check Power Supply

With Power applied check for +12 Vdc supply power at the Host Computer connector.

Input Voltage must be between +11.50 and +12.50 Vdc.

Insure the system provides good power grounding.

2. Check Power Cabling

Visually check Power connector and Interface cabling for any signs of damage.

3. Return for backlight replacement.

5.4.2 Backlight Too Bright

1. Check Power Supply

With Power applied check for +12 Vdc supply power at the Host Computer connector.

Input Voltage must be between +11.50 and +12.50 Vdc.

Insure the system provides good power grounding.

2. Return for backlight replacement.

5.5 Accessories

5.5.1 Remote Keypad not responding

1. Check Keypad Cabling at board (J1).

2. Reset SlimVista™ Display

3. Substitute another Keypad

B. WARRANTY STATEMENT



COMPUTER DYNAMICS INCORPORATED
7640 Pelham Rd., Greenville, SC 29615
Phone: (864) 627-8800

WARRANTY

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We request that you inform us of any errors found, areas difficult to understand or suggestions to improve this manual. Please fill out the bottom portion (using additional sheets if necessary) with your comments and return it to CDI.

Thank you.

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Company: _____

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Product Type: _____

Card Serial No.

COMMENTS: