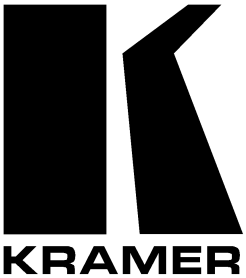
Kramer Electronics, Ltd.



USER MANUAL

Model:

VP-725DSA

Presentation Switcher / Scaler

Contents

Figures

Tables

This addendum describes the correct wiring for crossover cable connections and replaces the opening paragraph in the "Connecting the ETHERNET Port directly to a PC (Crossover Cable)" section in the User Manual as follows:

Connecting the ETHERNET Port directly to a PC (Crossover Cable)

You can connect the Ethernet port of the machine to the Ethernet port on your PC, via a crossover cable with RJ-45 connectors.

Table 1 and Figure 1 define the color codes for the two existing standard types of cross cables used in the industry. Table 2 defines how to connect the wires to the connectors on both ends of the cable.

When manually connecting the ends of a cable, both connectors must follow the same standard (either EIA /TIA 568A or EIA /TIA 568B).

Table 1: Crossover Cable RJ-45 Types

EIA /TIA 568B		EIA /TIA 568A	
PIN	**Wire Color**	**PIN**	**Wire Color**
1	White-orange	1	White-green
2	Orange	2	Green
3	White-green	3	White-orange
4	Blue	4	Blue
5	White-blue	5	White-blue
6	Green	6	Orange
7	White-brown	7	White-brown
8	Brown	8	Brown

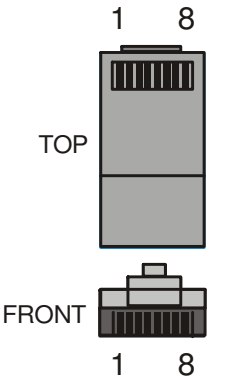


Figure 1: RJ-45 PINOUT

Table 2: Wiring between Connector One and Two of the Cable

Signal Pairs	PINs on Connector One	PINs on Connector Two	Signal Pairs
TX_D1+	1	3	RX_D2+
TX_D1-	2	6	RX_D2-
RX_D2+	3	1	TX_D1+
RX_D2-	6	2	TX_D1-
BI_D3+	4	7	BI_D4+
BI_D3-	5	8	BI_D4-
BI_D4+	7	4	BI_D3+
BI_D4-	8	5	BI_D3-

1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer **VP-725DSA** *Presentation Switcher / Scaler*, which is ideal for the following typical applications:

- Projection systems (with full audio capability) in conference rooms, board rooms, auditoriums, hotels, and churches
- Any application in which high quality conversion and switching of multiple and different video signals to graphical data is required for projection and large display purposes (with full audio capability)

The package includes these items:

- **VP-725DSA** *Presentation Switcher / Scaler*
- Power cord[2]
- Infra-red remote control transmitter (including the required battery)
- Null-modem adapter
- This user manual[3]

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[4]

2.1 Quick Start

This quick start chart summarizes the basic setup and operation steps.

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

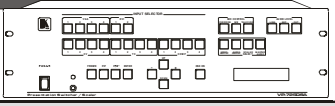
2 We recommend that you use only the power cord that is supplied with the machine

3 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

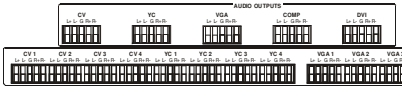
4 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

Step 1: Mount the machine - see section 5

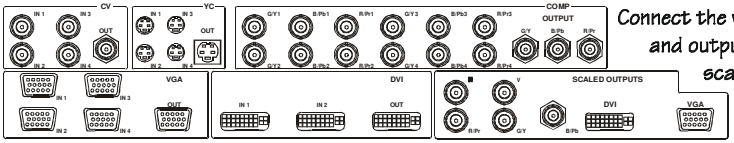
Mount the machine in a rack or
stick the 4 rubber feet to the underside



Step 2: Connect the inputs and outputs - see section 6



Connect the audio inputs and outputs



Connect the video inputs and outputs, and the scaled outputs

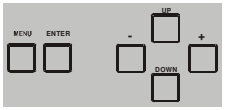
Step 3: Connect the control port - see section 6

Connect an RS-232 Control Port, and/or the ETHERNET Port

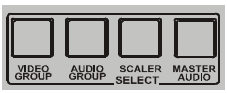
Step 4: Turn the power ON

Step 5: Set the machine - see section 9

The MENU items:



Use the Menu buttons to operate the MENU



VIDEO GROUP: select the inputs to switch, within the video group

AUDIO GROUP: select the audio input from each video group

SCALER: send one of 18 inputs to the scaler outputs

MASTER AUDIO: select one of 18 audio inputs

FREEZE the video image on the scaled outputs

Select the PIP function on the scaled output

Select OSD ON or off

Select the audio level, using the +/- buttons

Select the microphone control mode

Step 6: Operate the machine - see section 9

Operate via the front panel buttons, OSD, IR remote control, Control panel, ETHERNET and RS-232

3 Overview

The **VP-725DSA** *Presentation Switcher / Scaler* is designed for a wide variety of presentation and multimedia applications. It is a true multi-standard video to graphics scaler and presentation switcher for a wide variety of presentation and multimedia applications. It consists of a very high quality scaler with many user-selectable pixel-rates including VGA (640x480), SVGA (800x600), XGA (1024x768), SXGA (1280x1024) and UXGA (1600x1200); high definition television HDTV (480p, 720p and 1080i); and several optimum plasma and LCD rates such as 852x1024i, 1024x1024i, 1366x768, 1365x1024, 1280x720, 720x483, 852x480, 1400x1050, 576P, 720x400, 832x624, 1024x800, 1152x864, 1152x870, 1152x900, 1280x960, 1280x768, 1024x576, as well as a user definable output mode[1].

In particular, the **VP-725DSA**:

- Offers high quality de-interlacing 3:2/2:2 pull down[2]
- Supports firmware upgrade via RS-232
- Includes non-volatile memory that retains the last setting, after switching the power off and then on again
- Scales and zooms (to up to 400% of the original size)
- Digitally reprocesses the signal to correct mastering errors, and regenerates the video at a chosen line and pixel rate format, providing, for example, native-resolution video for LCD, DLP and Plasma displays
- Facilitates scaling of graphics resolutions to other resolutions
- Incorporates a unique graphics-scaling engine with image enhancement algorithms, which are built into the firmware
- Is specifically designed to improve video quality by reducing chroma noise
- Includes an OSD (on-screen display) for making the adjustments that can be located anywhere on the screen, and can be doubled in size. The OSD can be used to deactivate the source prompt, choose the color of the blank screen, and choose from three seamless switching transition speeds
- Consists of 5 video groups—composite video, s-Video, component video (RGB or YPbPr), DVI-D and VGA—and each group has 4 inputs (except for DVI which has 2 inputs). Each video input has its own corresponding balanced stereo audio input on a terminal block connector

1 Recommended for advanced users only – non-standard settings may not be recognized by the display device

2 Accommodates the frame-rate of a converted movie (24 frames per second) to video frequencies (25 frames per second (PAL); 30 frames per second (NTSC)

- Has multi-standard video support; supports VESA standards; HDTV standards and other popular resolutions on the input. Does not support[1] HDCP (High bandwidth Digital Content Protection) on the DVI[2]
- Features a Video Group Mode[3] and a Scaler Mode[4]. These modes function simultaneously and independently (except for DVI: once a DVI input is selected in the Scaler Mode, that DVI input selection cannot be changed in the Video Group Mode)
- Features an Audio Group Mode[5] and a Master Audio Group Mode[6], with a balanced stereo audio output on a terminal block connector for each group. In addition, in the AV Group you can select the audio-follow-video input from each group for switching, and in the Master AV Group you can convert the selected video input (one of 18) to the SCALED OUTPUTS, and also route the selected audio input (one of 18) to the MASTER OUT terminal block connector
- An independent Master Audio output that has a rich set of ProcAmp features, including bass and treble controls (via the MENU and LCD status display (and OSD when appropriate)), RS-232 and the infra-red remote control transmitter
- Audio breakaway option (to switch audio independently from video) or Audio-follow-video
- Adjustable volume on each input and output
- A microphone input that can be used by mixing, switching or talk-over
- Includes a front panel lock, as well as a separate OSD lock
- In addition to providing an up- or down- scaled output of the selected (one of 18) inputs, also functions as 4x1 switchers for each video group (2x1 for DVI)
- Has ProcAmp[7] controls for the scaler output
- Lets you freeze the image at any instant
- Lets you select the output colorspace (RGB or YPbPr)

1 A method of security encryption (developed by Intel and Silicon Image)

2 An HDCP source would show up as a very snowy, noisy picture at the output

3 Selects the video input from each group: CV, YC, Component, VGA, DVI for switching to its local (group) output

4 Converts the selected input (one of 18) to the SCALED OUTPUTS

5 Selects the audio input from each group for switching

6 Routes the selected audio input (one of 18) to the MASTER OUT terminal block connector

7 Processing amplification enables adjustment of different video and audio signal parameters

- Has a text overlay feature[1] for insertion of subtitles, karaoke script, text banners, and the like, which lets you send text to be displayed on the scaled output
- Includes a built-in Picture-In-Picture (PIP) inserter[2] (letting you insert a video source into a graphics background or vice versa. This PIP image may be positioned and sized anywhere on the screen, or displayed as 2 images side-by-side (Split-Screen)

The **VP-725DSA**:

- Comes in a rugged, professional 19" 3U rack-mountable metal enclosure
- Uses a universal 100-240VAC automatic power supply

Control the **VP-725DSA**:

- From the front panel user-friendly menu-driven OSD (see section 9.1)
- From the front panel high contrast LCD Display (see section 9.2)
- Remotely, from the infra-red remote control transmitter (see section 9.3)
- Via Ethernet (see section 9.4)
- Remotely, via RS-232

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances, making sure not to block the ventilation holes, and positioning your **VP-725DSA** away from moisture, excessive sunlight and dust

4 Your VP-725DSA Presentation Switcher / Scaler

Figure 1 and Table 1 define the front panel of the **VP-725DSA**:

1 The VP725 Text Overlay Application (Text Overlay Sender) for the VP-725DSA (and the VP-725DS) can be downloaded at http://www.kramerelectronics.com

2 See section 7.4

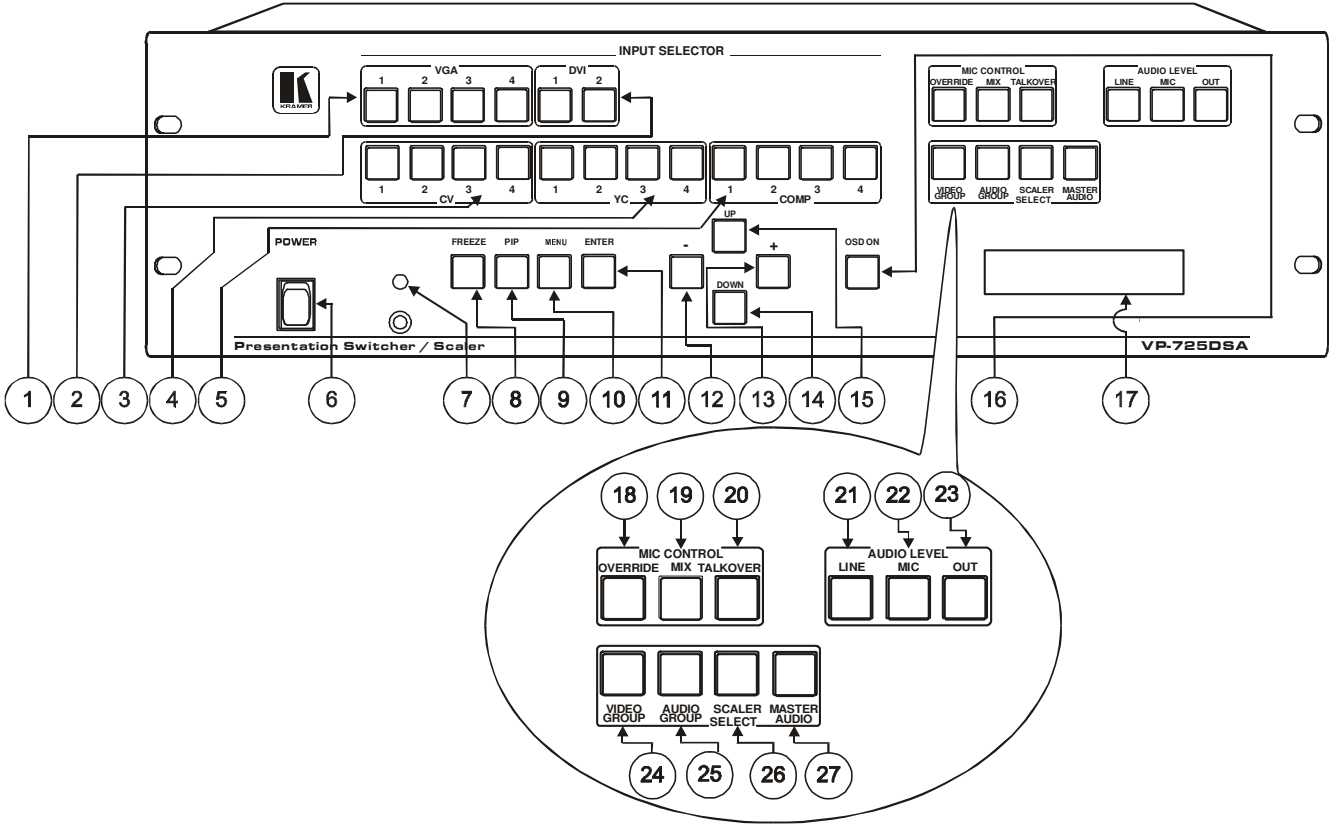


Figure 1: VP-725DSA Presentation Switcher / Scaler Front Panel

Table 1: Front Panel VP-725DSA Presentation Switcher / Scaler Features

#	Feature		Function
1	*INPUT SELECTOR*	*VGA* Button	Selects one of the 4 VGA sources
2		*DVI* Button	Selects one of the 2 DVI sources[1]
3		*CV* Button	Selects one of the 4 CV sources
4		*YC* Button	Selects one of the 4 s-Video (Y/C) sources
5		*COMP* Button	Selects one of the 4 Component sources
6	*POWER* Switch		Illuminated switch for turning the unit ON or OFF
7	IR Receiver / LED		Green when the unit will accept IR remote commands; red in standby mode[2]
8	*FREEZE* Button		Freezes the output video image[3]
9	*PIP* Button		Selects the picture-in-picture function[3,4]
10	*MENU* Button		Displays the OSD Menu screen (or moves to the previous level in the OSD screen) and locks/unlocks the front panel[3,5]
11	*ENTER* Button		Moves to the next level in the OSD screen[3]
12	- Button		Decreases the range by one step[3]
13	+ Button		Increases the range by one step[3]
14	*DOWN* Button		Moves down one step (in the same level) in the OSD screen[3]
15	*UP* Button		Moves up one step (in the same level) in the OSD screen[3]
16	*OSD ON* Button		Activates/deactivates access to the OSD Menu[3, 6]
17	LCD STATUS Display		Displays the status
18	*MIC CONTROL*[7] *Button*	OVERRIDE[8]	Routes the signal from the microphone to the Master output instead of from the Line, whose signal is blocked
19		MIX[8]	Routes the combined signals from the mic and the Line to the Master output
20		TALKOVER[8]	Routes the selected input to the output until an audio signal is detected on the microphone input. When this happens the selected input is faded out (to be faded back in when no input is detected on the microphone)

1 Note, that once a DVI input is selected in the Scaler Mode, that DVI input selection cannot be changed in the Video Group Mode

2 After pressing the POWER key on the remote control transmitter (see Figure 55). The machine is temporarily powered down except that the power switch (item 6) on the machine continues to illuminate

3 Scaler outputs only

4 See section 7.4

5 See section 7.5

6 The OSD ON front panel button is activated (illuminated) by default, and pressing the MENU front panel button (or the MENU key on the infra-red remote control transmitter (see Figure 55)) displays the OSD Menu. To block display of the OSD Menu, press the OSD ON front panel button (or the OSD key) to deselect the OSD ON front panel button (which is no longer illuminated); the OSD OFF status appears superimposed over the top right corner of the screen. However, deselecting the OSD ON front panel button during an OSD operation will not turn off the OSD Menu (even though the OSD OFF status appears superimposed over the top right corner of the screen), letting you complete the OSD operation

7 Only one of the three buttons can be ON, or all three buttons can be OFF (pressing a button will select that button, and turn OFF the previously selected button. If the selected button is pressed, it will turn it OFF)

8 When no MIC CONTROL button is selected, the audio input is routed to the MASTER output, ignoring the mic input

#	Feature		Function
21	*AUDIO LEVEL*[1] *Button*	LINE	Press this button and adjust using the –/+ buttons. The level is displayed in the LCD Display and OSD
22		MIC	
23		OUT[2]	
24	*SELECT*[1] *Buttons*	*VIDEO GROUP*	Shows which video input from each group is selected for switching, and facilitates the selection of an alternative video input from each group[3]
25		*AUDIO GROUP*	Selects the audio (breakaway mode) input from each group for switching
26		*SCALER*	When selected shows which of the 18 video inputs has been selected to be scaled at the SCALED OUTPUTS, and facilitates the selection of an alternative video input for scaling
27		*MASTER AUDIO*	When selected routes the selected audio input (one of 18) to the MASTER OUT terminal block connector

Figure 2 and Table 2 define the rear panel of the **VP-725DSA**:

1 Only one of the three buttons can be ON, or all three buttons can be OFF (pressing a button will select that button, and turn OFF the previously selected button. If the selected button is pressed, it will turn it OFF)

2 Selecting OUT when the Audio Group button illuminates, lets you select the group (scrolling through CV, YC, VGA, Component and DVI, displaying the selection on the LCD (and OSD when appropriate) using the UP and DOWN buttons

3 Note, that once a DVI input is selected in the Scaler Mode, that DVI input selection cannot be changed in the Video Group Mode

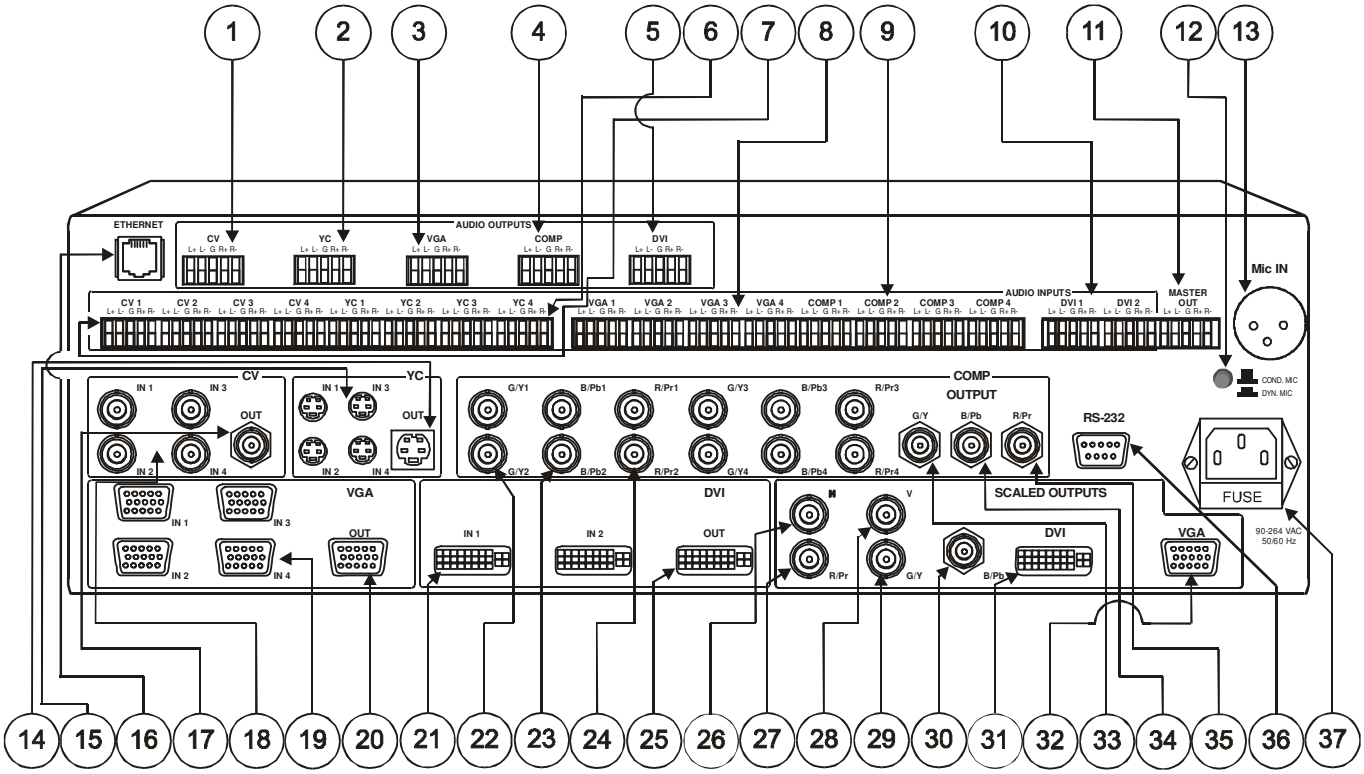


Figure 2: VP-725DSA Presentation Switcher / Scaler Rear Panel

Table 2: Rear Panel VP-725DSA Presentation Switcher / Scaler Features

#	Feature		Function
1	*AUDIO OUTPUT Terminal Block*	*CV* Connector	Connects the balanced audio acceptor (for composite)
2		*YC* Connector	Connects the balanced audio acceptor (for s-Video)
3		*VGA* Connector	Connects the balanced audio acceptor (for VGA)
4		*COMP* Connector	Connects the balanced audio acceptor (for component)
5		*DVI* Connector	Connects the balanced audio acceptor (for DVI)
6	*AUDIO INPUT Terminal Block*	*YC* Connector	Connects the balanced audio sources from 1 to 4 (for s-Video)
7		*CV* Connector	Connects the balanced audio sources from 1 to 4 (for composite)
8		*VGA* Connector	Connects the balanced audio sources from 1 to 4 (for VGA)
9		*COMP* Connector	Connects the balanced audio sources from 1 to 4 (for component)
10		*DVI* Connector	Connects the balanced audio sources from 1 to 2 (for DVI)
11	*MASTER OUT* Terminal Block Connector		Connects the routed balanced audio channel
12	Con / Dyn Switch		Pushed in selects a dynamic microphone, released selects a condenser microphone
13	*Mic IN* XLR Connector		Connects to the microphone
14	*YC OUT* 4p Connector		Connects to the s-Video (Y/C) acceptor
15	*YC IN* 4p Connectors		Connects to the s-Video (Y/C) sources from 1 to 4
16	ETHERNET port		Connects to your LAN[1]
17	*CV OUT* BNC Connector		Connects to the composite video acceptor
18	*CV IN* BNC Connectors		Connects to the composite video sources from 1 to 4
19	*VGA IN* HD15 Connectors		Connects to the VGA (analog interface) graphics sources from 1 to 4
20	*VGA OUT* HD15 Connector		Connects to the VGA (analog interface) graphics acceptor
21	*DVI IN* Connectors		Connects to the DVI (digital video interface) graphics sources from 1 to 2
22	*COMP Inputs*	*G/Y* BNC Connector	Connect to the component video source or RGB source from 1 to 4
23		*B/Pb* BNC Connector	
24		*R/Pr* BNC Connector	
25	*DVI OUT* Connector		Connects to the DVI (digital video interface) graphics acceptor
26	*SCALED OUPUTS*	*H* BNC Connector	Connects to the component video or RGB acceptor
27		*R/Pr* BNC Connector	
28		*V* BNC Connector	
29		*G/Y* BNC Connector	
30		*B/Pb* BNC Connector	
31		*DVI* Connector	Connects to the DVI (digital video interface) graphics acceptor
32		*VGA* HD15 Connector	Connects to the VGA (analog interface) graphics acceptor
33	*COMP OUTPUT*	*G/Y* BNC Connector	Connect to the component video acceptor or to an RGB acceptor
34		*B/Pb* BNC Connector	
35		*R/Pr* BNC Connector	
36	*RS-232* DB 9 Connector		Connects to PC or Serial Controller
37	Power Connector with *FUSE*		AC connector enabling power supply to the unit

1 Local Area Network (that is, computers sharing a common communications line or wireless link, which often share a server within a defined geographic area)

5 Installing on a Rack

This section describes what to do before installing on a rack and how to rack mount.

Before Installing on a Rack

Before installing on a rack, be sure that the environment is within the recommended range:	
Operating temperature range	+5 to +45 Deg. Centigrade
Operating humidity range	5 to 65 % RHL, non-condensing
Storage temperature range	-20 to +70 Deg. Centigrade
Storage humidity range	5 to 95% RHL, non-condensing

CAUTION!!

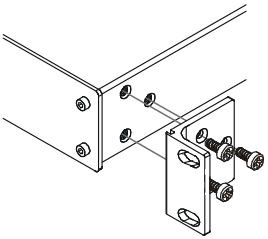
When installing on a 19" rack, avoid hazards by taking care that:

1. It is located within the recommended environmental conditions, as the operating ambient temperature of a closed or multi unit rack assembly may exceed the room ambient temperature.
2. Once rack mounted, enough air will still flow around the machine.
3. The machine is placed straight in the correct horizontal position.
4. You do not overload the circuit(s). When connecting the machine to the supply circuit, overloading the circuits might have a detrimental effect on overcurrent protection and supply wiring. Refer to the appropriate nameplate ratings for information. For example, for fuse replacement, see the value printed on the product label.
5. The machine is earthed (grounded) in a reliable way and is connected only to an electricity socket with grounding. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, the use of power strips), and that you use only the power cord that is supplied with the machine.

How to Rack Mount

To rack-mount the machine:

1. Attach both ear brackets to the machine. To do so, remove the screws from each side of the machine (3 on each side), and replace those screws through the ear brackets.



2. Place the ears of the machine against the rack rails, and insert the proper screws (not provided) through each of the four holes in the rack ears.

Note that:

- In some models, the front panel may feature built-in rack ears
- Detachable rack ears can be removed for desktop use
- Always mount the machine in the rack before you attach any cables or connect the machine to the power
- If you are using a Kramer rack adapter kit (for a machine that is not 19"), see the Rack Adapters user manual for installation instructions (you can download it at: http://www.kramerelectronics.com)

6 Connecting the VP-725DSA Presentation Switcher / Scaler

This section describes how to connect the **VP-725DSA**. In particular, how to:

- Connect the **VP-725DSA** rear panel (see this section)
- Connect the **VP-725DSA** MASTER OUT connector (see section 6.1)
- Connect the interlaced and progressive RGBS and RGsB inputs (see section 6.2)
- Connect the PC (see section 6.3)
- Connect the Ethernet port (see section 6.4)
- Connect the audio inputs/outputs (see section 6.5)

Using the **VP-725DSA** you can select any one of the 18 inputs and scale that input to up to three scaled outputs (at the identical resolution).

To connect the **VP-725DSA**, connect the following[1] to the rear panel, as the example in Figure 3 illustrates:

1. Connect one or more of the following video sources:
   - Up to four VGA graphics sources (for example, computers): VGA Source 1, VGA Source 2, VGA Source 3 and VGA Source 4 to the HD15 input connectors[2]
   - Up to four composite video sources[3]: CV Source 1, CV Source 2, CV Source 3, and CV Source 4 to the BNC input connectors
   - Up to four s-Video sources[3]: YC Source 1, YC Source 2, YC Source 3, and YC Source 4 to the 4p input connectors
   - Up to four component video (sometimes called YUV, or Y, B-Y, R-Y, or Y, Pb/Cb, Pr/Cr) sources or 4 RGB sources to the four sets of 3 BNC connectors, G/Y, B/Pb, and R/Pr. The example in Figure 3 illustrates an HDTV satellite receiver or an RGB camera connected to COMP Source 4
   - Up to two DVI[4] graphics sources (for example, computers): DVI Source 1 and DVI Source 2 to the DVI connectors

1 Switch OFF the power on each device before connecting it to your VP-725DSA. After connecting your VP-725DSA, switch on its power and then switch on the power on each device

2 These connectors also accept interlaced and progressive RGBS and RGsB signals (see Table 3)

3 For example, VCR machines

4 Not HDCP sources

2. Connect one or more of the following balanced stereo audio sources (not illustrated in Figure 3). In particular, the audio of:
   - VGA Sources 1, 2, 3 and 4 to the AUDIO input terminal block connectors VGA 1, VGA 2, VGA 3, and VGA 4, respectively
   - CV Sources 1, 2, 3 and 4 to the AUDIO input terminal block connectors CV 1, CV 2, CV 3, and CV 4, respectively
   - YC Sources 1, 2, 3 and 4 to the AUDIO input terminal block connectors YC 1, YC 2, YC 3, and YC 4, respectively
   - Component video/ RGB Sources 1, 2, 3 and 4 to the AUDIO input terminal block connectors COMP 1, COMP 2, COMP 3, and COMP 4, respectively
   - DVI Sources 1 and 2 to the AUDIO input terminal block connectors DVI 1 and DVI 2, respectively
3. Connect a microphone to the Mic IN XLR connector[1], and push in or release the Con / Dyn Switch as appropriate (see item 12 in Table 2).
4. Connect the CV OUT BNC connector, the YC OUT 4p connector, and the VGA OUT HD15 connector to the respective video inputs on the projector. Connect the MASTER OUT terminal block connector to the balanced audio input on the audio amplifier. Select any one of the three audio inputs to route to the MASTER OUT[1] (see the example in section 6.1.1).
5. Connect the COMP OUTPUT BNC connectors: G/Y, B/Pb, and R/Pr to the respective component video inputs on the Plasma monitor.
6. Connect up to three SCALED OUTPUTS, as follows:
   - Connect the RGBHV connectors (G/Y, B/Pb, R/Pr, H, and V) to the RGBHV acceptor, for example, a Plasma monitor
   - Connect the DVI connector to the DVI acceptor, for example, a projector
   - Connect the VGA connector to the VGA acceptor, for example, a monitor
7. Connect the MASTER OUT terminal block connector to the balanced audio input on the audio amplifier, and route the audio input (corresponding to the converted video input) to the MASTER OUT[1] (see the example in section 6.1.2).
8. Connect the power cord[2] (not illustrated in Figure 3).
9. Connect a PC (optional), see section 6.2.
10. Connect the Ethernet port (optional), see section 6.4.

1 Not illustrated in Figure 3

2 We recommend that you use only the power cord that is supplied with this machine

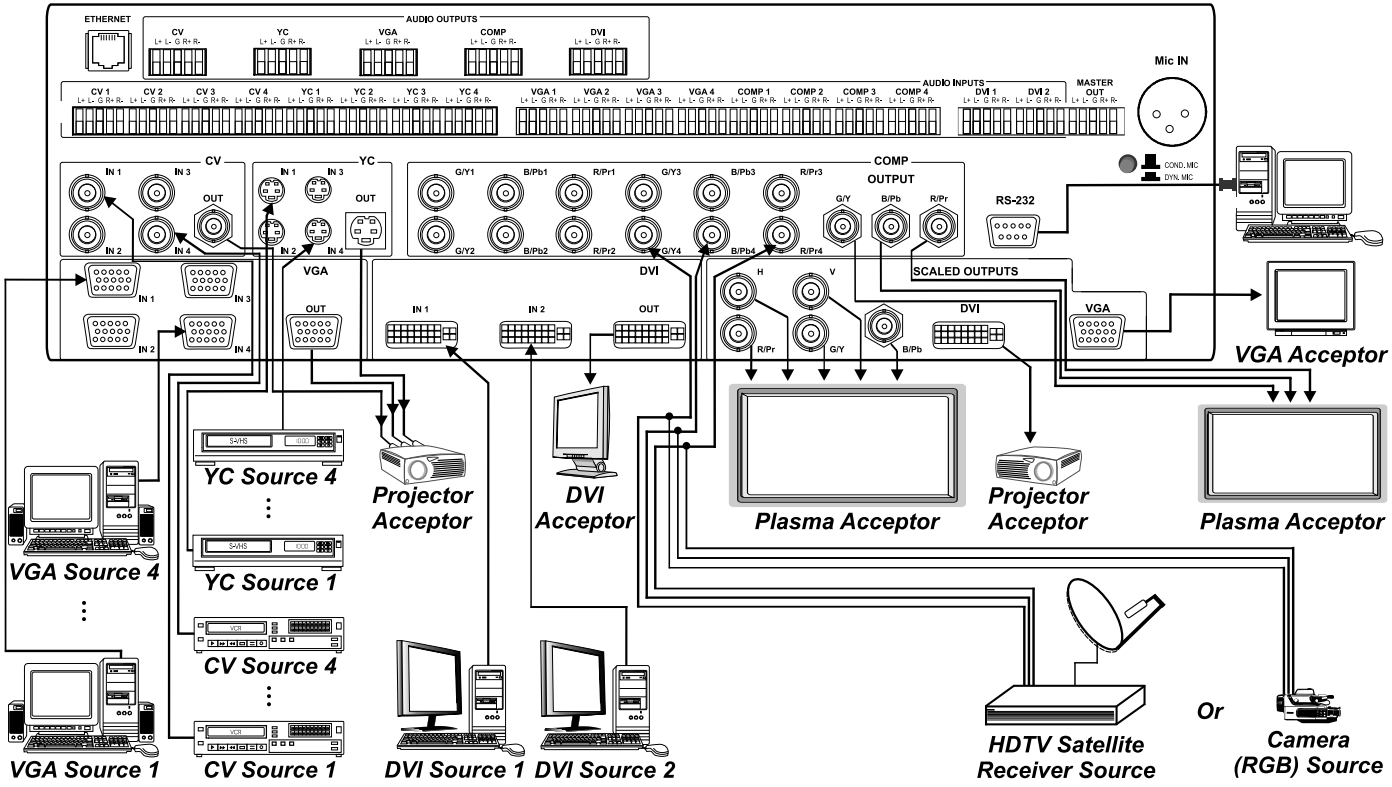


Figure 3: Connecting the VP-725DSA Presentation Switcher / Scaler

6.1 Connecting the MASTER OUT Terminal Block Connector

The MASTER OUT terminal block connector can be used in the Master Audio Mode[1] (see section 6.1.1) and the Master AV Mode[2] (see section 6.1.2).

6.1.1 Using the MASTER OUT in the Master Audio Mode

In the Master Audio Mode (see Figure 4) you can route the audio input from the VGA Source 1, CV Source 1 or YC Source 1 to the Master Out connector:

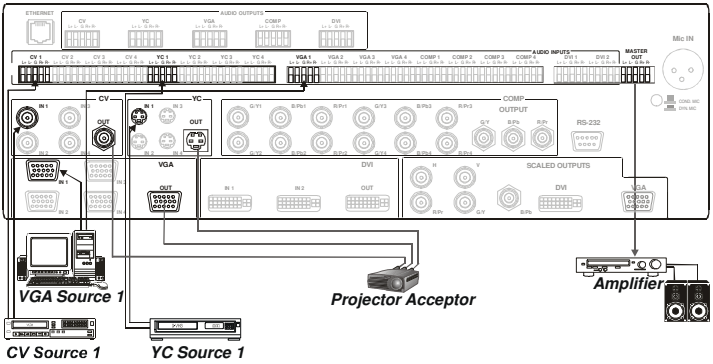


Figure 4: Connecting the MASTER OUT (in Master Audio Mode)

6.1.2 Using the MASTER OUT in the Master AV Mode

In the Master AV Mode (see Figure 5) you can convert the component video input to the RGBHV SCALED OUTPUT, and route the audio input from that source to the Master Out connector:

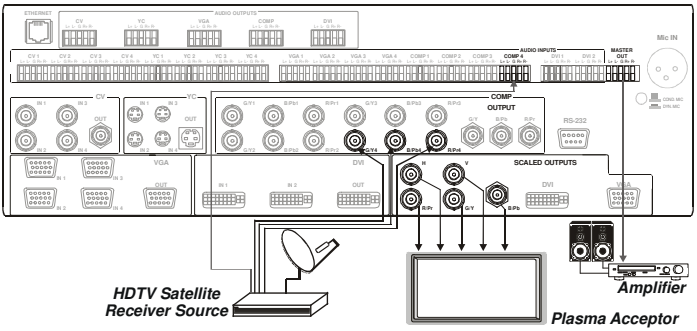


Figure 5: Connecting the MASTER OUT (in Master AV Mode)

1 Routes the selected audio input (one of 18) to the MASTER OUT terminal block connector

2 Converts the selected video input (one of 18) to the SCALED OUTPUTS, and also routes the selected audio input (one of 18) to the MASTER OUT terminal block connector

6.2 The RGBS and RGsB PINOUTs

Table 3 defines both the progressive[1] and interlaced[2] RGBS and RGsB pinouts

Table 3: RGBS and RGsB PINOUTS

Input	Color Space	PINOUT
VGA	RGsB	Green + sync, to PIN 1 Blue to PIN 2 Red to PIN 3
	RGBS	Red to PIN 1 Green to PIN 2 Blue to PIN 3 Hs (H and V) to PIN 13
YUV	RGsB	Green + sync to Y Blue to Pb Red to Pr

6.3 Connecting a PC

You can connect a PC (or other controller) to the **VP-725DSA** via the RS-232 port for remote control, and for upgrading the firmware.

To connect a PC to a **VP-725DSA** unit, using the Null-modem adapter provided with the machine (recommended):

- Connect the RS-232 DB9 rear panel port on the **VP-725DSA** unit to the Null-modem adapter and connect the Null-modem adapter with a 9-wire flat cable to the RS-232 DB9 port on your PC

To connect a PC to a **VP-725DSA** unit, without using a Null-modem adapter:

- Connect the RS-232 DB9 port on your PC to the RS-232 DB9 rear panel port on the **VP-725DSA** unit, forming a cross-connection[3], as Figure 6 illustrates

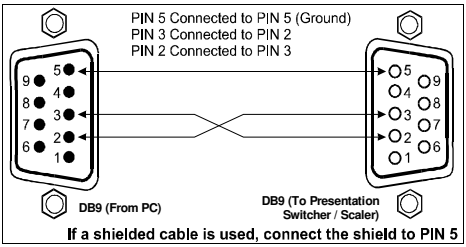


Figure 6: Connecting the PC

1 A display mode in which all the horizontal lines of an image are displayed in a single frame (one field)

2 A display mode in which a frame consists of two separate fields with the first field consisting of odd horizontal lines and the second field even horizontal lines

3 Also known as a Null-modem connection

6.4 Connecting the VP-725DSA via the ETHERNET port

You can connect the **VP-725DSA** via the Ethernet, using a crossover cable (see section 6.4.1) for direct connection to the PC or a straight through cable (see section 6.4.2) for connection via a network hub or network router.

6.4.1 Connecting the ETHERNET Port directly to a PC (Crossover Cable)

You can connect the Ethernet port of the **VP-725DSA** to the Ethernet port on your PC, via a crossover cable with RJ-45 connectors, as Table 4 and Figure 7 define.

Figure 7: RJ-45 PINOUT

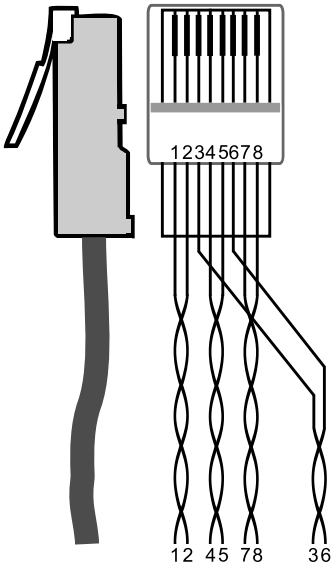


Table 4: Crossover Cable RJ-45 PINOUT

Side 1	
PIN	**Wire Color**
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown
Pair 1	4 and 5
Pair 2	1 and 2
Pair 3	3 and 6
Pair 4	7 and 8

Side 2	
PIN	**Wire Color**
1	Green / White
2	Green
3	Orange / White
4	Blue
5	Blue / White
6	Orange
7	Brown / White
8	Brown
Pair 1	4 and 5
Pair 2	3 and 6
Pair 3	1 and 2
Pair 4	7 and 8

This type of connection is recommended for identification of the factory default IP Address of the **VP-725DSA** during the initial configuration

After connecting the Ethernet port, configure your network card as follows:

1. Right-click the My Network Places icon on your desktop.
2. Select Properties and right-click Local Area Connection Properties.
3. Select Properties.
   The Local Area Connection Properties window appears.

4. Select **Internet Protocol (TCP/IP)** and click the Properties Button (see Figure 8).

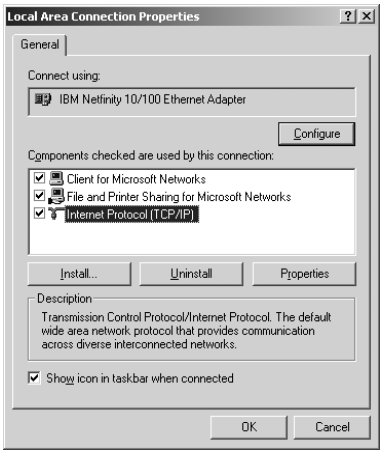


Figure 8: Local Area Connection Properties Window

5. Select **Use the following IP Address**[1], and fill in the details as shown in Figure 9.

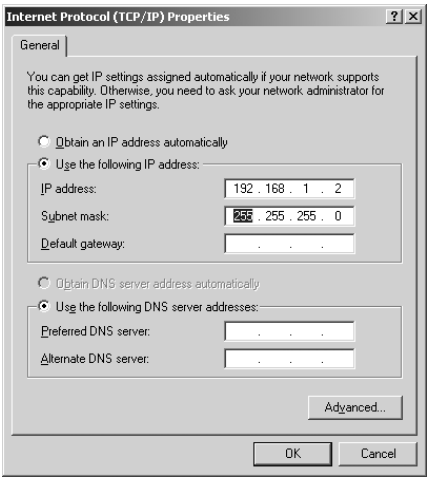


Figure 9: Internet Protocol (TCP/IP) Properties Window

6. Click OK.

1 This IP address is compatible with the factory default IP address of the unit

6.4.2 Connecting the ETHERNET Port via a Network Hub (Straight-Through Cable)

You can connect the Ethernet port of the **VP-725DSA** to the Ethernet port on a network hub or network router, via a straight-through cable with RJ-45 connectors, as Table 5 defines:

Table 5: Straight-through Cable RJ-45 PINOUT

Side 1	
PIN	**Wire Color**
1	White-orange
2	Orange
3	White-green
4	Blue
5	White-blue
6	Green
7	White-brown
8	Brown

Side 2	
PIN	**Wire Color**
1	White-orange
2	Orange
3	White-green
4	Blue
5	White-blue
6	Green
7	White-brown
8	Brown

6.5 Connecting the Balanced/Unbalanced Stereo Audio Input/Output

Figure 10, Figure 11, and Figure 12 illustrate how to wire a balanced/unbalanced input and/or output connection:

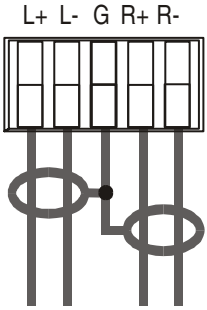


Figure 10: Connecting a Balanced Stereo Audio Input/Output

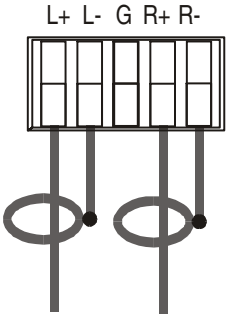


Figure 11: Connecting an Unbalanced Stereo Audio Input

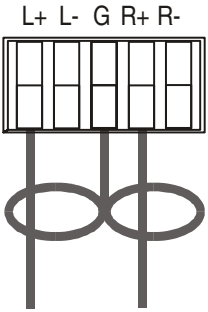


Figure 12: Connecting an Unbalanced Stereo Audio Output

7 Understanding the Presentation Switcher / Scaler

The **VP-725DSA** includes the following front panel buttons:

- A set of 18 INPUT SELECTOR buttons
- A set of Video Group and Scaler Mode SELECT buttons[1] (see section 7.1), as well as Audio Group and Master Audio Group buttons (see section 7.2)
- A FREEZE button (see section 8.1.1)
- A PIP button (see section 7.1)
- A set of 7 OSD buttons (described in Table 1): *OSD ON*, *MENU*, *ENTER*, -, +, *UP*, and *DOWN*

7.1 Understanding the Video Group Mode/Scaler Mode

This is a machine with an 18x1:3 switcher for the Scaler, as well as individual video switchers for the five Video Groups: composite video, s-Video, component video (RGB or YPbPr), DVI-D and VGA.

When the **VP-725DSA** is in use, both modes operate simultaneously, as well as independently. That is, the Scaler output is available even when switching in the Video Group mode, and visa-versa (except for DVI: once a DVI input is selected in the Scaler Mode, that DVI input selection cannot be changed in the Video Group Mode).

In both the Video Group and the Scaler Mode, you can adjust[2] the Audio Level (Mic In).

7.2 Understanding the Audio Group Mode/Master Audio Group Mode

You can work with[3] the following:

- **Audio Group**, which lets you select the audio input from each group for switching. Pressing the Audio Group button illuminates it and displays the Audio Group OSD status. You can adjust[2] the Audio Level (VGA Grp In, Mic In, and VGA Grp Out)

1 VIDEO GROUP MODE SELECT: selects the video input from each group for switching to its group output, and SCALER MODE SELECT: scales the selected video input (one of 18) at each of the SCALED OUTPUTS

2 By pressing the Audio Level key on the infra-red remote control transmitter (see Figure 55). This also cycles between the front panel AUDIO LEVEL buttons: Out, Line, and Mic

3 Select the front panel buttons by pressing them directly, or by pressing the SELECT key on the infra-red remote control transmitter (see Figure 50), or via Source Select OSD menu (see section 8.1.3)

- **AV Group**, which lets you select the audio-follow-video input from each group for switching. Pressing the Video Group button and the Audio Group button illuminate both simultaneously and displays the AV Group OSD status. You can adjust[1] the Audio Level (VGA Grp In, Mic In, and VGA Grp Out)
- **Master Audio**, which lets you route the selected audio input (one of 18) to the MASTER OUT terminal block connector. Pressing the Master Audio Group button illuminates it and displays the Master Audio OSD status. You can adjust[1] the Audio Level (Master In, Mic In, and Master Out)
- **Master AV**, which lets you scale the selected video input (one of 18) at each of the SCALED OUTPUTS and also route the selected audio input (one of 18) to the MASTER OUT terminal block connector. Pressing the Scaler button and the Master Audio button illuminate both simultaneously and displays the Master AV OSD status. You can adjust[1] the Audio Level (Master In, Mic In, and Master Out)

7.3 Understanding the Audio Features

This section describes:

- Switching balanced stereo audio signals in audio-follow-video or breakaway modes (see section 7.3.1)
- Adjusting the audio level (see section 7.3.2)
- Using the Microphone CONTROL Modes (see section 7.3.3)

7.3.1 Choosing Audio-Follow-Video or Audio Breakaway

You can switch balanced stereo audio signals in one of two ways, either:

- **Audio-follow-video** (AFV), in which all operations relate to both the video and the audio channels. To set the Audio-follow-video (AFV) option, make sure that the front panel buttons: Video Group and Audio Group both illuminate simultaneously; or
- **Breakaway**, in which video and audio channels switch independently. To set the Breakaway option, make sure that either the Audio Group button illuminates (for audio control only, that is, switching operations relate to Audio) or the Video Group button illuminates (for video control only, that is, switching operations relate to Video)

1 By pressing the Audio Level key on the infra-red remote control transmitter (see Figure 55). This also cycles between the front panel AUDIO LEVEL buttons: Out, Line, and Mic. The selected AUDIO LEVEL may also be adjusted by pressing the + and – buttons on the front panel

7.3.2 Adjusting the Audio Level

You can set the audio level to determine the volume for each Group input and output, as well as for the Master In, Master Out, and Mic In (see Table 13).

To adjust the group audio level via the front panel:

1. Press the AUDIO GROUP button.
2. Press the AUDIO LEVEL LINE button to adjust the group audio input level or press the AUDIO LEVEL OUT button to adjust the group audio output level.
   An OSD audio level adjustment box appears on the screen. Press the UP and DOWN buttons to scroll through the various groups.
3. Press the + and – buttons to adjust the audio level[1].

To adjust Master Audio level, press the MASTER AUDIO button and repeat step 2 above.

You can mute the audio output by pressing an input button that is already selected. That button blinks, and the audio output is muted. Audio is restored by pressing the button again (the button illuminates).

7.3.3 Using the Microphone CONTROL Modes

Using the MIC CONTROL[2] buttons and/or the OSD, you can do the following:

- **Override**[3], which sends the signal from the microphone to the Master output instead of from the line, whose signal is blocked
- **Mix**, which sends the combined signals from the microphone and the line to the Master output
- **Talkover**, routes the selected input to the output, until an audio signal is detected on the microphone input. When detected, the selected input is faded out (to be faded back in when no input is detected on the microphone)

1 Audio level within the group is adjusted for the selected input only. If you select a different input within the group you have to press the LINE button twice (button light turns off and then on again)

2 Only one of the three buttons can be ON, or all three buttons can be OFF (pressing a button will select that button, and turn OFF the previously selected button. If the selected button is pressed, it will turn it OFF)

3 When no MIC CONTROL button is selected, the audio input is routed to the MASTER output, ignoring the mic input

7.4 Understanding the PIP Button Feature

The Picture-in-Picture inserter (PIP) is used for the simultaneous display of video and graphic sources, and lets you display:

- An inserted video source[1] PIP over a graphic source[2]
- An inserted graphic source[2] PIP over a video source[1]

Your Presentation Switcher / Scaler automatically recognizes and displays only the relevant sources, as the following two examples illustrate:

- Choosing the AV 1 PIP source when the VGA input is selected, will insert the composite video source over the VGA graphic displayed on the screen. You can choose a component[3], YC 1, YC 2 or AV 2 PIP source[4] (instead of the AV 1). You cannot choose VGA 1, VGA 2 or DVI[5]
- Choosing the VGA 1 PIP source when the AV 1 input is selected, will insert the VGA graphic source over the composite video displayed on the screen. You can choose a component[6], VGA 2 or DVI PIP source[7] (instead of the VGA 1). You cannot choose AV 2, YC 1, or YC 2

7.4.1 Activating the PIP Feature

To activate the PIP (which illuminates the PIP button), do one of the following:

- Press the PIP button
- Switch on the PIP functionality via the OSD Menu
- Press the PIP key on the remote control transmitter (see Figure 55)

When the Source Prompt is ON, the PIP is enclosed by an orange frame, and the OSD PIP status appears superimposed over the top right corner of the screen for a few seconds, as Figure 13 illustrates. After a few seconds[8], the orange frame and the OSD PIP status automatically disappear[9].

Activating the PIP subsequently cycles between the PIP with the orange frame and no PIP.

1 That is, composite, s-Video or component

2 That is, DVI, VGA or component

3 At video frequencies

4 As long as it is connected and switched on. Otherwise, choosing it will display a blank screen

5 As these are graphics sources and you cannot insert a graphics PIP over a graphics source

6 At graphic frequencies

7 As long as it is connected and switched on. Otherwise, choosing it will display a blank screen

8 By default, 20 seconds. But you can reset the timeout (from 3 to 60 seconds), see section 9.1.5.7

9 Trying to activate the PIP again while the PIP is still enclosed by an orange frame deactivates the PIP

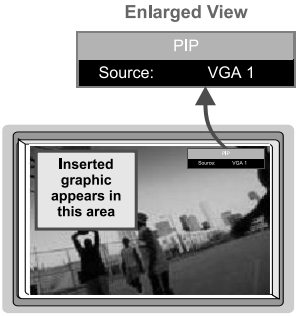


Figure 13: OSD PIP Status

When the Source Prompt is OFF, activating the PIP toggles between the PIP (with no frame and no OSD PIP status) and no PIP.

7.4.2 PIP Characteristics

You can determine the following PIP characteristics:

- PIP Source
- PIP Size (1/25, 1/16, 1/9, 1/4, or split screen)
- Horizontal and Vertical position, placing it anywhere on the screen

7.4.3 Toggling between the PIP and the Screen Source (SWAP)

To toggle back and forth between the PIP content and the screen source content, do the following:

- Press the SWAP key on the Infra-red remote control transmitter (see Figure 55) The OSD SWAP status appears superimposed over the top right corner of the screen for a few seconds[1], as Figure 14 illustrates

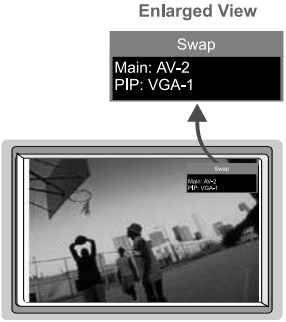


Figure 14: OSD SWAP Status

1 By default, 20 seconds. But you can reset the timeout (from 3 to 60 seconds), see section 9.1.5.7

7.4.4 Resizing the PIP

To resize the PIP (1/25, 1/16, 1/9, 1/4, or split screen):

- When the Source Prompt is ON and the PIP is enclosed by an orange frame, use the Up and/or Down navigation control keys on the infra-red remote control transmitter (see Figure 55) or the *UP* and/or *DOWN* front panel OSD buttons
- Use the OSD Menu

7.4.5 Moving the Position of the PIP

To move the location of the PIP:

- When the Source Prompt is OFF (or ON, but without the orange frame), use the four navigation control keys on the infra-red remote control transmitter (see Figure 55), or the *UP*, *DOWN*, + and/or – front panel OSD buttons

7.5 Locking and Unlocking the Front Panel

To prevent accidental changes to settings or unauthorized tampering with the front panel, you can lock the front panel. This disengages the front panel switches except for the *MENU* button on the front panel (press and hold for 3 seconds to unlock). When the front panel is locked, control from the infra-red remote transmitter is also blocked[1].

To lock the front panel:

- Press and hold the *MENU* front panel OSD button or the MENU key on the infra-red remote control transmitter (see Figure 55) for a few seconds, until the Key Lock On OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[2], as Figure 15 illustrates

Figure 15: Locking / Unlocking the Front Panel

To unlock the front panel (releasing the protection mechanism):

- Press and hold the *MENU* front panel OSD button or the MENU key on the infra-red remote control transmitter (see Figure 55) for a few seconds, until the Key Lock Off OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[2]

1 However, operation via RS-232 serial commands (remote controller or PC) and/or ETHERNET is still available

2 By default, 20 seconds. But you can reset the timeout (from 3 to 60 seconds), see section 9.1.5.7

8 Operating the Presentation Switcher / Scaler

This section describes how to:

- Switch and scale an input (see section 8.1)
- Select the output resolution (see section 8.2)

8.1 Switching an Input

You can switch seamlessly[1] between each input[2] that is connected to a source, by pressing the appropriate INPUT SELECTOR button (when the SCALER button is selected). The OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[3], as Figure 16 illustrates:

Figure 16: OSD Input Status

You can also use the INPUT SELECTOR button to freeze the image (see section 8.1.1) or to display a blank screen (see section 8.1.2).

8.1.1 Freezing the Image

You can freeze the image, by either:

- Pressing the FREEZE key on the infra-red remote control transmitter (see Figure 55) or the *FREEZE* front panel button
  The image freezes. The *FREEZE* front panel button illuminates and the appropriate INPUT SELECTOR button flashes. The Freeze OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[3]; **or**

1 For glitchless transitions between inputs

2 To set the image transition speed (fast, moderate or safe), see section 9.1.5.6

3 By default, 20 seconds. But you can reset the timeout (from 3 to 60 seconds), see section 9.1.5.7

- Pressing the appropriate illuminated INPUT SELECTOR front panel button or the appropriate INPUT SELECTOR key on the infra-red remote control transmitter (see Figure 55)
  The image freezes. The *FREEZE* front panel button illuminates and the appropriate INPUT SELECTOR button flashes. The Freeze OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[1]

8.1.2 Displaying a Blank Screen

You can display a blank screen, as follows:

1. Press the appropriate illuminated INPUT SELECTOR front panel button or the appropriate INPUT SELECTOR key on the infra-red remote control transmitter (see Figure 55)[2].
   The image freezes. The *FREEZE* front panel button illuminates and the appropriate INPUT SELECTOR button flashes. The Freeze OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[1]
2. Press the appropriate flashing INPUT SELECTOR front panel button or the INPUT SELECTOR key on the infra-red remote control transmitter (see Figure 55)
   The frozen image is replaced by a blank screen. The *FREEZE* front panel button continues to illuminate and the appropriate INPUT SELECTOR button flashes more slowly. The Blank status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[1]

You can choose the color of the blank screen (blue or black - see Figure 46).

1 By default, 20 seconds. But you can reset the timeout (from 3 to 60 seconds), see section 9.1.5.7

2 Alternatively, press the FREEZE key on the infra-red remote control transmitter (see Figure 55) or the FREEZE front panel button. This will cause the FREEZE front panel button to illuminate and the appropriate INPUT SELECTOR button to flash

8.2 Choosing the Output Resolution

You can select the output resolution by pressing the OUT key on the infra-red remote control transmitter (see Figure 55) or via the Output Setting OSD menu (see Table 17). The OSD status appears superimposed over the top right corner of the screen (when the Source Prompt is ON) for a few seconds[1], as Figure 17 illustrates[2]:

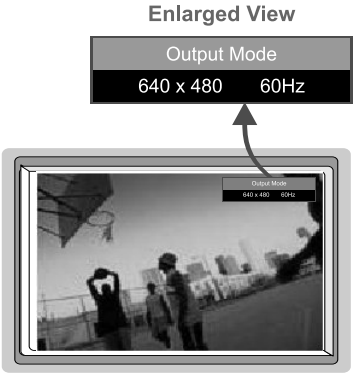


Figure 17: OSD Output Status

1 By default, 20 seconds. But you can reset the timeout (from 3 to 60 seconds), see section 9.1.5.7

2 Adjusting the output resolution results in a corresponding adjustment to the size of the OSD status window

9 Controlling the VP-725DSA Presentation Switcher / Scaler

You can control the Presentation Switcher / Scaler via:

- The OSD Menu Screen (see section 9.1)
- The front panel LCD Display (see section 9.2)
- The infra-red remote control transmitter (see section 9.3)
- ETHERNET (see section 9.4)
- RS-232 remote control

9.1 Operating via the OSD MENU Screen

The OSD superimposes a menu on the screen from which you can control your **VP-725DSA**. When the OSD ON front panel button is selected, pressing the *MENU* front panel OSD button or the MENU key on the infra-red remote control transmitter (see Figure 55) displays the first OSD screen, the "Brightness and Contrast" screen (see Figure 18).

If the OSD is locked[1], pressing the *MENU* front panel OSD button or the MENU key on the infra-red remote control transmitter (see Figure 55) will not display the "Menu screen". In this case, you can navigate via the front panel LCD.

After initially pressing the *MENU* front panel OSD button or the MENU key on the infra-red remote control transmitter, each subsequent press moves to the previous level in the OSD screen (Esc.).

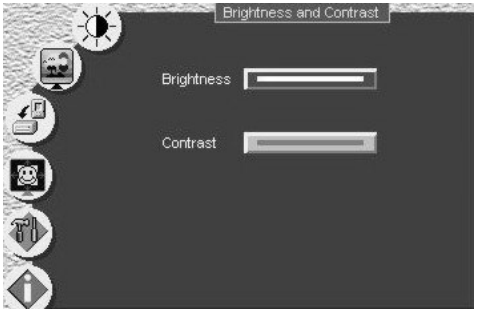


Figure 18: Controlling the Brightness and Contrast

1 Pressing the OSD ON front panel OSD button or the OSD key on the infra-red remote control transmitter (see Figure 55) will block access to the OSD Menu

Figure 19 defines the six interactive icons[1]:

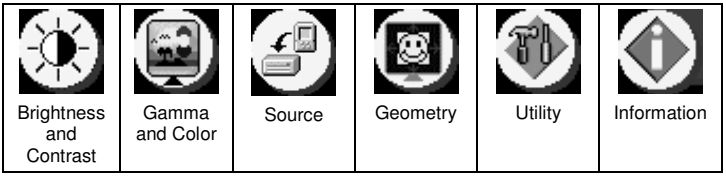


Figure 19: Menu Screen Icons

9.1.1 Controlling the Brightness and Contrast

Figure 18 and Table 6 define the Brightness and Contrast Screen:

Table 6: Controlling the Brightness and Contrast

Brightness and Contrast		
Level 1	**Range**	**Default**
Brightness	0 to 128	64
Contrast	0 to 128	64

9.1.2 Controlling the Gamma and Color

Figure 20 and Table 7 define the Gamma and Color Screen. You can choose Normal (average setting), Presentation (higher black level), Cinema (higher white balance), Nature (higher green level), User 1 or User 2.

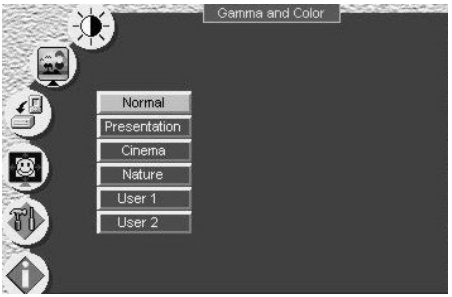


Figure 20: Controlling the Gamma and Color

1 Each icon represents a Level 1 function. In addition to Level 1, the OSD structure includes Level 2 (a subset of level 1), Level 3 (a subset of level 2), Level 4 (a subset of level 3) and Range

Table 7: Controlling the Gamma and Color

Gamma and Color			
Level 1	**Level 2**	**Range**	**Default**
Normal			
Presentation			
Cinema			
Nature			
User 1 / 2	Gamma	-10 to 10	0
	Color Temperature		
	Red	0 to 127	64
	Green	0 to 127	64
	Blue	0 to 127	64
	Color Manager		
	Red	0 to 32	16
	Green	0 to 32	16
	Blue	0 to 32	16
	Yellow	0 to 32	16

Choosing User 1 or User 2 from the Gamma and Color Screen illustrated in Figure 20, displays the Gamma, Color Temperature and Color Manager Screen in Figure 21. Each user setting is customized to the applicable environment. The user sets the parameters and saves them for recall later.

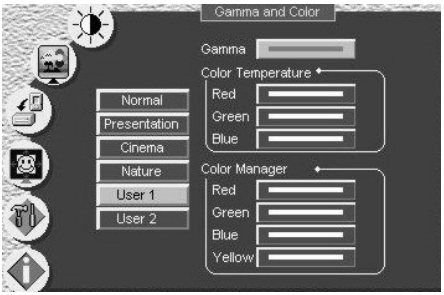


Figure 21: Gamma, Color Temperature/Manager User 1/2 Screen

9.1.3 Selecting the Source

Figure 22 and Table 8 define the Source (Search, Select, and Source) Screen.

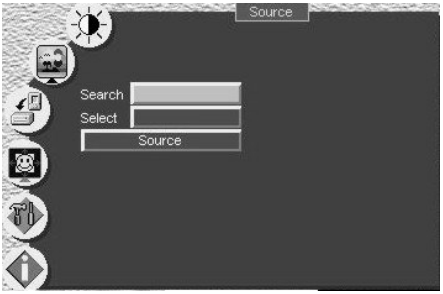


Figure 22: Selecting the Source

Table 8: Selecting the Source

Source		
Level 1	**Level 2**	**Level 3**
Search	Manual	
	Auto	
Select	Video Group	
	Audio Group	
	AV Group	
	Scaler	
	Master Audio	
	Master AV	
Source	VGA Group	VGA1
		VGA2
		VGA3
		VGA4
	DVI Group	DVI1
		DVI2
	Comp Group	Comp1
		Comp2
		Comp3
		Comp4
	YC Group	YC1
		YC2
		YC3
		YC4
	AV Group	AV1
		AV2
		AV3
		AV4
	Master	VGA1
		VGA2
		VGA3
		VGA4
		DVI1
		DVI2
		Comp1
		Comp2
		Comp3
		Comp4
		YC1
		YC2
		YC3
		YC4
		AV1
		AV2
		AV3
		AV4

Figure 23 illustrates the Search (Manual or Auto) option:

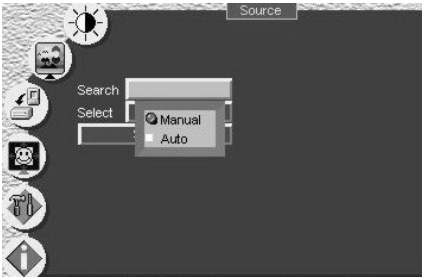


Figure 23: Selecting the Search

Selecting Manual Search disables the Auto Search option (which finds the active source). After powering up, the **VP-725DSA** will not scan for an active input but will display the source selected prior to power down, even if that input is inactive.

Figure 24 illustrates the Group Select option. The Video Group[1], Audio Group[2], AV Group[3], Scaler[4], Master Audio[5], and Master AV[6] are available with the **VP-725DSA**:

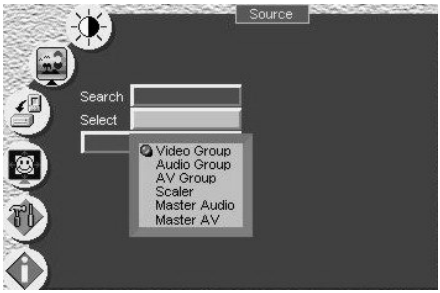


Figure 24: Selecting the Group

Figure 25 illustrates the Source:

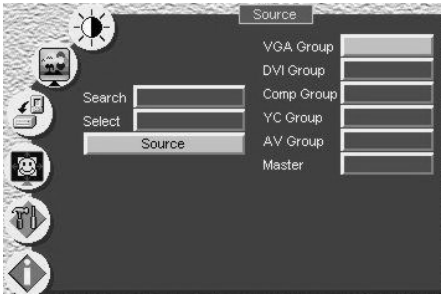


Figure 25: Selecting the Source

1 Selects the video input from each group: CV, YC, Component, VGA, DVI for switching to its local (group) output

2 Selects the audio (breakaway mode) input from each group for switching

3 Selects the audio-follow-video input from each group for switching

4 Converts the selected input (one of 18) to the SCALED OUTPUTS

5 Routes the selected audio input (one of 18) to the MASTER OUT terminal block connector (see the example in Figure 4)

6 Converts the selected video input (one of 18) to the SCALED OUTPUTS, and also routes the selected audio input (one of 18) to the MASTER OUT terminal block connector (see the example in Figure 5)

9.1.4 Controlling the Geometry

Figure 26 and Table 9 define the main Geometry Screen, from which you can choose the aspect ratio, zoom, and set the keystone angle:

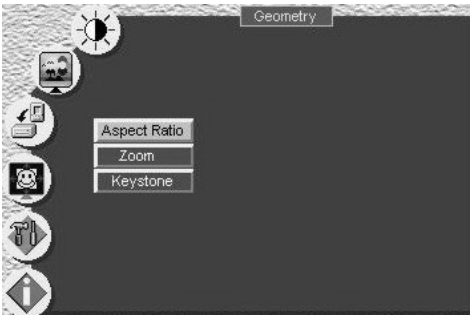


Figure 26: Geometry Screen

Table 9: Controlling the Geometry

Geometry				
Level 1	**Level 2**	**Level 3**	**Range**	**Default**
Aspect Ratio	Anamorphic			
	Virtual Wide			
	Letterbox	Pan	-32 to 32	0
	Native	Left + Up		
		Right + Up		
		Center		
		Left + Down		
		Right + Down		
	4:3 Output	Shift	-32 to 32	0
	User Define	H-Zoom	-32 to 32	0
		V-Zoom	-32 to 32	0
		H-Pan	-32 to 32	0
		V- Pan	-32 to 32	0
Zoom	Zoom Ratio	100%		
		150%		
		200%		
		225%		
		250%		
		275%		
		300%		
		325%		
		350%		
		375%		
		400%		
	Zoom Position Adjustment			
Keystone	Angle		-32 to 32	0

Figure 27 illustrates the Geometry (Aspect Ratio) Screen. You can set the following characteristics according to your specific requirements: anamorphic (displays the aspect ratio (usually 16:9)), virtual wide (anamorphic plus non-linear scaling), letterbox (the vertical line is expanded to full screen[1]—it is assumed that there are two bands of black, top and bottom of the screen), native (lets you set the native resolution according to the specifications of the plasma screen or projector), 4:3 output (the length to height ratio is 4:3), and user define (H-Zoom, V-Zoom, H-Pan, and V-Pan):

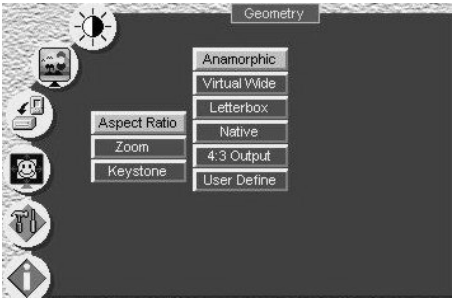


Figure 27: Geometry (Aspect Ratio) Screen

Figure 28 illustrates the Geometry (Zoom) Screen:

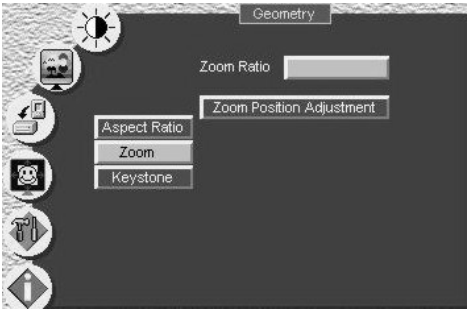


Figure 28: Geometry (Zoom) Screen

The zoom ratio and the zoom position are illustrated by a small rectangle inside a transparent pop-up OSD Enlarge status box that appears at the top right corner of the screen, as the example in Figure 29 illustrates:

1 Panning the picture refers to resizing and cropping it

Figure 29: OSD Enlarge Status

When you change the zoom ratio or zoom position, the screen image is adjusted correspondingly, and the change is reflected in the pop-up OSD Enlarge status box. For example, Figure 30 illustrates a zoom ratio increase from 200% (Image A) to 400% (Image B):

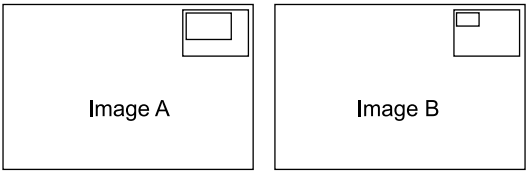


Figure 30: Zoom Ratio Adjustment Example

Figure 31 illustrates how the pop-up OSD Enlarge status box shows a zoom position adjustment from the top left corner (Image C) to the lower right corner (Image D):

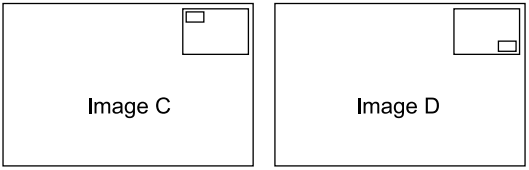


Figure 31: Zoom Position Adjustment Example

9.1.4.1 Adjusting the Zoom Ratio

You can adjust the zoom ratio to up to 400% via one or both of these methods:

- Using the Zoom + and/or the Zoom - control keys[1] on the infra-red remote control transmitter (see Figure 55). The pop-up OSD Enlarge status box continuously displays the zoom ratio and position, as Figure 29 illustrates
- Using the OSD Menu buttons, as Figure 32 illustrates

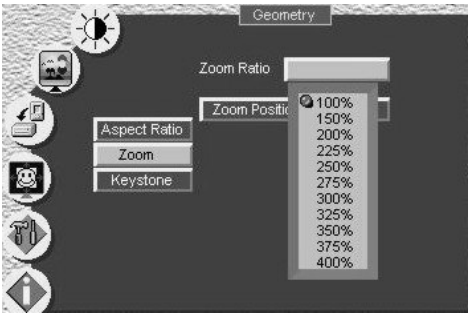


Figure 32: Geometry (Zoom Ratio) Screen

9.1.4.2 Adjusting the Zoom Position

You can adjust the zoom position (see the example in Figure 31) via one or more of the following methods:

- Using the navigation control keys on the infra-red remote control transmitter (see Figure 55), to fine tune the zoom position (that is, to slowly zoom-in at any location on the screen)[2]
- Using the OSD Menu buttons (see Figure 33)[3]

1 The ZOOM- and the ZOOM+ buttons

2 For example, to zoom-in toward the lower right of the image, press the → and the ↓ buttons separately, as required

3 For example, to zoom-in to the lower right part of the image instead of the top left part, press the + and DOWN OSD Menu buttons separately, as required

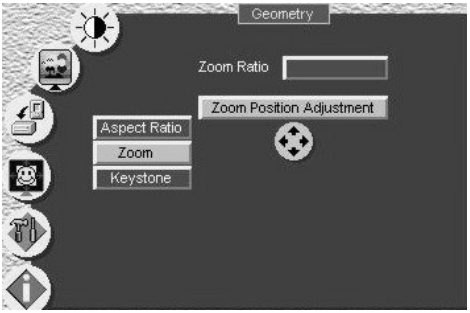


Figure 33: Geometry (Zoom Position Adjustment) Screen

You can adjust the Keystone (to keep the picture rectangular) according to your specific requirements (see Figure 34).

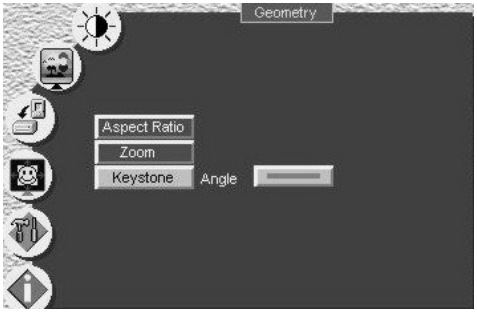


Figure 34: Geometry (Keystone) Screen

9.1.5 Configuring via the Utility Screens

You can determine how your **VP-725DSA** will function either generally or on a specific occasion, via the Utility screen settings (see Figure 35):

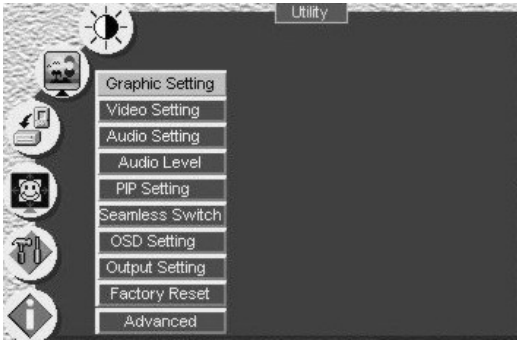


Figure 35: Utility Screen

9.1.5.1 Choosing the Graphic Utility Settings

Figure 36 and Table 10 define the Graphic[1] Setting Utility screen. You can set the color format (see Figure 37), position, color, hue, sharpness, frequency and phase, as well as auto image[2] and auto gain[3].

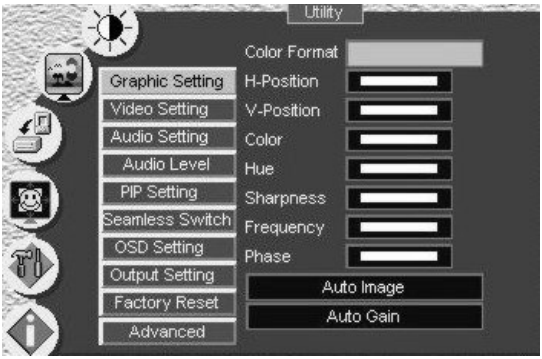


Figure 36: Choosing the Graphic Utility Settings

Table 10: Choosing the Graphic Utility Settings

Utility				
Level 1	**Level 2**	**Level 3**	**Range**	**Default**
Graphic Setting	Color Format	Default		
		RGB		
		YUV		
	H-Position		0 to 255	128
	V-Position		0 to 255	128
	Color		0 to 128	70
	Hue		0 to 128	64
	Sharpness		0 to 16	8
	Frequency		0 to 100	49
	Phase		0 to 31	0
	Auto Image			
	Auto Gain			

Selecting the color format (see Figure 37) lets you select RGB or YUV[4] colorspace. When the Default setting is chosen, the colorspace is set according to the detected input resolution.

1 When a VGA source is selected, "Graphic Setting" will be shown. "HDTV Setting" will appear when an HDTV source is selected

2 Assesses the image and improves the quality accordingly, by automatically adjusting the phase, frequency and position

3 Automatically adjusts the brightness and contrast

4 That is Y, B-Y, R-Y colorspace, also known as Y, C_b, C_r or Y, P_b, P_r

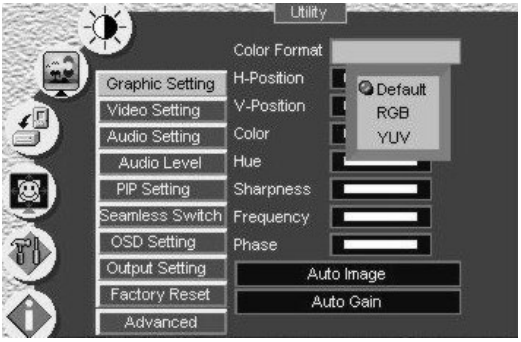


Figure 37: Graphic Setting Color Format Utility Screen

9.1.5.2 Choosing the Video Utility Settings

Figure 38 and Table 11 define the Video Setting Utility screen. You can set the Color Format, Standard (see Figure 39), color, hue, sharpness, and position.

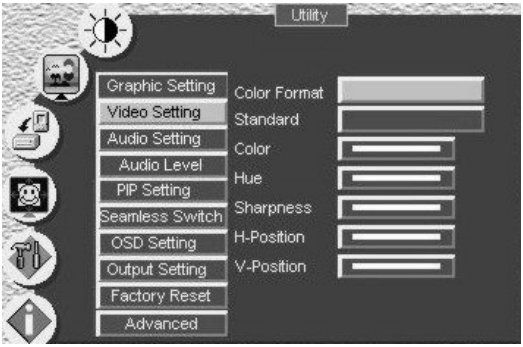


Figure 38: Choosing the Video Utility Settings

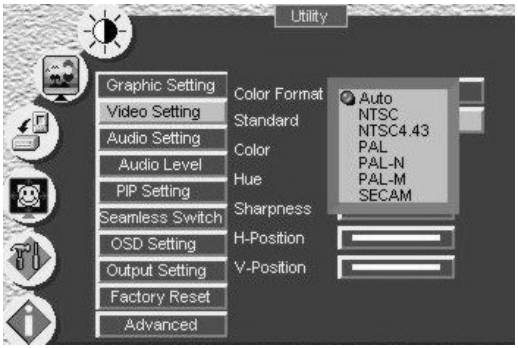


Figure 39: Video Setting Standard Utility Screen

Table 11: Choosing the Video Utility Settings

Utility					
Level 1	**Level 2**	**Level 3**	**Level 4**	**Range**	**Default**
Video Setting	Color Format	Default			
		RGB			
		YUV			
	Standard	Auto	Auto		
			NTSC		
			NTSC4.43		
			PAL		
			PAL-N		
			PAL-M		
			SECAM		
	Color			0 to 128	64
	Hue			0 to 128	64
	Sharpness			0 to 16	11
	H-Position			0 to 20	15
	V-Position			0 to 20	10

9.1.5.3 Choosing the Audio Utility Settings

Figure 40 and Table 12 define the Audio Setting Utility screen:

Figure 40: Choosing the Audio Utility Settings

Table 12: Choosing the Audio Utility Settings

Utility				
Level 1	**Level 2**	**Level 3**	**Range**	**Default**
Audio Setting	Mic Control	All off		
		Override		
		Mix		
		Talkover		
	Treble		0 to 255	128
	Bass		0 to 255	128
	Balance		0 to 255	128
	Loudness	Off		
		On		

9.1.5.4 Choosing the Audio Level Utility Settings

Figure 41 and Table 13 define the Audio Level Utility screen[1]:

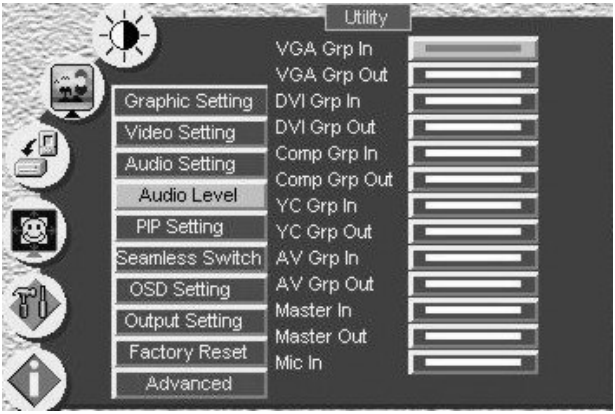


Figure 41: Choosing the Audio Level Settings

Table 13: Choosing the Audio Level Settings

Utility			
Level 1	**Level 2**	**Range**	**Default**
Audio Level	VGA Grp In	0 to 255	160
	VGA Grp Out	0 to 255	160
	DVI Grp In	0 to 255	160
	DVI Grp Out	0 to 255	160
	Comp Grp In	0 to 255	160
	Comp Grp Out	0 to 255	160
	YC Grp In	0 to 255	160
	YC Grp Out	0 to 255	160
	AV Grp In	0 to 255	160
	AV Grp Out	0 to 255	160
	Master In	0 to 255	160
	Master Out	0 to 255	160
	Mic In	0 to 255	0

1 For an explanation of how to adjust the audio level, see section 7.3.2

9.1.5.5 Choosing the PIP Utility Settings

Figure 42 and Table 14 define the PIP Setting Utility screen. You can activate the PIP, choose the source, the size, and the position of the PIP.

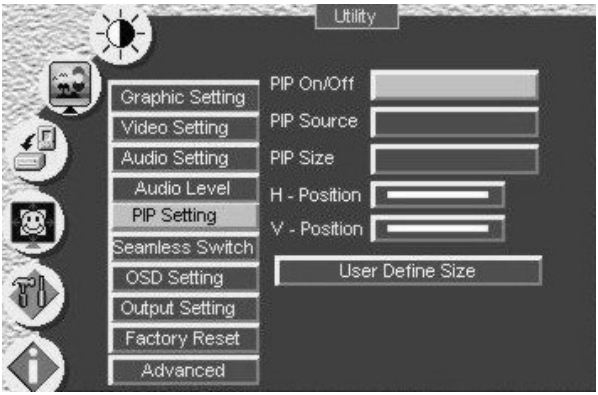


Figure 42: Choosing the PIP Utility Settings

Table 14: Choosing the PIP Utility Settings

Utility				
Level 1	**Level 2**	**Level 3**	**Range**	**Default**
PIP Setting	PIP On/Off	Off		
		On		
	PIP Source	VGA-1		
		VGA-2		
		VGA-3		
		VGA-4		
		DVI-1		
		DVI-2		
		Comp1		
		Comp2		
		Comp3		
		Comp4		
		YC-1		
		YC-2		
		YC-3		
		YC-4		
		AV-1		
		AV-2		
		AV-3		
		AV-4		
	PIP Size	1/25		
		1/16		
		1/9		
		1/4		
		Split		
	H-Position		0 to 36	1
	V-Position		0 to 36	1
	User Define Size	H-Width	1 to 255	63
		V-Height	1 to 255	63

9.1.5.6 Choosing the Seamless Switch Utility Settings

Figure 43 and Table 15 define the Seamless Switch Utility screen. You can choose the image transition speed Mode[1].

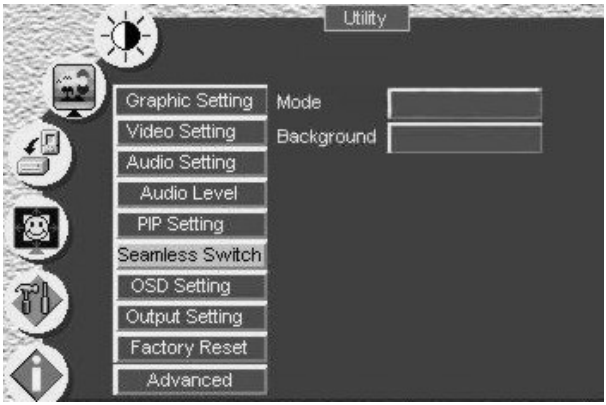


Figure 43: Choosing the Seamless Switch Utility Settings

Table 15: Choosing the Seamless Switch Utility Settings

Utility		
Level 1	**Level 2**	**Default**
Seamless Switch	Fast	*
	Moderate	
	Safe	
Background	Blue	Blue
	Black	

1 FAST (an immediate switch, without checking the resolution. However, the image transition may appear unstable), MODERATE (between fast and safe) or SAFE (a smooth image transition - the input resolution at the input is checked and outputted after a few seconds delay, but it takes longer than fast)

9.1.5.7 Choosing the OSD Utility Settings

Figure 44 and Table 16 define the OSD Setting Utility screen. You can set the OSD position, time out, size (see Figure 45), source prompt[1], and choose the blank color (blue or black - see Figure 46).

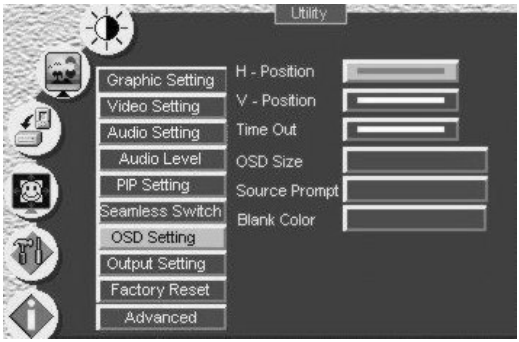


Figure 44: Choosing the OSD Utility Settings

Table 16: Choosing the OSD Utility Settings

Utility				
Level 1	**Level 2**	**Level 3**	**Range**	**Default**
OSD Setting	H-Position		0 to 36	18
	V-Position		0 to 36	18
	Time Out		3 to 60	20
	OSD Size			
	Source Prompt	Off		
		On		
	Blank Color	Blue		
		Black		

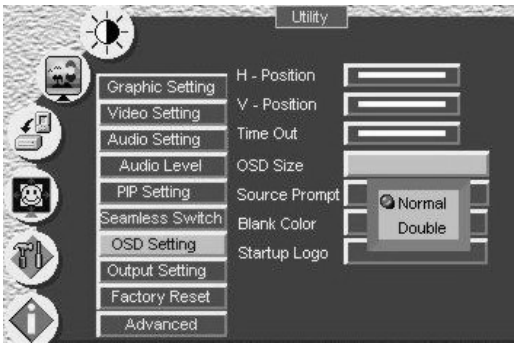


Figure 45: OSD Size Utility Screen

1 We recommend that you set the source prompt ON, when adjusting the system. During a presentation, set the source prompt OFF to avoid the appearance of OSD screen labels

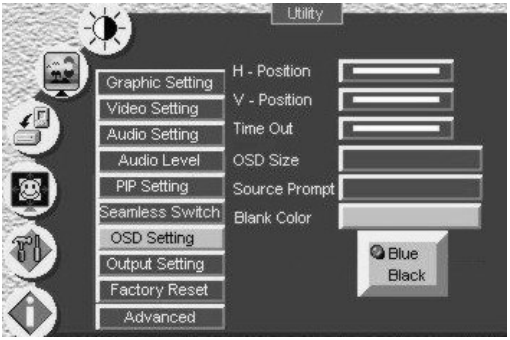


Figure 46: OSD Blank Color Utility Screen

9.1.5.8 Choosing the Output Utility Settings

Figure 47 and Table 17 define the Output Setting Utility screen. You can set the resolution[1] (see Figure 48), refresh rate (see Figure 49), color format, and a user definable output mode[2] (see Figure 50 and Table 18).

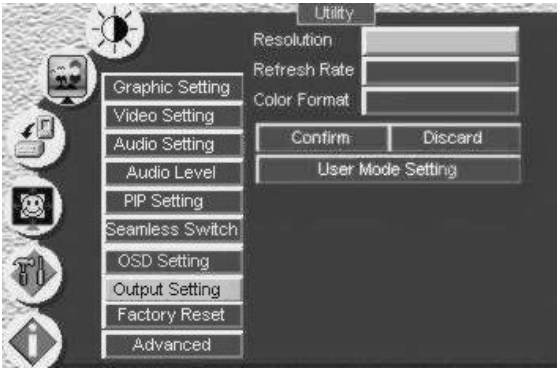


Figure 47: Choosing the Output Utility Settings

1 That is, the identical resolution at each scaled output

2 Recommended for advanced users only – non-standard settings may not be recognized by the display device

Table 17: Choosing the Output Utility Settings

Utility				
Level 1	**Level 2**	**Level 3**		
Output Setting	Resolution	640x480	1280x720	832x624
		800x600	720x483	1024x800
		1024x768	852x480	1152x864
		1280x1024	1400x1050	1152x870
		1600x1200	480P	1152x900
		852x1024i	720P	1280x960
		1024x1024i	1080i	1280x768
		1366x768	576P	1024x576
		1365x1024	720x400	User Define
	Refresh Rate	60Hz		
		75Hz		
		85Hz		
	Color Format	Default		
		RGB		
		YUV		
	Confirm			
	Discard			
	User Mode Setting			

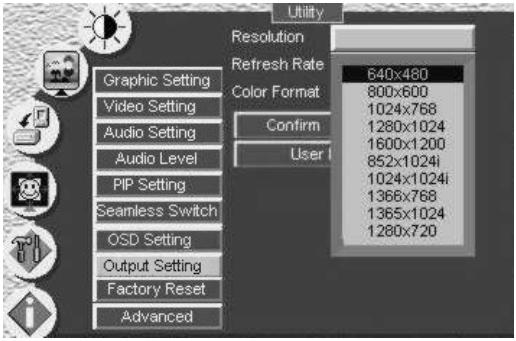


Figure 48: Output Setting Resolution Utility Screen

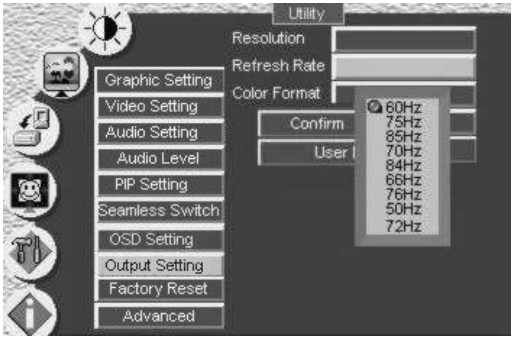


Figure 49: Output Setting Refresh Rate Utility Screen

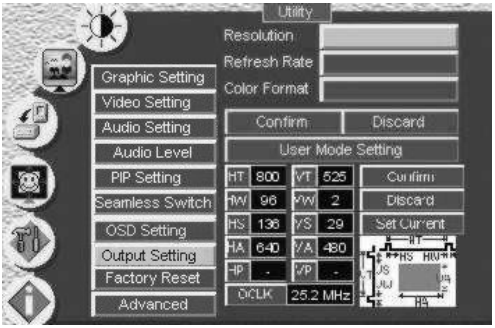


Figure 50: Output Setting User Mode Setting Utility Screen

Table 18: User Mode Setting Definitions

User Mode Setting Definitions	
HT:	Horizontal total
HW:	Horizontal sync pulse width
HS:	Horizontal active start point
HA:	Horizontal active region
HP:	Horizontal polarity
VT:	Vertical total
VW:	Vertical sync pulse width
VS:	Vertical active start point
VA:	Vertical active region
VP:	Vertical polarity
OCLK:	Output clock
Confirm:	Confirm the action
Discard:	Cancel the action
Set Current:	Import the values of the currently selected output resolution into the User Mode Setting

9.1.5.9 Choosing Factory Reset

From the Factory Reset Utility screen (see Figure 51), you can reset your **VP-725DSA** to its preset default setting:

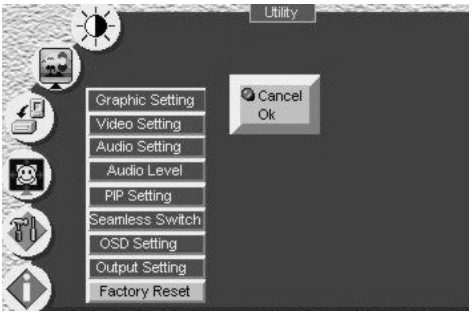


Figure 51: Factory Reset Utility Screen

9.1.5.10 Choosing Advanced Utility Settings

Figure 52 and Table 19 define the Advanced Utility screen.

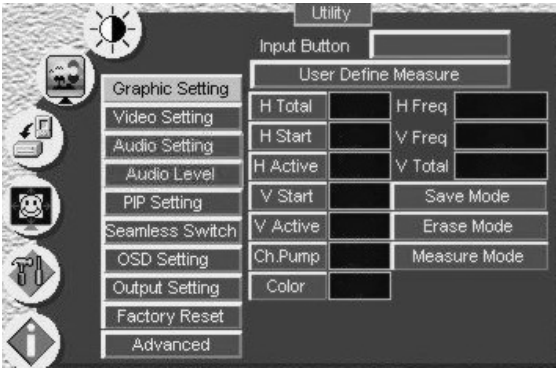


Figure 52: Advanced Utility Screen

Table 19: Advanced Utility Screen Features

Button	Function
Input Button	You can set the function of the input button besides selecting the input signal: Freeze/Blank (press the selected input button once to freeze the frame, press again to create a blank screen and again to return to normal state); Freeze (press once to freeze the frame, press again to cancel freeze); Blank (press once to insert blank screen, press again to return to display); Ignore (input button ignores freeze and blank – you can freeze the frame or insert a blank screen only via the Freeze and Blank buttons respectively)
User Define Measure	Measures and displays the parameters of the currently selected input (see Figure 52 and Table 20)

Table 20 describes the User Define Measure features.

Table 20: User Define Measure Features

User Mode Setting Definitions	
H Total	Horizontal Total
H Start	Horizontal active start point
H Active	Horizontal active region
V Start	Vertical active start point
V Active	Vertical active region
Ch. Pump	Charge pump current
Color	Color format
H Freq	Horizontal Frequency
V Freq	Vertical Frequency
Measure Mode	Select between Default and User Define

9.1.6 Verifying Configuration Details via the Information Screen

From the Information screen (see Figure 53), you can verify information that includes: the main source, the PIP source, the output mode, as well as the unit's firmware versions:

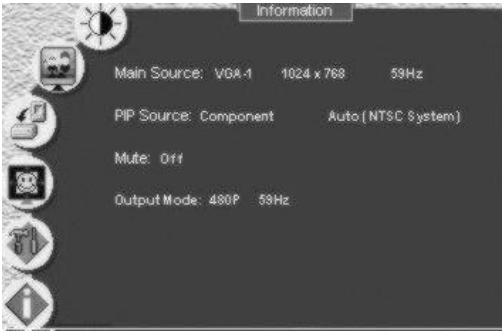


Figure 53: Information Screen

9.2 Operating via the LCD Display

You can control the **VP-725DSA** from the front panel high contrast LCD Display. You can also operate the **VP-725DSA** via the LCD Display, using the:

- Front panel OSD buttons: *MENU*, *ENTER*, -, +, *UP* and *DOWN*
- Infra-red remote control transmitter (see Figure 55) keys: MENU, and the navigation keys

For example, to set[1] the Keystone to 6 via the LCD Display, using the front panel buttons, do the following:

1. Turn the **VP-725DSA** unit ON, and press the OSD ON button (if selected).
2. Press the appropriate front panel OSD buttons (as defined in Figure 54).

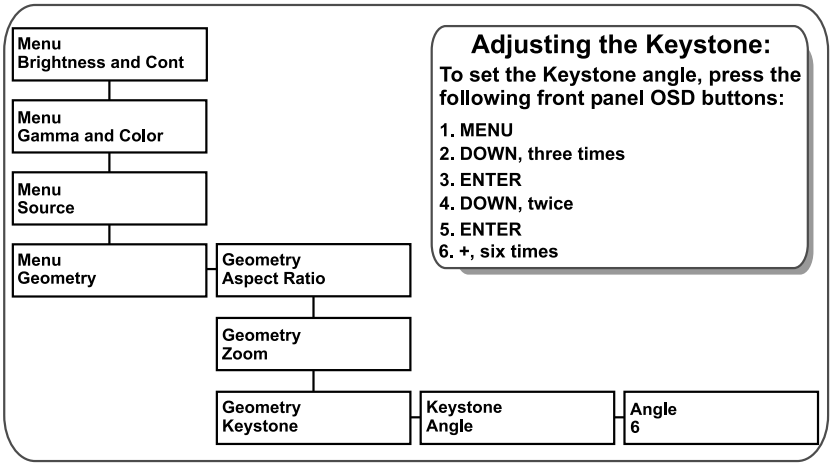


Figure 54: Example of how to use the LCD Display

9.3 Operating via the Infra-red Remote Control Transmitter

You can control the **VP-725DSA** remotely, from the infra-red remote control transmitter (that has a range of up to 15 meters and is powered by two AAA size 1.5V DC batteries), as defined in Figure 55 and Table 21:

1 To keep the picture rectangular. Figure 34 illustrates how to adjust the Keystone via the OSD Menu

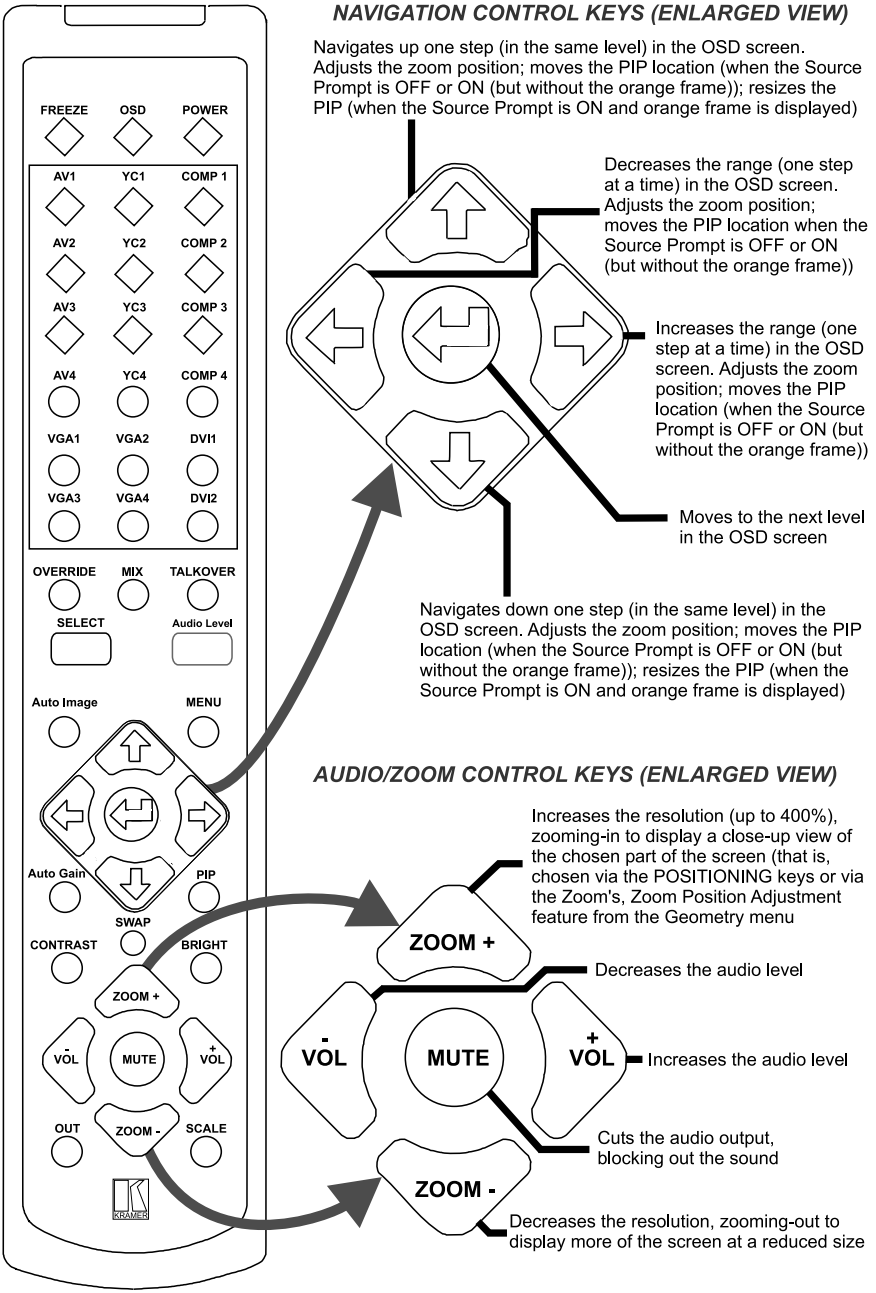


Figure 55: Infra-red Remote Control Transmitter

Table 21: Infra-Red Remote Control Transmitter Functions

Keys	Function
FREEZE	Freezes the output video image
OSD	Activates/deactivates access to the OSD Menu[1]
POWER	Cycles power[2]
INPUT SELECTOR[3]	18 separate keys for selecting these sources: AV1, AV2, AV3, AV4; COMP1, COMP2, COMP3, COMP4; YC1, YC2, YC3, YC4; VGA1, VGA2, VGA3, VGA4; DVI1 and DVI2
OVERRIDE	Sends the signal from the microphone to the Master output instead of from the Line, whose signal is blocked
MIX	Sends the combined signals from the microphone and the Line to the Master output
TALKOVER	Routes the selected input to the output, until an audio signal is detected on the microphone input. When this happens the selected input is faded out (to be faded back in when no input is detected on the microphone)
SELECT	Cycles between Video Group and Scaler
Audio Level	Set the audio level (volume) for each Group input and output, as well as for the Master In, Master Out, and Mic In
Auto Image	Assesses the image and improves the quality accordingly, by automatically adjusting the phase, frequency and position
MENU	Displays the OSD Menu screen[4] and locks/unlocks the front panel (see section 7.5)
NAVIGATION CONTROL[5]	Allow maneuvering within an OSD screen (all keys); adjusts the zoom position (4 keys); moves the PIP location when the Source Prompt is OFF (4 keys); resizes the PIP when the Source Prompt is ON (2 keys)
Auto Gain	Automatically adjusts the brightness and contrast
PIP	Toggles the picture-in-picture function and illuminates/turns off the PIP button (see section 7.1)
SWAP	Toggles between the PIP content and the screen source content (see section 7.4.3)
CONTRAST	Displays the contrast status (adjust using the ⇒/⇐ keys)
BRIGHT	Displays the brightness status (adjust using the ⇒/⇐ keys)
ZOOM CONTROL[5]	Allows volume and zoom control
OUT	Selects the output resolution
SCALE	Toggles between each of the following Aspect Ratios: Anamorphic, Virtual Wide, Letterbox, Native, 4:3 Output, and User Define

1 The OSD ON front panel button is activated (illuminated) by default, and pressing the MENU key (or the MENU front panel button) displays the OSD Menu. To toggle the OSD, press the OSD key (or the OSD ON front panel button); the OSD ON or OSD OFF status appears superimposed over the top right corner of the screen and the OSD button on the front panel is illuminated or turned off. (Note that deselecting the OSD ON front panel button during an OSD operation will not turn off the OSD Menu (even though the OSD OFF status appears superimposed over the top right corner of the screen), until you complete the OSD operation)

2 Puts the machine in standby mode: (powering down the machine except that the power switch on the machine continues to illuminate) and causing the IR Receiver / LED to light red (instead of green)

3 You can also use the INPUT SELECTOR keys to freeze the image (see section 8.1.1) or to display a blank screen (see section 8.1.2)

4 Or moves to the previous level in the OSD screen

5 Consists of a set of 5 separate keys. See the illustration in Figure 55 which shows an enlarged view of this part of the Infra-red remote control transmitter

9.4 Operating via ETHERNET/Serial Port

To control your **VP-725DSA** via the Ethernet/Serial Port, connect the ETHERNET port of the **VP-725DSA** to the Ethernet port of your PC[1] and then install and configure the Ethernet Application (see section 9.4.1).

9.4.1 Installing and Running the Configuration Software

To install the **VP-725DSA** Ethernet Application, do the following:

1. Insert the product CD into your CD-ROM drive[2].
2. Save the zip file on your computer.
3. Run the installer setup.
4. Respond to the installation wizard prompts.
5. Restart your system.

9.4.2 Configuring the Ethernet Connection

Double click the *VP725 Ethernet AP.exe* icon. The *VP725 Ethernet Application* main dialog box appears (see Figure 56), with a configuration tab and a Control tab.

9.4.2.1 The Configuration Screen

Use the Configuration screen to add the device IP address to your computer. Figure 56 and Table 22 define the Configuration tab.

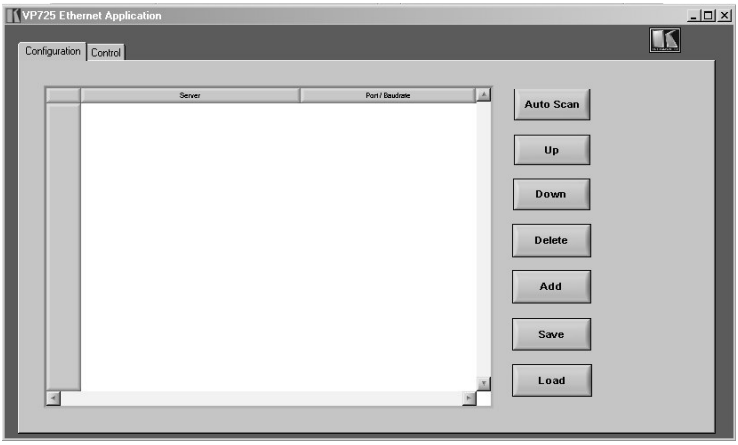


Figure 56: VP725 Ethernet Application Main Dialog Box (Configuration Tab)

1 Or connect the serial port of your VP-725DSA to the serial port of your PC (see section 6.2)

2 Or download the software from our Web site on http://www.kramerelectronics.com

Table 22: VP725 Ethernet Application Configuration Tab

Button	Function
Autoscan	Press to automatically scan for connected machines
Up	Press to scroll down the Server list
Down	Press to scroll up the Server list
Delete	Press to delete an IP number
Add	Press to manually add a server (Com Port or IP Number)
Save	Press to save Server settings
Load	Press to load Server settings

To search for devices, click the **Auto Scan** button. Figure 57 shows a device found on the network, with the IP address assigned at the factory.

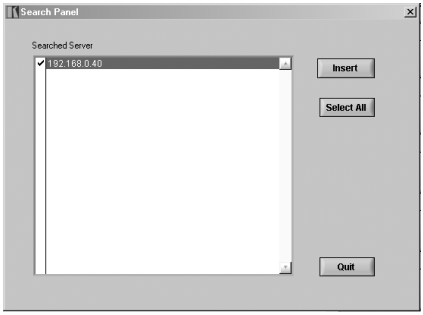


Figure 57: VP725 Ethernet Application Search Panel Screen

Check your machine IP number, and press **Insert** to accept it.

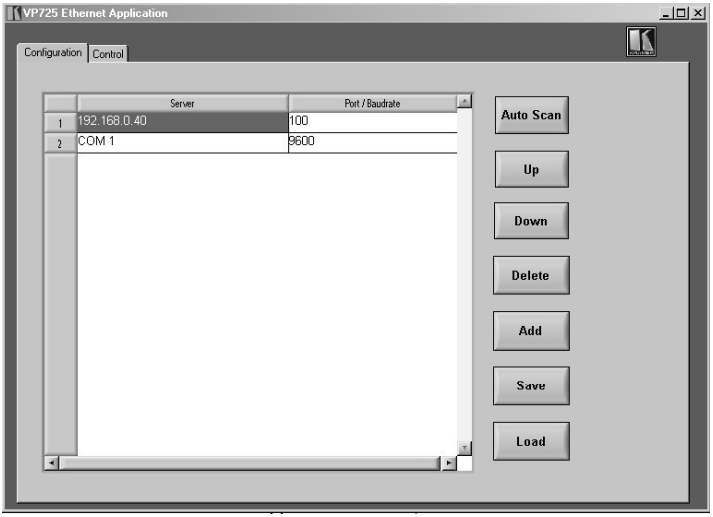


Figure 58: Configuration Tab

To change the IP address of the unit[1], first select the device on the list and then, using the right mouse button, right-click the mouse button. A selection box appears, stating "Set IP Address and "Device Settings"[2]. Select Device setting, enter the new IP address and click **OK**. The new IP address will appear on the screen.

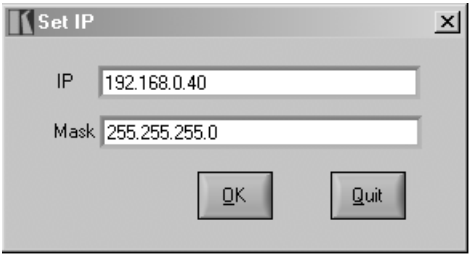


Figure 59: Setting an IP Number

9.4.3 Control the VP-725DSA via the Ethernet/Serial Port

To control the **VP-725DSA** via the Ethernet, do the following:

1. On the *VP725 Ethernet Application* screen, click the **Control** tab.
   The Control screen appears (see Figure 60).
   The Control tab includes a set of control buttons, which enable you to operate and control the machine via the Ethernet or serial ports, according to the configuration.
2. Press one of the eight orange buttons (1 to 8) that appear on the top left side on the screen of the Control tab[3].
   Control the selected machine via the control buttons on the screen[4].

1 The default IP address can be changed to fit your network system

2 From which you can enable/disable the DHCP client (DHCP is Dynamic Host Configuration Protocol), as well as setting the Baud rate (for example, 9600 or 115200)

3 When a machine is connected, the button lights. Otherwise it is unavailable

4 Button turns green

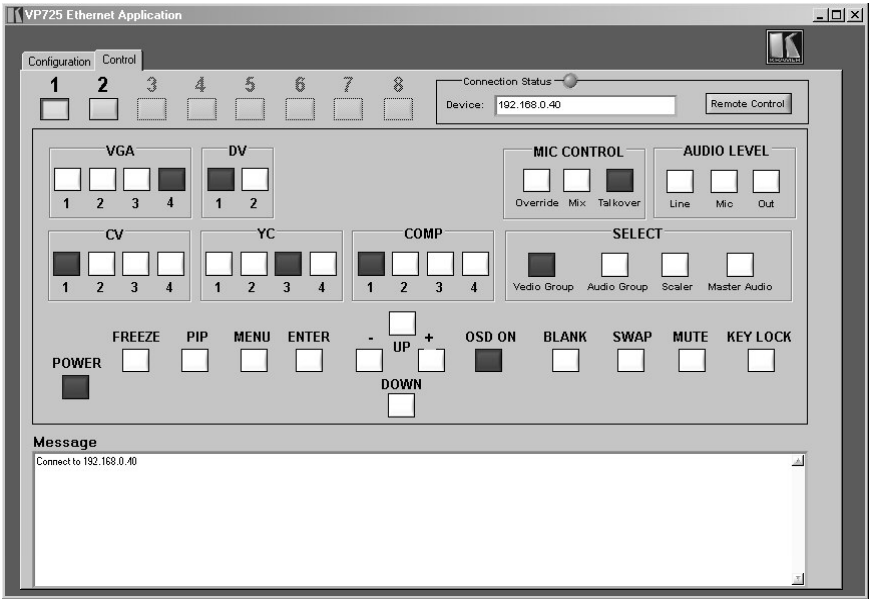


Figure 60: VP725 Ethernet Application Main Dialog Box (Control Tab)

The Control tab includes:

- The front panel buttons
- The BLANK, SWAP, MUTE and KEYLOCK buttons, which appear only on the remote control transmitter
- A Connection Status area consisting of a connection indicator and the device IP number
- A Message area, recording all the operations performed on the machine

By pressing the Remote Control button on the Control tab, you can operate the machine via the virtual remote controller interface, for your convenience.

10 Using Text Overlay

The text overlay feature is accessed via the Application Program (AP)[1].

Running this AP with the PC connected to the **VP-725DSA** lets you display text over the screen, with a rich feature set including text color and speed, transparency, text position and repetition. Current text overlay settings can be saved and loaded to the AP.

Before running this program, you have to close the Ethernet Application program.

Figure 61 and Table 23 define the TextOverlay Application Screen:

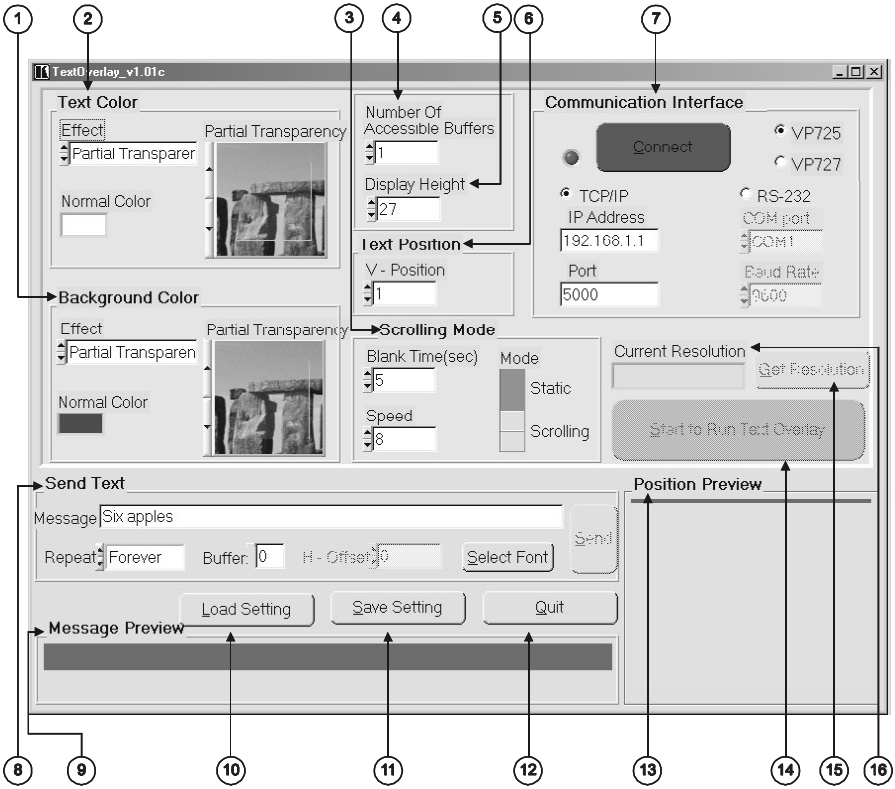


Figure 61: TextOverlay Application Screen

1 You can download it from our Web site: http://www.kramerelectronics.com

Table 23: Features and Functions of the TextOverlay Application

#	Feature		Function
1	*Background Color*	*Effect*[1]	Set to *Normal* for a solid colored background Set to *Partial Transparency* for a partially transparent background Set to *Full Transparency* for a transparent background
		Partial Transparency	Select the partial transparency shade
		Normal Color	Select the background color
2	*Text Color*	*Effect*[1]	Set to *Normal* for solid colored text; set to *Partial Transparency* for partially transparent text; set to *Full Transparency* for transparent text (can be seen over a solid background)
		Partial Transparency	Select the partial transparency shade
		Normal Color	Select the text color
3	Scrolling Mode	*Blank Time*	Set the blank delay time
		Speed	Set the speed at which the text moves on the display
		Mode	Set to *Static* (fixed text) or *Scrolling* (text moves across the display)
4	*Number of Accessible Buffers*		Set the number of messages you can send one after the other (from 1 to 3). The number of buffers limit the display height in relation to the output resolution, as defined in Table 24
5	*Display Height*		Set the thickness of the background stripe (height value is limited by the *Number of Accessible Buffers* and the output resolution, see Table 24)
6	*Text Position – V-Position*		Set the vertical position of the text background on the display screen
7	*Communication Interface*	*Connect/Disconnect*	Connect the machine or disconnect
		TCP/IP Check box	When selected, set the *IP Address* and *Port* to connect via Ethernet[2]
		RS-232 Check box	When selected, set the *COM port* and *Baud Rate* (9600 for **VP-725DSA**) to connect via the RS-232 connector[2]
		VP725 Check box	Select VP725 when connected to a **VP-725** series machine
		VP727 Check box	Select VP727 when connected to a **VP-727** machine
8	Send Text	*Message*	Type the desired text in the *Message* box
		Repeat	Set the number of times that the text message will scroll across the screen[3] (1 to 20), or set to *Forever* to repeat the text message continuously
		Buffer	Depending on the *Number of Buffer*, you can have up to 3 different text messages running over the background
		H-Offset	After selecting the *Static* mode, use the *H-Offset* box to select the horizontal position of the text
		Select Font	Press to select the font and the font size. The text will change on the screen only after pressing the *Send* button
		Send	Transmits the message to be displayed on the screen
9	*Message Preview*		Press to show how the text overlay will look
10	*Load Setting*		Press to load a previously saved setting
11	*Save Setting*		Press to save the current setting
12	*Quit*		Closes the program
13	*Position Preview*		View the position of the text overlay (adjust via *V-Position* selector)
14	*Start to Run Text Overlay*		Press to display the text on screen. The green button becomes a yellow "Stop Text Overlay" button. Press to stop scrolling on screen
15	*Get Resolution*		Press to read the current output resolution
16	*Current Resolution*		Displays the current output resolution

1 Unavailable after pressing the "Start to Run Text Overlay" button

2 You have to select the connection type before connecting the software to the machine

3 For example, set to 2 to repeat the text twice

Table 24: Number of Buffers, Output Resolution and Maximum Display Height

	Maximum Display Height According to Number of Buffers		
Output Resolution	**1**	**2**	**3**
640x480	54	36	27
800x600	43	29	21
832x624	42	28	21
852x480	41	27	20
1024x768	34	22	17
1280x720	27	18	13
1280x768	27	18	13
1280x1024	27	18	13
1366x768	25	17	12
1365x1024	25	17	12
1400x1050	25	16	12
1600x1200	21	14	10
480P	48	32	24
576P	48	32	24
720P	27	18	13
1080i	18	12	9
1080p	18	12	9

10.1 Downloading the TextOverlay Program

To use the TextOverlay Application, download the Text Overlay software from our Web site[1] and follow the on-screen instructions.

10.2 Setting the Text Message

The text overlay parameters can be set before or after pressing the red Connect button.

You can set the following parameters:

- Type the required text in the Message box and press Send
- Select the Background Color items and the Text Color items, including the Effect, the Normal Color and the Partial Transparency
- Select the *Number of Buffer* and the *Display Height*
- Set the *V-Position*
- Set the *Blank Time* and the scrolling *Speed*
- Set the *Mode* to *Static* or *Scrolling*
- If in the *Static* mode, set the text *H – Offset*

1 Go to http://www.kramerelectronics.com

- If required, select the *Buffer* option[1] (0 to 2) to send varying text messages
- Select the *Repeating* frequency (1 to 20 or Forever)
- Select the *Font* and Font size

Table 25 describes when the setup parameters are available:

Table 25: TextOverlay Parameters

The Parameter	Before "Start to Run TextOverlay'	Needs Send[2]?
Number of accessible buffers	Yes	
Display height	Yes	
Mode selection[3]	Yes	
Text Color Effect	Yes	
Background Color Effect	Yes	
Get resolution	Yes	
Normal Color (Text Color)		No
Normal Color (Background Color)		No
V-Position (Text Position)		No
Blank Time (sec)		No
Speed		No
Message		Yes
Repeat		Yes
Buffer		Yes
H-Offset		Yes
Select Font		Yes

10.2.1 Connecting and Disconnecting the TextOverlay Program

To connect the TextOverlay program, do the following:

1. Open the TextOverlay program.
   The TextOverlay application screen appears[4].
2. Select the **VP-725** check box.
3. Select the type of connection to be used[5]:
   - When selecting RS-232, in the COM port box select the COM port you want to use and in the Baud Rate box, select 115200
   - When selecting TCP/IP, in the IP Address box, type the machine IP and in the Port box type the port you want to use

1 This option can be used only if the Number of Buffer is other than 1

2 Determines whether pressing the Send button is required to carryout a change in the parameter

3 Static or Scrolling

4 If required you can load a previously saved setting and continue to step 4 in this procedure

5 If you are loading a previously saved setting, the type of connection is already defined

4. Press the red “Connect” button.
   Once a connection is established, the red “Connect” button changes to a green “Disconnect” button, and the connection type boxes are disabled.
5. If required, type the text in the message box, and edit the text message (see section 10.2).
6. Press the green “Start to run Text Overlay” button.
   The green button changes to a yellow “Stop Text Overlay” button.
7. Click the Send button in the Send Text area.
   Text starts running over the display.

If you need to change any of the settings while the text message is running, do so according to section 10.2.

To disconnect the TextOverlay program, press the green Disconnect button or press the Quit button to exit the program.

10.2.2 Saving and Loading Settings

You can save current settings at any time or load a previously saved setting. When loading a setting[1], the TextOverlay program automatically disconnects and you need to reconnect it.

1 A saved setting also includes the connection type (TCP/IP or RS-232)

11 Technical Specifications

Table 26 includes the technical specifications:

Table 26: Technical Specifications[1] of the VP-725DSA Presentation Switcher / Scaler

INPUTS:	4 x CV 1Vpp/75Ω on BNC connectors; 4 x YC 1Vpp (Y); 0.3Vpp (C)/75Ω on 4p connectors; 4 x Component (Y/G, Pb/B, Pr/R or RGsB[2]) on BNC connectors; 4 x VGA (VGA through UXGA, RGBS or RGsB[2]) on HD15F connectors; 2 x DVI-D on DVI-I connectors. 18 x balanced stereo audio on terminal block connectors, 22dBm; microphone on a female XLR connector
GROUP OUTPUTS:	1x CV 1Vpp/75Ω on a BNC connector; 1 x YC 1Vpp (Y); 0.3Vpp (C)/75Ω on 4p connector; 1 x Component (Y/G, Pb/B, Pr/R) on BNC connectors; 1 x VGA (VGA through UXGA) on an HD15F connector; 1 x DVI-D on a DVI-I connector. 6 x balanced stereo audio on terminal block connectors, 22dBm
SCALED OUTPUTS	1x RGBHV (VGA format) / component HDTV on an HD15F connector; 1 x RGBHV / YPbPr on BNC connectors; 1 x DVI-D on a DVI-I connector; Master Audio Output
MASTER AUDIO OUTPUT:	1 x balanced stereo audio on terminal block connector, 22dBm
OUTPUT RESOLUTIONS:	VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024), UXGA (1600 x 1200), 1024 x 852,1024 x 1024, 1366 x 768, 1365 x 1024, 1280 x 720, 720 x 483, 852 x 480, 1400 x 1050, 480p, 720p, and 1080i, as well as a user definable output mode
CONTROL:	Front panel buttons, IR remote control, RS-232, Ethernet; with OSD and front panel LCD
ADDITIONAL CONTROLS:	Freeze, zoom, different selectable vertical refresh rates, ProcAmp control, output image scaling, Picture-In-Picture, text overlay, aspect ratio change, independent volume control of each input and output. Volume, bass, treble, loudness and balance control of master audio output
POWER SOURCE:	100-240 VAC, 50/60Hz 60VA
DIMENSIONS:	19" (W), 9.3" (D), 3RU (H) rack mountable
WEIGHT:	5.5 kg. (12.2 lbs.) approx.
ACCESSORIES:	IR remote control, power cord

1 Specifications are subject to change without notice

2 Progressive and interlaced

12 VP-725DSA Communication Protocol

Set and Get command:

Set Command: Y■Control_Type■Function■Param■CR

Reply: Z■Control_Type■Function■Param■CRDoneCR

Get Command: Y■Control_Type■Function■Param■CR

Reply: Z■Control_Type■Function■Param■CR

Command set type:

0:	Key Set	5:	ListBox Set
1:	ValueSlider Set	7:	TextButton Set
3:	RadioGroup Set	9:	Remote Control(Hotkey) Set

Example:

1. "Y■ 1■0■32■CR" -> set Contrast value as 32
   "Z■ 1■0■32■CR"
   ”DoneCR” --> command setting success
2. "Y■10■5■CR" -> get current output resolution
   ”Z■10■5■2■CR” -> current resolution is 1024x768
3. ”Y■0■35■CR” -> Keypad/Remote controller set Menu ON/OFF
   ”Z■0■35■CR”
   ”DoneCR” --> command setting success

Definition:

■: ASCII Code 0x20

CR: ASCII Code 0xD or 0xA

After set type Command setting, system will respond a string as “Done”.

The default data rate is 9600 Baud, with no parity, 8 data bits and 1 stop bit.

Table 27 includes the Communication Protocol:

Table 27: Communication Protocol of the VP-725DS/VP-725DSA

Control Type	Function	Param (for Set)	Function Description	Comment
0	0	N/A	Freeze	
0	1	N/A	OSD ON	
0	2	N/A	Power	
0	3	N/A	AV1	
0	4	N/A	AV2	
0	5	N/A	AV3	
0	6	N/A	AV4	

Control Type	Function	Param (for Set)	Function Description	Comment
0	7	N/A	YC1	
0	8	N/A	YC2	
0	9	N/A	YC3	
0	10	N/A	YC4	
0	11	N/A	COMP1	
0	12	N/A	COMP2	
0	13	N/A	COMP3	
0	14	N/A	COMP4	
0	15	N/A	VGA1	
0	16	N/A	VGA2	
0	17	N/A	VGA3	
0	18	N/A	VGA4	
0	19	N/A	DVI1	
0	20	N/A	DVI2	
0	21	N/A	Override	VP-725DSA only
0	22	N/A	Mix	VP-725DSA only
0	23	N/A	TalkOver	VP-725DSA only
0	24	N/A	SELECT	
0	25	N/A	Video Group	
0	26	N/A	Audio Group	VP-725DSA only
0	27	N/A	Scaler	
0	28	N/A	Master Audio	VP-725DSA only
0	29	N/A	Audio Level	VP-725DSA only
0	30	N/A	Audio Level - Line	VP-725DSA only
0	31	N/A	Audio Level - Mic	VP-725DSA only
0	32	N/A	Audio Level - Out	VP-725DSA only
0	33	N/A	Auto Image	
0	34	N/A	Auto Gain	
0	35	N/A	Menu	
0	36	N/A	Up	
0	37	N/A	Left	
0	38	N/A	Enter	
0	39	N/A	Right	
0	40	N/A	Down	
0	41	N/A	PIP	
0	42	N/A	Swap	
0	43	N/A	Contrast	
0	44	N/A	Brightness	
0	45	N/A	Zoom+	
0	46	N/A	Zoom-	
0	47	N/A	Volume+	VP-725DSA only
0	48	N/A	Volume-	VP-725DSA only
0	49	N/A	Mute	
0	50	N/A	OUT	
0	51	N/A	Aspect Ratio	
2	0	0~128	Brightness	
1: Set 2: Get	1	0~128	Contrast	
1: Set 2: Get	2	-32~32	Aspect Ratio: Letterbox Pan	
1: Set 2: Get	3	-32~32	Aspect Ratio: 4:3 Output Shift	
1: Set 2: Get	4	-32~32	H-Zoom	
1: Set 2: Get	5	-32~32	V-Zoom	

Control Type	Function	Param (for Set)	Function Description	Comment
1: Set 2: Get	6	-32~32	H-Pan	
1: Set 2: Get	7	-32~32	V-Pan	
1: Set 2: Get	8	-32~32	Keystone Angle	
1: Set 2: Get	9	0~255	Graphics H-Position	
1: Set 2: Get	10	0~255	Graphics V-Position	
1: Set 2: Get	11	0~128	Graphics Color	
1: Set 2: Get	12	0~128	Graphics Hue	
1: Set 2: Get	13	0~16	Graphics Sharpness	
1: Set 2: Get	14	0~100	Graphics Frequency	
1: Set 2: Get	15	0~31	Graphics Phase	
1: Set 2: Get	16	0~128	Video - Color	
1: Set 2: Get	17	0~128	Video - Hue	
1: Set 2: Get	18	0~16	Video - Sharpness	
1: Set 2: Get	19	0~20	Video H-Position	
1: Set 2: Get	20	0~20	Video V-Position for NTSC/NTSC 4.43/PAL-M/PAL 60	
		0~39	Video V-Position for PAL/PAL-N/SECAM/NTSC 4.43 50	
1: Set 2: Get	21	0~255	Audio Setting: Treble Level	VP-725DSA only
1: Set 2: Get	22	0~255	Audio Setting: Bass Level	VP-725DSA only
1: Set 2: Get	23	0~255	Audio Setting: Balance Level	VP-725DSA only
1: Set 2: Get	24	0~255	Audio Level: VGA Group Input Level	VP-725DSA only
1: Set 2: Get	25	0~255	Audio Level: DVI Group Input Level	VP-725DSA only
1: Set 2: Get	26	0~255	Audio Level: COMP Group Input Level	VP-725DSA only
1: Set 2: Get	27	0~255	Audio Level: YC Group Input Level	VP-725DSA only
1: Set 2: Get	28	0~255	Audio Level: AV Group Input Level	VP-725DSA only
1: Set 2: Get	29	0~255	Audio Level: VGA Group Output Level	VP-725DSA only
1: Set 2: Get	30	0~255	Audio Level: DVI Group Output Level	VP-725DSA only
1: Set 2: Get	31	0~255	Audio Level: COMP Group Output Level	VP-725DSA only
1: Set 2: Get	32	0~255	Audio Level: YC Group Output Level	VP-725DSA only
1: Set 2: Get	33	0~255	Audio Level: AV Group Output Level	VP-725DSA only
1: Set 2: Get	34	0~255	Audio Level: Master Input Level	VP-725DSA only

Control Type	Function	Param (for Set)	Function Description	Comment
1: Set 2: Get	35	0~255	Audio Level: Master Output Level	VP-725DSA only
1: Set 2: Get	36	0~255	Audio Level: Mic Input Level	VP-725DSA only
1: Set 2: Get	37	0~36	PIP Setting: PIP H-Position	
1: Set 2: Get	38	0~36	PIP Setting: V-Position	
1: Set 2: Get	39	0~255	PIP Setting: H-Size	
1: Set 2: Get	40	0~255	PIP Setting: V-Size	
1: Set 2: Get	41	0~36	OSD Setting: H-Position	
1: Set 2: Get	42	0~36	OSD Setting: V-Position	
1: Set 2: Get	43	3~60	OSD Setting: OSD Timeout	
1: Set 2: Get	44	0~255	Audio Level: VGA1 Input Level	VP-725DSA only
1: Set 2: Get	45	0~255	Audio Level: VGA2 Input Level	VP-725DSA only
1: Set 2: Get	46	0~255	Audio Level: VGA3 Input Level	VP-725DSA only
1: Set 2: Get	47	0~255	Audio Level: VGA4 Input Level	VP-725DSA only
1: Set 2: Get	48	0~255	Audio Level: DVI1 Input Level	VP-725DSA only
1: Set 2: Get	49	0~255	Audio Level: DVI2 Input Level	VP-725DSA only
1: Set 2: Get	50	0~255	Audio Level: COMP1 Input Level	VP-725DSA only
1: Set 2: Get	51	0~255	Audio Level: COMP2 Input Level	VP-725DSA only
1: Set 2: Get	52	0~255	Audio Level: COMP3 Input Level	VP-725DSA only
1: Set 2: Get	53	0~255	Audio Level: COMP4 Input Level	VP-725DSA only
1: Set 2: Get	54	0~255	Audio Level: YC1 Input Level	VP-725DSA only
1: Set 2: Get	55	0~255	Audio Level: YC2 Input Level	VP-725DSA only
1: Set 2: Get	56	0~255	Audio Level: YC3 Input Level	VP-725DSA only
1: Set 2: Get	57	0~255	Audio Level: YC4 Input Level	VP-725DSA only
1: Set 2: Get	58	0~255	Audio Level: CV1 Input Level	VP-725DSA only
1: Set 2: Get	59	0~255	Audio Level: CV2 Input Level	VP-725DSA only
1: Set 2: Get	60	0~255	Audio Level: CV3 Input Level	VP-725DSA only
1: Set 2: Get	61	0~255	Audio Level: CV4 Input Level	VP-725DSA only
1: Set 2: Get	62	-10~10	Gamma and Color: User1Gamma	
1: Set 2: Get	63	0~127	Gamma and Color: User1Color Temp Red	
1: Set 2: Get	64	0~127	Gamma and Color: User1Color Temp Green	

Control Type	Function	Param (for Set)	Function Description	Comment
1: Set 2: Get	65	0~127	Gamma and Color: User1Color Temp Blue	
1: Set 2: Get	66	0~32	Gamma and Color: User1Color Manager Red	
1: Set 2: Get	67	0~32	Gamma and Color: User1Color Manager Green	
1: Set 2: Get	68	0~32	Gamma and Color: User1Color Manager Blue	
1: Set 2: Get	69	0~32	Gamma and Color: User1Color Manager Yellow	
1: Set 2: Get	70	-10~10	Gamma and Color: User2Gamma	
1: Set 2: Get	71	0~127	Gamma and Color: User2Color Temp Red	
1: Set 2: Get	72	0~127	Gamma and Color: User2Color Temp Green	
1: Set 2: Get	73	0~127	Gamma and Color: User2Color Temp Blue	
1: Set 2: Get	74	0~32	Gamma and Color: User2Color Manager Red	
1: Set 2: Get	75	0~32	Gamma and Color: User2 Color Manager Green	
1: Set 2: Get	76	0~32	Gamma and Color: User2Color Manager Blue	
1: Set 2: Get	77	0~32	Gamma and Color: User2 Color Manager Yellow	

Control Type	Function	Param (for Set)	Function Description		Comment
3: Set 4: Get	0	0~1	Search	0: Manual 1: Auto	
3: Set 4: Get	1	0~5	SELECT	VP725DS 0: Video Group 3: Scaler	
				VP725DSA 0: Video Group 1: Audio Group 2: AV Group 3: Scaler 4: Master Audio 5: Master AV	VP-725DSA only
3: Set 4: Get	2	0~3	Select VGA Group input	0: VGA1 1: VGA2 2: VGA3 3: VGA4	
3: Set 4: Get	3	0~1	Select DVI Group input	0: DVI1 1: DVI2	
3: Set 4: Get	4	0~3	Select COMP Group input	0: COMP1 1: COMP2 2: COMP3 3: COMP4	
3: Set 4: Get	5	0~3	Select YC Group input	0: YC1 1: YC2 2: YC3 3: YC4	
3: Set 4: Get	6	0~3	Select AV Group input	0: AV1 1: AV2 2: AV3 3: AV4	
3: Set 4: Get	7	0~4	Aspect Ratio: Native Position	0: Left + Up 1: Right + Up 2: Center 3: Left + Down 4: Right + Down	
3: Set 4: Get	8	0~10	Zoom Ratio	0: 100% 1: 150% 2: 200% 3: 225% 4: 250% 5: 275% 6: 300% 7: 325% 8: 350% 9: 375% 10: 400%	
3: Set 4: Get	9	0~2	Graphics Setting: Color Format	0: Default 1: RGB 2: YUV	

Control Type	Function	Param (for Set)	Function Description		Comment
3: Set 4: Get	10	0~2	Video Setting: Color Format	0: Default 1: RGB 2: YUV	
3: Set 4: Get	11	0~6	Video Setting: Video Standard	0: Video Standard - Auto 1: Video Standard - NTSC 2: Video Standard - NTSC 4.43 3: Video Standard - PAL 4: Video Standard - PAL-N 5: Video Standard - PAL-M 6: Video Standard - SECAM	
3: Set 4: Get	12	0~3	Mic Control	0: All Off 1: Override 2: Mix 3: TalkOver	VP-725DSA only
3: Set 4: Get	13	0~1	Audio Setting: Loudness	0:Off, 1:On	VP-725DSA only
3: Set 4: Get	14	0~1	PIP Setting: PIP ON/OFF	0:Off, 1:On	
3: Set 4: Get	15	0~17	PIP Setting: PIP Source	0: VGA1 1: VGA2 2: VGA3 3: VGA4 4: DVI1 5: DVI2 6: COMP1 7: COMP2 8: COMP3 9: COMP4 10: YC1 11: YC2 12 : YC3 13: YC4 14 : AV1 15 : AV2 16 : AV3 17 : AV4	
3: Set 4: Get	16	0~4	PIP Setting: PIP Size	0: 1/25 1: 1/16 2: 1/9 3: 1/4 4: Split 5:User Define	
3: Set 4: Get	17	0~2	Seamless Switch	0: Fast 1: Moderate 2: Safe	
3: Set 4: Get	18	0~1	OSD Setting: Source Prompt	0:Off, 1:On	
3: Set 4: Get	19	0~1	OSD Setting: Blank Color	0:Blue, 1:Black	
3: Set 4: Get	20	0~2	Output Color Format	0: Default 1: RGB 2: YUV	
3: Set 4: Get	21	0~1	Factory Reset	0:Cancel 1:ok	
3: Set 4: Get	22	0~1	OSD size	0:Normal 1:double	
3: Set 4: Get	23	0~1	StartupLogo On/Off	0:Off 1:On	
3: Set 4: Get	24	0~1	Audio Auto Search	0:Off 1:On	
3: Set 4: Get	25	0~1	BackGround Color	0:Blue 1:Black	
7	0	N/A	Gamma/Color - Normal		
7	1	N/A	Gamma/Color - Presentation		
7	2	N/A	Gamma/Color - Cinema		
7	3	N/A	Gamma/Color - Nature		
7	4	N/A	Gamma/Color - User 1		

Control Type	Function	Param (for Set)	Function Description		Comment
7	5	N/A	Gamma/Color - User 2		
7	6	N/A	Aspect Ratio - Anamorphic		
7	7	N/A	Aspect Ratio - Virtual Wide		
7	8	N/A	Aspect Ratio - Letterbox		
7	9	N/A	Aspect Ratio - Native		
7	10	N/A	Aspect Ratio - 4:3 Output		
7	11	N/A	Aspect Ratio - User Define		
8	0	N/A	VGA/DVI/COMP Resolution/ Refresh Rate		example: "Y 8 0 CR" return: "Z 8 0 1080i CR"
9: Set 10: Get	0	0~1	Power	0: Power Down 1: Power On	
9: Set 10: Get	1	0~1	Freeze	0: Off 1: On	
9: Set 10: Get	2	0~1	Mute	0: Off 1: On	VP-725DSA only
9: Set 10: Get	3	0~1	Blank	0: Off 1: On	
9: Set 10: Get	4	0~1	Key Lock	0: Off 1: On	
9: Set 10: Get	5	0~26	Output Resolution	0: 640x480 1: 800x600 2: 1024x768 3:1280x1024 4: 1600x1200 5: 852x1024i 6: 1024x1024i 7: 1366x768 8: 1365x1024 9: 1280x720 10: 720x483 11: 852x480 12: 1400x1050 13: 480P 14: 720P 15: 1080i 16: 576P 17: 720x400 18: 832x624 19: 1024x800 20: 1152x864 21: 1152x870 22: 1152x900 23: 1280x960 24: 1280x768 25: 1024x576 26: User Define	
9:Set 10:Get	6		Output Refresh Rate	0: 60Hz 1: 75Hz 2: 85Hz 3: 70Hz 4: 84Hz 5: 66Hz 6: 76Hz 7: 50Hz 8:72Hz	
9: Set 10: Get	7	0~17	Master Source	0: VGA1 1: VGA2 2: VGA3 3: VGA4 4: DVI1 5: DVI2 6: COMP1 7: COMP2 8: COMP3 9: COMP4 10: YC1 11: YC2 12 : YC3 13: YC4 14 : AV1 15 : AV2 16 : AV3 17 : AV4	
9: Set 10: Get	8	0~1	OSD	0:Off 1:On	
9:Set 10:Get	9	0~3	Audio Level	0:All Off 1:Line 2:Mic 3:Out	
10:Get	10	0~1	Audio Exist	0:No 1:Yes	Get only

13 VP-725DSA Text Overlay Protocol

Table 28 includes the Text Overlay Protocol.

Command P1 P2 P3;

P1, 2, 3: Parameters 1, 2, 3

Table 28: Text Overlay Protocol of the VP-725DSA

	Functions	Command	P1	P2	P3	Comments
1	Display Buffer Configuration	T12ED ** ** **	Page No. of Buffer	Page Width	Page Height	No of page <= 7 Buffer size limitation: Width * Height * (Page No+1) <= 70KB
2	V-Position	T13EC **	Vertical Location	NA	NA	1~2047
3	H-Position	T14EB **	Horizontal Location	NA	NA	1~2047, Non Used
4	Text Color Effect	T16E9 **	Mode	NA	NA	Mode : 0: Transparency 1: Partial Transparency 2: Normal
5	Text RGB Color	T17E8 ** ** **	R	G	B	RGB color 0-255
6	Text Partial Transparency Color	T18E7 ** ** **	R	G	B	RGB color 0-255
7	Background Color Effect	T19E6 **	Mode	NA	NA	0: Transparency 1: Partial Transparency 2: Normal
8	Background RGB Color	T1AE5 ** ** **	R	G	B	RGB color 0-255
9	Background Partial Transparency Color	T1BE4 ** ** **	R	G	B	RGB color 0-255
10	TextOverlay On	T1CE3	NA	NA	NA	Enable TextOverlay
11	TextOverlay Off	T1DE2	NA	NA	NA	Disable TextOverlay
12	Blank Time	T1EE1 **	Seconds	NA	NA	Time between Two Strings, 0-30Sec
13	Text Bitmap Download Start	T1FE0	NA	NA	NA	PC start to send bit string
14	TextOverlay Mode	T20DF **	Mode	NA	NA	0: Scroll 1: Static
15	Text H-Shift(only available for static mode)	T21DE ** **	Page	H location	NA	Text placement on H location Page :Which string active H location < 32767
16	Speed	T22DD ** **	Refresh rate	Step Size	NA	Refresh rate : 10-100ms (Slow – fast) Step Size : 1-10 pixels

- Command handshake: Only leading character for command start and no ending code.
- Bit map file format: It is a raster scan image with 1 bit. 0 for background and 1 for text. The 0, 1 is ASCII code. T1FE000110001001001001001111001001O; send bitmap as following image.

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

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P/N: 2900–002725 REV 3