

Gefen TOOLBOX

High Definition 1080p Scaler

GTB-HD-1080PS

GTB-HD-1080PS-BLK

User Manual



www.gefentoolbox.com

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INTRODUCTION

Congratulations on your purchase of the GefenToolBox High Definition 1080p Scaler. Your complete satisfaction is very important to us.

Gefen

We specialize in total integration for your home theater, while also focusing on going above and beyond customer expectations to ensure you get the most from your hardware. We invite you to explore our distinct product line and hope you find your solutions. Don't see what you are looking for here? Please call us so we can better assist you with your particular needs.

Why GefenToolBox?

The GefenToolBox line offers portable and easy-to-install solutions for common A/V system integration setups using HDMI connectivity. GefenToolBox products are wall-mountable and small in size. GefenToolBox products are easily transported in the field and are ready for immediate and simple installations in working environments. These products come finished in glossy black or ivory to blend in with either a white wall or black cabinet.

The GefenToolBox High Definition 1080p Scaler

The GefenToolBox High Definition 1080p Scaler allows you to scale one HDMI input to one HDMI output with up to 1080p Full HD and Deep Color. This unit can vastly improve the quality of the image by outputting the video to the native resolution of the display, bypassing the display's internal scaler. Video can be manually scaled up and down in all resolutions up to 1080p Full HD.

This product can also be used to downscale, making it ideal for distributing a Hi-Def signal to multiple displays that do not support the same maximum resolutions in an HDMI distribution system, while still showing maximum resolution on the higher-definition displays. It can also be used for DVI signals with appropriate adapters.

The GefenToolBox High Definition 1080p Scaler is conveniently wall-mountable so it can be easily installed behind the display. This Scaler offers RS-232 control and is field-upgradeable.

How It Works

Use the included HDMI cable to connect the source to the High Definition 1080p Scaler. Connect the display to the Scaler using an HDMI cable. Connect an optical and / or coax audio cable from the source to the Scaler. Another set of optical and / or coax audio cables can be connected to an A/V receiver or amplifier. Connect the 5V DC locking power supply to the Scaler and connect the power cord to an available electrical outlet. Select the audio input by using the On-Screen Display with the front panel buttons or the included IR remote control.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE HIGH DEFINITION 1080P SCALER

- The High Definition 1080p Scaler will convert between digital and analog audio formats.
- Compatible with all HDMI and DVI* displays.

*When used with a DVI to HDMI adapter.

FEATURES

Features

- Scales digital video output up to 1080p Full HD and 2K
- Can be used as a down-scaler to support lower-resolution displays in multi-display distribution systems
- Supports DVI-D signals via appropriate adapters
- Supports standard and high bit-rate audio and up to eight channels of LPCM audio via HDMI.
- Supports up to two channels of LPCM audio via S/PDIF and TOSLINK outputs.
- High performance frame rate conversion engine
- Auto 3:2 pull-down and 2:2 pull-down detection and recovery
- Aspect Ratio Control
- Proprietary Advanced Color Engine Technology provides brilliant color, intensified contrast and details, vivid skin tones, and sharp edges
- Selectable audio input: HDMI, TOSLINK, or S/PDIF
- Built-in on-screen display (OSD) menu controlled via an optional remote control (sold separately)
- RS-232 control
- Field-upgradeable
- Wall-mountable

Package Includes

- (1) GefenToolBox High Definition 1080p Scaler
- (1) 6 ft. HDMI cable (M-M)
- (1) 5V DC Locking Power Supply
- (1) User Manual

PANEL LAYOUT

Top Panel



Side Panel



PANEL DESCRIPTIONS

1 Menu Navigation Buttons

The Menu button is used to enable the on-screen Menu System. The [-] and [+] buttons are used to change values and navigate within the Menu System.

2 HDMI In

Connect a Hi-Def source device to this port using the included HDMI cable.

3 Coax In

Connect a digital audio source using a coax cable to this S/PDIF port.

4 Optical In

Connect a digital audio source using an optical cable to this TOSLINK port.

5 RS-232 Serial Port

This port is used for serial communication using an RS-232 control device. Access to certain features are only available through the RS-232 interface.

6 Ext IR

Connect an IR Extender (EXT-RMT-EXTIR) to this port.

7 HDMI Out

Connect an HDTV display to this port.

8 Coax Out

Connect a coax cable from this S/PDIF connector to an audio output device.

9 Optical Out

Connect an optical cable from this TOSLINK connector to an audio output device.

10 5 V DC Locking Power Connector

Connect the included 5 V DC locking power supply to this receptacle.

11 IR Window

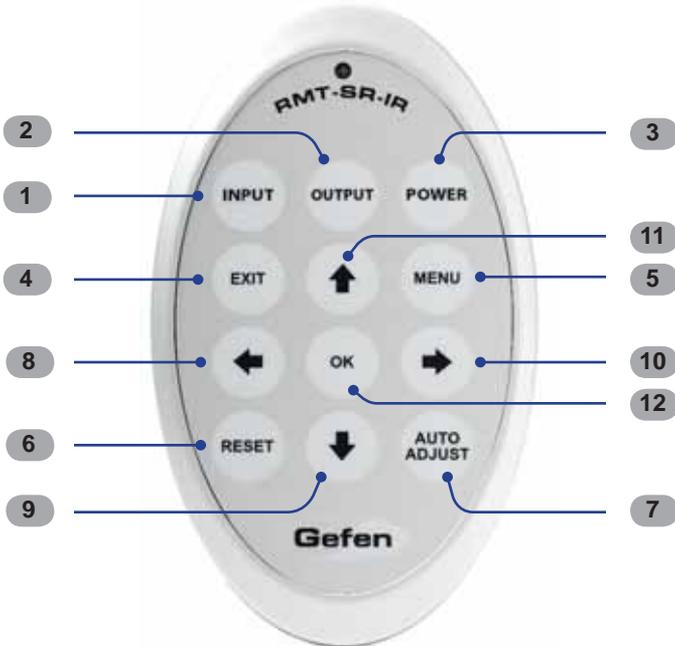
Receives IR commands from the optional IR Remote Control Unit (RMT-SR-IR).

12 Power Indicator

This LED will glow bright red when power is applied to the unit.

IR REMOTE CONTROL LAYOUT / DESCRIPTIONS

RMT-SR-IR Remote Control Unit



- 1 Input**
Cycles through the available audio inputs: HDMI, Coaxial, or Optical.
- 2 Output**
Cycles through the available output resolutions. See the Output Menu section on page 14 for the resolution table.
- 3 Power**
Turns the unit ON or OFF (standby).
- 4 Exit**
Exits the current menu option and menu system.
- 5 Menu**
Displays the on-screen Menu System.
- 6 Reset**
Resets the input and output resolutions to factory default.
- 7 Auto Adjust**
Sets the display for optimal resolution and aspect ratio based on the display's EDID information and the currently selected sources output resolution.

IR REMOTE CONTROL DESCRIPTIONS

8 Left Cursor

Used to navigate to the left within the on-screen Menu System.

9 Down Cursor

Used to navigate downwards in the on-screen Menu System.

10 Right Cursor

Used to navigate to the right within the on-screen Menu System.

11 Up Cursor

Used to navigate up within the on-screen Menu System.

12 OK

Confirms the current selection. This button performs the same function as the Menu button on the front panel of the Scaler.

INSTALLING THE IR REMOTE CONTROL UNIT

Installing the IR Remote Control Battery

1. Remove the battery cover on the back of the IR Remote Control unit.
2. Insert the included battery into the open battery slot. The positive (+) side of the battery should be facing up.
3. Replace the battery cover.

The Remote Control unit ships with two batteries. One battery is required for operation and the other battery is a spare.



Battery Slot



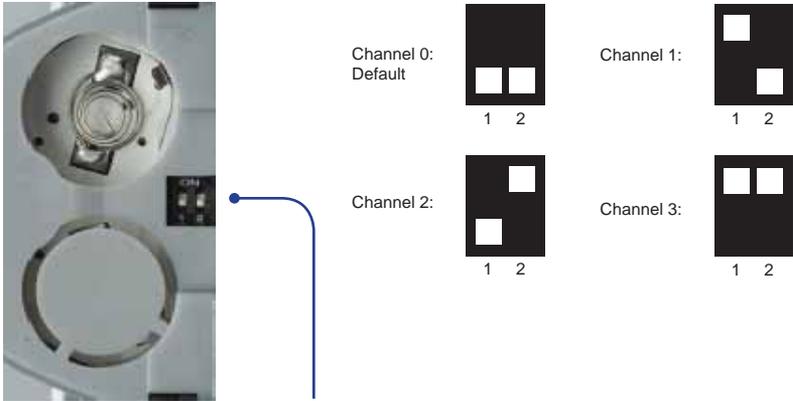
CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

IR REMOTE CONTROL UNIT CONFIGURATION

Setting the IR Remote Control Channel

In the event that IR commands from other remote controls interfere with the supplied IR Remote Control unit, changing the IR channel on the IR Remote Control unit will fix the problem. The IR Remote Control unit has a bank of DIP switches used for setting the IR channel.

The DIP switch bank is located underneath the battery cover.



Exposed DIP switch bank between the battery slots.

It is important that the IR channel on the Remote Control unit, matches the IR channel set on the GefenToolBox High Definition 1080p Scaler. For example, if both DIP switches on the IR Remote Control unit are set to IR channel 0 (both DIP switches down), then the High Definition 1080p Scaler must also be set to IR channel 0. Refer to page 15 on changing the IR channel on the High Definition 1080p Scaler.

CONNECTING AND OPERATING THE HIGH DEFINITION 1080P SCALER

How to Connect the High Definition 1080p Scaler

1. Connect the included HDMI cable from the Hi-Def source to the HDMI In port on the High Definition 1080p Scaler.
2. Connect a coax cable from a Digital audio source to the S/PDIF input connector. An Optical cable can also be connected from the digital audio source to the TOSLINK input connector on the High Definition 1080p Scaler.

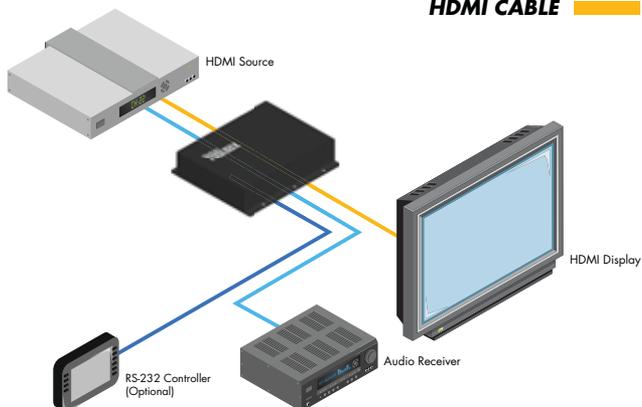
NOTE: Only one digital input (S/PDIF or TOSLINK) can be selected as an audio source at a time.

3. Connect an HDMI cable from the HDMI Out port on the High Definition 1080p Scaler to an HDTV display.
4. Connect the coax cable and/or optical cable from S/PDIF and/or TOSLINK outputs to an A/V receiver or other audio output device(s).
5. Connect the included 5 V DC locking power supply to the locking power connector on the Scaler then connect the AC power cord to an available electrical outlet.

Wiring Diagram for the GefenToolBox High Definition 1080p Scaler

Gefen
TOOLBOX

DIGITAL AUDIO TOSLINK CABLE } 
or **DIGITAL AUDIO S/PDIF CABLE** }
RS-232 CABLE 
HDMI CABLE 



GTB-HD-1080PS

MENU SYSTEM

Video Menu

To access the Video Menu, press the Menu button. Use the + or - buttons to highlight the Video Menu icon. Press the Menu button to enter the Video Menu. Use the + or - buttons to scroll through each of the parameters. Press the Menu button to change the selected parameter. Use the + or - buttons to increase or decrease the values.

Picture Mode

Preset and user configuration settings for different viewing scenarios. Preset settings will not allow user adjustment. Only the USER option will allow customized video settings. The USER settings are saved.

- **Standard** - Useful for general content
- **Movie** - useful for dimly lit environments
- **Vivid** - useful for accentuating colors for a more vibrant image
- **User** - user configuration settings

Contrast

Adjusts the Contrast by increments of 1. Minimum value: 1, Maximum value: 100.

Brightness

Adjusts the Brightness by increments of 1. Minimum value: 1, Maximum value: 100.

Hue

Adjusts the Hue by increments of 1. Minimum value: 1, Maximum value: 100.

Saturation

Adjusts the Saturation level by increments of 1 or -1. Minimum value: 1, Maximum value: 100.

Sharpness

Adjusts the sharpness in increments of 1 on a scale of 1 to 100 (default 50).

MENU SYSTEM

Scale

Sets the scaling adjustment. Options are: Full, Overscan, Underscan, Letterbox U.S. (Underscan), PanScan U.S. (Underscan), Letterbox Full, and PanScan Full.

Full

Stretches the image to fill the screen

Overscan

Stretches the image to fullscreen and just beyond the border of the display

Underscan

Stretches the image to fullscreen and just within the border of the screen

Letterbox U.S. (Underscan)

Stretches the image to 16:9 aspect ratio with underscan

PanScan U.S. (Underscan)

Stretches the image to 4:3 aspect ratio with underscan

Letterbox Full

Stretches the image to 16:9 aspect ratio without underscan

PanScan Full

Stretches the image to 4:3 aspect ratio without underscan

NR (Noise Reduction)

Reduces noise artifacts in the picture. This option is only available when the input signal is 480i or 480p.

Exit

Exits the Video Menu and returns control to the Main Menu.

MENU SYSTEM

Color Menu

To access the Color Menu, press the Menu button. Use the + or - buttons to highlight the Color Menu icon. Press the Menu button to enter the Color Menu. Use the + or - buttons to scroll through each of the parameters. Press the Menu button to change the selected parameter. Use the + or - buttons to increase or decrease the values.

Color Tone

- **Normal** - Use for general content
- **Warm** - Red-shifts RGB values for a warmer color
- **Cool** - Blue-shifts RGB values for a cooler video color
- **User** - Allows individual adjustment of Red, Green, and Blue color components.

Red

Adjusts the Red value by increments of 1. Minimum value: 1, Maximum value: 100.

Green

Adjusts the Green value by increments of 1. Minimum value: 1, Maximum value: 100.

Blue

Adjusts the Blue value by increments of 1. Minimum value: 1, Maximum value: 100.

Exit

Exits the Color Menu and returns control to the Main Menu.

MENU SYSTEM

Output Menu

To access the Output Menu, press the Menu button. Use the + or - buttons to highlight the Output Menu icon. Press the Menu button to enter the Output Menu. Use the + or - buttons to select the desired output resolution. Press the Enter button to enable the selected output resolution. Use the + or - buttons to select the Exit option to exit the Option Menu and return control to the Main Menu.

VGA	480i	576i	WXGA
SVGA	480p	576p	WSXGA
XGA	720p60	720p50	WUXGA
SXGA	1080i60	1080i50	
UXGA	1080p60	1080p50	2K
1080p-1	1080p-2	1080p-3	
	Native*	Exit	

* The Native option will select the native resolution of the connected display based on the EDID from the display.

The Output Menu also contains three frame rate conversion modes:

- 1080p-1 : 1080p 24/50/60 No frame rate conversion.
- 1080p-2 : 1080p 24/60 Converts all frame rates (except 24) to 60.
- 1080p-3 : 1080p 24/50 Converts all frame rates (except 24) to 50.



If a resolution that is not supported by the display is selected, then the on-screen Menu will no longer be visible. To correct this, press the OUTPUT button on the IR Remote Control Unit and cycle through the output resolutions until a supported mode is displayed.

Exit

Exits the Output Menu and returns control to the Main Menu.

MENU SYSTEM

OSD Menu

To access the OSD Menu, press the Menu button. Use the + or - buttons to highlight the OSD Menu icon. Press the Menu button to enter the OSD Menu. Use the + or - buttons to scroll through each of the parameters. Press the Menu button to change the selected parameter. Use the + or - buttons to increase or decrease the values.

H-Position (Horizontal Position)

Adjusts the horizontal position on the Menu System on the screen. Minimum value: 1, Maximum value: 100.

V-Position (Vertical Position)

Adjusts the vertical position of the Menu System on the screen. Minimum value: 1, Maximum value: 100.

Time Out

Adjusts the amount of time (in seconds) before the OSD automatically closes. Minimum value: 1, Maximum value: 100.

Background

Sets the transparency level of the OSD background. Minimum value: 0, Maximum value: 8.

Remote Channels

Sets the remote channel for use with the IR Remote Control Unit. Minimum value: 0, Maximum value: 3.



If the selected Remote Channel in this menu and does not match the IR Channel set in the IR Remote Control Unit, the unit will cease to respond to IR commands from the remote.

Exit

Exits the OSD Menu and returns control to the Main Menu.

MENU SYSTEM

Audio Menu

To access the Audio Menu, press the Menu button. Use the + or - buttons to highlight the Audio Menu icon. Press the Menu button to enter the Audio Menu. Use the + or - buttons to scroll through each of the parameters. Press the Menu button to change the selected parameter. Use the + or - buttons to increase or decrease the values.

Source

Selects the audio input source: HDMI, Coaxial, or Optical.

Sound

Selects audio output option: On or Mute.

Exit

Exits the OSD Menu and returns control to the Main Menu.

Information Menu

To access the Information Menu, press the Menu button. Use the + or - buttons to highlight the Information Menu icon. Press the Menu button to enter the Information Menu. The following information is displayed on the Information Menu screen:

- Audio Input Source and the Color Space
- Input Resolution
- Output Resolution
- Firmware Version

RS-232 SERIAL CONTROL INTERFACE



Only Pins 2 (RX), 3 (TX), and 5 (Ground) are used on the RS-232 serial interface

RS232 Settings

Bits per second 19200

Data bits 8

Parity None

Stop bits 1

Flow Control None

Commands		
Command Code	Response	Description
PWR TGL	PWR [ON, OFF]	TOGGLE POWER ON / OFF
PWR OFF	PWR OFF	POWER OFF
PWR ON	PWR ON	POWER ON
MUTE OFF	MUTE OFF	DISABLE MUTING
MUTE ON	MUTE ON	ENABLE MUTING
MUTE TGL	MUTE [ON, OFF]	TOGGLE MUTING
IN COAX	IN COAX	SET AUDIO INPUT TO COAX
IN OPTI	IN OPTI	SET AUDIO INPUT TO OPTICAL
IN HDMI	IN HDMI	SET AUDIO INPUT TO HDMI
OUT NATV	OUT NATIVE	NATIVE RESOLUTION OUTPUT
OUT VGA	OUT VGA	VGA RESOLUTION OUTPUT
OUT SVGA	OUT SVGA	SVGA RESOLUTION OUTPUT
OUT XGA	OUT XGA	XGA RESOLUTION OUTPUT
OUT SXGA	OUT SXGA	SXGA RESOLUTION OUTPUT
OUT UXGA	OUT UXGA	UXGA RESOLUTION OUTPUT
OUT 480I	OUT 480I	480I RESOLUTION OUTPUT
OUT 480P	OUT 480P	480P RESOLUTION OUTPUT
OUT 720P60	OUT 720P60	720P RESOLUTION OUTPUT
OUT 1080I60	OUT 1080I60	1080I60 RESOLUTION OUTPUT

RS-232 SERIAL CONTROL COMMANDS

Command Code	Response	Description
OUT 1080P60	OUT 1080P60	1080P60 RESOLUTION OUTPUT
OUT 576I	OUT 576I	576I RESOLUTION OUTPUT
OUT 576P	OUT 576P	576P RESOLUTION OUTPUT
OUT 720P50	OUT 720P50	720P50 RESOLUTION OUTPUT
OUT 1080I50	OUT 1080I50	1080I50 RESOLUTION OUTPUT
OUT 1080P50	OUT 1080P50	1080P50 RESOLUTION OUTPUT
OUT WXGA	OUT WXGA	WXGA RESOLUTION OUTPUT
OUT WSXGA	OUT WSXGA	WSXGA RESOLUTION OUTPUT
OUT WUXGA	OUT WUXGA	WUXGA RESOLUTION OUTPUT
OUT 1080P24	OUT 1080P24	1080P24 RESOLUTION OUTPUT
OUT 2K	OUT 2K	2K RESOLUTION OUTPUT
SIZE FULL	SIZE FULL	SET FULL SCREEN OUTPUT
SIZE OVSCAN	SIZE OVERSCAN	SET OVERSCAN OUTPUT
SIZE UNSCAN	SIZE UNDERSCAN	SET UNDERSCAN OUTPUT
SIZE LTRBOX	SIZE LETTERBOX	SET LETTERBOX OUTPUT
SIZE LTRBOXF	SIZE LTRBOXFUL	SET LETTERBOX FULL OUTPUT
SIZE PNSCAN	SIZE PANSCAN	SET PANSCAN OUTPUT
SIZE PNSCANF	SIZE PNSCANFUL	SET PANSCAN FULL OUTPUT
PMODE USER	PICTUREMODE USER	SET PICTURE MODE TO USER
PMODE STND	PICTUREMODE STANDARD	SET PICTURE MODE TO STANDARD
PMODE MOVI	PICTUREMODE MOVIE	SET PICTURE MODE TO MOVIE
PMODE VIVD	PMODE VIVD	SET PICTURE MODE TO VIVID
CONTRST [1 - 100]	CONTRAST [1 - 100]	SET CONTRAST
BRTNESS [1 - 100]	BRIGHTNESS [1 - 100]	SET BRIGHTNESS
HUE [1 - 100]	HUE [1 - 100]	SET HUE
SATURTN [1 - 100]	SATURATION [1 - 100]	SET SATURATION
SHARP [1 - 100]	SHARP [1 - 100]	SET SHARPNESS
NR OFF	NR OFF	NOISE REDUCTION OFF
NR LOW	NR LOW	NOISE REDUCTION LOW
NR HI	NR HIGH	NOISE REDUCTION HIGH
CLRTMP NRML	COLORTEMP NORMAL	SET COLOR TEMPERATURE TO NORMAL
CLRTMP WARM	COLORTEMP WARM	SET COLOR TEMPERATURE TO WARM
CLRTMP COOL	COLORTEMP COOL	SET COLOR TEMPERATURE TO COOL

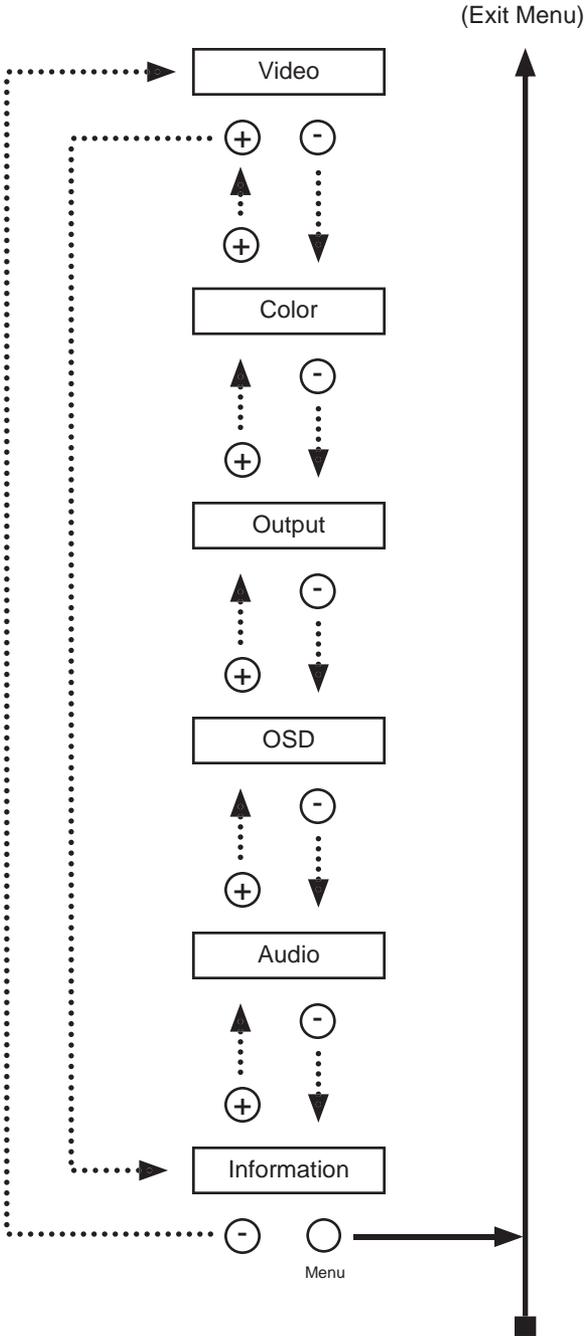
RS-232 SERIAL CONTROL COMMANDS

Command Code	Response	Description
CLRTMP USER	COLORTEMP USER	SET COLORTEMP TO USER
RED [1 - 100]	RED [1 - 100]	ADJUST RED COLOR COMPONENT
GRN [1 - 100]	GREEN [1 - 100]	ADJUST GREEN COLOR COMPONENT
BLU [1 - 100]	BLUE [1 - 100]	ADJUST BLUE COLOR COMPONENT
OSDHPOS [1 - 100]	OSDHPOSITION [1 - 100]	SET OSD HORIZONTAL POSITION
OSDVPOS [1 - 100]	OSDVPOSITION [1 - 100]	SET OSD VERTICAL POSITION
IR 1	IRC 1	SET IR CHANNEL TO 1
IR 2	IRC 2	SET IR CHANNEL TO 2
IR 3	IRC 3	SET IR CHANNEL TO 3
IR 4	IRC 4	SET IR CHANNEL TO 4
DFLT	DEFAULT	RESTORE DEFAULT SETTINGS
RST	RESET	RESETS THE SCALER
STAT OFF	STATUS OFF	
STAT ON	STATUS ON	
POWER?	POWER [ON / OFF]	RETURNS POWER STATUS
MUTE?	MUTE [ON / OFF]	RETURNS MUTING STATUS
OUTPUT?	OUTPUT [RES]	RETURNS CURRENT OUTPUT RESOLUTION
SIZE?	SIZE [SIZE]	RETURNS SCREEN SIZE SETTING
PICTUREMODE?	PICTUREMODE [MODE]	RETURNS CURRENT PICTURE MODE
CONTRAST?	CONTRAST [VALUE]	RETURNS CONTRAST VALUE
BRIGHTNESS?	BRIGHTNESS [VALUE]	RETURNS BRIGHTNESS VALUE
HUE?	HUE [VALUE]	RETURNS HUE VALUE
SATURATION?	SATURATION [VALUE]	RETURNS SATURATION VALUE
SHARPNESS?	SHARPNESS [VALUE]	RETURNS SHARPNESS VALUE
NR?	NR [VALUE]	RETURNS NOISE REDUCTION VALUE
COLORTEMP?	COLORTEMP [VALUE]	RETURNS THE COLOR TEMPERATURE VALUE
RED?	RED [VALUE]	RETURNS RED COLOR COMPONENT VALUE
GREEN?	GREEN [VALUE]	RETURNS GREEN COLOR COMPONENT VALUE
BLUE?	BLUE [VALUE]	RETURNS BLUE COLOR COMPONENT VALUE
PCHPOSITION?	PCHPOSITION [VALUE]	
PCVPOSITION?	PCHVPOSITION [VALUE]	
OSDHPOS?	OSDHPOS [VALUE]	RETURNS OSD HORIZONTAL POSITION

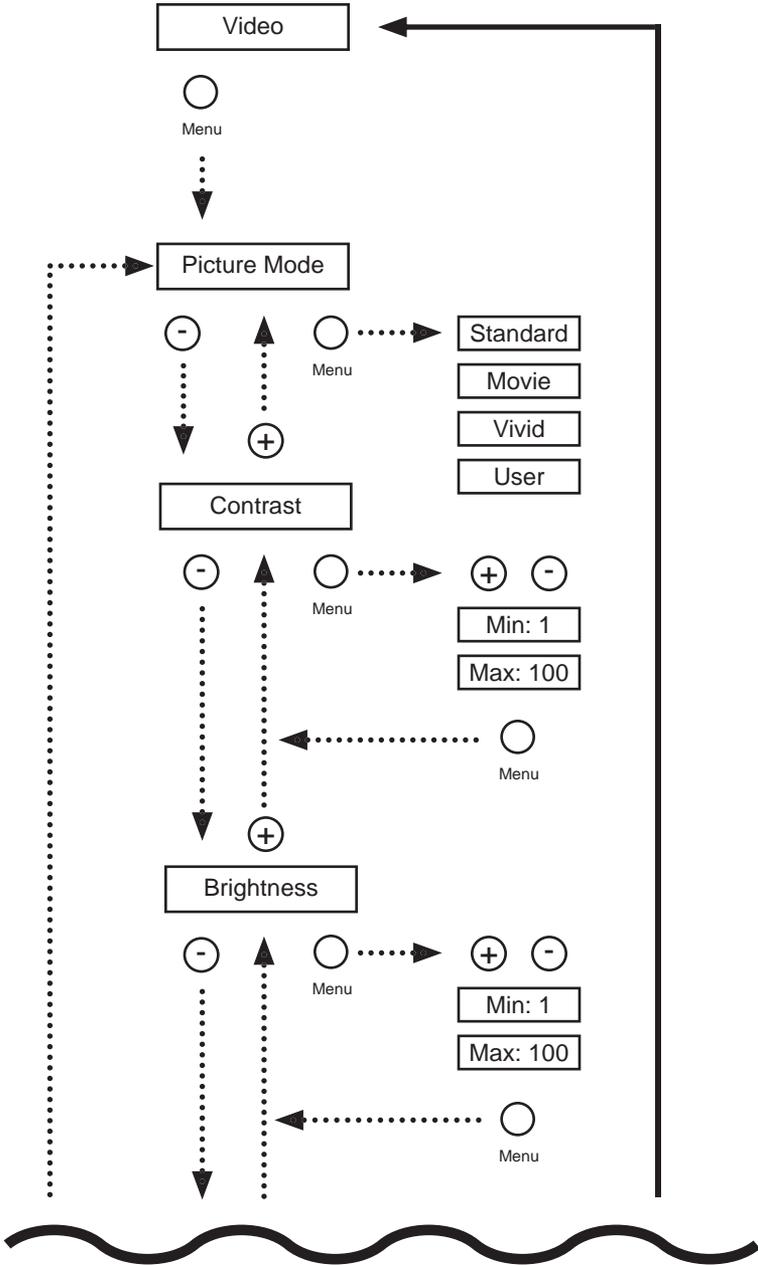
RS-232 SERIAL CONTROL COMMANDS

Command Code	Response	Description
OSDVPOS?	OSDVPOS [VALUE]	RETURNS OSD VERTICAL POSITION
OSDTMOUT?	OSDTMOUT [VALUE]	RETURNS OSD TIMEOUT VALUE IN SECONDS
OSDBKGRND?	OSDBKRND [VALUE]	RETURNS OSD TRANSPARENCY VALUE
HELP?	[COMMANDS]	LISTS ALL COMMANDS
IR?	IRC [CHANNEL]	RETURNS THE IR CHANNEL
STAT?	STAT [VALUE]	RETURNS THE STATUS
INFO?	[VALUE]	RETURNS FIRMWARE AND HARDWARE VERSION

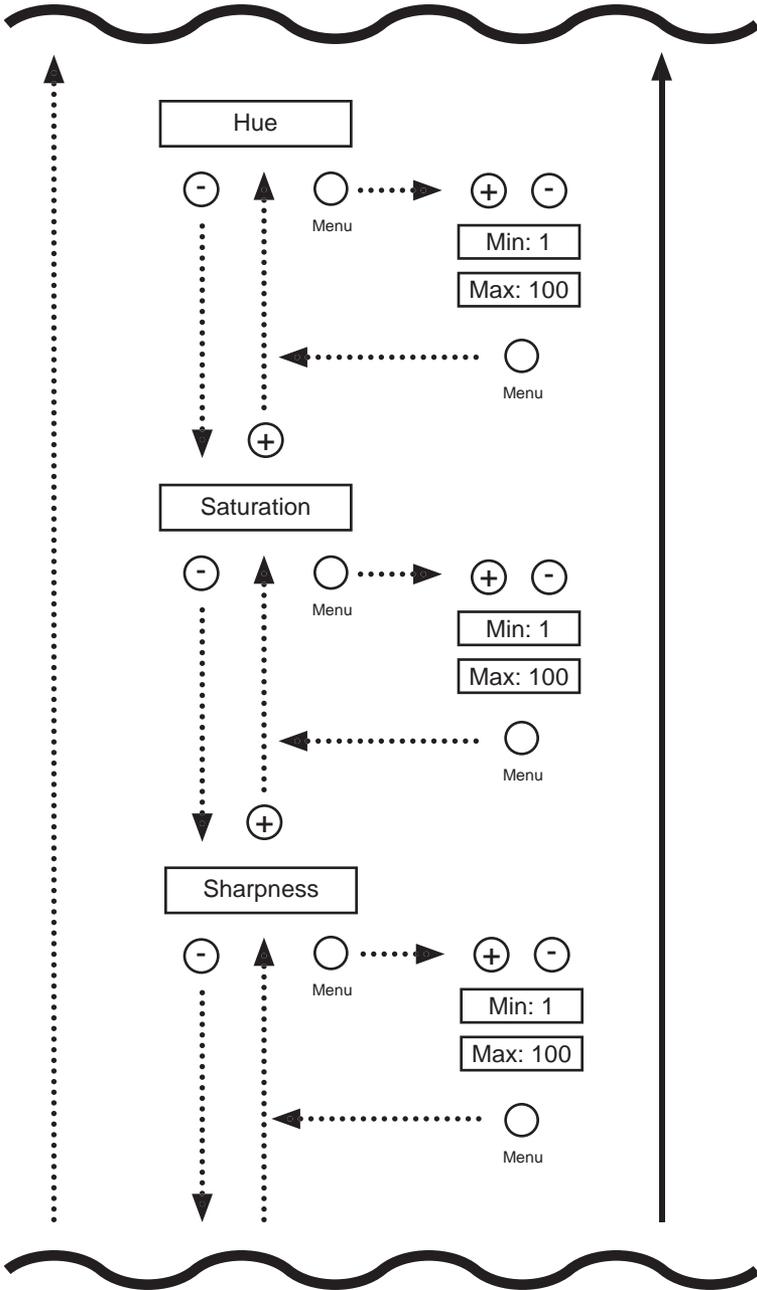
MAIN MENU SYSTEM SUMMARY



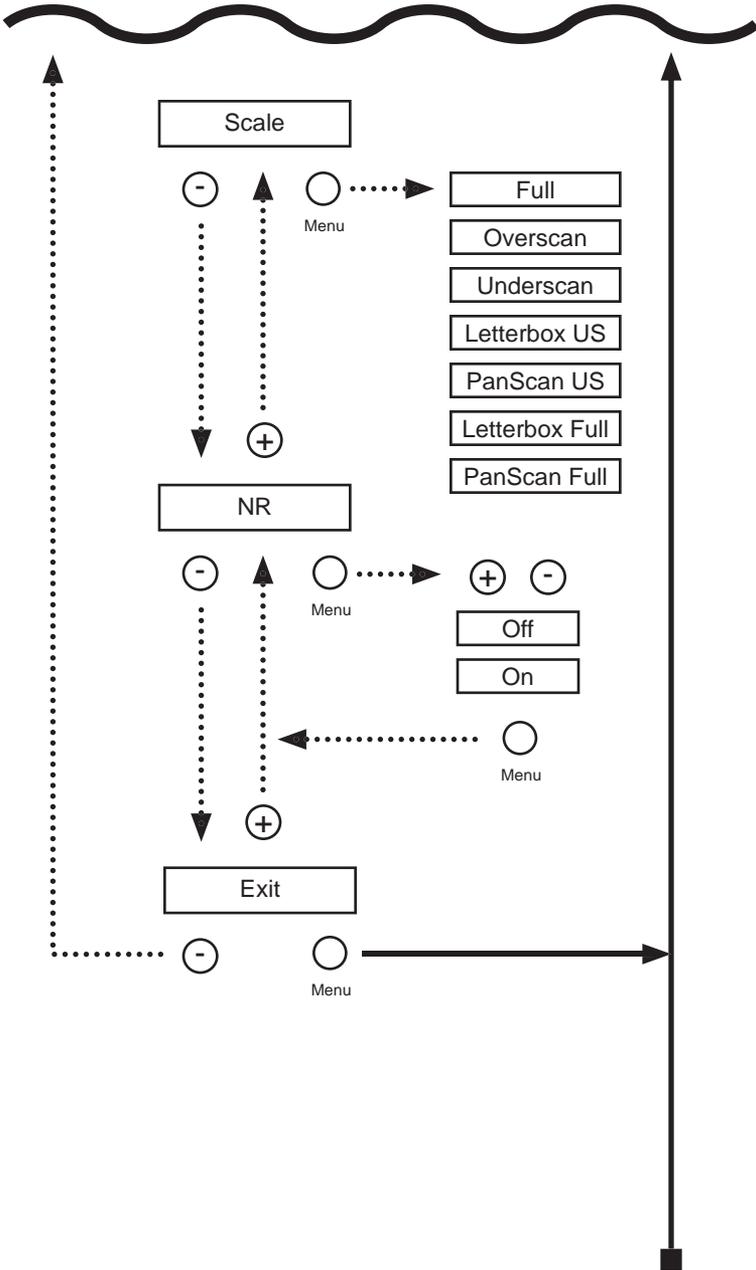
VIDEO MENU SYSTEM SUMMARY



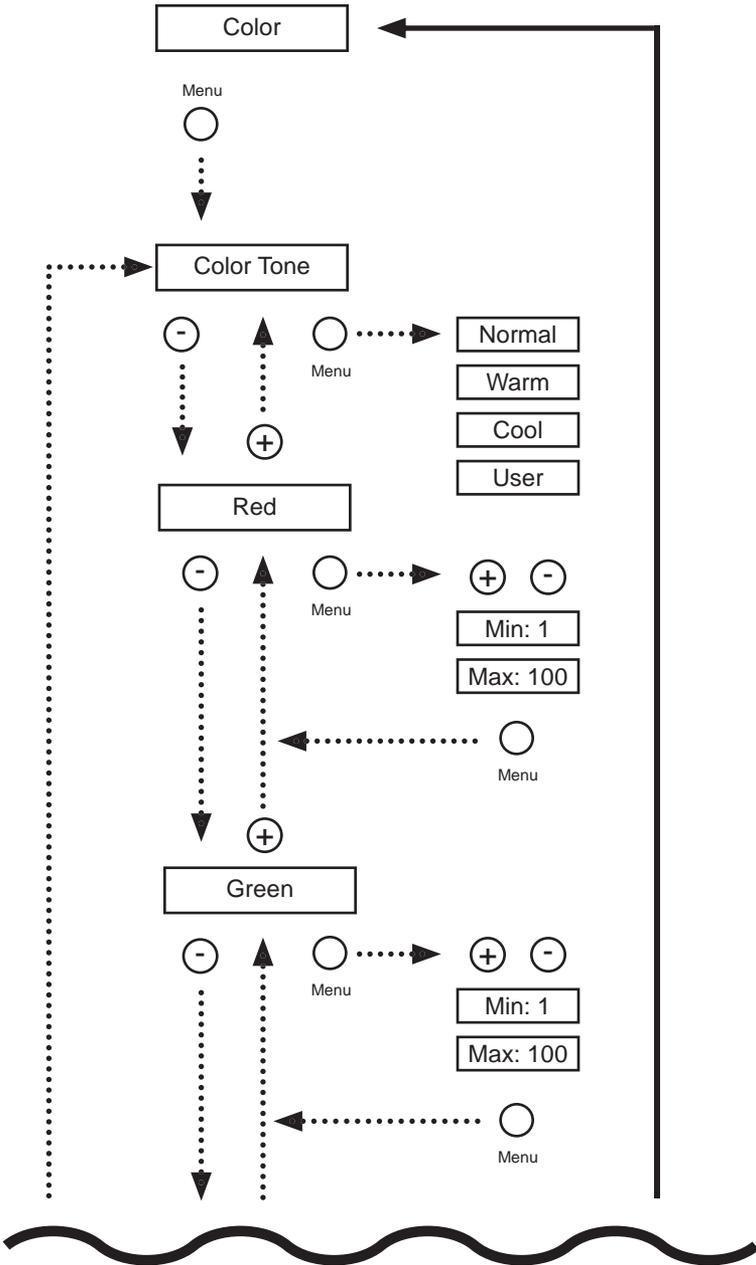
VIDEO MENU SYSTEM SUMMARY



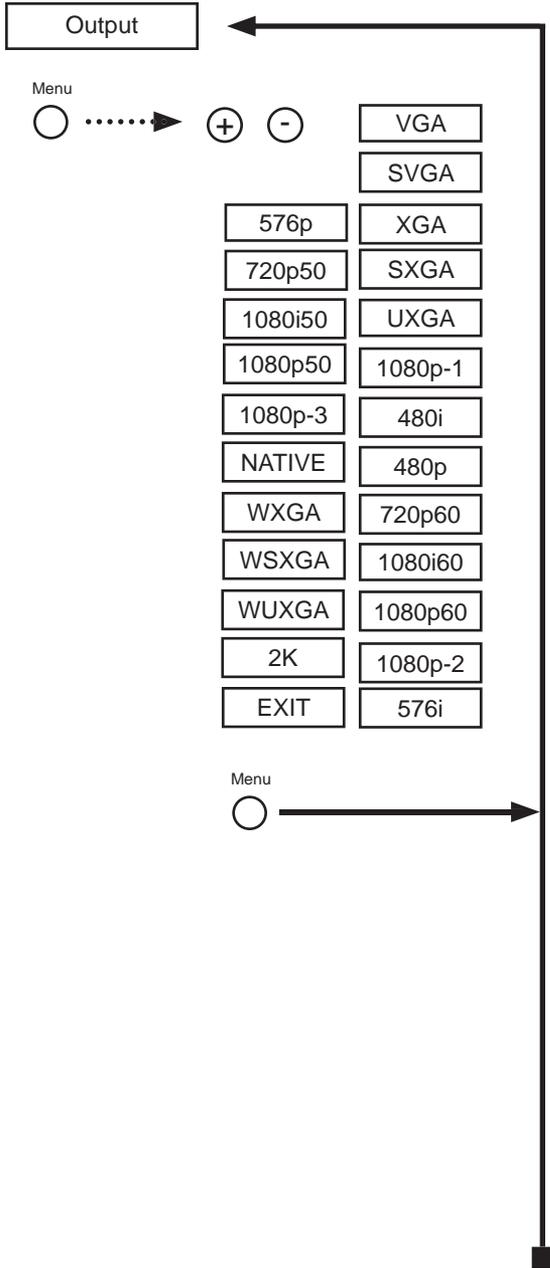
VIDEO MENU SYSTEM SUMMARY



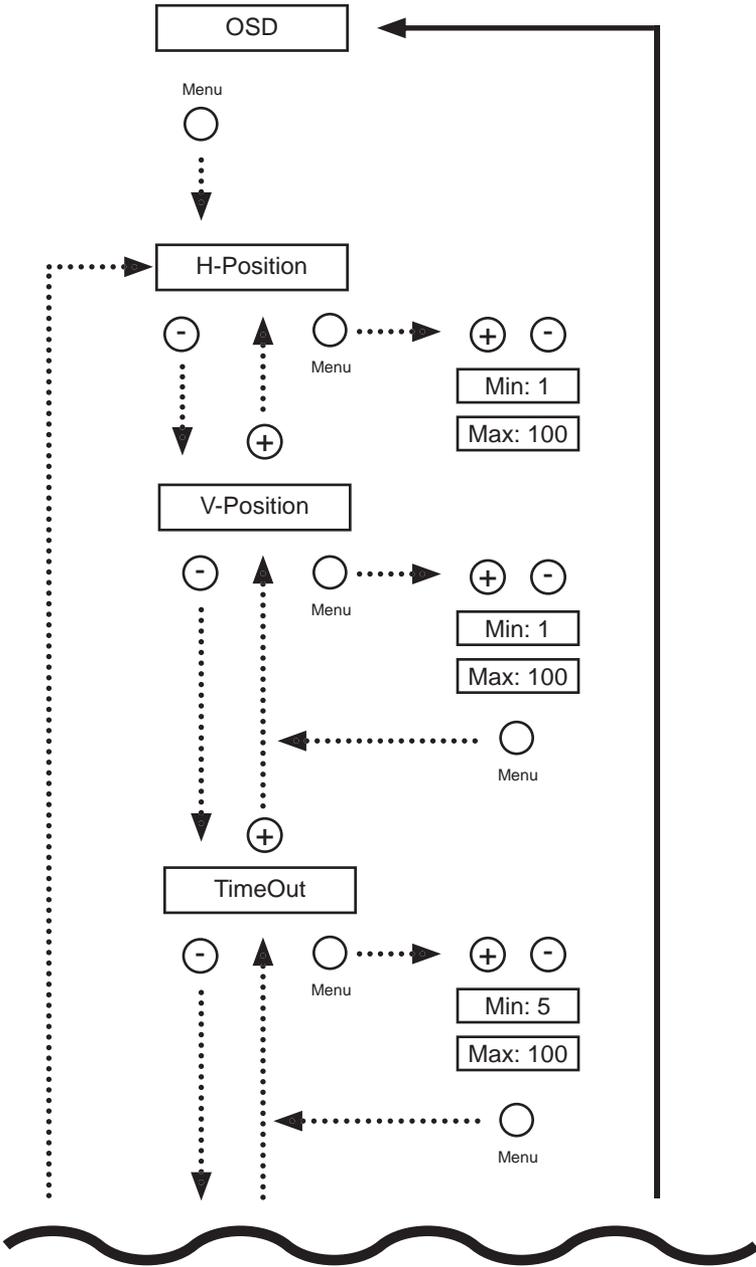
COLOR MENU SYSTEM SUMMARY



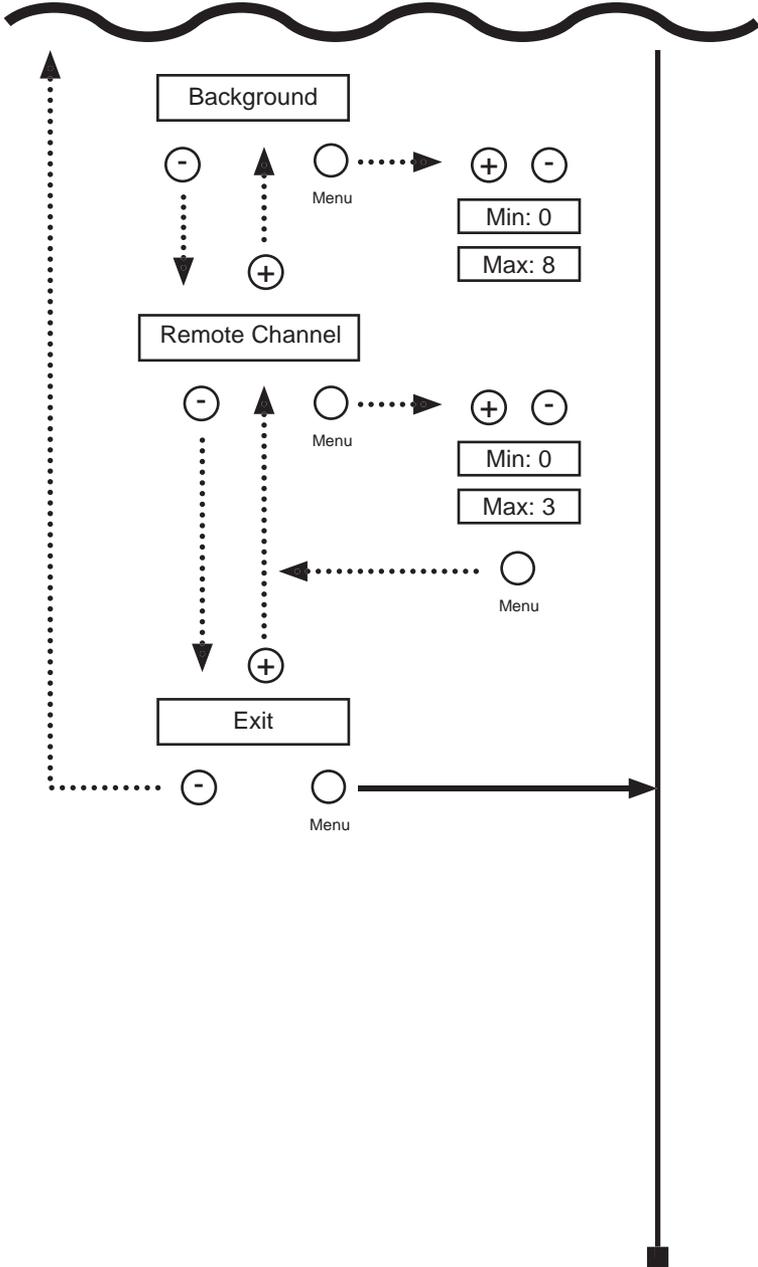
OUTPUT MENU SYSTEM SUMMARY



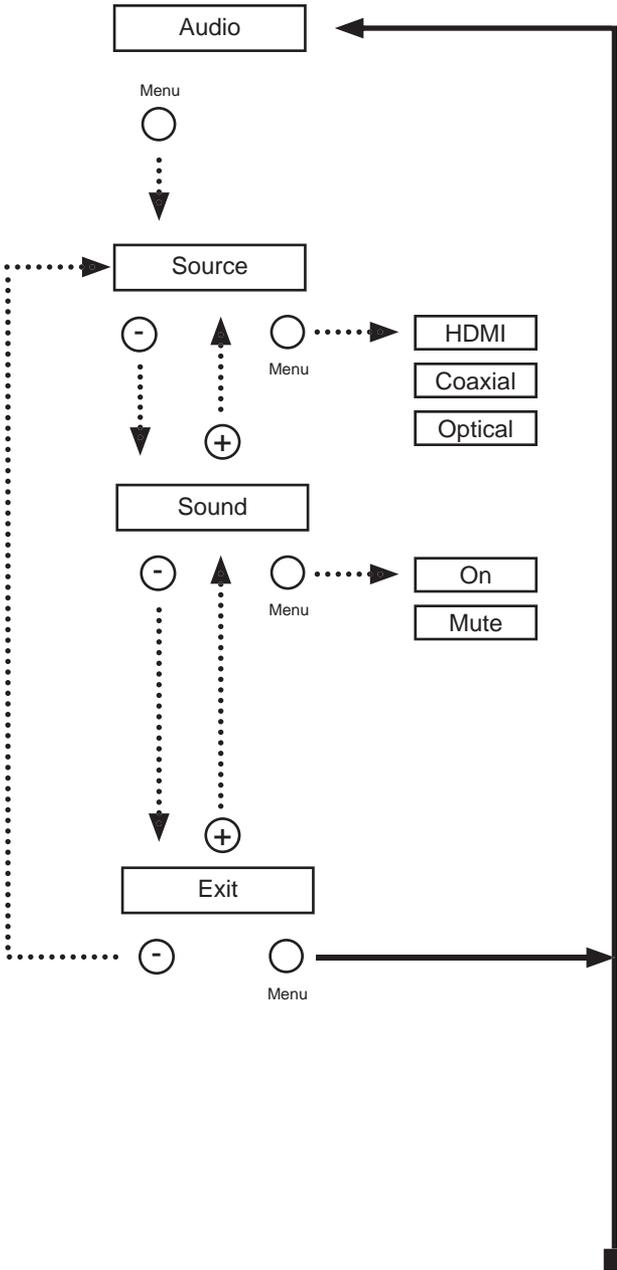
OSD MENU SYSTEM SUMMARY



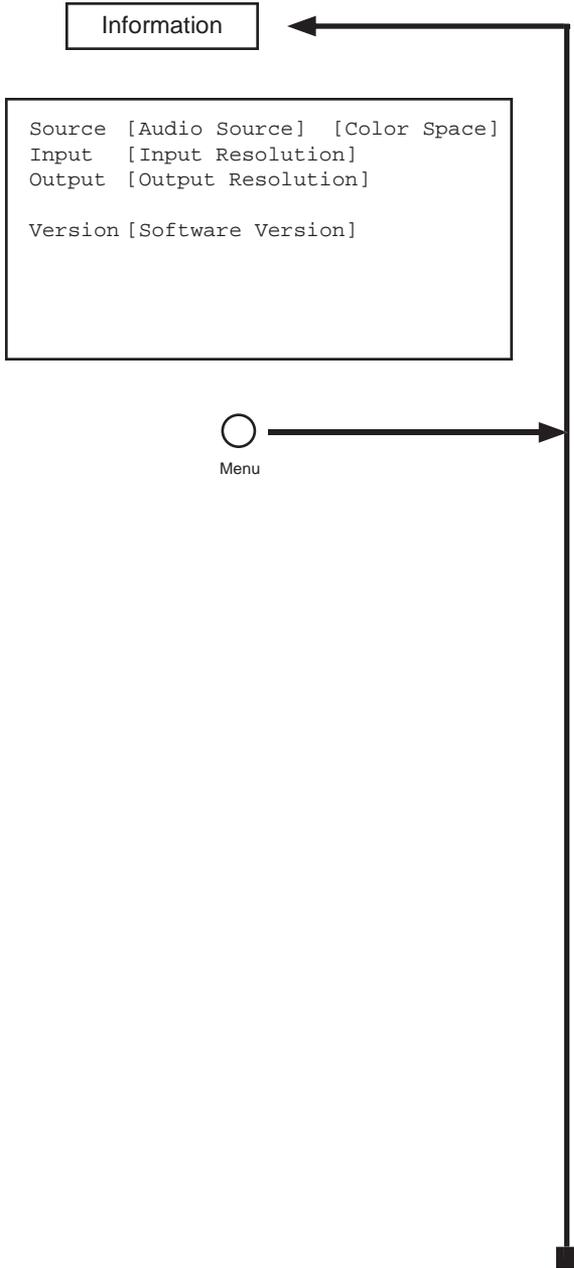
OSD MENU SYSTEM SUMMARY



AUDIO MENU SYSTEM SUMMARY



INFORMATION MENU SYSTEM SUMMARY



SPECIFICATIONS

Maximum Pixel Clock.....	225 MHz
Input DDC Signal.....	5 V p-p (TTL)
Input Video Signal.....	1.2 V p-p
HDMI Input.....	(1) Type A 19-pin, female
HDMI Output.....	(1) Type A 19-pin, female
Audio Input.....	(1) TOSLINK, (1) S/PDIF
Audio Output.....	(1) TOSLINK, (1) S/PDIF
RS-232 Serial Port.....	DB-9, female
IR Extender.....	3.5 mm mini-stereo jack
Power Supply.....	5 V DC, Locking
Dimensions.....	8" W x 7" H x 1" D
Shipping Weight.....	4 lbs.

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.
2. Customers outside the US are responsible for shipping charges to and from Gefen.
3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

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For the latest warranty coverage information, please visit Gefen's Warranty web page at <http://www.gefen.com/kvm/aboutus/warranty.jsp>

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