Gefen®

A/V Conference Room Processor

EXT-AVCONFS
User Manual

www.gefen.com

DOLBY DIGITAL

ASKING FOR ASSISTANCE

Technical Support:
Telephone (818) 772-9100
(800) 545-6900

Fax (818) 772-9120

Technical Support Hours:
8:00 AM to 5:00 PM Monday thru Friday Pacific Time

Write To:

Gefen, LLC
c/o Customer Service
20600 Nordhoff St
Chatsworth, CA 91311

www.gefen.com
support@gefen.com

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INTRODUCTION

Congratulations on your purchase of the A/V Conference Room Processor. Your complete satisfaction is very important to us.

Gefen

Gefen delivers innovative, progressive computer and electronics add-on solutions that harness integration, extension, distribution and conversion technologies. Gefen's reliable, plug-and-play products supplement cross-platform computer systems, professional audio/video environments and HDTV systems of all sizes with hard-working solutions that are easy to install and simple to operate.

The Gefen A/V Conference Room Processor

Integrating multiple audio/video sources in a professional setting has never been easier. Gefen's new A/V Conference Room Processor with built-in audio amplifier connects set top boxes, Blu-ray players, gaming consoles, computers and more. Video is scaled and output in HDMI format with cinema-quality scaling up to 2K or 1080p Full HD resolution, supporting large-scale HDTV displays. Multichannel surround audio (Dolby® or LPCM) is mixed down to two-channel stereo plus support for a powered subwoofer. A built-in two-channel audio amplifier delivers 25 watts per channel from digital and analog sources, ideal for creating high-fidelity sound in the conference room environment. Two speakers may be connected directly to the amplifier binding posts for "plug and play" installation in any conference room, educational facility or presentation venue.

How It Works

Connect each video input source and corresponding audio source to connectors on the front or rear panel. Power up the A/V Conference Room Processor. The buttons on the front panel are used to select the active A/V source. Use the LCD menu system to select the scaler output resolution and desired A/V processing functions. The A/V Conference Room Processor will convert the selected A/V inputs to HDMI video output with two-channel analog line-level and speaker-level with powered subwoofer support.

PLEASE READ THESE NOTES BEFORE INSTALLING OR OPERATING THE A/V CONFERENCE ROOM PROCESSOR

- The A/V Conference Room Processor has three (3) separate RCA outputs which are intended to be used with a separate audio amplifier. Up to six channels of audio can be down-mixed to left, right, and subwoofer.

- This unit will support the following audio formats:

  LPCM (up to 6 channels)
  Dolby Digital (AC-3 up to 6 channels)

- This unit will accept sources that use Deep Color.

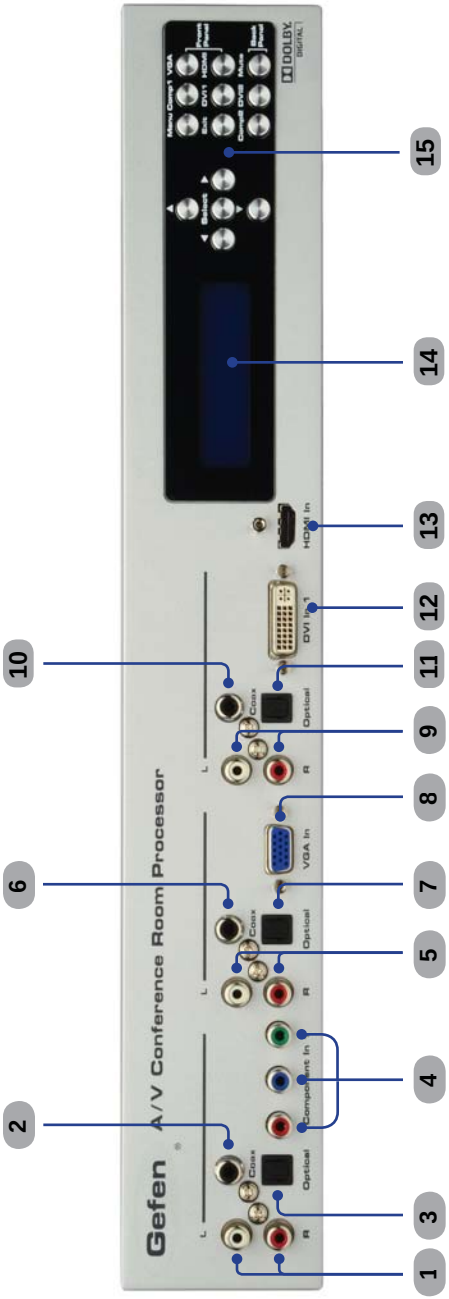
Features

- Scales and outputs resolutions up to 1080p, 2K, and 1920x1200
- Switches and converts various A/V sources to HDMI
- Dolby Digital™ decoding and processing
- Advanced EDID Management
- High performance frame rate conversion engine
- Auto 3:2 pull-down and 2:2 pull-down detection and recovery
- Aspect Ratio Control
- Built-in menu system
- RS-232 Control
- Field upgradable firmware
- Rack-mountable (rack ears included)

Package Includes

- (1) A/V Conference Room Processor
- (1) 6 ft. HDMI cable (M-M)
- (1) 24 V DC Power Supply
- (1) Set of Rack Ears
- (1) IR Remote
- (1) User Manual

Front


Gefen
A/V Conference Room Processor
Coax
Optical
Component In
VGA In
DVI In 1
HDMI In
DOLBY DIGITAL
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FRONT PANEL DESCRIPTIONS

1 Analog L/R (RCA) Input
Connect a L/R RCA stereo pair from the Component 1 source to this input.

2 S/PDIF Input
Connect a Coax cable, as part of the Component 1 source, to this input.

3 TOSLINK Input
Connect an Optical cable, as part of the Component 1 source, to this input.

4 Component 1 Input
Connect the red, green, and blue cables from the Component 1 video source to these inputs.

5 Analog L/R (RCA) Input
Connect a L/R RCA stereo pair, the part of the VGA source, to these inputs.

6 S/PDIF Input
Connect a Coax cable, as part of the VGA source, to this input.

7 TOSLINK Input
Connect an Optical cable, as part of the VGA source, to this input.

8 VGA (DB-15) Input
Connect the VGA cable from the VGA video source to this input.

9 Analog L/R (RCA) Input
Connect a L/R RCA stereo pair, the part of the DVI source, to these inputs.

10 S/PDIF Input
Connect a Coax cable, as part of the DVI source, to this input.

11 TOSLINK Input
Connect an Optical cable, as part of the DVI source, to this input.

12 DVI Input
Connect a DVI cable from the DVI video source to this input.

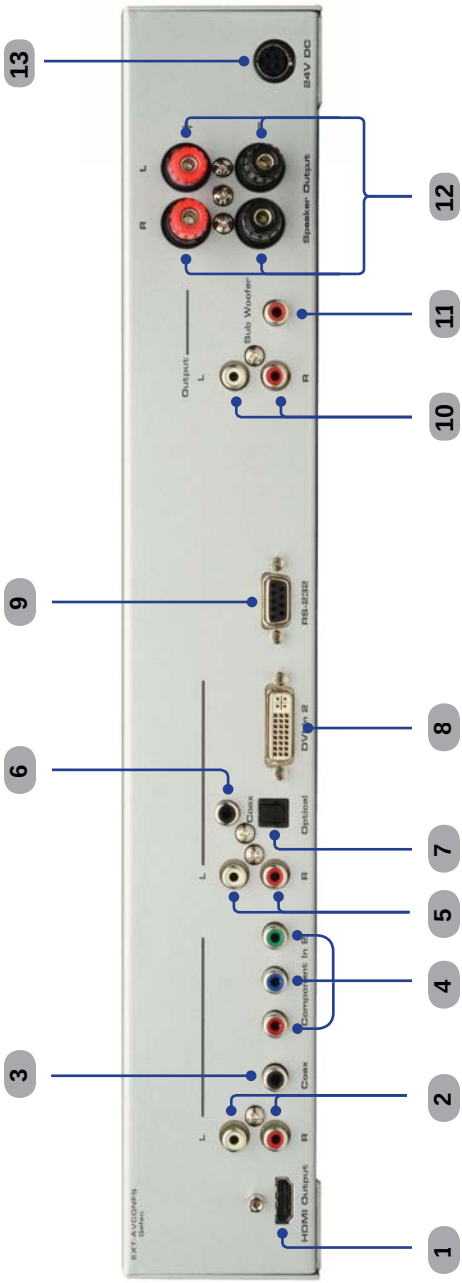
13 HDMI Input
Connect an HDMI cable from the Hi-Def source to this input.

14 Main LCD Display
This display will show important status information and will be used to make adjustments to features in the Menu System.

15 Front Panel Buttons
Provides push-button control of the A/V Conference Room Processor. See page 8 for details.

BACK PANEL LAYOUT

Back



BACK PANEL DESCRIPTIONS

1 HDMI Output
Connect an HDMI cable from the A/V Conference Room Processor to an HDTV display.

2 Analog L/R (RCA) Input
Connect a L/R RCA stereo pair from the Component 2 source to this input.

3 S/PDIF Input
Connect a Coax cable, as part of the Component 2 source, to this input.

4 Component 2 Input
Connect the red, green, and blue cables from the Component 2 video source to these inputs.

5 Analog L/R (RCA) Input
Connect a L/R RCA stereo pair, the part of the DVI 2 source, to these inputs.

6 S/PDIF Input
Connect a Coax cable, as part of the DVI 2 source, to this input.

7 TOSLINK Input
Connect an Optical cable, as part of the DVI 2 source, to this input.

8 DVI Input
Connect a DVI cable from the DVI 2 video source to this input.

9 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.

10 Analog L/R (RCA) Output
Connect a L/R RCA stereo pair from this output to a L/R RCA stereo input pair on the A/V equipment.

11 LFE (Subwoofer) Output
Connect a subwoofer to this output using a single RCA cable.

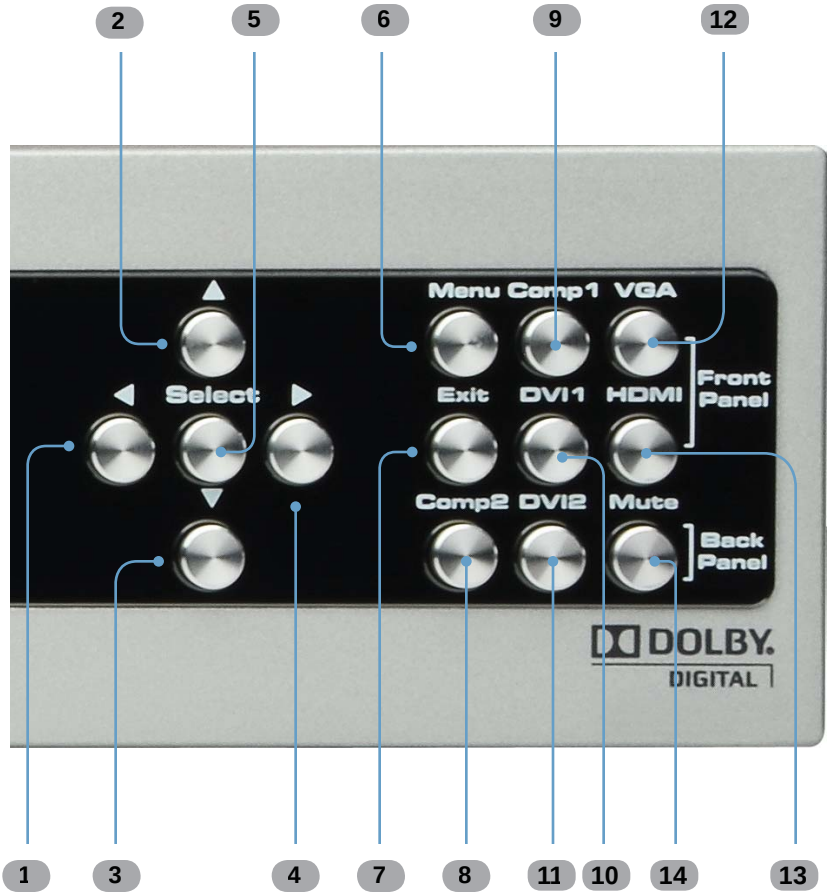
12 Front Left / Front Right Speaker Terminals
These speaker binding post terminals will accept spade lug, banana plug, dual banana plug, bare wire, and pin style connectors.

13 24 V DC Power Receptacle
Connect the included 24 V DC power supply to this receptacle.

FRONT PANEL BUTTON LAYOUT

The A/V Conference Room Processor uses a series of push buttons, located on the front panel, for all input selection and feature functions. All status information, such as the input and output resolutions are always available on the front panel **LCD Screen**. User adjustable features, such as color correction and aspect ratio, can be navigated and adjusted by referencing either the **LCD Screen** or the On-Screen Display (**OSD**).

All menu navigation and adjustments are accomplished by using the front panel buttons. Please review the front panel buttons below.



FRONT PANEL BUTTON DESCRIPTIONS

1 Left Cursor Button
This button is used to navigate the Menu System and change settings by moving the cursor to the left.

2 Up Button
This button is used to navigate the Menu System and change settings by moving the cursor up. This button is also used for increasing the audio volume in the Status Screen (see page 17).

3 Down Button
This button is used to navigate the Menu System and change settings by moving the cursor down. This button is also used for decreasing the audio volume in the Status Screen (see page 17).

4 Right Cursor Button
This button is used to navigate the Menu System and change settings by moving the cursor to the right.

5 Select Button
This button is used to accept and save a current setting in the Menu System.

6 Menu Button
This button will activate the Menu System which allows changes to audio output.

7 Exit Button
Used to exit the configuration menu.

8 Comp 2 Button
Selects Component 2 as the A/V input source.

9 Comp 1 Button
Selects Component 1 as the A/V input source.

10 DVI 1 Button
Selects DVI 1 as the A/V input source.

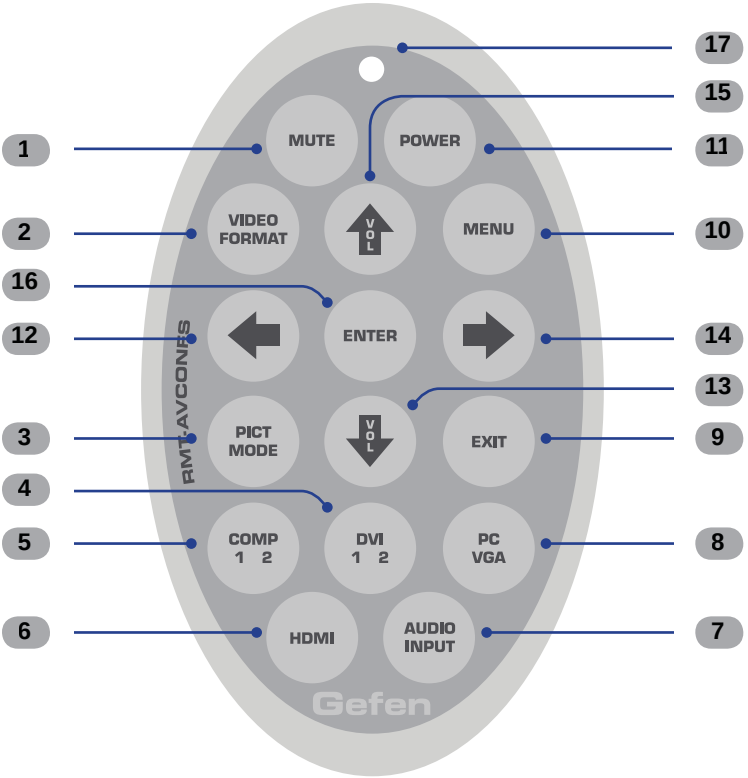
11 DVI 2 Button
Selects DVI 2 as the A/V input source.

12 VGA Button
Selects VGA as the A/V input source.

13 HDMI Button
Selects HDMI as the A/V input source.

14 Mute Button
Mutes the currently selected audio input.

IR REMOTE CONTROL LAYOUT



1 ***Mute Button***
Enables / disables muting of the audio output signal.

2 ***Video Format Button***
Cycles through the available output resolutions. See page 22 for a list of the available Output Resolutions.

3 ***Pict Mode Button***
Cycles through the different picture modes (Standard, Movie, Vivid, and User). See page 19 for details.

4 ***DVI 1 2 Button***
Toggles between the DVI 1 and DVI 2 A/V inputs.

5 ***Comp 1 2 Button***
Toggles between the COMP 1 and COMP 2 A/V inputs.

6 ***HDMI Button***
Selects the HDMI video input.

7 Audio Input Button
Cycles between the available audio inputs for the selected video input.

8 PC VGA
Selects the VGA video input.

9 Exit Button
Exits a menu or sub-menu within the built-in menu system.

10 Menu Button
Places the Conference Room Processor in Menu Mode, allowing adjustment of scaling, color correction, and other features.

11 Power Button
Used to turn on or turn off the Conference Room Processor.

12 Left Cursor Button
Used to navigate left within the menu system.

13 Down Cursor Button
Used to navigate down within the menu system. This button is also used to decrease the volume.

14 Right Cursor Button
Used to navigate right within the menu system.

15 Up Cursor Button
Used to navigate up within the menu system. This button is also used to increase the volume.

16 Enter Button
Used to confirm / save a changes within the built-in menu system.

17 Activity Indicator
This LED will be activated momentarily each time a button is pressed.

Installing the 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.

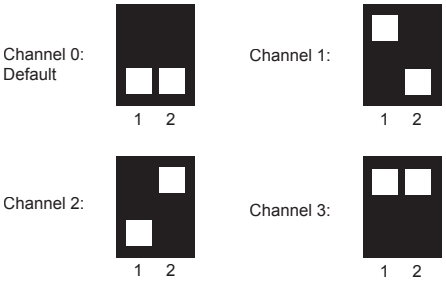
The Remote Control unit ships with two batteries. One battery is required for operation and the other battery is a spare.

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

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 Remote Control's IR channel 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.



Battery compartment of the IR remote showing the exposed DIP Switch bank between the battery chambers.

It is important that the IR channel on the Remote Control unit, matches the IR channel set on the Gefen A/V Conference Room Processor. For example, if both DIP switches on the IR Remote Control unit are set to IR channel 0 (both DIP switches down), then the A/V Conference Room Processor must also be set to IR channel 0. See page 36 on how to change the IR channel on the A/V Conference Room Processor.

How to Connect the A/V Conference Room Processor

1. Connect video source devices to the A/V Conference Room Processor video inputs. The following inputs are available:

Front Panel	Back Panel
HDMI	N/A
DVI-I (analog and digital DVI)	DVI-D (digital DVI)
VGA	N/A
Component	Component

2. Connect audio sources to the A/V Conference Room Processor audio inputs. The following inputs are available:

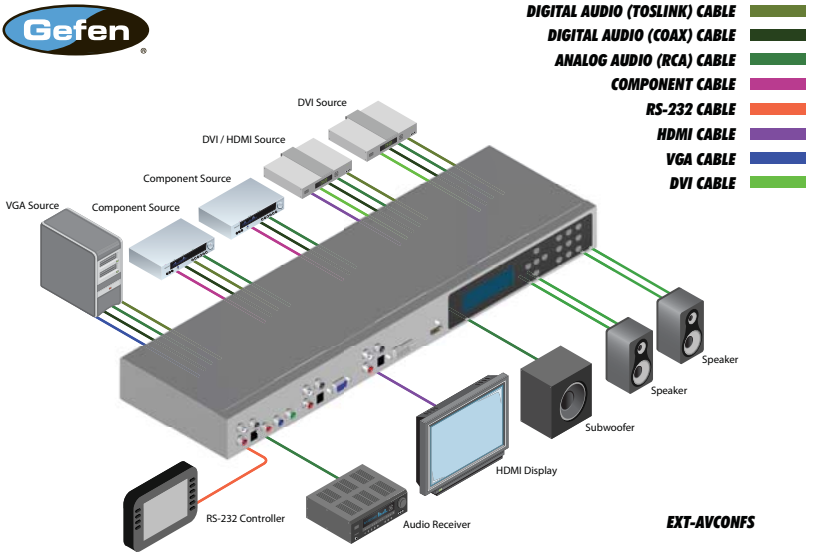
Front Panel	Analog L/R	TOSLINK	S/PDIF
HDMI (embedded)	N/A	N/A	N/A
DVI-I	●	●	●
VGA	●	●	●
Component	●	●	●

Back Panel	Analog L/R	TOSLINK	S/PDIF
DVI-I	●	●	●
Component	●	N/A	●

NOTE: All inputs, except for HDMI, are able to accept both analog and digital audio sources. Therefore, each input has a selector option in the OSD that will allow the user to select the type of audio used.

3. Connect an HDMI cable from the A/V Conference Room Processor to an HDTV display.
4. Connect the included 24 V DC power supply to the A/V Conference Room Processor then connect the AC power cord to an available electrical socket.

Wiring Diagram for the A/V Conference Room Processor

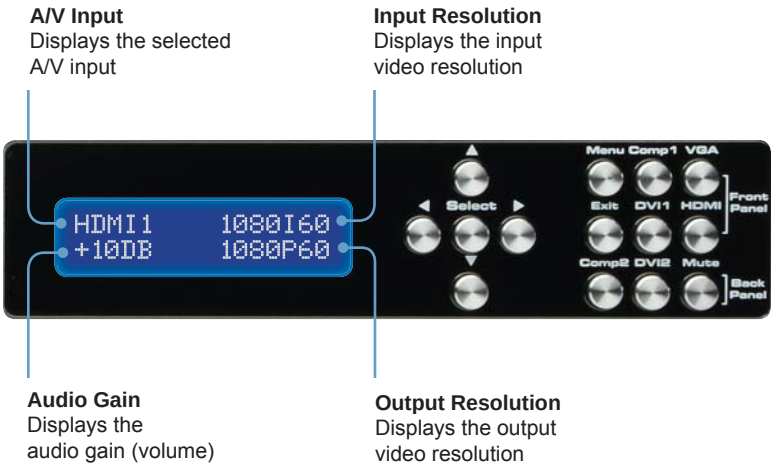


ATTENTION: This product should always be connected to a grounded electrical socket.

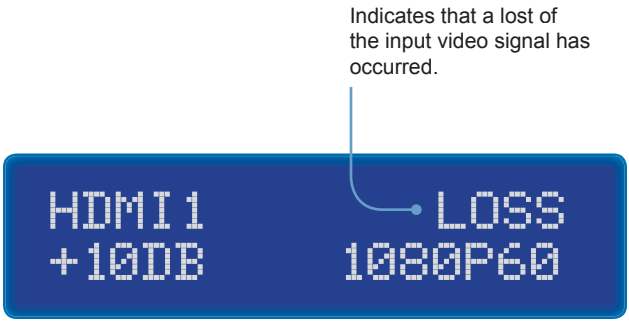
Status Screen

The **Status Screen** displays information regarding the current settings of the Audio Processor. The Status Screen is also used in conjunction with navigating the built-in Menu System.

After powering on the Audio Amplifier, the Standby Screen will be displayed:



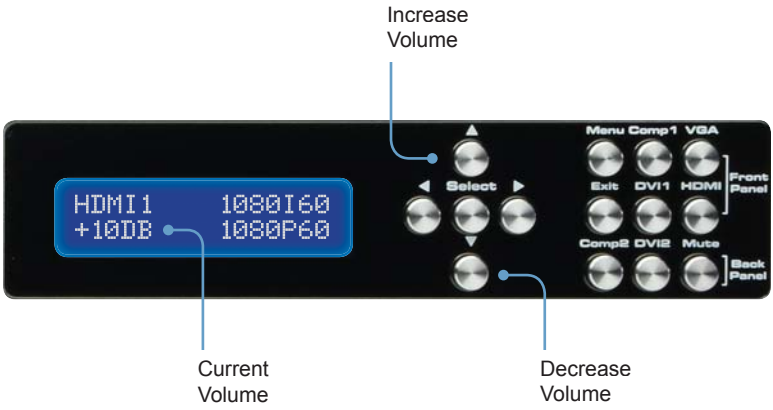
If no video source is connected to the Conference Room Processor or if a loss of video signal occurs, then “Loss” will be displayed as the input resolution on the Status Screen.



Adjusting the Volume

Use the Up Button and Down Button to increase or decrease the audio gain in the Status Screen. Audio gain can be reduced to a minimum of -60 dB and to a maximum of +10 dB. Each time these buttons are pressed, the volume is increased or decreased by 1 dB.

To increase or decrease the audio gain at a faster rate, press and hold down either of these buttons until the desired volume is achieved.



Muting

Use the Mute button on the front panel to silence the audio output. To disable the mute function, press the Mute button again. The ▲ and ▼ buttons (volume) can also be used to *disable* muting.

Firmware Version

To display the firmware version of the A/V Conference Room Processor, press either the ◄ or ► buttons on the front panel:

Pressing the ◄ or ► will cycle between the Firmware Version screen and the information on the Status Screen.

Selecting the Input Source

Use the buttons on the front panel to select the input source.

Front Panel Button	Input	Location	LCD Display Name
COMP1	Component	Front Panel	Comp1
VGA	VGA	Front Panel	PC
DVI1	DVI-I	Front Panel	DVI1
HDMI	HDMI	Front Panel	HDMI
COMP2	Component	Back Panel	Comp2
DVI2	DVI-I	Back Panel	DVI2

Video Menu

To access the Video Menu, press the Menu button on the front panel. 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).

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.

H-Position
Specifies the horizontal position of the input signal.

V-Position
Specifies the vertical position of the input signal.

Input
Specifies the input video signal. Options are HDMI, DVI1, DVI2, Component, and VGA.

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

Color 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 any of the arrow buttons on the front panel to select the desired output resolution. Press the Enter button to enable the selected output resolution. Select the Exit option to exit the Color Menu and return control to the Main Menu.

Color Tone

- **Normal**
  Use for general content.
- **Warm**
  Red-shifts RGB values for a warmer video 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.

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 any of the arrow buttons on the front panel to select the desired output resolution. Press the Enter button to enable the selected output resolution. Select the Exit option to exit the Color 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 contains three frame rate conversion modes:

- 1080p-1 No frame rate conversion.
- 1080p-2 Converts all frame rates (except 24) to 60.
- 1080p-3 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 RMT-SR-IR remote control and cycle through the output resolutions until a supported mode is displayed.

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

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 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 Speaker Menu and return control to the Main Menu.

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 RMT-SR-IR remote, the unit will cease to respond to IR commands from the remote.

Exit

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

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 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 Audio Menu and return control to the Main Menu.

DVI1
Selects the audio input for DVI In 1. Options are: Analog, S/PDIF, or TOSLINK.

DVI2
Selects the audio input for DVI In 2. Options are: Analog, S/PDIF, or TOSLINK.

VGA
Selects the audio input for VGA In. Options are: Analog, S/PDIF, or TOSLINK.

Comp1
Selects the audio input for Component In 1. Options are: Analog, S/PDIF, or TOSLINK.

Comp2
Selects the audio input for Component In 2. Options are: Analog or S/PDIF.

Bass
Allows adjustment of the bass. Minimum value: -12 dB, Maximum value: +12 dB

Treble
Allows adjustment of the treble. Minimum value: -12 dB, Maximum value: +12 dB

DRC (Dynamic Range Control)
Dynamic Range Compression (DRC) is a feature that will apply compression of loud sounds over a certain threshold while quiet sounds remain unprocessed. This feature is useful for reducing loud noises that will overpower quieter sounds.

Enhancement
Audio enhancement. Options are: Off, Night, Voice, or Volume

Delay
Sets the audio delay. Use this feature to compensate for any loss of audio sync in the video. Options are: Off, 40 ms, 110 ms, or 150 ms.

Sound
Used to enable or disable audio muting. Options are: Off or On.

Exit
Exits the Audio Menu and returns control to the Main Menu.

Speakers Menu

To access the Speakers Menu, press the Menu button. Use the ▼ or ▲ buttons to highlight the Speakers Menu icon. Press the Menu button to enter the Speaker Menu. Use the ◄ or ► buttons to select the desired option. Use the + or - buttons to select the Exit option to exit the Speaker Menu and return control to the Main Menu.

Size
Selects the size of the speakers (left / right). Options are: Large or Small.

Subwoofer
Selects the presence or absence of the subwoofer. Options: On or Off. If a subwoofer is not connected, set this option to Off.

Subwoofer Frequency
Selects the cutoff frequency of the subwoofer. Options are: 50 Hz, 60 Hz, or 90 Hz.

Line Out Mode
Selects how the volume is controlled when the A/V Conference Room Processor is connected to an external amplifier using RCA (analog) connectors. Options are Fixed or Pre-Amp. If the volume is to be controlled by the external amplifier, set this option to Fixed.

HDMI Out Mode
Selects how the volume is controlled when the A/V Conference Room Processor is connected to an external amplifier. This option differs from the Line Out Mode in that only the HDMI audio is affected. Options are Fixed or Pre-Amp. If the volume is to be controlled by the external amplifier, set this option to Fixed.

Distance L
Sets the distance for the left speaker. Minimum value: 0 m, Maximum value: 10 m.

Distance R
Sets the distance for the right speaker. Minimum value: 0 m, Maximum value: 10 m.

Distance Sub
Sets the distance for the subwoofer. Minimum value: 0 m, Maximum value: 10 m.

Level L
Sets the offset volume level for the left speaker. Minimum value: +0 dB, Maximum value: +10 dB

Level R
Sets the offset volume level for the left speaker. Minimum value: +0 dB, Maximum value: +10 dB

Level Sub
Sets the offset volume level for the left speaker. Minimum value: +0 dB, Maximum value: +10 dB

Exit
Exits the Speaker Menu and returns control to the Main Menu.

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

Audio Commands

Command	Description
ADELAY	Sets the audio delay
AENHNCE	Improves the speech intelligibility
AIN	Selects the audio input source
BASS	Increases or decreases the bass
DFL	Sets the distance for the Front Left speaker
DFR	Sets the distance for the Front Right speaker
DRC	Adjusts the Dynamic Range Control
DSB	Sets the distance of the Subwoofer
FLR	Sets the size of the Front Left / Front Right speakers
LFV	Sets the Left Front speaker volume
MUTE	Enables / disables audio muting
RTV	Sets the Right Front speaker volume
SUB	Enables / disables the subwoofer
SUBV	Adjusts the subwoofer volume
SUBX	Sets the crossover frequency
TREB	Increases / decreases the treble
VOL	Increases / decreases the overall output volume

Command Syntax

The syntax for each command is as follows:

CommandName [space] param1 [space] param2...paramN \r

The command syntax is NOT case sensitive.

ADELAY Command

The ADELAY command sets the audio delay.

Syntax:

```
ADELAY param1
```

Parameters:

param1 Value

Value	Meaning
Off	Audio delay off
40	40 ms delay
110	110 ms delay
150	150 ms delay

Notes:

Use ? for *param1* to retrieve the current value.

AENHNCE Command

The AENHNCE command improves the speech intelligibility.

Syntax:

`AENHNCE param1`

Parameters:

param1 Mode

Mode	Meaning
Off	Enhance mode off
Night	Low volume for night viewing
Voice	Dialog becomes more clear
Volume	Emphasized audio gain

Notes:

Use ? for *param1* to retrieve the current value.

AIN Command

The AIN command set the audio input source.

Syntax:

`AIN param1`

Parameters:

param1 Value

Value	Meaning
LR	RCA input
Coax	S/PDIF input
Opti	TOSLink input

Notes:

Use ? for `param1` to retrieve the current value.

BASS Command

The BASS command sets the bass level.

Syntax:

```
BASS param1
```

Parameters:

param1	Level	[-12 ...12]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the bass level by 1 dB.

Use ? for *param1* to retrieve the current value.

Example:

```
bass +      // increases the bass level by 1 dB
bass -      // decreases the bass level by 1 dB
bass 5      // sets the bass level to +5 dB
```

DFL Command

The DFL command sets the distance of the Front Left speaker.

Syntax:

```
DFL param1
```

Parameters:

param1	Level	[0 ...10]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the Front Left distance by 1 foot intervals.

Use ? for *param1* to retrieve the current value.

DFR Command

The DFL command sets the distance of the Front Right speaker.

Syntax:

```
DFR param1
```

Parameters:

param1	Level	[0 ...10]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the Front Right distance by 1 foot intervals.

Use ? for *param1* to retrieve the current value.

DRC Command

The DRC command adjusts the Dynamic Range Control.

Syntax:

```
DRC param1
```

Parameters:

param1 Value

Value	Meaning
OFF	Turn DRC Off
ON	Turn DRC On
TGL	Toggle DRC

Notes:

Setting *param1* to TGL will automatically toggles the current state of the DRC command. This is the non-implicit form of switching DRC ON or OFF.

Use ? for *param1* to retrieve the current value.

DSB Command

The DSB sets the distance of the Subwoofer.

Syntax:

`DSB param1`

Parameters:

param1	Level	[0 ...10]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the Subwoofer distance by 1 foot intervals.

Use ? for *param1* to retrieve the current value.

FLR Command

The FLR command sets the size of the Front Left and Front Right speakers.

Syntax:

`FLR param1`

Parameters:

param1 Value

Value	Meaning
Small	Small Speaker
Large	Large Speaker

Notes:

Use ? for `param1` to retrieve the current value.

LFV Command

The LFV command sets the Front Left speaker volume.

Syntax:

```
LFV param1
```

Parameters:

param1	Level	[-10...10]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the Front Left speaker volume by 1 dB intervals.

Use ? for *param1* to retrieve the current value.

MUTE Command

The MUTE command enables or disables audio muting.

Syntax:

```
MUTE param1
```

Parameters:

param1 Value

Value	Meaning
OFF	Turn Muting Off
ON	Turn Muting On
TGL	Toggle Muting

Notes:

Setting *param1* to TGL will automatically toggles the current state of the muting command. This is the non-implicit form of enabling or disabling audio muting.

Use ? for *param1* to retrieve the current value.

RTV Command

The RTV command sets the Front Right speaker volume.

Syntax:

```
RTV param1
```

Parameters:

param1	Level	[-10...10]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the Front Right speaker volume by 1 dB intervals.

Use ? for *param1* to retrieve the current value.

SUB Command

The SUB command enables or disables the subwoofer. If a subwoofer is not connected, the subwoofer should be disabled.

Syntax:

```
SUB param1
```

Parameters:

param1 Value

Value	Meaning
OFF	Disable the subwoofer
ON	Enable the subwoofer
TGL	Toggle subwoofer state

Notes:

Setting *param1* to TGL will automatically toggle the current state of the subwoofer. This provides a non-implicit form of enabling or disabling the subwoofer.

Use ? for *param1* to retrieve the current value.

SUBV Command

The SUBV command sets the subwoofer volume.

Syntax:

```
SUBV param1
```

Parameters:

param1	Level	[-10...10]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the subwoofer volume by 1 dB intervals.

Notes:

Use ? for *param1* to retrieve the current value.

SUBX Command

The SUBX command adjusts the crossover frequency. This specified value defines the point, on the frequency spectrum, where are rolled off to the subwoofer.

Syntax:

```
SUBX param1
```

Parameters:

param1 Value

Value	Meaning
50	50 Hz roll-off
60	60 Hz roll-off
90	90 Hz roll-off

Notes:

Use ? for *param1* to retrieve the current value.

TREB Command

The TREB command sets the treble subwoofer volume.

Syntax:

```
TREB param1
```

Parameters:

param1	Level	[-12...12]

Notes:

The + or - character can also be used, instead of specifying a value, in order to increase or decrease the treble level by 1 dB intervals.

Use ? for *param1* to retrieve the current value.

VOL Command

The VOL sets the overall output audio signal.

Syntax:

```
VOL param1
```

Parameters:

param1	Value	[-81...12]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the output volume by 1 dB intervals.

Use ? for *param1* to retrieve the current value.

General Commands

Command	Description
IR	Sets the IR channel
OSDHPOS	Sets the horizontal position of the OSD
OSDVPOS	Sets the vertical position of the OSD
POWER	Turns the Scaler ON or OFF

IR Command

The IR command sets the IR Channel used by the Scaler. The IR channel can be set to 1, 2, 3, or 4.

Syntax:

```
IR param1
```

Parameters:

param1	Level	[1...4]

Notes:

Set *param1* to ALL to have the Scaler receive on any IR channel.

Use ? for *param1* to retrieve the current value.

OSDHPOS Command

The OSDHPOS command sets the horizontal position of the OSD.

Syntax:

```
OSDHPOS param1
```

Parameters:

param1	HPos	[0...100]

Notes:

Use ? for *param1* to retrieve the current value.

OSDVPOS Command

The OSDVPOS command sets the vertical position of the OSD.

Syntax:

`OSDVPOS param1`

Parameters:

param1	VPos	[0...100]

Notes:

Use ? for `param1` to retrieve the current value.

POWER Command

The POWER command turns the Scaler ON or OFF.

Syntax:

`POWER param1`

Parameters:

param1 State

Value	Meaning
Off	Power Off
On	Power On
TGL	Toggle Power State

Notes:

Setting *param1* to TGL will automatically toggle the current power state. This provides a non-implicit form of turning the Scaler ON or OFF.

Use ? for *param1* to retrieve the current value.

Video Commands

Command	Description
BLUE	Set the blue color component value
BRTNESS	Sets the brightness value
CLRTMP	Sets the color temperature
CONTRST	Sets the contrast level
GREEN	Sets the green color component value
HUE	Sets the hue
NR	Sets the noise reduction level
OUT	Sets the output resolution
PCHPOS	Adjusts the horizontal position of the output signal
PCVPOS	Adjusts the vertical position of the output signal
PMODE	Sets the picture mode
RED	Sets the red color component value
SATURTN	Sets the saturation level
SHARP	Sets the sharpness level
SIZE	Sets the picture mode
VIN	Sets the video input source

BLUE Command

The BLUE command sets the blue color component value.

Syntax:

```
BLUE param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the color component value by intervals of 1.

Use ? for *param1* to retrieve the current value.

BRTNESS Command

The BRTNESS sets the brightness level of the output.

Syntax:

```
BRTNESS param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the brightness value by intervals of 1.

Use ? for *param1* to retrieve the current value.

CLRTMP Command

The CLRTMP command sets the color temperature.

Syntax:

```
CLRTMP param1
```

Parameters:

param1 Temperature

Temperature	Meaning
normal	Normal color temperature
warm	Warmer color tone (red)
cool	Cooler color tone (blue)
user	User specified

Notes:

Use ? for *param1* to retrieve the current value.

CONTRST Command

The CONTRST sets the contrast level on the output signal.

Syntax:

```
CONTRST param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the contrast value by intervals of 1.

Use ? for *param1* to retrieve the current value.

GREEN Command

The GREEN command sets the green color component value.

Syntax:

```
GREEN param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the color component value by intervals of 1.

Use ? for *param1* to retrieve the current value.

HUE Command

The HUE sets the color hue level.

Syntax:

```
HUE param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the color hue by intervals of 1.

Use ? for *param1* to retrieve the current value.

NR Command

The NR command sets the noise reduction value.

Syntax:

```
NR param1
```

Parameters:

param1 Mode

Mode	Meaning
off	Noise reduction Off
low	Low noise reduction
mid	Medium noise reduction
high	High noise reduction

Notes:

Use ? for *param1* to retrieve the current value.

OUT Command

The OUT command sets the output resolution.

Syntax:

```
OUT param1
```

Parameters:

param1 Resolution

Resolution	Meaning
native	Native resolution of display
vga	640 x 480
svga	800 x 600
xga	1024 x 768
sxga	1280 x 1024
uxga	1600 x 1200
480i	640 x 480i / 720 x 480i
480p	640 x 480p / 720 x 480p
720p60	1280 x 720p
1080i60	1920 x 1080i @ 60 Hz
1080p60	1920 x 1080p @ 60 Hz
576i	720 x 576i
576p	720 x 576p
720p50	1280 x 720p @ 50 Hz
1080i50	1920 x 1080i @ 50 Hz
1080p50	1920 x 1080p @ 50 Hz
wxga	1280 x 768
wsxga	1680 x 1050
wuxga	1920 x 1200
1080p24	1920 x 1080p @ 24 Hz
2k60	2048 x 1080 @ 60 Hz

Notes:

Use ? for *param1* to retrieve the current value.

PCHPOS Command

The PCHPOS command sets the horizontal position of the output signal on the display.

Syntax:

```
PCHPOS param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to move the picture right (+) or left (-) by intervals of 1.

Use ? for *param1* to retrieve the current value.

\PCVPOS Command

The PCVPOS command sets the vertical position of the output signal on the display.

Syntax:

```
PCVPOS param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to move the picture up (+) or down (-) by intervals of 1.

Use ? for *param1* to retrieve the current value.

PMODE Command

The PMODE command loads a predefined color and brightness calibration which is applied to the output signal.

Syntax:

`PMODE param1`

Parameters:

param1 Mode

Mode	Meaning
std	Standard picture mode
mov	Movie mode
vivd	Vivid colors mode
user	User defined

Notes:

Use ? for `param1` to retrieve the current value.

RED Command

The RED command sets the green color component value.

Syntax:

`RED param1`

Parameters:

param1 Value [0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the color component value by intervals of 1.

Use ? for *param1* to retrieve the current value.

SATURTN Command

The SATURTN command sets the saturation level of the output signal.

Syntax:

```
SATURTN param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the saturation value by intervals of 1.

Use ? for *param1* to retrieve the current value.

SHARP Command

The SHARP command sets the sharpness level.

Syntax:

```
SHARP param1
```

Parameters:

param1	Value	[0...100]

Notes:

The + or - character can also be used, in place of specifying a value, to increase or decrease the sharpness by intervals of 1.

Use ? for *param1* to retrieve the current value.

SIZE Command

The SIZE command sets the saturation level of the output signal.

Syntax:

```
SIZE param1
```

Parameters:

param1 Size

Size	Meaning
full	Full-screen picture mode
ovscan	Overscan mode
unscan	Underscan mode
ltrbox	Letterbox mode (16:9)
pnscan	Pan-and-Scan (4:3)

Notes:

Use ? for *param1* to retrieve the current value.

VIN Command

The VIN command sets the active video input source.

Syntax:

```
VIN param1
```

Parameters:

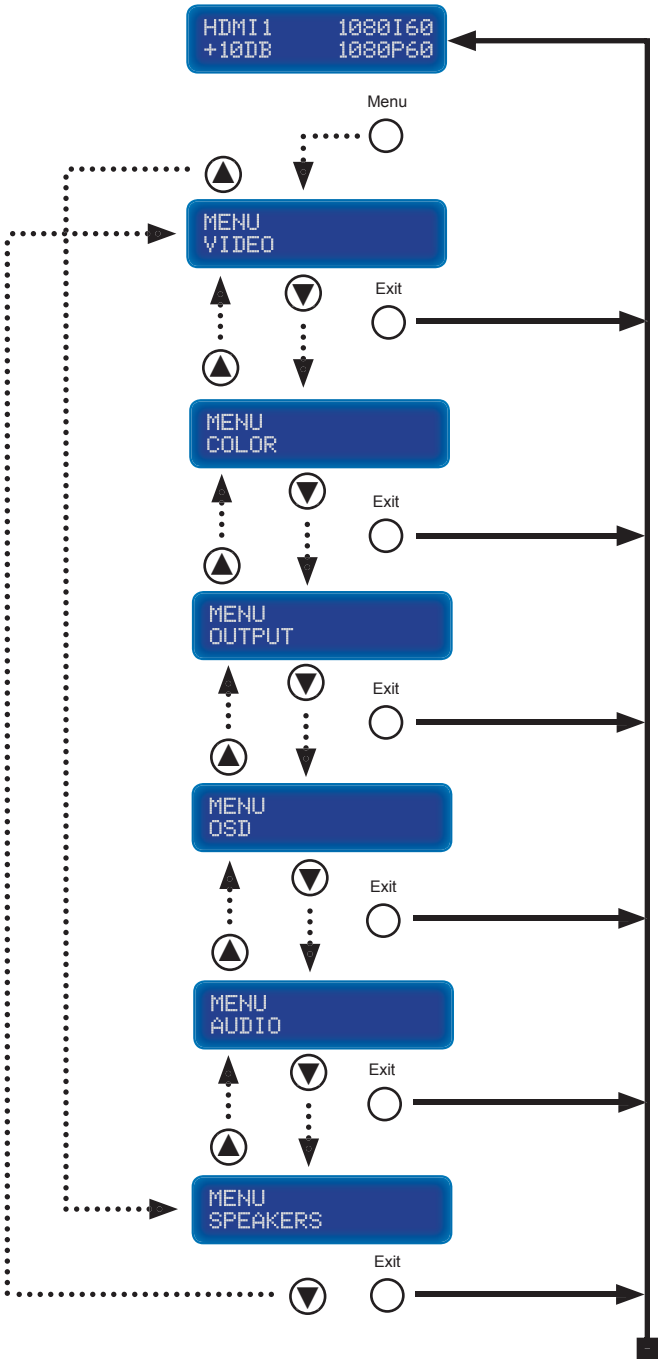
param1 Input

Input	Meaning
comp1	Component input 1
comp2	Component input 2
hdmi	HDMI input
dvi1	DVI input 1
dvi2	DVI input 2
vga	VGA input

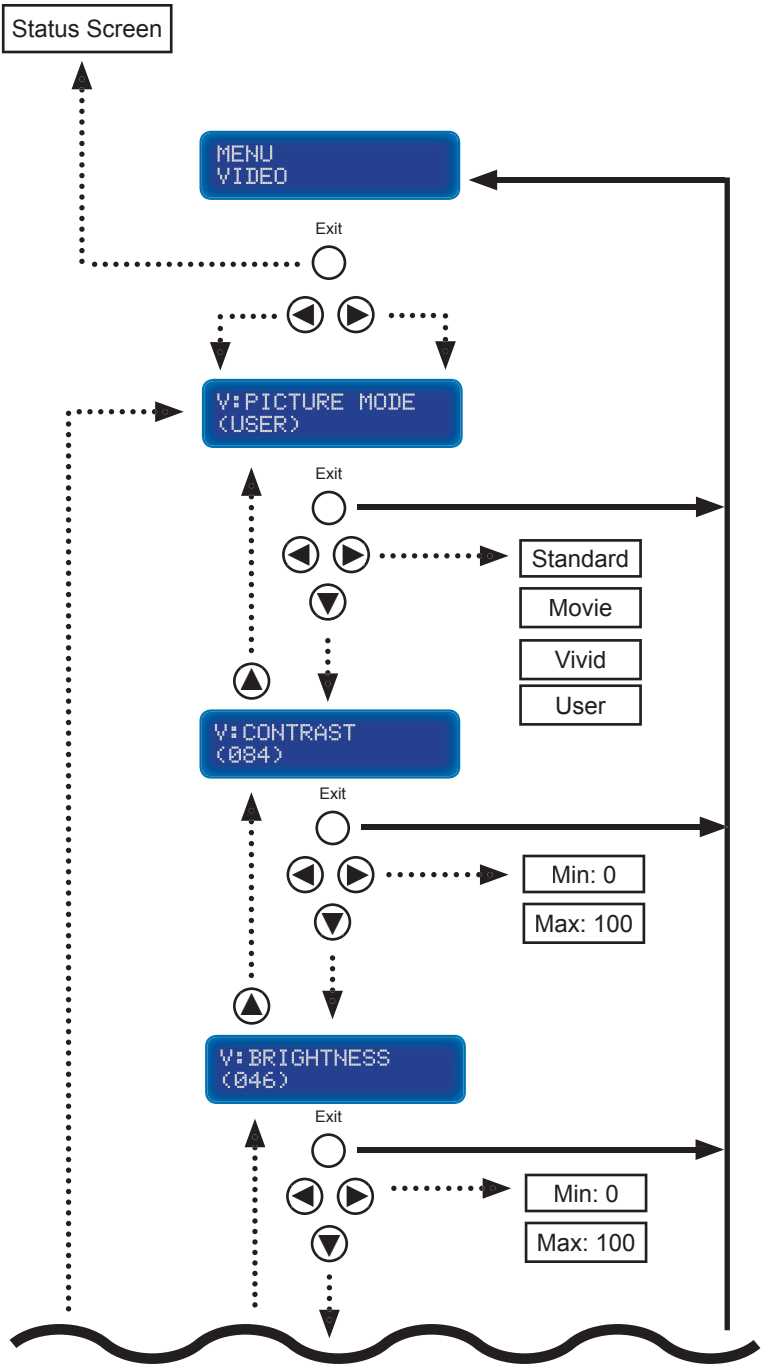
Notes:

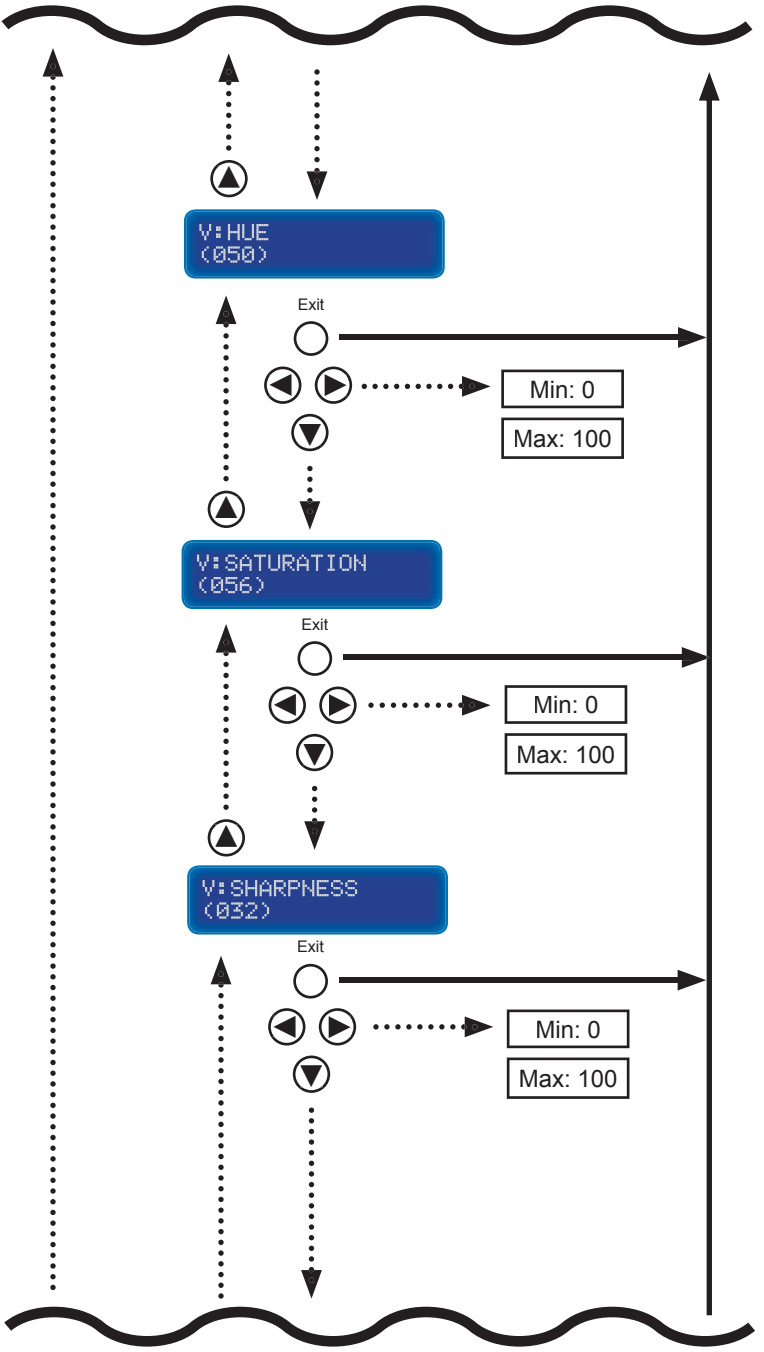
Use ? for *param1* to retrieve the current value.

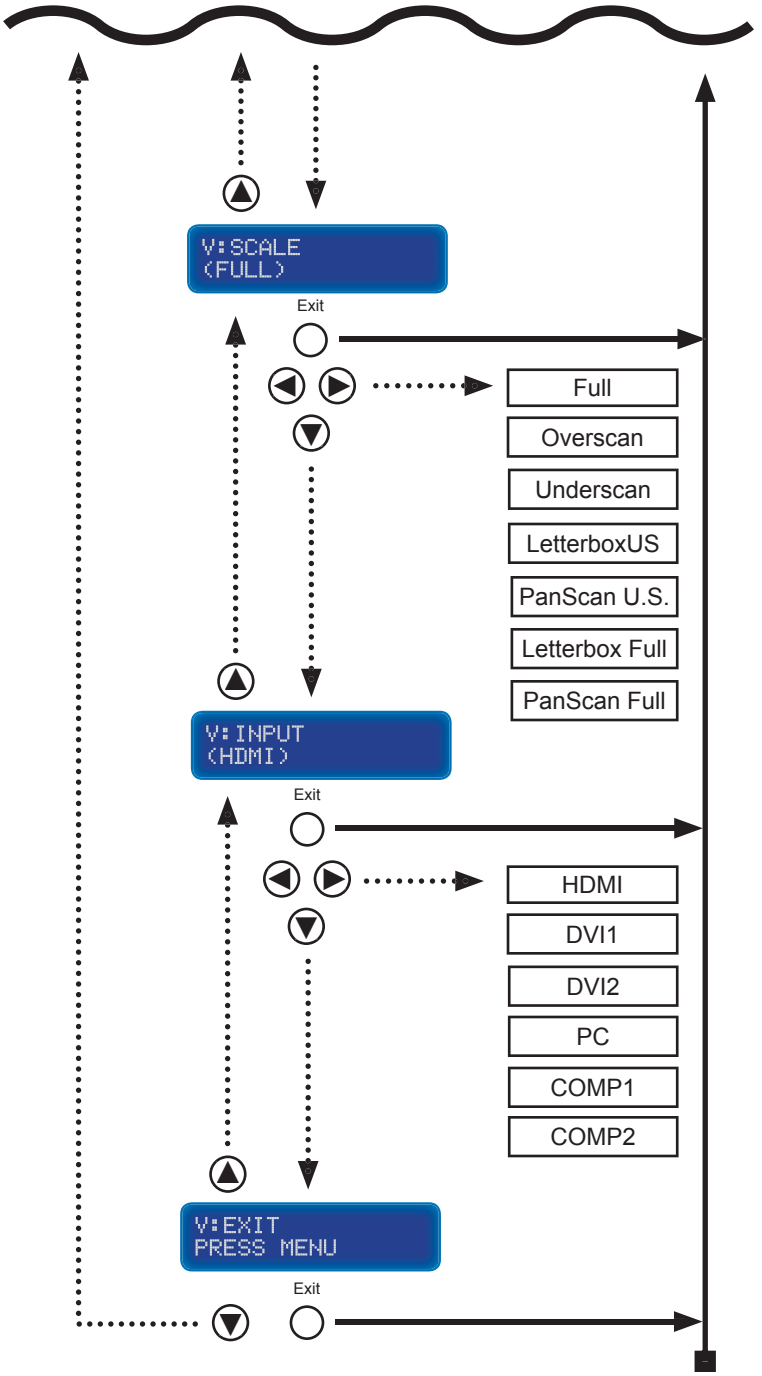
MAIN MENU SYSTEM SUMMARY

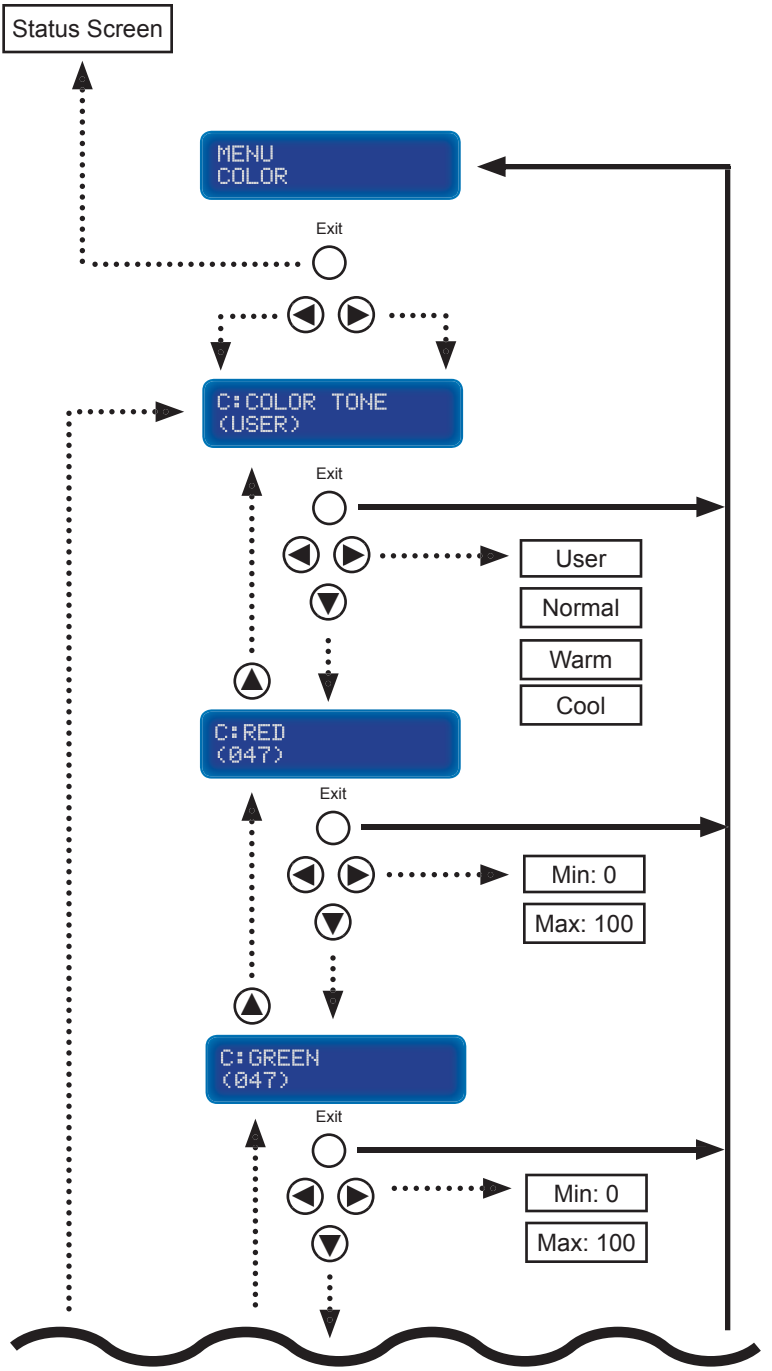


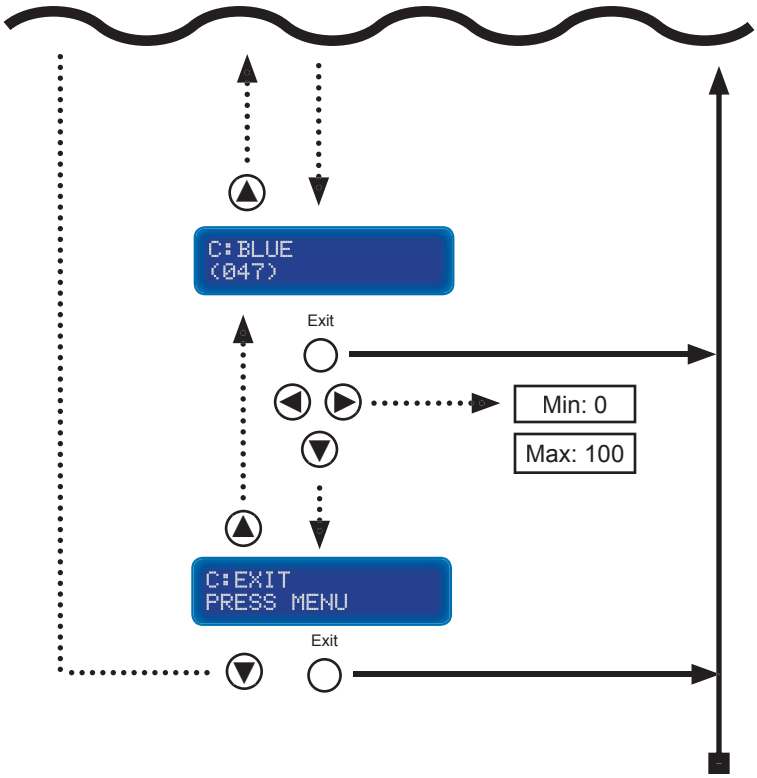
VIDEO MENU SUMMARY



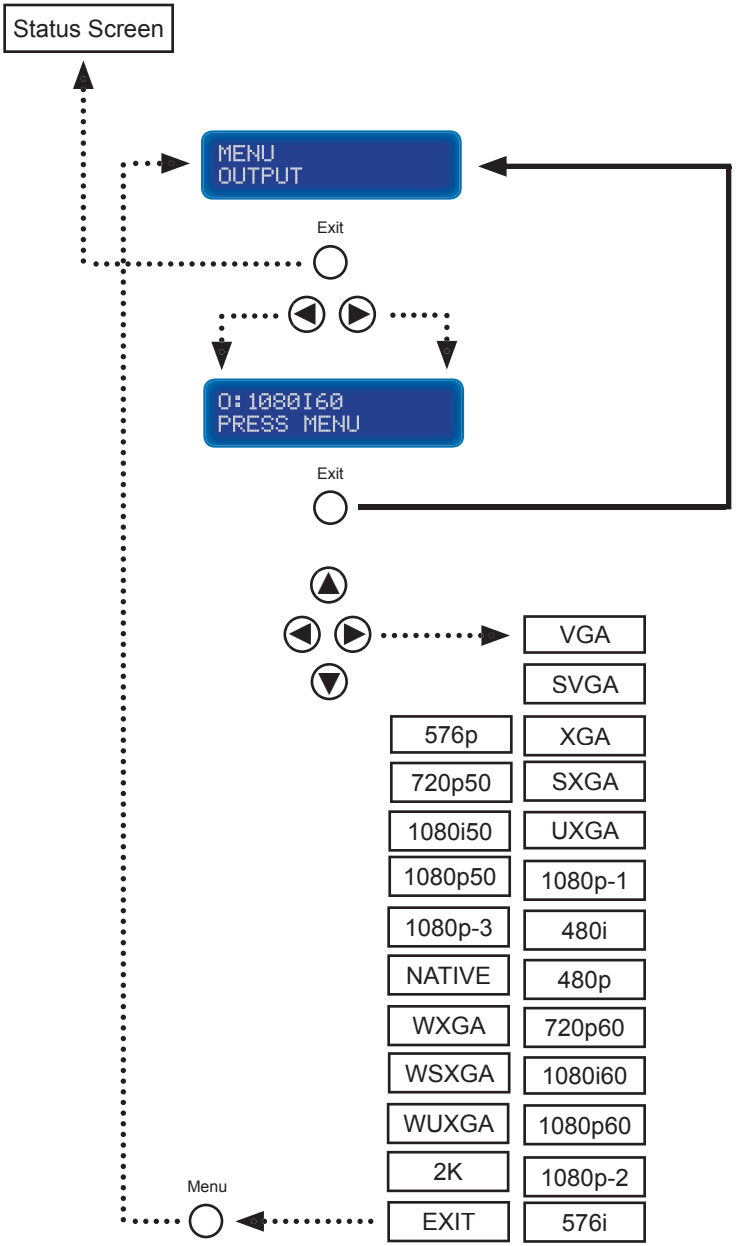

V:HUE
(050)
Exit
Min: 0
Max: 100
V:SATURATION
(056)
Exit
Min: 0
Max: 100
V:SHARPNESS
(032)
Exit
Min: 0
Max: 100

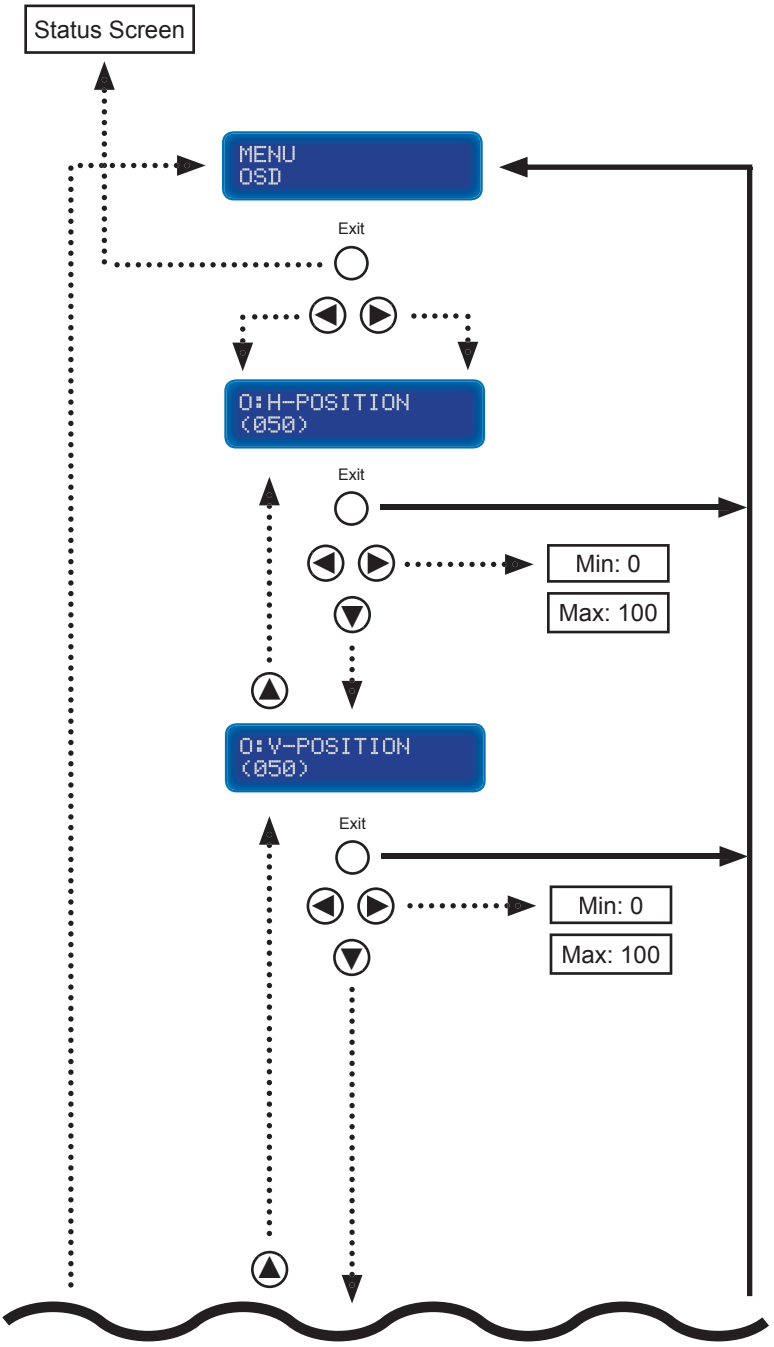

V:SCALE
(FULL)
Exit
Full
Overscan
Underscan
LetterboxUS
PanScan U.S.
Letterbox Full
PanScan Full
V:INPUT
(HDMI)
Exit
HDMI
DVI1
DVI2
PC
COMP1
COMP2
V:EXIT
PRESS MENU
Exit

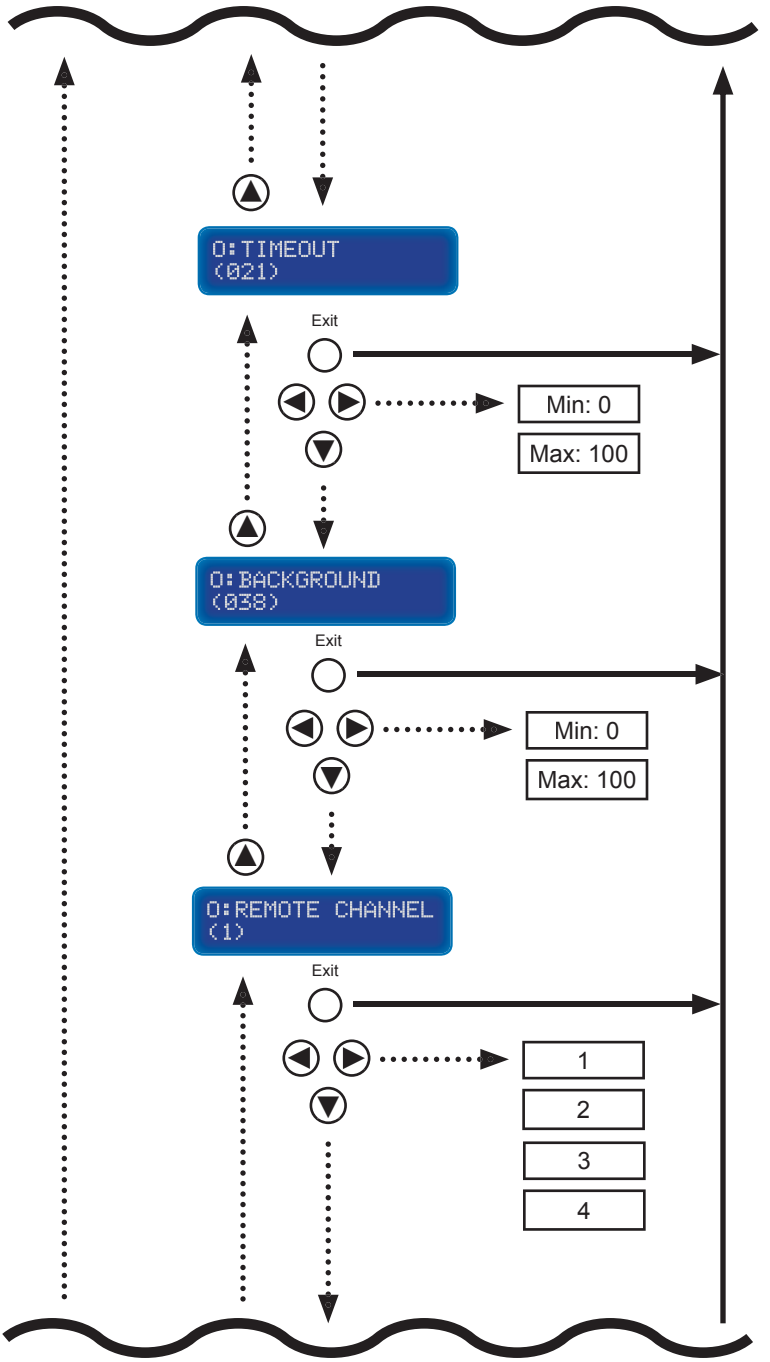

Status Screen
MENU
COLOR
Exit
C:COLOR TONE
(USER)
Exit
User
Normal
Warm
Cool
C:RED
(047)
Exit
Min: 0
Max: 100
C:GREEN
(047)
Exit
Min: 0
Max: 100

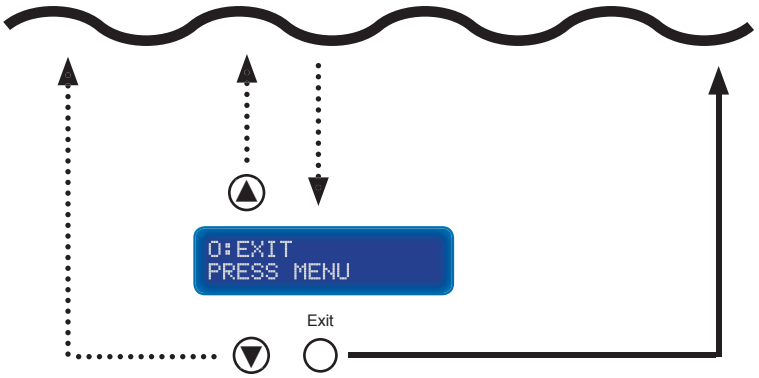

C:BLUE
(047)
Exit
Min: 0
Max: 100
C:EXIT
PRESS MENU
Exit

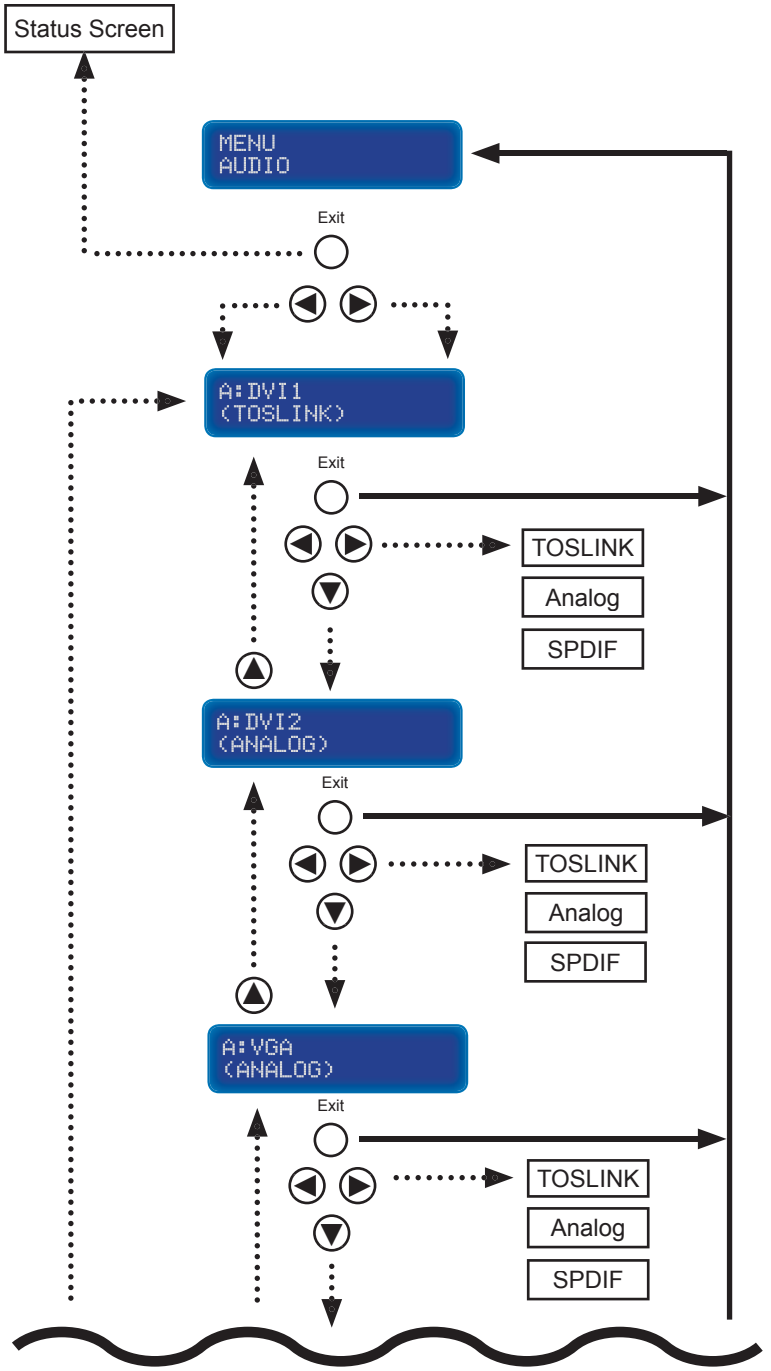
OUTPUT MENU SUMMARY

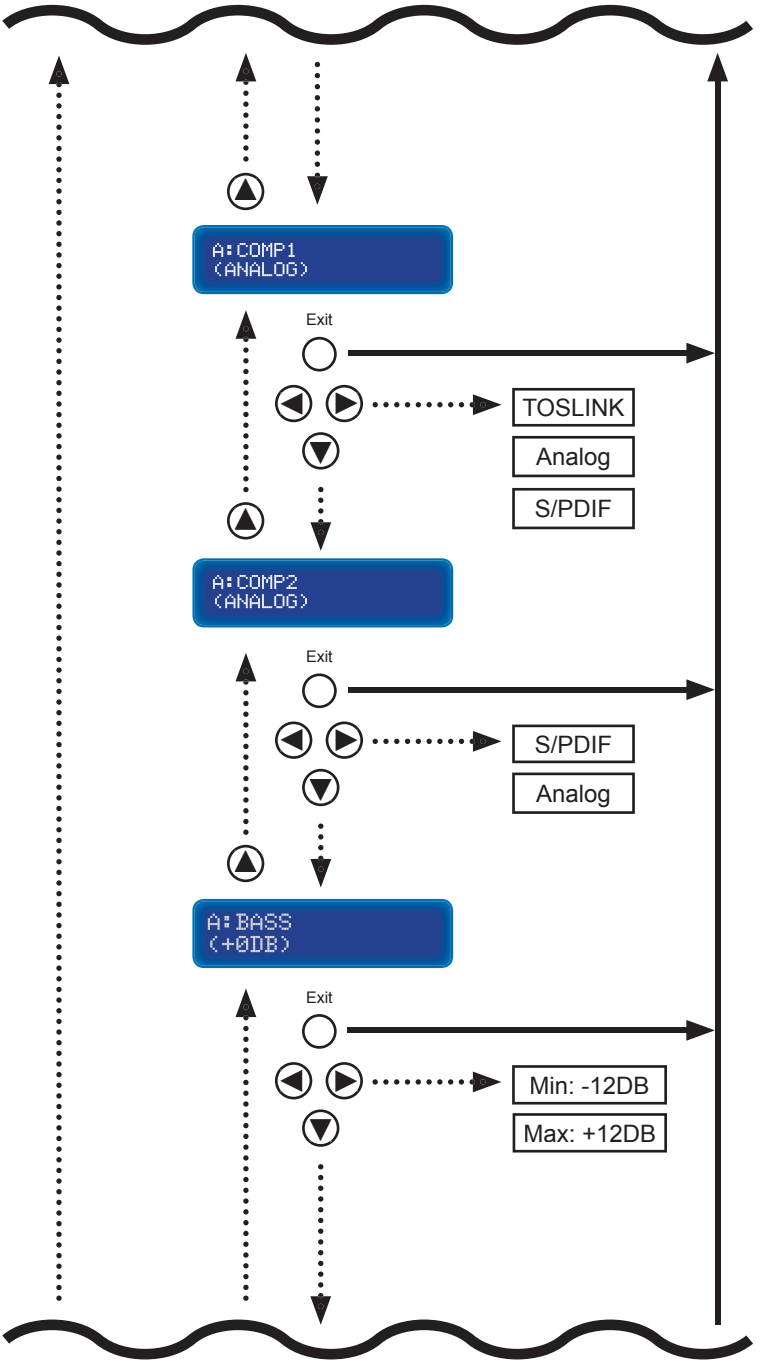


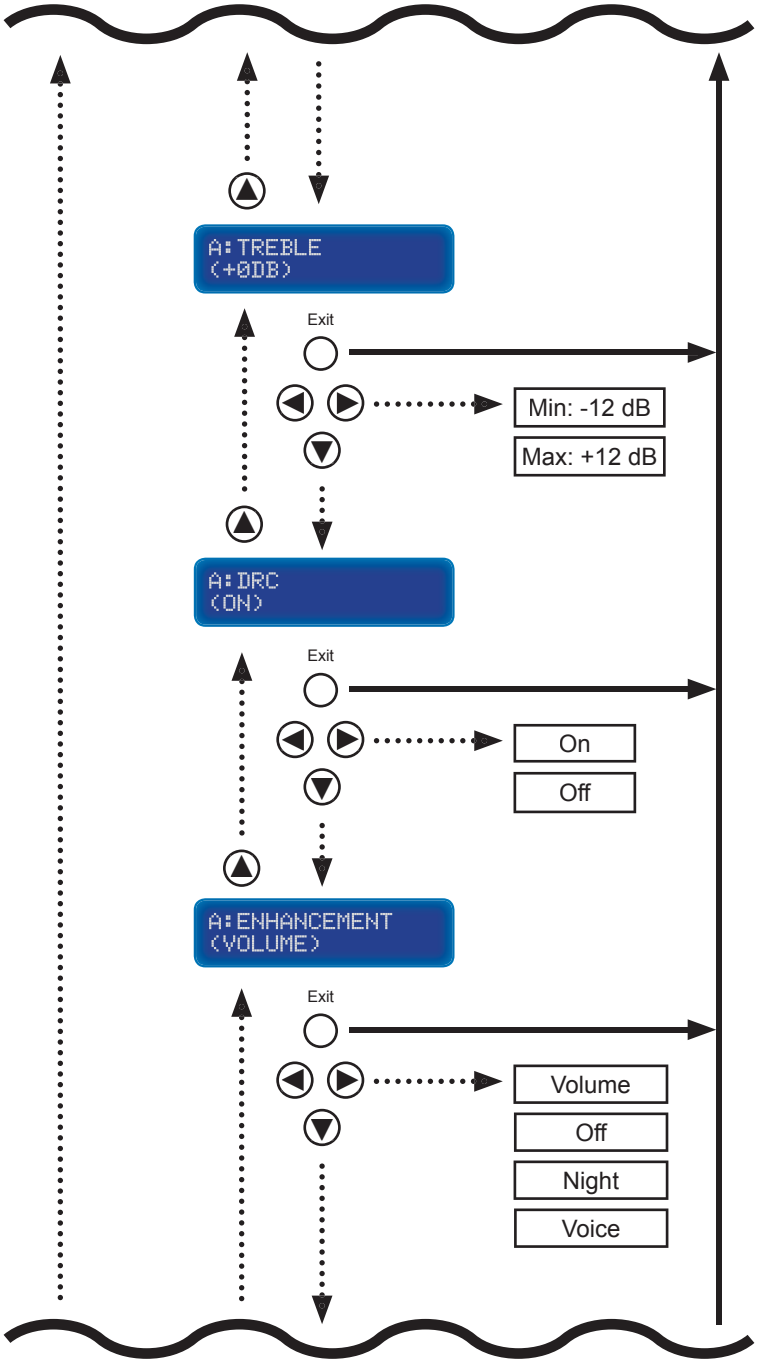

Status Screen
MENU
OSD
Exit
O:H-POSITION
(050)
Exit
Min: 0
Max: 100
O:V-POSITION
(050)
Exit
Min: 0
Max: 100

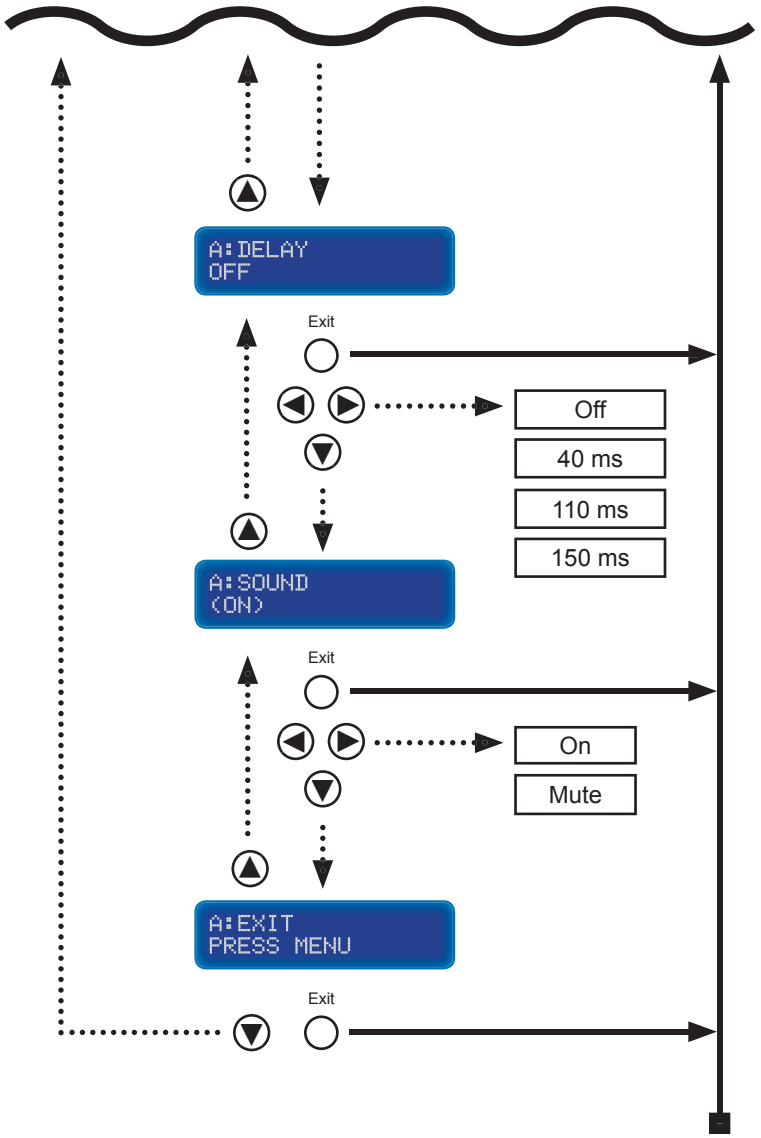

O:TIMEOUT
(021)
Exit
Min: 0
Max: 100
O:BACKGROUND
(038)
Exit
Min: 0
Max: 100
O:REMOTE CHANNEL
(1)
Exit
1
2
3
4


0:EXIT
PRESS MENU
Exit

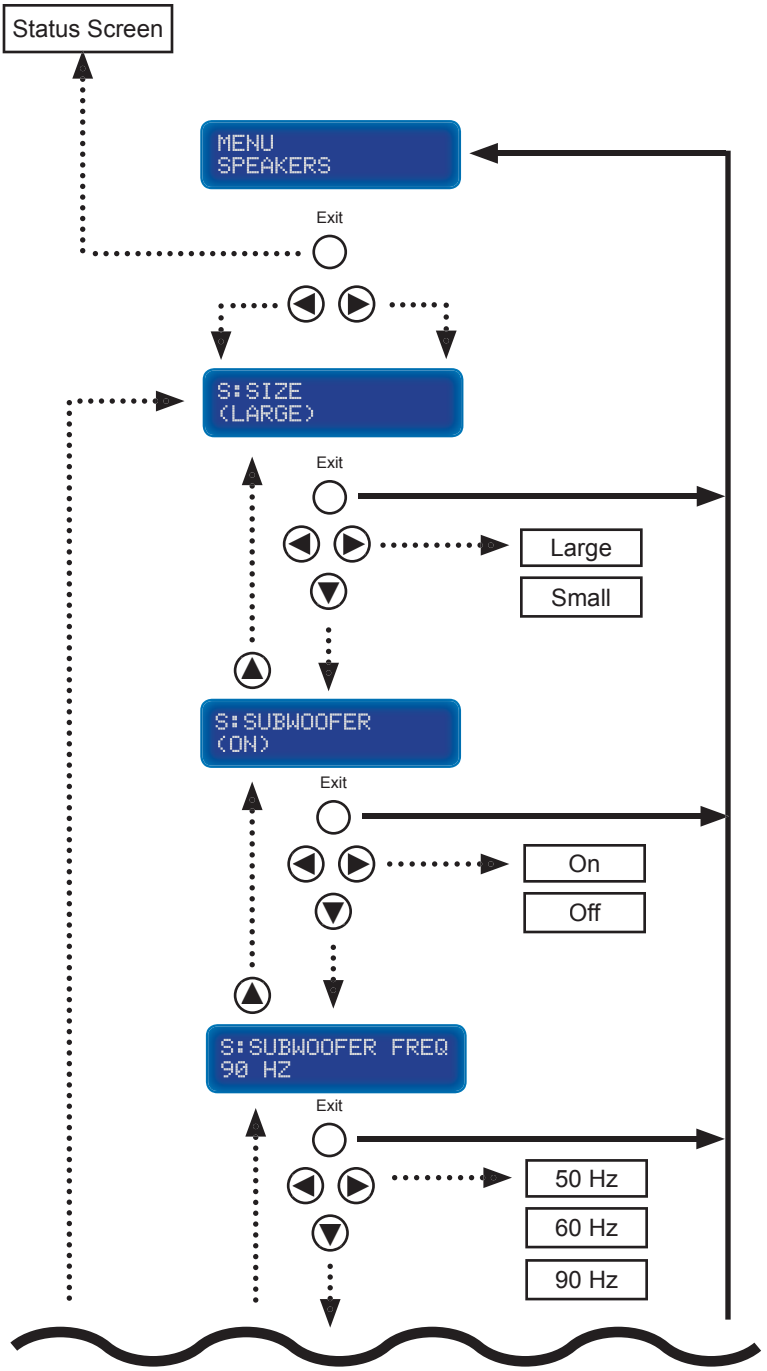

Status Screen
MENU
AUDIO
Exit
A:DVI1
(TOSLINK)
Exit
TOSLINK
Analog
SPDIF
A:DVI2
(ANALOG)
Exit
TOSLINK
Analog
SPDIF
A:VGA
(ANALOG)
Exit
TOSLINK
Analog
SPDIF

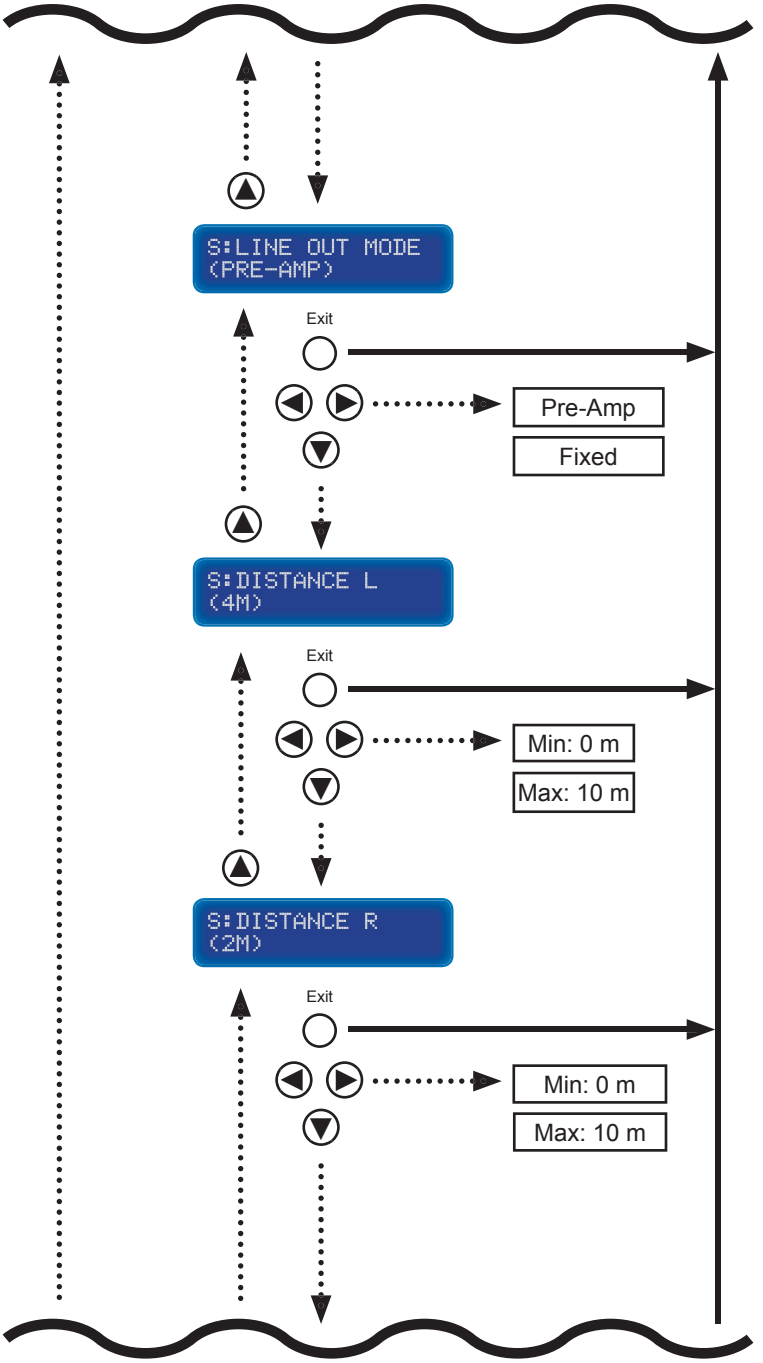

A:COMP1
(ANALOG)
Exit
TOSLINK
Analog
S/PDIF
A:COMP2
(ANALOG)
Exit
S/PDIF
Analog
A:BASS
(+0DB)
Exit
Min: -12DB
Max: +12DB

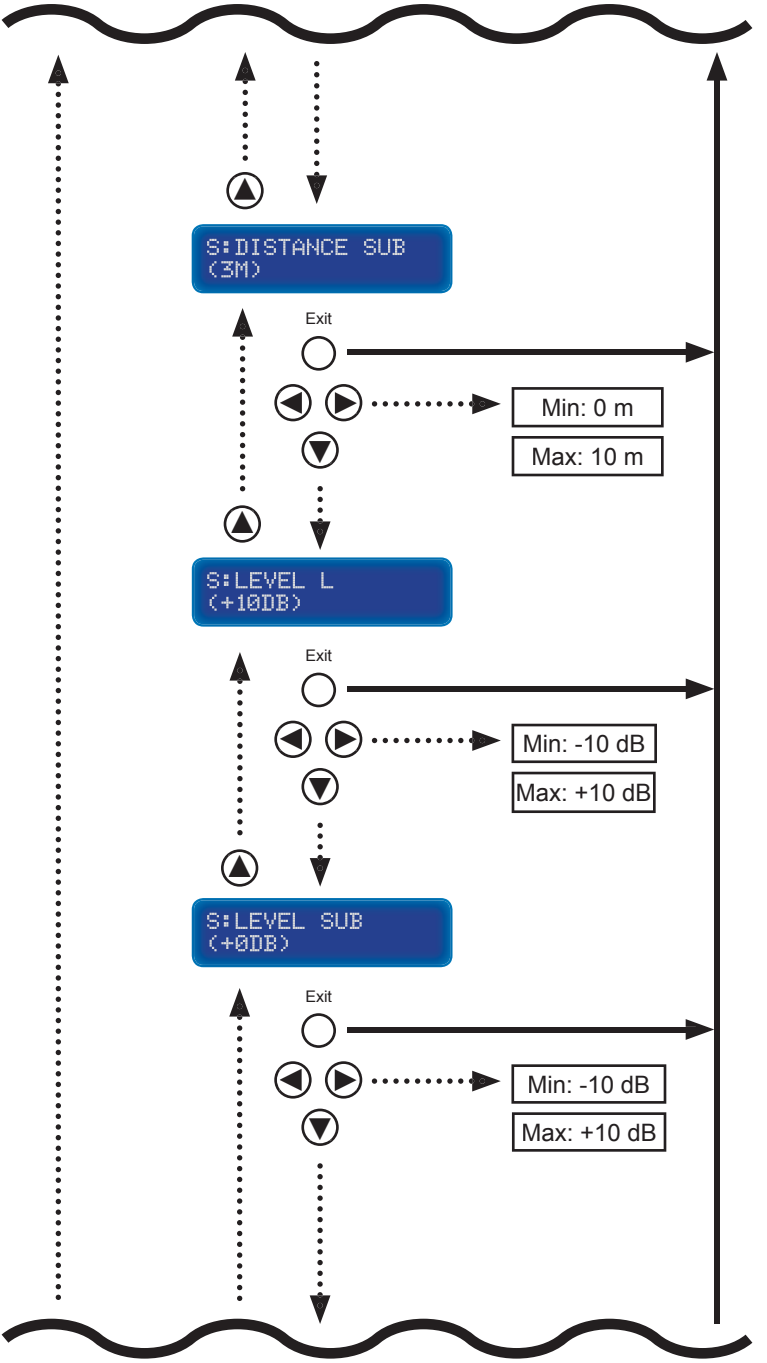

A:TREBLE
(+0DB)
Exit
Min: -12 dB
Max: +12 dB
A:DRC
(ON)
Exit
On
Off
A:ENHANCEMENT
(VOLUME)
Exit
Volume
Off
Night
Voice

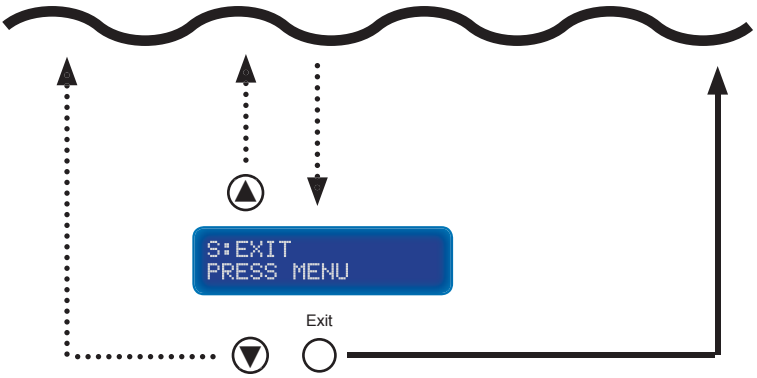

A:DELAY
OFF
Exit
Off
40 ms
110 ms
150 ms
A:SOUND
(ON)
Exit
On
Mute
A:EXIT
PRESS MENU
Exit

SPEAKER MENU SUMMARY




S:LINE OUT MODE
(PRE-AMP)
Exit
Pre-Amp
Fixed
S:DISTANCE L
(4M)
Exit
Min: 0 m
Max: 10 m
S:DISTANCE R
(2M)
Exit
Min: 0 m
Max: 10 m


S:DISTANCE SUB
(3M)
Exit
Min: 0 m
Max: 10 m
S:LEVEL L
(+10DB)
Exit
Min: -10 dB
Max: +10 dB
S:LEVEL SUB
(+0DB)
Exit
Min: -10 dB
Max: +10 dB


S:EXIT
PRESS MENU
Exit

MOUNTING PLATE INSTALLATION

Rack mount ears are provided for installation of this unit into a 2U rack mount space.

1. Locate the side screws on the unit.
2. Remove the front 2 screws that are located closest to the front of the unit.
3. Using the removed screws, screw the rack mounting bracket into the unit.
4. Repeat the procedure on the opposite side of the unit.

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SPECIFICATIONS

Maximum Pixel Clock.....165 MHz

Analog Video Bandwidth.....350 MHz

Input Video Signal.....1.2 Volts p-p

Input DDC Signal.....5 Volts p-p (TTL)

HDMI Input Connector.....Type-A 19-pin, female

HDMI Output Connector.....Type-A 19-pin, female

DVI Input Connectors.....(2) DVI-I 29-pin, female

VGA Input Connector.....HD-15, female

Digital Audio Input Connectors.....(4) TOSLink, (4) S/PDIF

Analog Audio Input Connectors.....(5) L/R RCA

Analog Audio Output Connectors.....L/R + LFE, RCA

Speaker Connectors.....L/R Binding Posts

Speaker Output.....25 W per channel RMS

SNR.....> 90 dB

THD.....< 0.01% @1k at 2V RMS

Frequency Response.....20 Hz - 20 kHz, +/- 0.5 dB

RS-232 Serial Port.....DB-9, female

Power Supply.....24 V DC

Operating Temperature.....0 ~ 40 °C

Dimensions.....16.9” W x 2.6” H x 8” D (2U rack space)

Shipping Weight.....15 lbs.

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.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.

Rev A4

20600 Nordhoff St., Chatsworth CA 91311

1-800-545-6900 818-772-9100 fax: 818-772-9120

www.gefen.com support@gefen.com

This product uses UL listed power supplies.