KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

VS-808TP
8x8 Twisted Pair Matrix Switcher

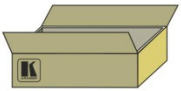
P/N: 2900-300147 Rev 1

VS-808TP Quick Start Guide

This page guides you through a basic installation and first-time use of your **VS-808TP**. For more detailed information see the **VS-808TP** user manual, the latest copy of which can be downloaded from http://www.kramerelectronics.com.

Step 1: Check what's in the box

- **VS-808TP** TP Matrix Switcher
- Power cord
- 4 Rubber feet
- Null-modem adapter
- 1 Quick Start Guide
- 1 User Manual
- 2 Rack "ears"



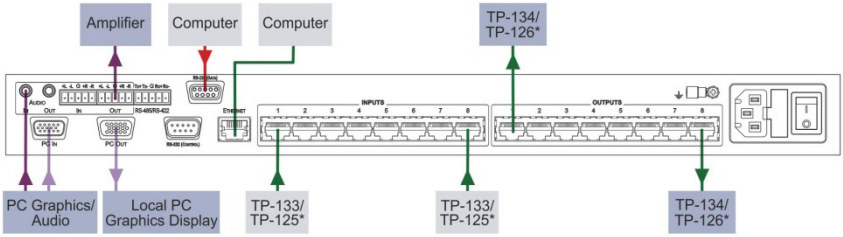
Save the original box and packaging materials in case your Kramer product needs to be returned to the factory for service.

Step 2: Install the VS-808TP - see Section 5

Mount the device in a rack (using the supplied rack "ears") or place it on a shelf.

Step 3: Connect the inputs and outputs - see Section 6

Switch off the power to all devices before connecting them to your **VS-808TP**.



*Note: The TP-133 transmitter can only be paired with a TP-134 receiver, and the TP-125 transmitter can only be paired with a TP-126 receiver

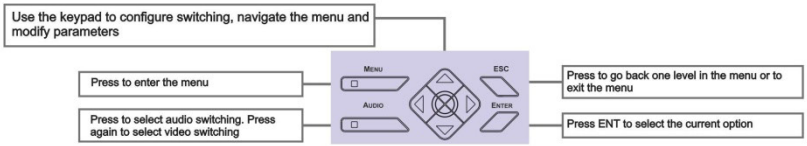
When connecting AV equipment to the **VS-808TP** we recommend that you use Kramer high-performance cable for best results.

Step 4: Connect the power

Connect the **VS-808TP** to the mains supply using the supplied power cord.

Step 5: Operate the device - see Section 7

Operate the device using the front panel controls, RS-232 and Ethernet



Contents

Figures

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 video, audio, presentation, and broadcasting professionals 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 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; 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 and GROUP 11: Sierra Video Products.

Congratulations on purchasing your Kramer **VS-808TP** *8x8 Twisted Pair Matrix Switcher* which is ideal for long range graphics distribution and multimedia applications.

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
- Use only the power cord supplied with the device

Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs and to check whether firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables too tightly or too loosely. Leave a small amount of slack
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer **VS-808TP** away from moisture, excessive sunlight and dust

2.2 Using Twisted Pair Cable

Kramer engineers have developed special twisted pair cables to best match our digital twisted pair products; the Kramer: **BC-DGKat524** (CAT 5 24 AWG), the Kramer: **BC-DGKat623** (CAT 6 23 AWG cable), and the Kramer: **BC-DGKat7a23** (CAT 7a 23 AWG cable). These specially built cables significantly outperform regular CAT 5/CAT 6/CAT 7a cables.

3 Overview

Thank you for purchasing the Kramer **VS-808TP** *8x8 Twisted Pair Matrix Switcher*. This unique matrix switcher which utilizes economical TP (Twisted Pair) cabling often pre-installed in buildings these days, routes and distributes signals both from a local and/or remote source, and at extended ranges. It is designed especially for installations where a high level of control possibilities is required from extended distances. Typical uses include presentation and multimedia applications, as well as long-range graphics distribution and control for schools, hospitals, security, and stores.

The **VS-808TP** features:

- Eight inputs and eight outputs for remote connection to compatible TP transmitters and receivers
- A switchable local input (built-in transmitter) and output (built-in receiver) allowing direct connection of the signals (up to WUXGA, audio and RS-232) for the units located near to the switcher (**TP-133**/**TP-134** only)
- Follow or breakaway switching for audio signals
- Baud rate of up to 115200 for full-duplex RS-232
- Two-line LCD display for separate route indication of video, audio or RS-232
- Control via front panel buttons, RS-232, RS-485 and Ethernet
- 15 user-programmable presets for quick-change configurations
- Kramer 2000 communication protocol (limited)
- 100-230V AC worldwide power supply
- Standard 1U 19” rack mount size

4 Defining the VS-808TP 8x8 Twisted Pair Matrix Switcher

Figure 1 defines the front panel of the **VS-808TP**.

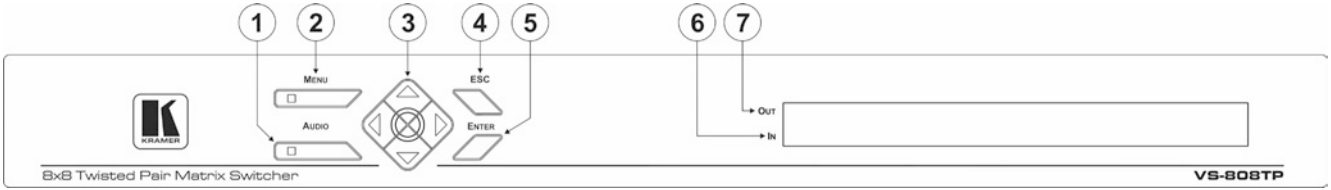


Figure 1: VS-808TP 8x8 Twisted Pair Matrix Switcher Front Panel

#	Feature		Function
1	*AUDIO* Button		Press to display/switch audio status. Press again to display/switch video/RS-232 status
2	*MENU* Button		Press to display the menu. Press again to escape the menu and display video switching
3	Arrow keypad		When switching is displayed: press the left (◄) and right (►) arrows to move forward and backward to select the output of a switched pair. Press the up (▲) and down (▼) arrows to move up or down through available input channels. When the menu is displayed: press the up (▲) and down (▼) arrows to move up or down through available sub-menus. Press the left (◄) and right (►) arrows to move through parameter values
4	*ESC* Button		When the menu is displayed: press to move up one menu level or press repeatedly to exit the menu. When audio switching is displayed: press to display video switching
5	*ENTER* Button		When audio switching is displayed: press to accept the selected out/in channels. When the menu is displayed: press to accept the selected parameter value
6	LCD Readout	*IN* Display	Displays the selected switched inputs
7		*OUT* Display	Displays the selected switched outputs

Figure 2 defines the rear panel of the **VS-808TP**.

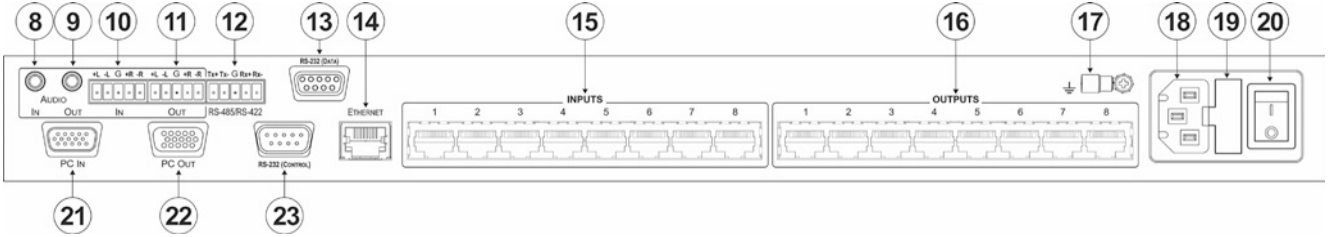


Figure 2: VS-808TP 8x8 Twisted Pair Matrix Switcher Rear Panel

#	Feature			Function
8	*AUDIO* Connectors	Unbalanced	*IN* 3.5mm mini jack	Connect to the output of the unbalanced stereo audio source (for example, the audio output of the laptop)
9			*OUT* 3.5mm mini jack	Connect to the input of the unbalanced stereo audio acceptor (for example, the audio input of the AV system)
10		Balanced	*IN* 5-pin terminal block	Connect to the output of the balanced stereo audio source
11			*OUT* 5-pin terminal block	Connect to the input of the balanced stereo audio acceptor
12	*RS-485/RS-422* 5-Pin Terminal Block			Connect to the serial controller
13	*RS-232 (DATA)* 9-pin D-sub Connector			Connect to the serial data source
14	*ETHERNET* RJ-45 Connector			Connect via a LAN to the Ethernet port on the PC controller
15	*INPUTS 1 ~ 8* RJ-45 Connectors			Connect to the TP transmitters (for example, TP-133 or TP-125)
16	*OUTPUTS 1 ~ 8* RJ-45 Connectors			Connect to the TP receivers (for example, TP-134 or TP-126)
17	Chassis Ground Terminal			Terminal for grounding the chassis to the common ground of the system
18	AC Mains Module	Mains socket		Connect the mains power cord
19		Mains fuse holder		Fuse for protecting the device
20		Mains switch		Turn the device on and off
21	*PC IN* 15-pin HD VGA Connector			Connect to the output of the VGA (up to WUXGA) source (for example, PC graphics card)
22	*PC OUT* 15-pin HD VGA Connector			Connect to the input of the VGA acceptor (for example, LCD monitor)
23	*RS-232 (CONTROL)* 9-pin D-sub Connector			Connect to the serial controller

5 Installing the VS-808TP in a Rack

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

OPERATING TEMPERATURE:	0º to +55ºC (32º to 131ºF)
STORAGE TEMPERATURE:	-45º to +72ºC (-49º to 162ºF)
HUMIDITY:	10% to 90%, 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.

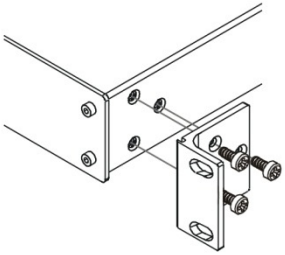
3. The machine is placed straight in the correct horizontal position.

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 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.

To rack-mount a 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:

- 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 available from our Web site

6 Connecting the VS-808TP

Always switch off the power to any device before connecting it to your **VS-808TP**. After connecting your **VS-808TP**, connect its power and then switch on the power to the other devices.

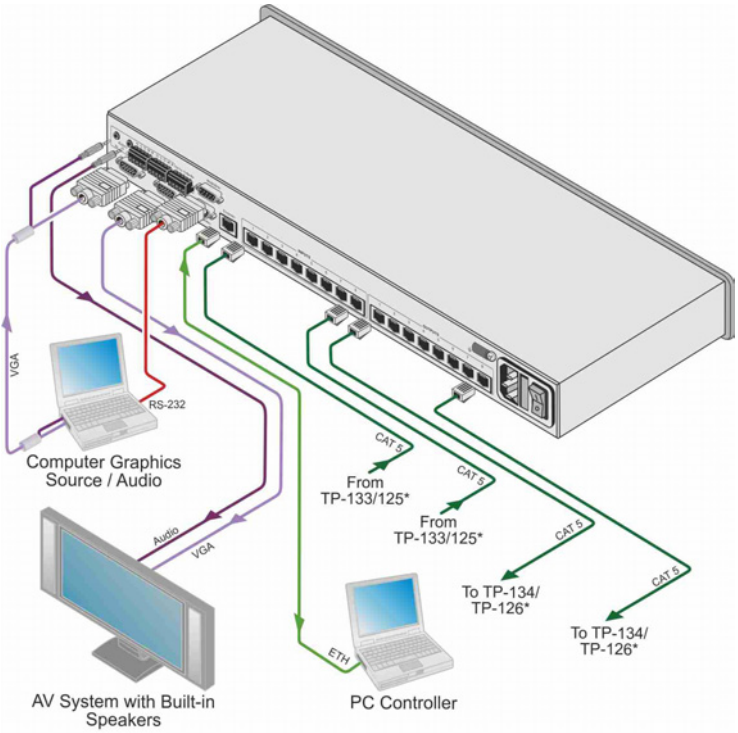


Figure 3: Connecting the VS-808TP 8x8 Twisted Pair Matrix Switcher

To connect the VS-808TP as illustrated in the example in Figure 3:

1. For a local video and audio source connect:
   - A VGA source (for example, the graphics output of a laptop) to the PC In 15-pin HD (M) connector

- An audio source (for example, the audio output of a laptop) to the Audio In 3.5mm mini jack

2. For a local video and audio acceptor connect:
   - The PC Out 15-pin HD (F) connector to the video input of the acceptor (for example, an AV system)
   - The Audio Out 3.5mm audio jack to the audio input of the acceptor
3. For remote inputs and outputs:
   - Connect up to eight compatible TP transmitters (for example, **TP-133**/**TP-125**) to the TP INPUTS 1 to 8
   - Connect up to eight compatible TP receivers (for example, **TP-134**/**TP-126**) to the TP OUTPUTS 1 to 8

Note: The **TP-134** transmitter can be paired only with a **TP-134** receiver, and the **TP-125** transmitter can be paired only with a **TP-126** receiver. Do not use both the **TP-133**/**TP-134** and **TP-125**/**TP-126** in the same system as depending on the switcher setup only one will work.

6.1 Connecting a Serial Data Source to the VS-808TP RS-232 Data Port

You can connect a serial data source to the **VS-808TP** via RS-232 to control remote acceptors (for example, monitors).

The RS-232 data source is connected to the RS-232 (DATA) port. A null-modem adapter is not required for this connection and a straight-through cable can be used.

6.2 Connecting a Serial Controller to the VS-808TP

You can control the **VS-808TP** via one of three types of serial connections:

- RS-232
- RS-485
- RS-422

6.2.1 Connecting an RS-232 Serial Controller to the VS-808TP RS-232 Control Port

You can connect to the unit (the RS-232 CONTROL port) via a crossed RS-232 connection, using for example, a PC. A crossed cable or null-modem is required as shown in method A and B respectively. If a shielded cable is used, connect the shield to pin 5.

Method A (Figure 4)—Connect the RS-232 9-pin D-sub port on the unit via a crossed cable (only pin 2 to pin 3, pin 3 to pin 2, and pin 5 to pin 5 need be connected) to the RS-232 9-pin D-sub port on the PC.
Note: There is no need to connect any other pins.

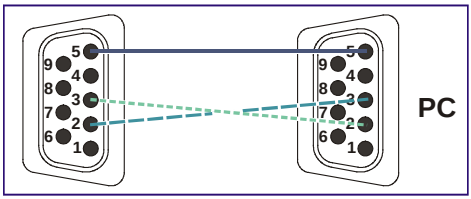


Figure 4: Crossed Cable RS-232 Connection

Hardware flow control is not required for this unit. In the rare case where a controller requires hardware flow control, short pin 1 to 7 and 8, and pin 4 to 6 on the controller side.

Method B (Figure 5)—Connect the RS-232 9-pin D-sub port on the unit via a straight (flat) cable to the null-modem adapter, and connect the null-modem adapter to the RS-232 9-pin D-sub port on the PC. The straight cable usually contains all nine wires for a full connection of the D-sub connector. Because the null-modem adapter (which already includes the flow control jumpering described in Method A above) only requires pins 2, 3 and 5 to be connected, you are free to decide whether to connect only these 3 pins or all 9 pins.

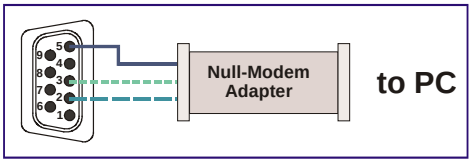


Figure 5: Straight Cable RS-232 Connection with a Null Modem Adapter

6.2.2 Connecting an RS-485/RS422 Serial Data Source to the VS-808TP

To connect an RS-485/RS-422 serial data source to the VS-808TP:

- Connect the RS-485/RS-422 serial data source to the RS-485/RS-422 terminal block connector on the rear panel of the device as shown in Figure 6 or Figure 7

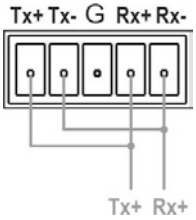


Figure 6: Wiring for an RS-485 Serial Data Source

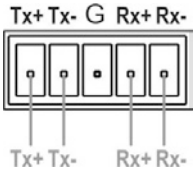


Figure 7: Wiring for an RS-422 Serial Data Source

6.3 Connecting to the VS-808TP via Ethernet

You can connect the **VS-808TP** via Ethernet using either of the following methods:

- A crossover cable (see Section 6.3.1) for direct connection to the PC
- A straight through cable (see Section 6.3.2) for connection via a network hub or network router

After connecting the Ethernet port, you have to install and configure your Ethernet Port. For detailed instructions, see the Ethernet Configuration Guide (Lantronix) in the technical support section on our Web site http://www.kramerelectronics.com.

6.3.1 Connecting the Ethernet Port directly to a PC

A crossover cable is recommended for identification of the factory default IP Address of the **VS-808TP** during the initial configuration.

To configure your PC after connecting the Ethernet port:

1. Right-click the **My Network Places** icon on your desktop.
2. Select **Properties**.
3. Right-click **Local Area Connection Properties**.
4. Select **Properties**.
   The **Local Area Connection Properties** window appears.
5. Select the **Internet Protocol (TCP/IP)** and click the **Properties** Button.

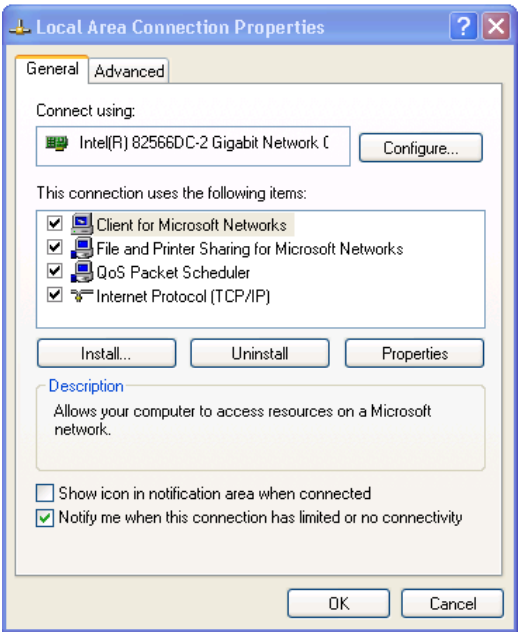


Figure 8: Local Area Connection Properties Window

6. Select **Use the following IP Address** and enter the details as shown in Figure 9.

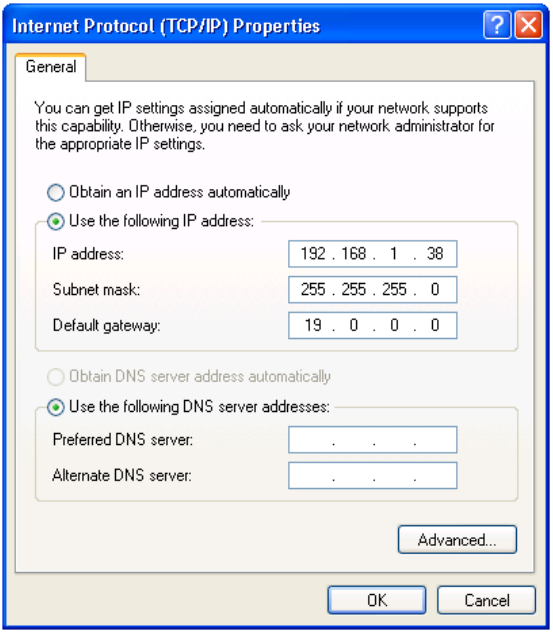


Figure 9: Internet Protocol (TCP/IP) Properties Window

7. Click **OK**.

6.3.2 Connecting to the Ethernet Port via a Network Switch/Hub

To connect to the Ethernet port on the VS-808TP via a network switch/hub:

- Connect the PC to the Ethernet network switch/hub using a straight through cable

6.4 Connecting the Balanced/Unbalanced Stereo Audio Output

This section illustrates how to wire the devices to the balanced audio output:

- A balanced stereo output connection, see Figure 10
- An unbalanced stereo output connection, see Figure 11

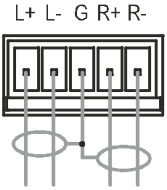


Figure 10: Balanced Stereo Audio Connection

Figure 11: Unbalanced Stereo Audio Connection

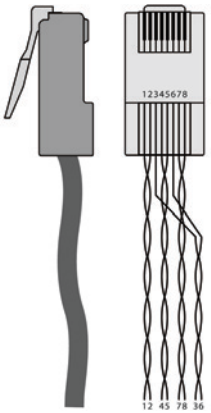
6.5 Wiring the CAT 5 Line In/Line Out RJ-45 Connectors

This section defines the CAT 5 pinout, using a straight pin-to-pin cable with RJ-45 connectors.

Note, that the cable Ground shielding must be connected / soldered to the connector shield.

EIA /TIA 568B	
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

Figure 12: CAT 5 Pinout



7 Operating the VS-808TP Locally via the Front Panel Buttons

The **VS-808TP** is operated using the front panels buttons as follows:

- Press the left (◄) or right (►) arrows to move backward or forward to select the output of a switched pair
- Press the up (▲) or down (▼) arrows to move up or down through available input channels
- Press Enter to activate changes

You can set or change several outputs together and then press Enter to finalize the operation. Prior to pressing Enter the display reflects the changes but the changes are not implemented.

When audio switching is active (the Audio button LED is lit) only audio channels are switched.
Note: This mode is not supported in the Data & Audio Bypass mode for the **TP-125/126**.

Note: Performing a video switch overwrites a previously implemented audio switch.

Any of the local or remote inputs can be switched to any or all of the local or remote outputs for the **TP-133/134** only. For the **TP-125/126**, local input and output ports cannot be used.

The PC In input can be used to accept signals from a local source. Inputs 1 to 8 accept signals from remote transmitters and Outputs 1 to 8 can be used to send signals to remote receivers. The PC Out output can be used to send signals to a local acceptor (for example, an LCD monitor).

When the **VS-808TP** is powered on, the following is displayed briefly:

```
Loading .........
```

The device then displays the last active video switching configuration, an example of which is displayed below.

```
OUTPUT 01  02  03  04  05  06  07  08  L

INPUT   01  02  03  04  05  06  07  08  L
```

7.1 Using the Menu

The menu is shown on the display when the Menu button is pressed. Pressing either the Menu button a second time or the Esc button exits the menu.

Navigation through the menu is performed as follows:

- Menu—display the menu or exit the menu
- Up (▲)—scroll up through the sub-menus or parameters, or increase the selected parameter value
- Down (▼)—scroll down through sub-menus or parameters, or decrease the selected parameter value
- Right (►)—Move right through the selected parameter value
- Left (◄)—Move left through the selected parameter value
- Enter—Select the indicated sub-menu or parameter
- Esc—Move up one level in the menu or exit the menu

The main menu comprises seven sections:

- Set IP Port (see Section 7.1.1)
- Set Serial Port (see Section 7.1.2)
- Adjust Video Level (see Section 7.1.3)
- Adjust Audio Level (see Section 7.1.4)
- Save/Load Profile (see Section 7.1.5)
- Security Mode (see Section 7.1.6)
- Data and Audio Processing (see Section 7.1.7)

7.1.1 Set IP Port Sub-menu

The parameters in the Set IP Port sub-menu set the network IP values and reset the device. For factory defaults see Section 10.

Parameter	Description	Options
IP Address	Sets the IP network address	Any valid IP address
Subnet Mask	Sets the IP network mask	Any valid subnet mask
Gateway	Sets the IP gateway address	Any valid gateway address
Default IP Settings	Sets the IP settings to the factory default (see Section 10.1)	
Save and Reset the Device	Saves changes made to settings and resets the device	
Exit Without Save	Exits without saving any changed settings	

7.1.2 Set Serial Port Sub-menu

The parameters in the Serial Port sub-menu set the serial port parameter values. For factory defaults see Section 10.

Parameter	Description	Options
Serial Port Address	Sets the serial machine number	1 to 16
Baud Rate	Sets the serial port baud rate in bps	9600, 19200, 38400 or 115200
Serial Port Mode	Sets the serial port mode of communication	**RS-232** 1. RS-232 (Data): Exchange data with the remote output acceptors 2. RS-232 (Control): Accept Kramer Protocol 2000 commands to switch the VS-808TP 3. RS-422/485: No function **RS-422/RS-485** 1. RS-232 (Data): Exchange data with the remote output acceptors 2. RS-232 (Control): No function 3. RS-422/485: Accept Kramer Protocol 2000 commands to switch the VS-808TP **BYPASS** 1. RS-232 (Data): Exchange data with the remote output acceptors 2. RS-232 (Control): Accept Kramer Protocol 2000 commands to switch the VS-808TP 3. RS-422/485: No function
Default Serial Settings	Sets the serial port parameters to the factory default (see Section 10.1)	
Save and Reset the Device	Save any changes to settings and reset the device	
Exit Without Save	Exit without saving and changed settings	

7.1.3 Adjust Video Level Sub-menu

The Video Level sub-menu allows you to adjust the video level of each channel.

Parameter	Description
Optimize Video Output Port	Video quality adjustment is done automatically at every connection change or it can be manually forced via the front panel or the Web pages. For local ports only the gain is adjusted

7.1.4 Adjust Audio Level Sub-menu

The Audio Level sub-menu allows you to adjust the audio level of each channel.

Parameter	Description	Options
Audio Output Port	Selects the audio output to adjust its level	01, 02,03, 04, 05, 06, 07, 08, All, L (local)
Audio Level	Sets the audio level of the selected output or all outputs	Stored Values: 0-15 where 0 = mute, 01 = -25dB and 15 = 6dB

7.1.5 Save/Load Profile Sub-menu

The Save/Load Profile sub-menu allows you to save and recall switching configurations.

Parameter	Description	Options
Load to a Profile Number	Saves the current configuration to the selected setup	0 to 15
Call a Saved Profile Number	Recalls a saved setup to be the current configuration	0 to 15

7.1.6 Security Mode Sub-menu

The Security Mode sub-menu allows you to set the security access and password for the device.

Parameter	Description	Options
Password Required	Turns on and off the requirement for a password to access the menu	Yes, No
Change password	Sets the password for access	0000 to 9999

7.1.7 Data and Audio Processing Sub-menu

The Data and Audio Processing sub-menu allows you set the processing for the model of TP transmitter being used.

Parameter	Description	Options
Processing Mode	Sets the processing mode for the data and audio depending on the TP transmitter in use: Default=TP133/134 Bypass=TP-125/126	Default, Bypass Default—Default

8 Operating the VS-808TP Remotely via the Web Pages

You can operate the **VS-808TP** using a standard Web browser over a LAN. The Web pages are divided into four sections:

- Connections—Controls switching, video gain and compensation, and audio volume (see Section 8.2)
- Setup—Controls Web, serial, port names, and data and audio processing (see Section 8.3)
- User Management—Controls user administration (see Section 8.4)
- Firmware—Updating the firmware of the device (see Section 8.5)

8.1 Accessing the VS-808TP Web Pages

To access the VS-808TP Web pages:

1. Open your Internet browser.
2. Enter the IP address of the device (see Section 10) in the address bar of your browser (see Figure 13).

Figure 13: Web Browser Address Bar

For the default logon credentials see Section 10.2. We recommend for security reasons that you change the defaults at first logon.

The main switching control Connections page is displayed which shows a graphical interpretation of the front panel (see Figure 14).

After making changes on any of the pages click:

- Submit to save the changes
- Clear to abandon the changes
- Default Setting (if available) to load the default parameters for the page

8.2 Connections Page

The Connections (switching) page provides control of:

- Combined video and audio switching (blue square)
- Video switching (orange square)
- Audio switching (gray square)
- Video port gain and compensation optimization
- Audio port volume
- Saving and loading preset switching configurations

Figure 14: Connections Page

8.3 Setup Page

The Setup pages consist of four sub-pages:

- Web page (see Section 8.3.1)
- Serial page (see Section 8.3.2)
- Port Name page (see Section 8.3.3)
- Data and Audio Processing page (see Section 8.3.4)

For defaults see Section 10.

8.3.1 Web Page

The Web page allows you to:

- Set the IP parameters for the device
- Select the Website timeout. If there is no Web page access during this period you are automatically logged out
- Enable and disable Telnet access to the device

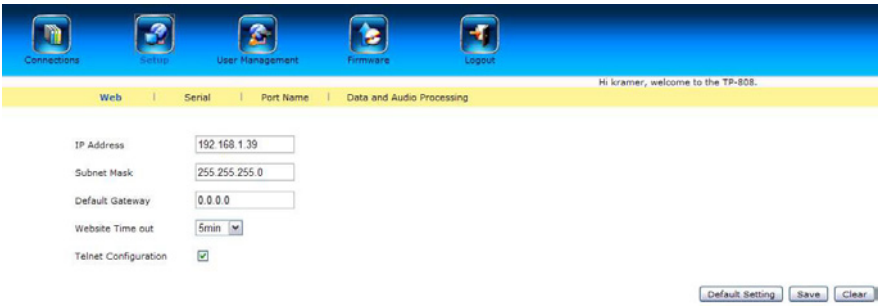


Figure 15: Web Page

8.3.2 Serial Page

The Serial page allows you to select the:

- Serial port address
- Baud rate
- Serial port mode

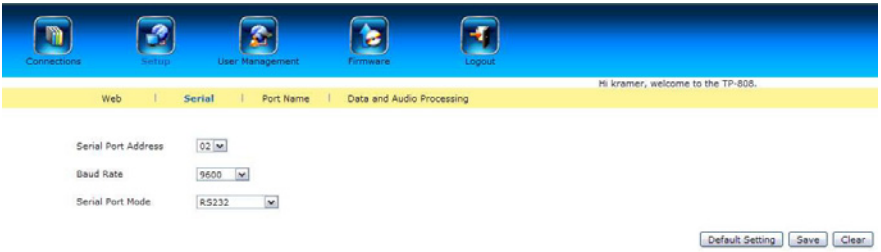


Figure 16: Serial Page

8.3.3 Port Name Page

The Port Name page allows you to rename the ports. These names appear on the Connections page (see Section 8.2).

Figure 17: Port Name Page

8.3.4 Data and Audio Processing Page

The Data and Audio Processing page allows you to select either no processing or for the device to provide data and audio processing.

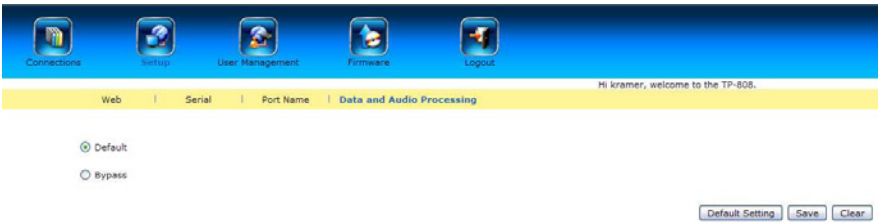


Figure 18: Data and Audio Processing Page

8.4 User Management

The User Management page allows you to view, edit and delete current users, and add new ones (if you have user management rights authorization). Users can be given one of the following privilege levels:

- User—Basic rights (perform switching, save and recall presets, and adjust audio level)
- Super User—Full rights (no user management)
- Administrator—Full rights and user management

Figure 19: User Management Page

8.5 Firmware

The firmware page allows you to upgrade the firmware of the device.

Figure 20: Firmware Page

9 Technical Specifications

SIGNAL INPUTS:	8 CAT 5 remote transmitters on RJ-45 connectors 1 local RGBHV WUXGA on a 15-pin HD connector 1 local unbalanced stereo audio on a 3.5mm mini jack 1 local balanced stereo audio on a 5-pin terminal block 1 RS-232 (Data) input/output on a 9-pin D-sub connector 1 RS-485/RS-422 input/output on a 5-pin terminal block
SIGNAL OUTPUTS:	8 CAT 5 remote receivers on RJ-45 connectors 1 local RGBHV WUXGA on a 15-pin HD connector 1 local unbalanced stereo audio on a 3.5mm mini jack 1 local balanced stereo audio on a 5-pin terminal block
CONTROL INPUTS/OUTPUTS:	1 RS-232 (Control) input on a 9-pin D-sub connector 1 Ethernet LAN on an RJ-45 connector
RESOLUTION (VIDEO):	Up to 1920 x 1200 @60Hz (WUXGA) depending on the transmitter/receiver
VIDEO CONTROL EQUALIZATION/GAIN	Video quality adjustment is done automatically at every connection change or can be forced manually via the front panel
AUDIO GAIN:	0-15 where 0=mute , 01=–25dB and 15=6dB
MAXIMUM CABLE LENGTH:	300m (984ft)
BAUD RATE (RS-232):	9600, 19200, 38400, 115200
POWER CONSUMPTION:	100-240VAC, 50/60Hz, 23VA
DIMENSIONS:	19" x 9.4" x 1U (W, D, H)
WEIGHT:	3kg (6.6lbs) approx
ACCESSORIES:	Power cord, rack “ears”

10 Default Parameters

10.1 Default Communication Parameters

RS-232	
Baud Rate	9600
Data Bits	8
Stop Bits	1
Parity	None
Command Format	Hex
Example (Output 1 to Input 1)	H01H81H81H81
Ethernet	
To reset the IP settings to the factory reset values, power cycle the device while holding in the Factory Reset button located on the rear panel of the unit	
IP Address	192.168.1.39
Subnet mask	255.255.255.0
Default gateway	0.0.0.0

10.2 Default Logon Credentials

Logon Credentials	
Name	kramer
Password	kramer

11 Kramer Protocol

The **VS-808TP** supports the Kramer Protocol 2000.

You can download our user friendly "Software for Calculating Hex Codes for Protocol 2000" from the technical support section at http://www.kramerelectronics.com.

11.1 Kramer Protocol 2000

This RS-232/RS 485/Ethernet communication protocol (Version 0.51) uses four bytes of information as defined below. For serial communication parameters, see Section 10.1.

Table 1: Protocol Definitions

MSB							LSB
	DESTINATION	INSTRUCTION					
0	D	N5	N4	N3	N2	N1	N0
7	6	5	4	3	2	1	0
1st byte							
	INPUT						
1	I6	I5	I4	I3	I2	I1	I0
7	6	5	4	3	2	1	0
2nd byte							
	OUTPUT						
1	O6	O5	O4	O3	O2	O1	O0
7	6	5	4	3	2	1	0
3rd byte							
			MACHINE NUMBER				
1	OVR	X	M4	M3	M2	M1	M0
7	6	5	4	3	2	1	0
4th byte							

1st BYTE: Bit 7 – Defined as 0.

D – "DESTINATION": 0 - for sending information to the switchers (from the PC);

1 - for sending to the PC (from the switcher).

N5…N0 – "INSTRUCTION"

The function that is to be performed by the switcher(s) is defined by the INSTRUCTION (6 bits). Similarly, if a function is performed via the machine's keyboard, then these bits are set with the INSTRUCTION NO., which was performed. The instruction codes are defined according to the table below (INSTRUCTION NO. is the value to be set for N5…N0).

2nd BYTE: Bit 7 – Defined as 1.

I6…I0 – "INPUT".

When switching (ie. instruction codes 1 and 2), the INPUT (7 bits) is set as the input number which is to be switched. Similarly, if switching is done via the machine's front-panel, then these bits are set with the INPUT NUMBER which was switched. For other operations, these bits are defined according to the table.

3rd BYTE: Bit 7 – Defined as 1.

O6…O0 – "OUTPUT".

When switching (ie. instruction codes 1 and 2), the OUTPUT (7 bits) is set as the output number which is to be switched. Similarly, if switching is done via the machine's front-panel, then these bits are set with the OUTPUT NUMBER which was switched. For other operations, these bits are defined according to the table.

4th BYTE: Bit 7 – Defined as 1.

Bit 5 – Don't care.

OVR – Machine number override.

M4…M0 – MACHINE NUMBER.

Used to address machines in a system via their machine numbers. When several machines are controlled from a single serial port, they are usually configured together with each machine having an individual machine number. If the OVR bit is set, then all machine numbers will accept (implement) the command, and the addressed machine will reply.

For a single machine controlled via the serial port, always set M4…M0 = 1, and make sure that the machine itself is configured as MACHINE NUMBER = 1.

Table 2: Instruction Codes for Protocol 2000

INSTRUCTION		DEFINITION FOR SPECIFIC INSTRUCTION		NOTE
#	DESCRIPTION	INPUT	OUTPUT	
1	SWITCH VIDEO	Set equal to video input which is to be switched (0 = disconnect)	Set equal to video output which is to be switched (0 = to all the outputs)	1
2	SWITCH AUDIO	Set equal to audio input which is to be switched (0 = disconnect)	Set equal to audio output which is to be switched (0 = to all the outputs)	1
3	STORE VIDEO STATUS	Set as SETUP #	0 - to store 1 - to delete	1, 2
4	RECALL VIDEO STATUS	Set as SETUP #	0	1, 2

Note: All values in the table are decimal, unless otherwise stated.

Notes on the above table:

NOTE 1 - For example, if the HEX code

01 85 88 83

was sent from the PC, then the switcher (machine 3) will switch input 5 to output 8.

When the PC sends one of the commands in this group to the switcher, then, if the instruction is valid, the switcher replies by sending to the PC the same four bytes that it was sent (except for the first byte, where the DESTINATION bit is set high).

NOTE 2 - SETUP # 0 is the present setting. SETUP # 1 and higher are the settings saved in the switcher's memory, (i.e. those used for Store and Recall).

LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

How Long Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

How to Obtain a Remedy under this Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at www.kramerelectronics.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

Limitation on Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS LIMITED WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF KRAMER ELECTRONICS CANNOT LAWFULLY DISCLAIM OR EXCLUDE IMPLIED WARRANTIES UNDER APPLICABLE LAW, THEN ALL IMPLIED WARRANTIES COVERING THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO THIS PRODUCT AS PROVIDED UNDER APPICABLE LAW.

IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

Other Conditions

This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, please visit our Web site at www.kramerelectronics.com or contact a Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.

For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

P/N: 2900-300147 Rev: 1