

Kramer Electronics, Ltd.



USER MANUAL

Model:

VP-747T

Presentation Switcher Control Panel

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 1,000-plus different models now appear in 11 groups¹ that are clearly defined by function.

Congratulations on purchasing your Kramer **VP-747T** *Presentation Switcher Control Panel*, which is ideal for staging events, as well as:

- Presentation applications that require a preview option
- Projection systems in conference rooms, board rooms, auditoriums, hotels, and churches

1.1 About the VP-747T Presentation Switcher Control Panel

The Kramer **VP-747T** *Presentation Switcher Control Panel* is used to control the **VP-747** *Universal Presentation Matrix Switcher / Scaler*². The Kramer **VP-747T** lets you remotely control switcher functions such as input selection, transition effects (that include cut, fade, and wipes) and transition speed.

Note that the **VP-747** needs firmware package Master FW 1.03 (Ver. 1.03 or higher) to work with the **VP-747T**.

The package includes: the **VP-747T**, gooseneck lamp, null-modem adapter, power supply, rack ears kit³, table-top brackets, 2 mini-XLR connectors and this user manual⁴.

1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

2 A true multi-standard video to graphics scaler and seamless switcher with 2 DVI/HDMI inputs as well as 8 universal inputs comprised of 5 BNC connectors each of which can accommodate a composite video, s-Video (Y/C), component video (RGB/YUV), RGBS, or RGBHV signal. It has dual scalars, one for the preview and the other for the program output. Dual scalars are required to do "live" seamless transitions from one source to another.

3 A pair of rack ears, two spacers and ten screws.

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

2 Getting Started

We recommend that you:

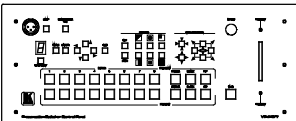
- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

2.1 Quick Start

This Quick start chart summarizes the basic steps when connecting a **VP-747T**:

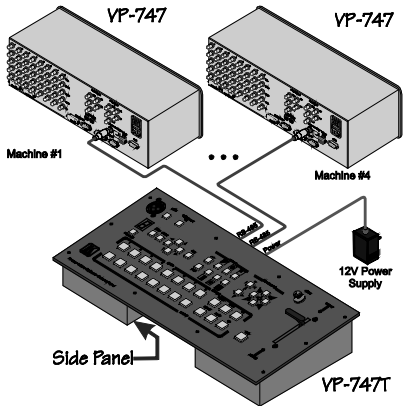
Step 1: Mount the machine - see sections 5 and 6

Mount in a *desktop, table* or a 19" rack-mount, or use *freestanding* on a table



Step 2: Connect the VP-747T - see section 7

Connect the VP-747T to up to 4 VP-747 machines via the mini XLR and RS-485 ports on the side panel



Step 3: Turn the power ON

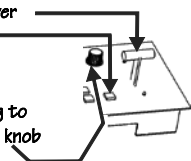
Step 4: Operate the VP-747T - see section 8

Choose an **EFFECT** and **WIPE DIRECTION** - see section 8.1

	EFFECTS			WIPE DIRECTION	
CUT					
FADE					

Make the Transition - see section 8.2

Manually make the transition using the T-bar control lever
OR
Press the TAKE button to implement the transition (automatically), according to the setting of the SPEED knob



3 Overview

The **VP-747T** is a unique presentation switcher control panel dedicated specifically to control the **VP-747**¹. It is ergonomically and aesthetically designed in a rugged, professional 19" 4U rack-mountable metal enclosure with the button layout in the style of the **VP-747**. In particular, the **VP-747T**:

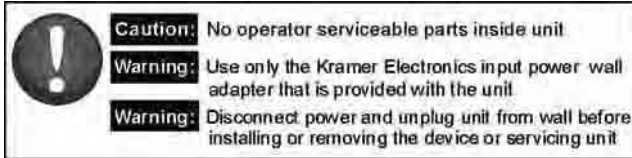
- Enables special effect transitions between two sources via a robust T-bar (used for manual control of transition speeds). Alternatively, the effect can be implemented via a TAKE button, with a potentiometer to set the transition speed
- Features single button access to all inputs²—both for the Preview and for the Program output—and the buttons have removable transparent caps to allow labeling
- Features dedicated single button actions for special effect selection, immediate freezing and blanking, PIP display, and the choice of wipe direction
- Has the user menu—conveniently located on the **VP-747T** panel—for complete control of the **VP-747** via its Preview OSD
- Consol can be simultaneously connected to up to four **VP-747** machines, using two mini XLR connectors and two terminal block connectors. The communication is via RS-485, thus allowing the panel to be located more than 1km from each **VP-747**
- Has an RS-232 port for field upgrading of its firmware
- With its angled faceplate, may be used freestanding on a table, or mounted in a desktop or in a 19" rack (when your switcher is rack-mounted near to the source devices, you can conveniently place the **VP-747T** on a table or desk away from the equipment rack)
- Has a gooseneck lamp (included) that can be plugged into the consol for use in low lighting environments
- Is powered by a 12V DC source

¹ The VP-747 is also backward compatible to the VP-727T

² Has two sets of input buttons: one that routes the input to the "PROGRAM" output and the other that routes to the "PREVIEW" output

To achieve the best performance:

- Connect only good quality connection cables
- Avoid interference from neighboring electrical appliances, make sure not to block the ventilation holes and position your **VP-747T** away from moisture, excessive sunlight and dust. Be sure to position it straight in the correct horizontal position on the table, desk or rack



4 Your VP-747T Presentation Switcher Control Panel

Figure 1 and Table 1 define the front panel of the **VP-747T**:

Your VP-747T Presentation Switcher Control Panel

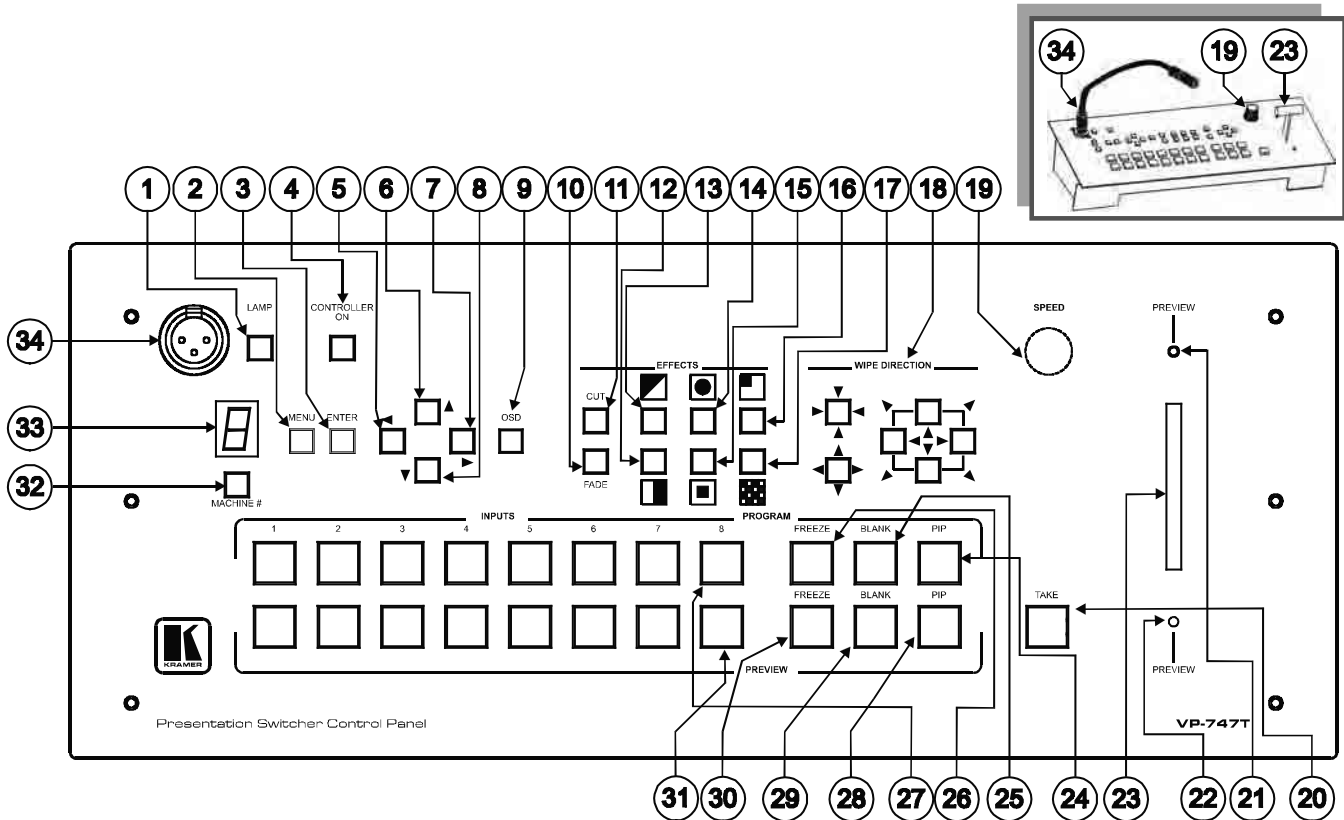








Figure 1: VP-747T Presentation Switcher Control Panel

Table 1: VP-747T Presentation Switcher Control Panel Features

#	Feature	Function	
1	LAMP Button	Toggles the gooseneck lamp ON/OFF	
2	MENU Button	Displays the OSD Menu screen (or moves to the previous level in the OSD menu)	
3	ENTER Button	Moves to the next level in the OSD menu	
4	CONTROLLER ON Button	Toggles the VP-747T Presentation Switcher Control Panel ON/OFF	
5	OSD NAVIGATION Buttons	◀	Toggles within each level 2 command / decreases the range by one step
6		▲	Moves up one step (in the same level) in the OSD menu
7		▶	Toggles within each level 2 command / increases the range by one step
8		▼	Moves down one step (in the same level) in the OSD menu
9	OSD Button	Activates/deactivates access to the OSD Menu ¹	
10	FADE ² Button	Selects a dissolved transition from the PREVIEW to the PROGRAM output	
11	CUT ² Button	Selects an instantaneous transition from the PREVIEW to the PROGRAM output	
12	TRANSITION Buttons ^{3,5}		Selects a WIPE transition effect
13			Selects a DIAGONAL transition effect
14			Selects a CIRCLE transition effect
15			Selects a SQUARE transition effect
16			Selects a CORNER transition effect
17			Selects a CHESSBOARD transition effect
18	WIPE DIRECTION Buttons	Choose the direction of the effect ⁴ : inwards, outwards, "left to right", "right to left", "up" or "down" (see Section 8.1)	
19	SPEED Knob	Adjusts the TAKE button transition speed	
20	TAKE Button ⁵	Pressing TAKE causes the transition to occur automatically	
21	PREVIEW LED	Lights when the T-bar Controller is directed upwards	
22	PREVIEW LED	Lights when the T-bar Controller is directed downwards	
23	T-bar Control Lever ⁶	Slide to manually implement the effect using the T-bar handle	
24	PROGRAM Buttons	PIP	Toggles the picture-in-picture function on and off
25		BLANK	Toggles between a blank screen and the selected input
26		FREEZE	Freezes the output video image (toggle)
27		INPUTS	Selects one of the sources: R/Pr, G/Y/CV, B/Pb/C, Hs/Cs, Vs (from 1 to 8)
28	PREVIEW Buttons	PIP	Toggles the picture-in-picture function on and off
29		BLANK	Toggles between a blank screen and the selected input
30		FREEZE	Freezes the output video image (toggle)
31		INPUTS	Selects one of the sources: R/Pr, G/Y/CV, B/Pb/C, Hs/Cs, Vs (from 1 to 8)
32	MACHINE # Button	Pressing selects which MACHINE # is controlled	
33	7-segment LED Display	Shows the MACHINE #	
34	Lamp Connector	Connects to the gooseneck lamp	

1 The LCD is not affected by the OSD setting

2 Only for setting up the unit for the effect. The effect will only occur when the Take button is pressed, or the T-bar is moved

3 Select a specific effect for the transition from the PREVIEW output to the PROGRAM output

4 From where the effect starts

5 The effect is only seen in PROGRAM Mode. The PREVIEW screen will blank during the transition

6 An alternative to using the TAKE button

Figure 2 and Table 2 define the side panel of the **VP-747T**:

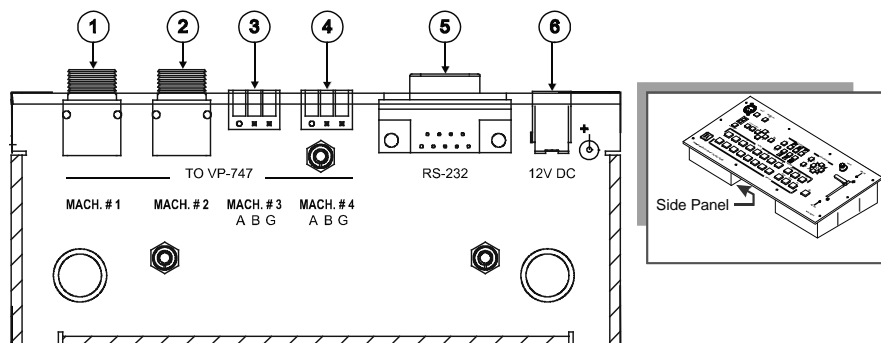


Figure 2: VP-747T Presentation Switcher Control Panel (Side Panel)

Table 2: VP-747T Presentation Switcher Control Panel (Side Panel) Features

#	Feature	Function	
1	TO VP-747	MACH. # 1 RS-485 Mini XLR Connector	Connects to the Mini XLR Connector on the VP-747 which is recognized as machine # 1
2		MACH. # 2 RS-485 Mini XLR Connector	Connects to the Mini XLR Connector on the VP-747 which is recognized as machine # 2
3		MACH. # 3 (A B G) RS-485 ¹ 3-pin Terminal Block Connector	Connects to the Mini XLR Connector port on the VP-747 which is recognized as machine # 3
4		MACH. # 4 (A B G) RS-485 ¹ 3-pin Terminal Block Connector	Connects to the Mini XLR Connector on the VP-747 which is recognized as machine # 4
5	RS-232 9-pin D-sub Connector	Connects to the PC for upgrading the firmware ²	
6	12V DC	+12V DC connector for powering the unit	

¹ Pin G is for the Ground connection, which is sometimes connected to the shield of the RS-485 cable. In most applications, the ground is not connected; pins B (-) and A (+) are for RS-485.

² Download the latest version of firmware and installation instructions at <http://www.kramerelectronics.com>

5 Installing in a Desktop

This section describes how to install the **VP-747T** in a desktop¹.

To install the **VP-747T** in a desktop:

1. Cut an opening in the desktop—making the cut out on a wooden surface using a sabre saw or a keyhole saw—at the location where you want to insert the **VP-747T**. Figure 3 illustrates the cut out template (not to scale) defining the surface that you have to cut out to install your **VP-747T**.

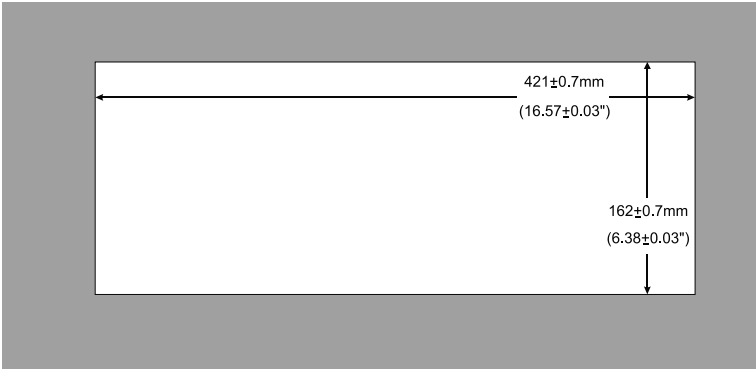


Figure 3: Cut Out Dimensions

2. Carefully insert the **VP-747T** unit into the prepared cut out opening, as illustrated in Figure 4.

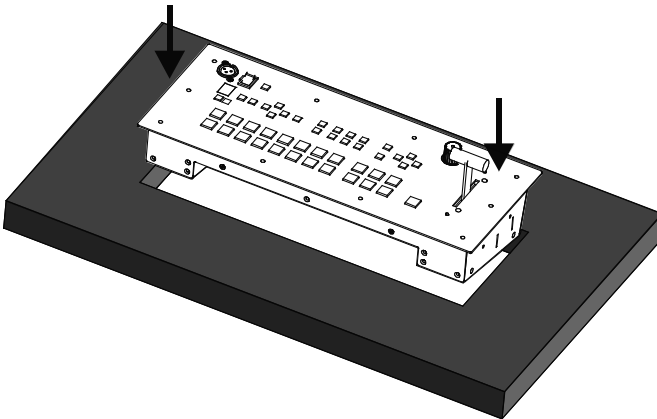


Figure 4: Inserting the VP-747T into the Prepared Cut Out Opening

¹ Alternatively, you can use it freestanding on a table, or mounted in a 19" rack (see Section 6)

3. Insert the two mounting brackets through the bracket slits on both sides of the **VP-747T** unit (see [Figure 5](#)).

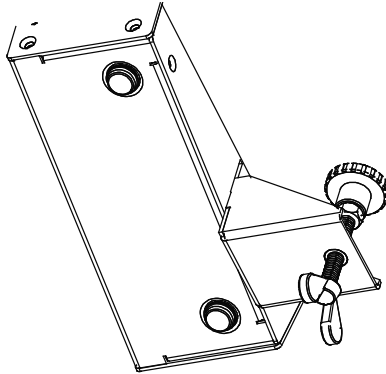


Figure 5: Inserting the Mounting Brackets through the Bracket Slits

4. Be sure that the upper outer rim is situated parallel to the edge of the desktop.
5. Screw the mounting butterfly screws until they reach the desktop surface (from the underneath).
6. Tighten the locking butterfly screws to lock the mounting butterfly screws. The **VP-747T** unit is now secured in place, as illustrated in [Figure 6](#).

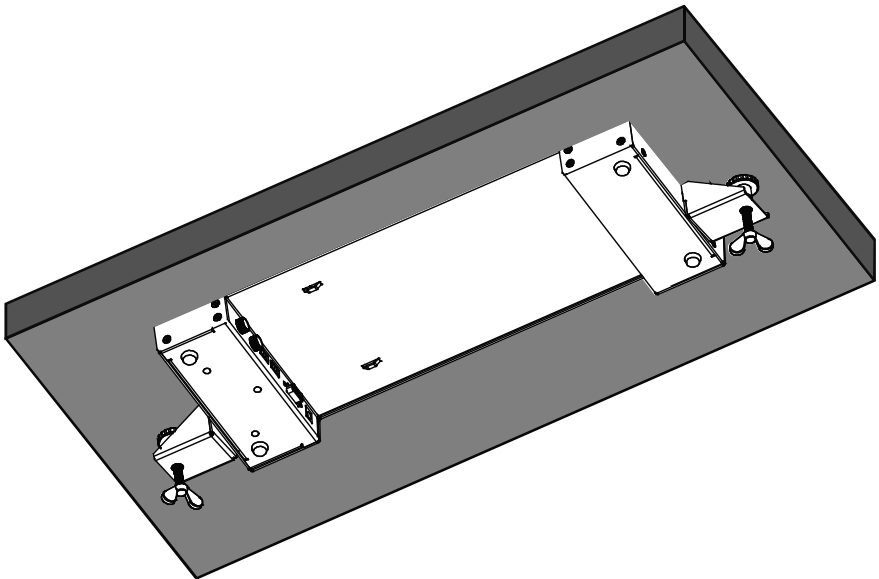


Figure 6: Securing the VP-747T into the Prepared Cut Out Opening

6 Installing on a Rack

This section provides instructions for rack mounting the unit.

Before Installing in a Rack

Before installing in a rack, be sure that the environment is within the recommended range:

Operating temperature range	+5° to +45° C (41° to 113° F)
Operating humidity range	10 to 90% RHL, non-
Storage temperature range	condensing
Storage humidity range	-20° to +70° C (-4° to 158° F)



CAUTION!

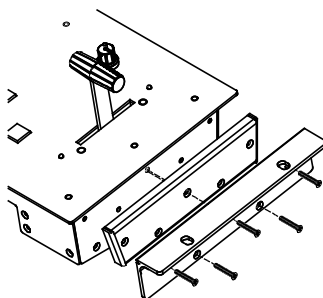
When installing on a 19" rack, avoid hazards by taking care that:

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 situations where electricity is supplied indirectly (when the power cord is not plugged directly into the socket in the wall), for example, when using an extension cable or a power strip, and that you use only the power cord that is supplied with the machine.

How to Rack Mount

To rack-mount a machine:

1. Attach both ear brackets to the machine. To do so, fasten the 5 screws on each side of the machine through the ear bracket via the spacer, securing both ear brackets to the machine.



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:

- 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 from <http://www.kramerelectronics.com>)

7 Connecting the VP-747T

To connect the **VP-747T** to up to four **VP-747** machines, as the example in [Figure 7](#) illustrates, do the following¹:

1. Connect the “TO VP-747” mini XLR connector of the **VP-747T** (by one-to-one connection) to the **VP-747**, as follows:
 - MACH. # 1 to the mini XLR connector of the **VP-747** which will be recognized as machine # 1
 - MACH. # 2 to the mini XLR connector of the **VP-747** which will be recognized as machine # 2
2. Connect the “TO VP-747” 3-pin terminal block ports of the **VP-747T** (by wired connection) to the **VP-747**, as follows (see section [7.2](#)):
 - MACH. # 3 to the mini XLR connector of the **VP-747** which will be recognized as machine # 3
 - MACH. # 4 to the mini XLR connector of the **VP-747** which will be recognized as machine # 4
3. Set the “T-Bar Optimization” mode in the “Transition” menu of the **VP-747** to On.
4. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not illustrated in [Figure 7](#)).

If you want to control several units simultaneously, press the MACHINE # button until the letter A is selected in the 7-segment LED display (A=ALL).

One of the units must be connected to port #1 for units to be controlled simultaneously.

¹ Switch OFF the power on each device before connecting it to your VP-747T. After connecting your VP-747T, switch on its power and then switch on the power on each device

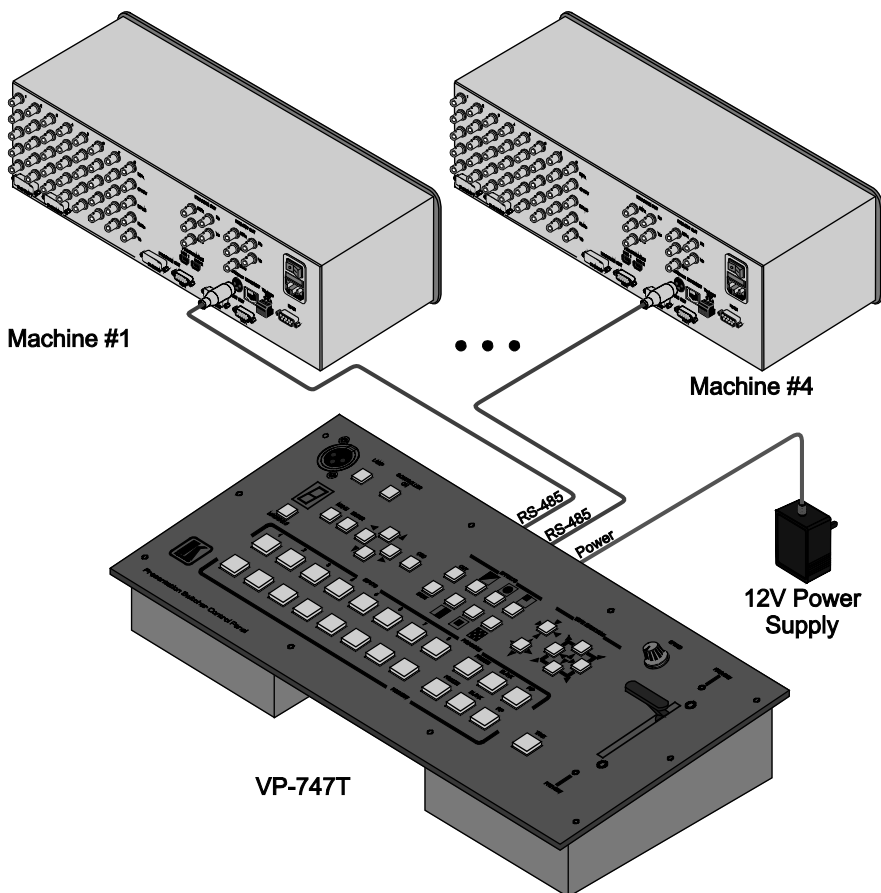


Figure 7: Connecting the VP-747T

7.1 Setting the Machine

The **VP-747T** automatically recognizes the **MACHINE #** of each **VP-747** unit.

For example, the **VP-747** unit that is connected to the “TO VP-747” RS 485 port **MACH. # 3** is recognized as the third **VP-747** unit: **MACHINE # 3**.

To access this particular **VP-747** unit from the **VP-747T**, press the **MACHINE #** button¹ until the number 3 is selected in the 7-segment LED display².

¹ Item 32 in [Figure 1](#) and [Table 1](#)

² Item 33 in [Figure 1](#) and [Table 1](#)

7.2 Connecting to the VP-747 by Wired Connection

When connecting the “TO VP-747” RS 485 3-pin terminal block ports of the **VP-747T**, to the respective **VP-747** machine, as illustrated in [Figure 8](#), connect the:

- “A” (+) PIN of the **VP-747T** to the “A” (+) PIN of the **VP-747**
- “B” (+) PIN of the **VP-747T** to the “B” (+) PIN of the **VP-747**
- If shielded twisted pair cable is used, the shield may be connected to the “G” (Ground) PIN on one of the units

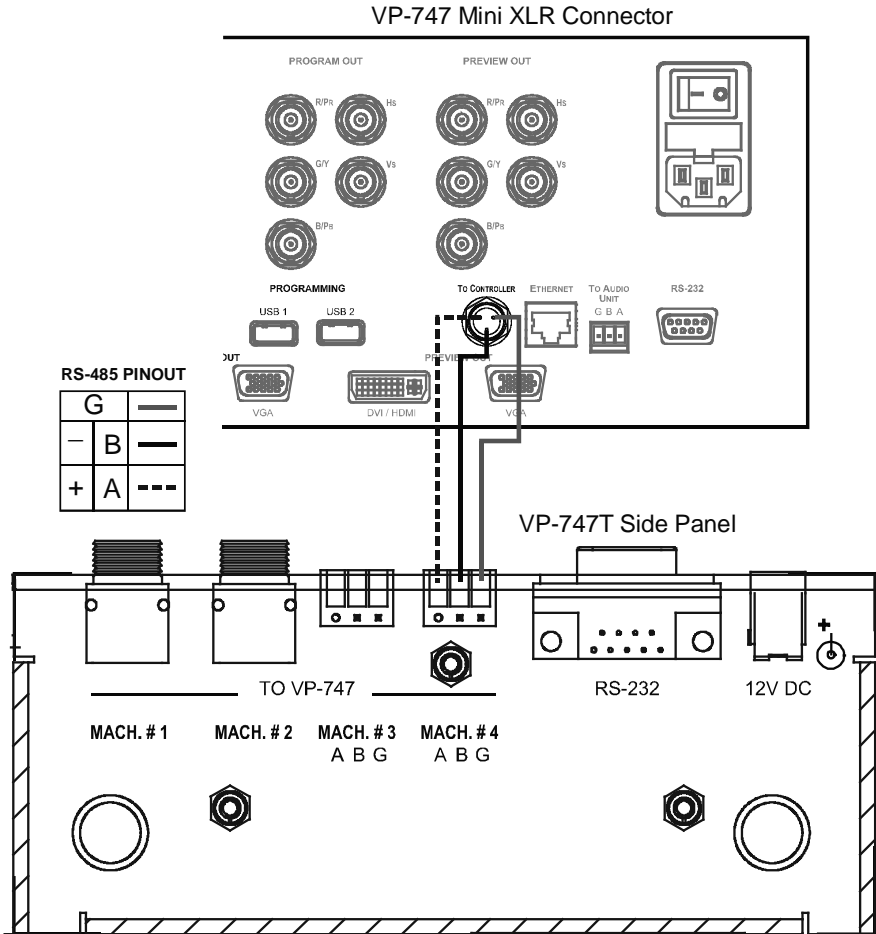


Figure 8: Connecting the VP-747T RS-485 Ports

8 Operating the VP-747 using the VP-747T

To operate the **VP-747** via the **VP-747T**, set the **VP-747** “Optimize T-bar” mode in the “Transition” menu to On.


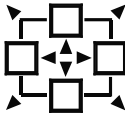


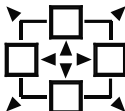
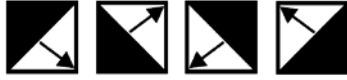







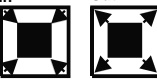

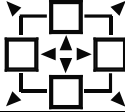
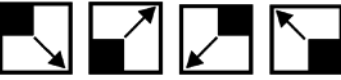



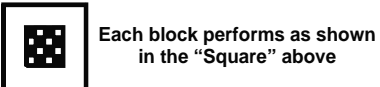
For details of how to operate the **VP-747** via the OSD Menu, LCD Display, ETHERNET, and/or RS-232, including using the TAKE button, refer to the **VP-747** user manual¹. For details of how to:

- Use the WIPE DIRECTION buttons, see section [8.1](#)
- Adjust the transition speed, see section [8.2](#)

8.1 Using the VP-747T WIPE DIRECTION Buttons

To set the wipe direction, use the WIPE DIRECTION buttons² (see [Table 3](#)):

Table 3: Defining the WIPE DIRECTIONS Buttons

EFFECTS	WIPE DIRECTIONS		
 Wipe		Choice of four directions (only one button is selected)	
 Diagonal		Choice of four directions (two buttons are selected simultaneously)	
 Circle	 In	 Out	In Out 
 Square	 In	 Out	In Out 
 Corner		Choice of four directions (two buttons are selected simultaneously)	
 Chessboard	 In	 Out	

¹ Download up-to-date Kramer user manuals from the Internet at: <http://www.kramerelectronics.com>

² Item 18 in [Figure 1](#) and [Table 1](#)

8.2 Making the Transition

You can make the transition in two ways:

- Manually, for each separate transition using the T-bar control lever¹
- Automatically, via the TAKE button, which implements the transition at the pace set by the SPEED² knob

8.2.1 Making a Transition Manually

To make the transition, manually:

- Slide the T-bar handle upwards³ or downwards⁴

8.2.2 Making a Transition Automatically

To make the transition, automatically:

- Rotate the SPEED knob² to the right (increasing the transition speed) or to the left (decreasing the transition speed). When the knob is turned to the extreme counter-clockwise position (off), the switch will be engaged to turn the knob off. In this position, the speed setting is controlled via the setting in the **VP-747** OSD menu
- Pressing the TAKE button⁵ causes the transition to occur automatically

9 Technical Specifications

Table 4 includes the technical specifications:

Table 4: Technical Specifications⁶ of the VP-747T

PORTS:	2 sets of mini XLR ports 2 sets of RS-485 3-pin terminal block ports
CONTROLS:	Front panel buttons, mini XLR and RS-485
POWER SOURCE:	12V DC, 280mA
D MENSIONS:	19" (W), 3.4" (D), 4RU (H) rack mountable ⁷
WEIGHT:	1.58kg (3.5lbs) approx.
ACCESSORIES:	Gooseneck lamp, 2 mini XLR connectors, power supply, rack ears kit ⁸ , and table-top brackets

¹ Item 23 in [Figure 1](#) and [Table 1](#)

² Item 19 in [Figure 1](#) and [Table 1](#)

³ The PREVIEW LED lights (item 21 in [Figure 1](#) and [Table 1](#))

⁴ The PREVIEW LED lights (item 22 in [Figure 1](#) and [Table 1](#))

⁵ Item 20 in [Figure 1](#) and [Table 1](#)

⁶ Specifications are subject to change without notice

⁷ 48 2cm (W), 8 6cm (D), 17 7cm (H)

⁸ A pair of rack ears, two spacers and ten screws

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, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with
- 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 your 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 to:

- 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

* FCC and CE approved using STP cable (for twisted pair products)



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.



Caution

Safety Warning:

Disconnect the unit from the power supply before opening/servicing.



Kramer Electronics, Ltd.

Web site: www.kramerelectronics.com

E-mail: info@kramerelectronics.com

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