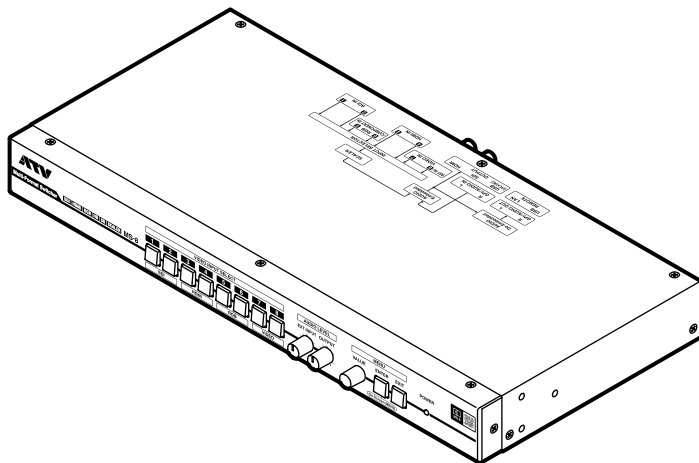




Multiformat switcher

MS-8 Version2.0

Reference Manual



This manual details the functions and specifications of the MS-8.

For information on product usage, please refer to the Start Up Manual.

Click the blue title or page number to jump to that page.

Index	2
Onscreen menu	3
Screen names and operation	3
Display method	4
Remote set-up	5
USB remote software	5
System requirements	5
Installation	6
Screen names and operation	7
Network remote	9
System requirements	9
Browser connection	9
Screen names and operation	10
Parameter	12
Parameter list	12
TELNET command	32
Support	40

Index

Numerals

3G SDI Type 25

A

AOI 13, 16, 19

Audio Delay 27

Audio Follow 14, 17, 23

C

Color Correct 14, 17, 20, 22, 27

F

Factory Reset 31

G

GPI 23, 28

H

HDMI Color 25

HDMI Color Depth 25

HDMI Mode 25

I

Input Gain 23

Input Impedance 23

L

LAN 31

LOS Mute Clear Delay 30

LOS Threshold 12, 15, 18, 20

M

MAC Adrs 31

Maximum Output Level 28

N

No Signal Color 30

NTSC Setup Level 20

P

Panel Lock 30

S

Scaling Type 13, 16, 19, 21

SDI Color 25

Sync Reference 29

T

TELNET command 32

Transition Time 29

U

USB Audio Level 26

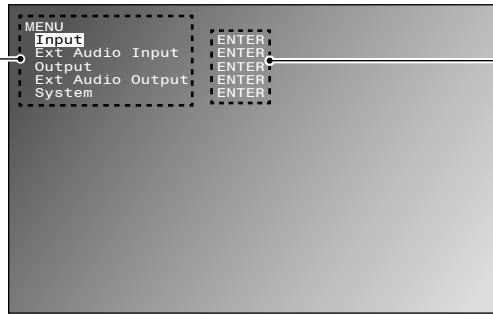
Z

Zoom 13, 16, 19, 21

Onscreen menu

Screen names and operation

Output video



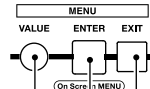
Parameter name

Display parameter groups and parameter names.
The selected item is highlighted.

Parameter value

Display the parameter value.
ENTER: Press the Enter button to display menu for that group.
RESET: Press the Enter button to reset the parameter values for that group to default.

Front Panel



MENU VALUE button

When a parameter name is selected: Select an item.
When a parameter value is selected: Select the value.

MENU ENTER button

When the onscreen menu is hidden: Display the onscreen menu.
When a parameter name is selected: Edit the parameter value.
When a parameter group is selected: Move down one level.
When a parameter value is selected: Store the current value.

MENU EXIT button

When at the top of the hierarchy: Hide the onscreen menu.
When a parameter name is selected: Move up one level.
When a parameter value is selected: Cancel editing.

Display method

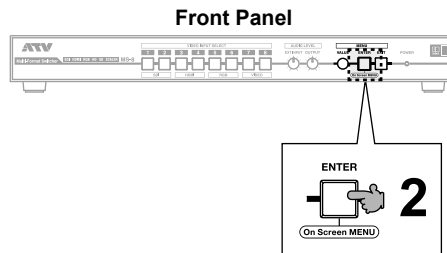
- 1 Turn on the electrical power after connecting a device to the HDMI OUT connector.

→ Start Up Manual Refer to Connecting to a video output connector
Refer to Turning on the power.

- 2 Press the MENU ENTER button.
Onscreen menu is displayed.

Refer to the parameter list for information on setting content and items.

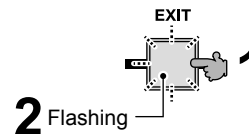
→ Refer to P.12 Parameter list



When no video is displayed

- 1 With the onscreen menu hidden, press and hold the MENU EXIT button for 10 seconds or longer.

- 2 The MENU EXIT button flashes.
Automatically specifies the most suitable format for the connected device.
*If the video display does not improve, connect to a different HDMI device.



Remote set-up

USB remote software

System requirements

	Windows	Mac
OS	Windows10 (32bit/64bit)	OS X 10.11 (El Capitan) or later
CPU	As per OS configuration	As per OS configuration
Memory	As per OS configuration	As per OS configuration
Free hard disk space	2MB min.	20MB min.
USB port	USB 2.0 or 3.0	USB 2.0 or 3.0
Resolution	1024 x 768 or higher	1280 x 800 or higher



Refer to the Start Up Manual for information on connecting the mixer to the PC.
→ Start Up Manual Refer to Other connections



When connecting to MS-8 Ver.2.0, please use MS-USB-RS for Win Ver.1.0.0.4 or later and MS-USB-RS for Mac Ver.1.06 (1) or later.

Installation

Refer to the parameter list for information on setting content and items.

→ Refer to P.12 Parameter list

Windows

1 Download the USB remote application for Windows from our website.

<http://www.atvcorporation.com/en/products/videos/MS-8/support.html>

2 Unpack the downloaded ZIP file to any directory.

Move the unpacked file to the desired directory.

3 Run MS-USB-RS.exe.

USB remote program will run.

(The "exe" extension may not display on your machine.)



Depending on how your computer is set up, the first time you launch MS-USB-RS it may be terminated with an error message saying the PC is protected by Windows. In this case, select the file and right-click to select "Run."

Mac

1 Download the USB remote application for Mac OS X from our website.

<http://www.atvcorporation.com/en/products/videos/MS-8/support.html>

2 Unpack the downloaded DMG file to any directory.

Move the unpacked file to the desired directory.

3 Run MS-USB-RS.app.

USB remote program will run.

(The "app" extension may not display on your machine.)



Depending on how your Mac is set up, the first time you launch MS-USB-RS it may be terminated with an error message reading "MS-USB-RS" can't be opened because it is from an unidentified developer." In this case, depress the "control" key and click "Open." The system will ask for your verification to run the program.

This procedure is only needed the first time you run the program.

Screen names and operation

All screens shown are for Windows.

Menu screen

Device

Displays the device name.

Serial No

Displays the serial number.

Firmware Version

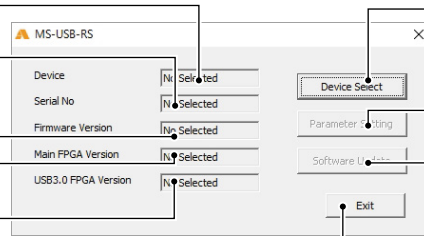
Displays the firmware version.

Main FPGA Version

Displays the Main FPGA version.

USB3.0 FPGA Version

Displays the USB 3.0 FPGA version.



Exit button

Exit USB Remote software.

Device Select button

Displays the Device Select screen.
Selects the device.

→ Refer to P.7 Device Select screen

Parameter Setting button

Displays the Parameter Setting screen.
Sets parameters.

The device must be selected before parameters can be set.

→ Refer to P.8 Parameter Setting screen

Software Update button

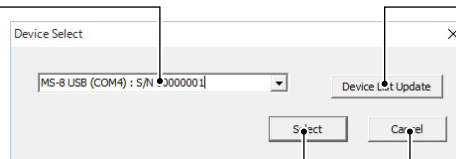
Displays the Software update screen.
Used to update software.

The device must be selected before software can be updated

→ Refer to P.8 Software Update screen

Device Select screen

Selects the device.



Select button

Select the device.

Device List Update button

Refreshes the list of A-PRO-4 and MS-8 devices connected to the PC.

Cancel button

Exit the Device Select screen.

Parameter Setting screen

Parameter name
Display parameter groups and parameter names.
The selected item is highlighted.

Parameter value
Display the parameter value.

Exit button
When top level is selected:
Exits the Parameter Setting screen.
When parameter name or value selected:
Move up one level.

Up button, Down button
When a parameter name is selected: Select an item.
When a parameter value is selected: Select the value.

Enter button
When a parameter group is selected: Move down one level.
When a parameter name is selected: Edit the parameter value.
When a parameter value is selected: Move up one level.

Software Update screen

Update File
Displays the selected update file.

Now Version
Displays the versions of installed programs.

Update Version
Displays the versions of the selected update files.

Browse...button
Select the desired update file.

Exit button
Exist the Software Update screen.

UPdate Execute button
Update the software.

 Download the needed update file from our website.
<http://www.atvcorporation.com/en/products/videos/MS-8/support.html>

Network remote

System requirements

	Supported browsers
Windows	Google Chrome Version 50.0 for Windows Microsoft Internet Explorer for Windows 7 Version 11.0 Microsoft Edge for Windows 10 Version 25
Mac	Apple Safari for OS X Version 9.0.3



Refer to the Start Up Manual for information on connection the device to the network.

→ Start Up Manual Refer to Other connections

Browser connection

- 1 Use a browser on a PC running on the same network.**
- 2 Connect the browser to the device using the IP address (<http://192.168.1.1>).**

The network remote set-up screen will be displayed.

If the device is not displayed, check the network connections and IP address.

→ [Refer to P.31 IP Address](#)

Start Up Manual Refer to Other connections

Refer to the parameter list for information on setting content and items.

→ [Refer to P.12 Parameter list](#)

Screen names and operation

All screens shown are for Windows.

Version display/Parameter save/reset screen

The screenshot displays the ATV Windows interface. At the top, there is a navigation bar with tabs: Top, In SDI, In HDMI, In RGB, In Video, ExtAudio, Output, Control, and System. The 'Control' tab is currently selected.

The main content area is divided into two sections:

- Version Info:** A table displaying version information for Software, Main FPGA, and USB FPGA. The values are 01.27, 04.05, and 04.01 respectively.
- Parameters Control:** A section containing two buttons: 'save' and 'factory reset'.

Annotations provide details for specific elements:

- Firmware Version:** Displays the firmware version. (Points to the Software version 01.27)
- Main FPGA Version:** Displays the Main FPGA version. (Points to the Main FPGA version 04.05)
- USB3.0 FPGA Version:** Displays the USB 3.0 FPGA version. (Points to the USB FPGA version 04.01)
- Video Input Select button:** Selects the input signal. (Points to the Digital Video Input Select section, which includes options for CH1 SDI, CH2 SDI, CH3 HDMI, CH4 HDMI, CH6 RGB, CH6 RGB, CH7 Video, and CH8 Video, along with a 'select' button.)
- Factory Reset button:** Resets all parameters to the factory settings. (Points to the 'factory reset' button.)
- Parameters Save button:** Saves the updated parameter settings. (Points to the 'save' button.)

The bottom of the screen features a footer with navigation links: | Top | In SDI | In HDMI | In RGB | In Video | ExtAudio | Output | Control | System | and a copyright notice: © 2016 ATV.

Parameter Setting screen

Displays the parameter settings for selected parameter group.

Parameter name
Display parameter groups and parameter names.

reset button
Resets group parameters to the factory settings.

Parameter value
Display the parameter value.
Input and select a value to change it.

apply button
Saves the updated parameter settings.

The screenshot shows a top navigation bar with tabs: Top, In SDI, In HDMI, In RGB, In Video, ExtAudio, Output, Control, System. The main area is divided into several sections:

- Format:** Format (1080/59i)
- SDI Settings:** SDI Output Select (PGM), SDI Color (YCC422), 3G SDI Type (LevelB)
- HDMI Settings:** HDMI Output Select (P/W), HDMI Mode (Auto), HDMI Color (Auto), Color Depth (Auto)
- USB3.0 Settings:** USB Output Select (PGM), USB Audio Level (0.0 dB)
- Output Zoom:** Zoom (100%), H Position (0 pixel), V Position (0 line)
- Output Color Correct:** Brightness, Contrast, Saturation, Red Brightness, Green Brightness, Blue Brightness, Red Contrast, Green Contrast, Blue Contrast (all at 100%)
- Audio:** Output Mute (Off), Output Level (0.0 dB), Audio Delay (33 msec)
- SDI Setting, HDMI Setting, USB3.0 Setting, Output Zoom, Output Color Correct:** Each section has a 'reset' button.
- apply button:** A button at the bottom center to save changes.

At the bottom of the screen, there is a navigation bar with the same tabs as the top, and a copyright notice: © 2016 ATV.



Press the apply button to save the new parameter value.

Parameter

Parameter list

InputX (SDI)

InputX (SDI) 1/4

Parameter name	Range	Unit	Remarks
Format	[InHsize]x[InVsize]/[InFrameRate][i/P/sF]		Displays the input signal format.
Format Fix	Off,On		When set to on, input format detection is disabled, and the input format fixed.
Fix Format	2K/59p/50p/29p/25p/24p/23p,1080/59p/50p/29p/25p/24p/23p, 1080/59i/50i ,720/59p/50p,480/59i,576/50i		Sets the input format to be used.
LOS Threshold	0,, 5 ,,10		Sets the threshold for loss-of-signal action. The lower the value the higher the sensitivity, and the higher the value the better the system will resist noise.

InputX (SDI) 2/4

Parameter name	Range	Unit	Remarks
AOI	RESET		Sets the input video effective region. Video outside this region will be stripped. Press reset to restore the initial value.
H size	0,,[InHsize]	pixel	Sets effective region width. *1
V size	0,,[InVsize]	line	Sets effective region height. *1
H position	0,,[InHsize]-1	pixel	Sets effective region horizontal position.
V position	0,,[InVsize]-1	line	Sets effective region vertical position.
Scaling	RESET		Sets the input video scale. Press reset to restore the initial value.
Scaling Type	Full,Box,Crop,Thru,Manual		Sets the input video aspect ratio. Full: Input/output aspect ratios are ignored, and full-screen video is used. Box: Depending on differences between input and output aspect ratios, there is an area masked in black. Crop: The aspect ratio is preserved and part of the input video is cropped. Thru: Output without scaling. Manual: Sets horizontal / vertical scale independently.
Manual H Scale	10,,100,,1000	%	Sets horizontal scale for input video. *1
Manual V Scale	10,,100,,1000	%	Sets vertical scale for input video. *1
Zoom	10,,100,,1000	%	Sets the scale (magnification) for input video. *1
H position	-2048,,0,,2048	pixel	Adjusts the input video horizontal position. *2
V position	-1200,,0,,1200	line	Adjusts the input video vertical position. *2

*1 The maximum zoom is 12 times of the total processed pixel equivalent.

The minimum zoom is 1/12th of the total processed pixel equivalent.

*2 Adjustment is limited by the effective region.

InputX (SDI) 3/4

Parameter name	Range	Unit	Remarks
Color Correct	RESET		Adjusts the input video color. Press reset to restore the initial value.
Brightness	0,,100,,200	%	Adjusts the brightness.
Contrast	0,,100,,200	%	Adjusts the contrast.
Saturation	0,,100,,200	%	Adjusts the saturation.
Red Brightness	0,,100,,200	%	Adjusts the black balance (red).
Green Brightness	0,,100,,200	%	Adjusts the black balance (green).
Blue Brightness	0,,100,,200	%	Adjusts the black balance (blue).
Red Contrast	0,,100,,200	%	Adjusts the white balance (red).
Green Contrast	0,,100,,200	%	Adjusts the white balance (green).
Blue Contrast	0,,100,,200	%	Adjusts the white balance (blue).

InputX (SDI) 4/4

Parameter name	Range	Unit	Remarks
Audio			
Audio Follow	Off,On		Selects the audio selection method. Off: Output at the set mixing level at all times. On: Output at the set mixing level only when a video is selected.
Channel Level	-INF,,0.0,,+6.0	dB	Adjusts the mixing level.
Channel Select	1+2,,15+16, 1(MONO),, 16(MONO)		Selects channels from multi-channel (1–16).

InputX (HDMI)

InputX (HDMI) 1/4

Parameter name	Range	Unit	Remarks
Format	[[InHsize]x[InVsize]/[InFrameRate]][i/P/sF/Hz]		Displays the input signal format.
Format Fix	Off, On		When on, input format detection is disabled and the input format fixed. EDID is rewritten for Fix Format.
Fix Format	2K/59p/50p/29p/25p/24p/23p, 1080/59p/50p/29p/25p/24p/23p, 1080/59i/50i, 720/59p/50p, 480/59p, 576/50p, 480/59i, 576/50i		Sets the input format to be used.
Color Space	Auto, RGB(Full), RGB(Limit), YCC(SD), YCC(HD)		Input color space can be set to auto-detect or a specific setting.
LOS Threshold	0, 5, 10		Sets the threshold for loss-of-signal action. The lower the value the higher the sensitivity, and the higher the value the better the system will resist noise.

InputX (HDMI) 2/4

Parameter name	Range	Unit	Remarks
AOI	RESET		Sets the input video effective region. Video outside this region will be stripped. Press reset to restore the initial value.
H size	0,, [InHsize]	pixel	Sets effective region width. *1
V size	0,, [InVsize]	line	Sets effective region height. *1
H position	0,, [InHsize]-1	pixel	Sets effective region horizontal position.
V position	0,, [InVsize]-1	line	Sets effective region vertical position.
Scaling	RESET		Sets the input video scale. Press reset to restore the initial value.
Scaling Type	Full,Box,Crop,Thru,Manual		Sets the input video aspect ratio. Full: Input/output aspect ratios are ignored, and full-screen video is used. Box: Depending on differences between input and output aspect ratios, there is an area masked in black. Crop: The aspect ratio is preserved and part of the input video is cropped. Thru: Output without scaling. Manual: Sets horizontal / vertical scaling independently.
Manual H Scale	10,, 100 ,,1000	%	Sets horizontal scale for input video. *1
Manual V Scale	10,, 100 ,,1000	%	Sets vertical scale for input video. *1
Zoom	10,, 100 ,,1000	%	Sets the scale (magnification) for input video. *1
H position	-2048,, 0 ,,2048	pixel	Adjusts the input video horizontal position. *2
V position	-1200,, 0 ,,1200	line	Adjusts the input video vertical position. *2

*1 The maximum zoom is 12 times of the total processed pixel equivalent.

The minimum zoom is 1/12th of the total processed pixel equivalent.

*2 Adjustment is limited by the effective region.

InputX (HDMI) 3/4

Parameter name	Range	Unit	Remarks
Color Correct	RESET		Adjusts the input video color. Press reset to restore the initial value.
Brightness	0,,100,,200	%	Adjusts the brightness.
Contrast	0,,100,,200	%	Adjusts the contrast.
Saturation	0,,100,,200	%	Adjusts the saturation.
Red Brightness	0,,100,,200	%	Adjusts the black balance (red).
Green Brightness	0,,100,,200	%	Adjusts the black balance (green).
Blue Brightness	0,,100,,200	%	Adjusts the black balance (blue).
Red Contrast	0,,100,,200	%	Adjusts the white balance (red).
Green Contrast	0,,100,,200	%	Adjusts the white balance (green).
Blue Contrast	0,,100,,200	%	Adjusts the white balance (blue).

InputX (HDMI) 4/4

Parameter name	Range	Unit	Remarks
Audio			
Audio Follow	Off,On		Selects the audio selection method. Off: Output at the set mixing level at all times. On: Output at the set mixing level only when a video is selected.
Channel Level	-INF,,0.0,,+6.0	dB	Adjusts the mixing level.
Channel Select	1+2,,7+8, 1(MONO),, 8(MONO)		Selects channels from multi-channel (1–8).

InputX (RGB)

InputX (RGB) 1/3

Parameter name	Range	Unit	Remarks
Format	[[InHsize]x[InVsize]/[InFrameRate]][i/P/sF/Hz]		Displays the input signal format.
Format Fix	Off,On		When set to on, input format detection is disabled, and the input format fixed.
Fix Format	1080/59p/50p/29p/25p/24p/23p, 1080/59i /50i,720/59p/50p, 480/59p,576/50p, 480/59i,576/50i		Sets the input format to be used.
Color Space	Auto ,RGB,YCC(SD),YCC(HD)		Input color space can be set to auto-detect or a specific setting.
Analog Timing Adjust	RESET		Adjusts the onscreen position of the PC RGB input signal. Disabled when a video analog component signal is input.
H position	-100,,0,,+100	pixel	Adjusts the horizontal onscreen position of the PC RGB input signal.
V position	-100,,0,,+100	line	Adjusts the vertical onscreen position of the PC RGB input signal.
Frequency	-100,,0,,+100	pixel	Adjusts the sampling frequency of the PC RGB input signal.
Phase	-16,,0,,+16		Adjusts the sampling phase of the PC RGB input signal.
LOS Threshold	0,,5,,10		Sets the threshold for loss-of-signal action. The lower the value the higher the sensitivity, and the higher the value the better the system will resist noise.

InputX (RGB) 2/3

Parameter name	Range	Unit	Remarks
AOI	RESET		Sets the input video effective region. Video outside this region will be stripped. Press reset to restore the initial value.
H size	0,, [InHsize]	pixel	Sets effective region width. *1
V size	0,, [InVsize]	line	Sets effective region height. *1
H position	0,, [InHsize] -1	pixel	Sets effective region horizontal position.
V position	0,, [InVsize] -1	line	Sets effective region vertical position.
Scaling	RESET		Sets the input video scale. Press reset to restore the initial value.
Scaling Type	Full,Box,Crop,Thru,Manual		Sets the input video aspect ratio. Full: Input/output aspect ratios are ignored, and full-screen video is used. Box: Depending on differences between input and output aspect ratios, there is an area masked in black. Crop: The aspect ratio is preserved and part of the input video is cropped. Thru: Output without scaling. Manual: Sets horizontal / vertical scaling independently.
Manual H Scale	10,, 100 ,,1000	%	Sets horizontal scale for input video. *1
Manual V Scale	10,, 100 ,,1000	%	Sets vertical scale for input video. *1
Zoom	10,, 100 ,,1000	%	Sets the scale (magnification) for input video. *1
H position	-2048,, 0 ,,2048	pixel	Adjusts the input video horizontal position. *2
V position	-1200,, 0 ,,1200	line	Adjusts the input video vertical position. *2

*1 The maximum zoom is 12 times of the total processed pixel equivalent.

The minimum zoom is 1/12th of the total processed pixel equivalent.

*2 Adjustment is limited by the effective region.

InputX (RGB) 3/3

Parameter name	Range	Unit	Remarks
Color Correct	RESET		Adjusts the input video color. Press reset to restore the initial value.
Brightness	0,,100,,200	%	Adjusts the brightness.
Contrast	0,,100,,200	%	Adjusts the contrast.
Saturation	0,,100,,200	%	Adjusts the saturation.
Red Brightness	0,,100,,200	%	Adjusts the black balance (red).
Green Brightness	0,,100,,200	%	Adjusts the black balance (green).
Blue Brightness	0,,100,,200	%	Adjusts the black balance (blue).
Red Contrast	0,,100,,200	%	Adjusts the white balance (red).
Green Contrast	0,,100,,200	%	Adjusts the white balance (green).
Blue Contrast	0,,100,,200	%	Adjusts the white balance (blue).

InputX (VIDEO)

InputX (VIDEO) 1/3

Parameter name	Range	Unit	Remarks
Format	NTSC/PAL		Displays the input signal format.
Format Fix	Off,On		When set to on, input format detection is disabled, and the input format fixed.
Fix Format	NTSC,PAL		Sets the input format to be used.
NTSC Setup Level	0IRE,7.5IRE		Selects the NTSC set-up level.
LOS Threshold	0,,5,,10		Sets the threshold for loss-of-signal action. The lower the value the higher the sensitivity, and the higher the value the better the system will resist noise.

InputX (VIDEO) 2/3

Parameter name	Range	Unit	Remarks
AOI	RESET		Sets the input video effective region. Video outside this region will be stripped. Press reset to restore the initial value.
H size	0,, [InHsize]	pixel	Sets effective region width. *1
V size	0,, [InVsize]	line	Sets effective region height. *1
H position	0,, [InHsize] -1	pixel	Sets effective region horizontal position.
V position	0,, [InVsize] -1	line	Sets effective region vertical position.
Scaling	RESET		Sets the input video scale. Press reset to restore the initial value.
Scaling Type	Full,Box,Crop,Thru,Manual		Sets the input video aspect ratio. Full: Input/output aspect ratios are ignored, and full-screen video is used. Box: Depending on differences between input and output aspect ratios, there is an area masked in black. Crop: The aspect ratio is preserved and part of the input video is cropped. Thru: Output without scaling. Manual: Sets horizontal / vertical scaling independently.
Manual H Scale	10,, 100 ,,1000	%	Sets horizontal scale for input video. *1
Manual V Scale	10,, 100 ,,1000	%	Sets vertical scale for input video. *1
Zoom	10,, 100 ,,1000	%	Sets the scale (magnification) for input video. *1
H position	-2048,, 0 ,,2048	pixel	Adjusts the input video horizontal position. *2
V position	-1200,, 0 ,,1200	line	Adjusts the input video vertical position. *2

*1 The maximum zoom is 12 times of the total processed pixel equivalent.

The minimum zoom is 1/12th of the total processed pixel equivalent.

*2 Adjustment is limited by the effective region.

InputX (VIDEO) 3/3

Parameter name	Range	Unit	Remarks
Color Correct	RESET		Adjusts the input video color. Press reset to restore the initial value.
Brightness	0,,100,,200	%	Adjusts the brightness.
Contrast	0,,100,,200	%	Adjusts the contrast.
Saturation	0,,100,,200	%	Adjusts the saturation.
Red Brightness	0,,100,,200	%	Adjusts the black balance (red).
Green Brightness	0,,100,,200	%	Adjusts the black balance (green).
Blue Brightness	0,,100,,200	%	Adjusts the black balance (blue).
Red Contrast	0,,100,,200	%	Adjusts the white balance (red).
Green Contrast	0,,100,,200	%	Adjusts the white balance (green).
Blue Contrast	0,,100,,200	%	Adjusts the white balance (blue).

Ext Audio Input MENU

Parameter name	Range	Unit	Remarks
Stereo	Mono, Stereo		Sets whether the AUDIO IN connector is monaural or stereo.
Mode	Audio Input , GPI Input1-4, GPI Output1-4		<p>Sets GPI/AUDIO IN connector function: Audio Input: Used as the audio input connector. GPI Input 1-4: Used as GPI input connector 1-4. OPEN and CLOSE pulsewidths must be at least 100 ms. GPI Output 1-4: Used as GPI output connector 1-4. Current 20 mA max., external supply +5 V.</p> <p>* Left-ch tip is GPI1 and ring is GPI2, right-ch tip is GPI3 and ring is GPI4. GPI1 IN: VIDEO INPUT SELECT1 button GPI1 OUT: INPUT 1 tally GPI2 IN: VIDEO INPUT SELECT2 button GPI2 OUT: INPUT 2 tally GPI3 IN: VIDEO INPUT SELECT3 button GPI3 OUT: INPUT 3 tally GPI4 IN: VIDEO INPUT SELECT4 button GPI4 OUT: INPUT 4 tally</p>
Input Gain	-13.50,, 0.00 ,,33.75	dB	<p>Adjusts AUDIO IN connector input gain. Recommended settings: North America: 0.0dB (+4dBu=-20dBFS) Europe: 6dB (+0dBu=-18dBFS) Private broadcasting: 12dB (-10dBV=-20dBFS)</p>
Audio Follow	Off , IN1, IN2, IN3, IN4, IN5, IN6, IN7, IN8		<p>Sets the video input to be synched with the audio from the AUDIO IN connector. Off: Always output as set mixing level. IN1-8: Output as the set mixing level when the set input is selected.</p>
Channel Level	-INF,, 0.0 ,,6.0	dB	<p>Displays the audio mixing level for the AUDIO IN connector. Set with the EXT INPUT knob on the front panel.</p>
Input Impedance	Hi-Z , 600ohms		Sets the input impedance for the AUDIO IN connector.

Mix/Process MENU

Mix/Process MENU

Parameter name	Range	Unit	Remarks
Transition	Mix,Wipe		Sets transition type.
Wipe			
Type	LtoR,,RtoL, TtoB, BtoT, LTtoRB, RTtoLB, LBtoRT, RBtoLT, CtoLR, CtoTB, LRtoC, TBtoC, CtoLR,TB, LRTBtoC		Sets wipe motion. L mean Left, R mean Right, T mean Top, B mean Bottom, and C mean Center.
Edge	0,,100		Sets wipe edge sharpness.

Output MENU

Output MENU 1/4

Parameter name	Range	Unit	Remarks
Format	2K/59p/50p/29p/25p/24p/23p,1080/59p/50p/29p/25p/24p/23p, 1080/59i /50i,720/59p/50p,480/59p,576/50p,480/59i,576/50i		Sets the output format.
SDI Settings	RESET		SDI output settings. Press reset to restore the initial values.
SDI OSD	Off, On		When on, displays the onscreen menu in SDI output.
SDI Color	YCC422 ,RGB444,YCC444,		Sets SDI output color sampling. YCC422: 10-bit YCC 4:2:2 output. RGB444: 10-bit RGB 4:4:4 output. YCC444: 10-bit YCC 4:4:4 output * When set to RGB444 or YCC444, 2K 1080p output is 6G-SDI, and 1080i 720p output is 3G-SDI. 480i and 576i are always 10-bit YCC4:2:2 output.
3G SDI Type	LevelA, LevelB		Sets the output method for 3G-SDI output. Level-A: Commonly used in facility equipment Level-B: Commonly used in broadcast equipment.
HDMI Settings	RESET		HDMI output settings Press reset to restore the initial values.
HDMI OSD	Off, On		When on, displays the onscreen menu in HDMI output.
HDMI Mode	Auto ,HDMI,DVI(No Audio)		Sets whether the HDMI output is in DVI mode or not. When in AUTO the optimal mode for the connected device will be used.
HDMI Color	Auto ,RGB(Full),RGB(Limit),YCC444,YCC422		Sets HDMI output color sampling. Auto: Color sampling optimal for the connected device. RGB (Full): RGB 4:4:4 output. Black (0%) to white (100%) output from 0–255 (1023). RGB (Limit): RGB 4:4:4 output. Black (0%) to white (100%) output from 16 (64) - 235 (940). YCC444: YCC 4:4:4 output YCC422: 10-bit YCC 4:2:2 output
HDMI Color Depth	Auto ,8bit,10bit		Sets HDMI output color depth. Auto: Color depth optimal for the connected device. 8bit: 8-bit color depth for each color. If HDMI Color=YCC4:2:2, output is always 10-bit. 10-bit: 10-bit color depth for each color. Used for HDMI 1.3 and higher, with devices supporting deep color.

Parameter name	Range	Unit	Remarks
USB3.0 Settings	RESET		USB 3.0 output settings. Press reset to restore the initial values.
USB OSD	Off,On		When on, displays the onscreen menu in USB 3.0 output.
USB Audio Level	-INF,,0.0,,6.0	dB	Adjusts the USB 3.0 output audio level.

Output MENU 2/4

Parameter name	Range	Unit	Remarks
Output Zoom	RESET		Sets the scale (magnification) for output video. Press reset to restore the initial value.
H/V Zoom	10,,100,,1000	%	Adjusts horizontal and vertical scales while maintaining the aspect ratio. *1
H Zoom	10,,100,,1000	%	Adjusts horizontal scale. *1
V Zoom	10,,100,,1000	%	Adjusts vertical scale. *1
H position	-[OutHsize],,0,,[OutHsize]	pixel	Adjusts the output video horizontal position. *2
V position	-[OutVsize],,0,,[OutVsize]	line	Adjusts the output video vertical position *2

*1 The maximum zoom is 12 times of the total processed pixel equivalent.

The minimum zoom is 1/12th of the total processed pixel equivalent.

*2 Adjustment is limited by the effective region.

Output MENU 3/4

Parameter name	Range	Unit	Remarks
Color Correct	RESET		Output video color adjustment. Press reset to restore the initial values.
Brightness	0,,100,,200	%	Adjusts the brightness.
Contrast	0,,100,,200	%	Adjusts the contrast.
Saturation	0,,100,,200	%	Adjusts the saturation.
Red Brightness	0,,100,,200	%	Adjusts the black balance (red).
Green Brightness	0,,100,,200	%	Adjusts the black balance (green).
Blue Brightness	0,,100,,200	%	Adjusts the black balance (blue).
Red Contrast	0,,100,,200	%	Adjusts the white balance (red).
Green Contrast	0,,100,,200	%	Adjusts the white balance (green).
Blue Contrast	0,,100,,200	%	Adjusts the white balance (blue).

Output MENU 4/4

Parameter name	Range	Unit	Remarks
Audio			
Output Mute	Off,On		Mutes the audio output from all connectors.
Output Level	-INF,,0.0	dB	Displays the set master audio level. Set with the OUTPUT knob on the front panel.
Audio Delay	0,,33,,100	msec	Sets the delay to synch audio output to video.
Test Pattern			
Type	Off,HBar75%,HBar100%,VBar75%,VBar100%,VHBar75%,VHBar100%,HRamp,VRamp,Hatch		Selects test pattern type.
ColBar H Scroll	None,2pix,4pix,8pix,16pix,32pix		Sets horizontal scroll value when color bar types are selected.
ColBar V Scroll	None,2line,4line,8line,16line,32line		Sets vertical scroll value when color bar types are selected.

Ext Audio Output MENU

Parameter name	Range	Unit	Remarks
Mode	Audio Output,GPI Input5-8,GPI Output5-8		<p>Sets GPI/AUDIO OUT connector function: Audio Output: Used as the audio output connectors. GPI Input 5-8: Used as GPI output input connectors 5-8. OPEN and CLOSE pulsewidths must be at least 100 ms. GPI Output 5-8: Used as GPI output connectors 5-8. Current 20 mA max., external supply +5 V.</p> <p>* Left-ch tip is GPI5 and ring is GPI6, right-ch tip is GPI7 and ring is GPI8. GPI5 IN: VIDEO INPUT SELECT5 button GPI5 OUT: INPUT 5 tally GPI6 IN: VIDEO INPUT SELECT6 button GPI6 OUT: INPUT 6 tally GPI7 IN: VIDEO INPUT SELECT7 button GPI7 OUT: INPUT 7 tally GPI8 IN: VIDEO INPUT SELECT8 button GPI8 OUT: INPUT 8 tally</p>
Maximum Output Level	+24,,0	dBu	<p>Adjusts the AUDIO OUT connector output level. Recommended settings: North America: 24dBu (+4dBu=-20dBFS) Europe: +18dBu (+0dBu=-18dBFS) Private broadcasting: +12dBu (-10dBV=-20dBFS)</p>

System MENU

System MENU 1/4

Parameter name	Range	Unit	Remarks
Sync Reference	Internal, REF IN, IN1, IN2		Selects synch signal. REF IN: Synchs to the synch signal input to the REF IN connector. IN1: Synchs to video input to SDI IN1. IN2: Synchs to video input to SDI IN2.
H Phase	-[OutHcycle]/2,,0,.[OutHcycle]/2	pixel	Adjusts SDI output horizontal position relative to synch signal.
V Phase	-[OutVcycle],,0,.[OutVcycle]	line	Adjusts SDI output vertical position relative to synch signal.
Transition Time	0,,1.0,,4.0	sec	Sets the fade-in/fade-out time for video transitions.
REF IN	----/Unlock/Lock		Displays the synch state.

System MENU 2/4

Parameter name	Range	Unit	Remarks
LOS Mode	Color, Freeze		Sets the action initiated when the input signal is interrupted. Color: Screen set to specified color. Freeze: Last image prior to interruption is maintained as a static image. * Static image is cleared when input signal recovers.
No Signal Color	RESET		Sets the screen color (RGB) when the input signal is lost. Press reset to restore the initial values.
Red	0,,16,,255		Adjusts red component. *3
Green	0,,16,,255		Adjusts green component. *3
Blue	0,,16,,255		Adjusts blue component. *3
LOS Mute Clear Delay	1,,10	frame	Sets the delay time for audio fade-in start after input signal recovers.
Panel Lock	Off,On,MENU Lock		Off: Panel operation is enabled. On: Panel operation is disabled. MENU Lock: Menu operation is disabled. Settings become effective when you leave the MENU screen. Hold ENTER and EXIT down simultaneously for a few seconds to turn the Panel Lock off.
OSD Font Size Sel	Small,Medium,Large		Change the screen MENU font size. Small and Medium settings are valid when output is 720p. When output setting is SD, always disp Small font size.
SDI Out Interlace	Off,On		Sets the SDI output to interlace format. It is valid at output setting is 1080p.
A-PRO-4 Mode	Off,On		Sets A-PRO-4 mode. In A-PRO-4 mode, it operates as follows VIDEO INPUT SELECT 5 switch is TRANSITION CUT of A-PRO-4. VIDEO INPUT SELECT 6 switch is TRANSITION MIX. VIDEO INPUT SELECT 7 switch is OUTPUT FADE BLACK. VIDEO INPUT SELECT 8 switch is OUTPUT FADE WHITE. For the operation and parameters of A-PRO-4 mode, refer to the A-PRO-4 Reference Manual. After settings have been entered, leave the MENU screen and restart the device to enabled them.

*3 Settings outside the 16-235 range may cause misoperation.

System MENU 3/4

Parameter name	Range	Unit	Remarks
LAN	RESET		Network settings. Press reset to restore the initial values. Check with the network administrator for network connection settings. After settings have been entered, leave the MENU screen and restart the device to enabled them.
IP Adress	0,,192,,255		Sets the device IP address.
	0,,168,,255		
	0,,1,,255		
	0,,1,,255		
Subnet Mask	0,,255		Sets the subnet mask.
	0,,255		
	0,,255		
	0,,255		
Default Gateway	0,,192,,255		Sets the gateway IP address.
	0,,168,,255		
	0,,1,,255		
	0,,1,,255		

System MENU 4/4

Parameter name	Range	Unit	Remarks
Version			
Software	xx.xx		Displays the software version.
FPGA(MAIN)	xx.xx		Displays the Main FPGA version.
FPGA(USB)	xx.xx		Displays the USB FPGA version.
MAC Adrs	68:9A:B7:xx:xx:xx		Displays the network MAC address.
Factory Reset	RESET		Press RESET to reset all parameters to factory settings.

TELNET commands

Command list

Set Command

Input Format Fix	
FMF:a,b,c<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: Format Fix	0:Off, 1:On
c: Fix Format	<figure.1>
Analog Input Color	
FCS:a,b<CR>	
a: Input Channel	4:IN5, 5:IN6
b: Color Space	0:Auto, 1:RGB, 2:YCC(SD), 3:YCC(HD)
Analog Input Timing Adjust	
ATA:a,b,c,d,e<CR>	
a: Input Channel	4:IN5, 5:IN6
b: H position	-100,,100 pixel
c: V position	-100,,100 line
d: Frequency	-100,,100 pixel
e: Phase	-16,,16

NTSC Input Setup Level	
NSL:a,b<CR>	
a: Input Channel	6:IN7, 7:IN8
b: NTSC Setup Level	0:0IRE, 1:7.5IRE
HDMI Input Color	
HDC:a,b<CR>	
a: Input Channel	2:IN3, 3:IN4
b: Color Space	0:Auto, 1:RGB(Full), 2:RGB(Limit), 3:YCC(SD), 4:YCC(HD)
Input LOS Threshold	
LTH:a,b<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: LOS Threshold	0,,10
Input AOI	
AOI:a,b,c,d,e<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: H size	0,,[InHsize] pixel
c: V size	0,,[InVsize] line
d: H position	0,,[InHsize-1] pixel
e: V position	0,,[InVsize-1] line

Input Scaling	
SCL:a,b,c,d,e,f,g<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: Scaling Type	0:Full, 1:Box, 2:Crop, 3:Thru, 4:Manual
c: Zoom	10,,1000 %
d: H position	-2048,,2048 pixel
e: V position	-1200,,1200 line
f: Manual H scale	10,,1000 %
g: Manual V scale	10,,1000 %
Input Color	
IBC:a,b,c,d<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: Brightness	0,,200 %
c: Contrast	0,,200 %
d: Saturation	0,,200 %

Input Black Balance	
ICB:a,b,c,d<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: Red Brightness	0,,200 %
c: Green Brightness	0,,200 %
d: Blue Brightness	0,,200 %
Input White Balance	
ICC:a,b,c,d<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: Red Contrast	0,,200 %
c: Green Contrast	0,,200 %
d: Blue Contrast	0,,200 %
Input Audio	
AUD:a,b,c,d<CR>	
a: Input Channel	0:IN1, 1:IN2, 2:IN3, 3:IN4
b: Audio Follow	0:Off, 1:On
c: Channel Select	IN1-IN2 0:1+2, 1:3+4,, 7:15+16, 8:1(MONO), 9:2(MONO),, 23:16(MONO) ch IN3-IN4 0:1+2, 1:3+4,, 3:7+8, 4:1(MONO), 5:2(MONO),, 11:8(MONO) ch
d: Channel Level	0:-INF,,127:6.0dB <figure.2>

Ext Audio Input
EAI:a,b,c,d,e<CR>
a: Stereo
0:Mono, 1:Stereo
b: Mode
0:Audio Input, 1:GPI Input1-4, 2:GPI Output1-4
c: Input Gain
0:-13.5,,63:+33.75 dB (+0.75 dB step)
d: Audio Follow
0:Off, 1:IN1, 2:IN2, 3:IN3, 4:IN4, 5:IN5, 6:IN6, 7:IN7, 8:IN8
e: Input Impedance
0:Hi-Z, 1:600ohms
Transition Type
TSM:a<CR>
a: Transition
0:Mix, 1:Wipe
Wipe Setting
WIP:a,b<CR>
a: Type
0:LtoR,1:RtoL,2:TtoB,3:BtoT,4:LTtoRB,5:RTtoLB,6:LBtoRT,7:RBtoLT,8:CtoLR, 9:CtoTB, 10:LRtoC, 11:TBtoC, 12:CtoLRTB, 13:LRTBtoC
b: Edge
0,,100
Output Format
OFT:a<CR>
a: Format
0:2K/59p, 1:2K/50p, 2:2K/29p, 3:2K/25p, 4:2K/24p, 5:2K/23p, 6:1080/59p, 7:1080/50p, 8:1080/29p, 9:1080/25p, 10:1080/24p, 11:1080/23p, 12:1080/59i, 13:1080/50i, 14:720/59p, 15:720/50p, 16:480/59p, 17:576/50p, 18:480/59i, 19:576/50i

SDI Output Setting
SDI:a,b,c<CR>
a: SDI OSD
0:Off, 1:On
b: SDI Color
0:YCC422, 1:RGB444, 2:YCC444
c: 3G SDI Type
0:LevelA, 1:LevelB
HDMI Output Setting
HDM:a,b,c,d<CR>
a: HDMI OSD
0:Off, 1:On
b: HDMI Mode
0:Auto, 1:HDMI, 2:DVI(No Audio)
c: HDMI Color
0:Auto, 1:RGB(Full), 2:RGB(Limit), 3:YCC444, 4:YCC422
d: Color Depth
0:Auto, 1:8bit, 2:10bit
USB3.0 Output Setting
USB:a,b<CR>
a: USB OSD
0:Off, 1:On
b: Audio Level
0:-INF,,100:0.0dB <figure.2>
Output Zoom
OPZ:a,b,c,d<CR>
a: H Zoom
10,,1000 %
b: V Zoom
10,,1000 %
c: H position
-[OutHsize],[OutHsize] pixel
d: V position
-[OutVsize],[OutVsize] line

Output Color
OBC:a,b,c<CR>
a: Brightness
0,,200 %
b: Contrast
0,,200 %
c: Saturation
0,,200 %
Output Black Balance
OCC:a,b,c<CR>
a: Red Brightness
0,,200 %
b: Green Brightness
0,,200 %
c: Blue Brightness
0,,200 %
Output White Balance
OCC:a,b,c<CR>
a: Red Contrast
0,,200 %
b: Green Contrast
0,,200 %
c: Blue Contrast
0,,200 %
Output Audio
OAU:a,b<CR>
a: Mute
0:Off, 1:On
b: Delay
0,,100 msec

Ext Audio Output
EAO:a,b,c<CR>
a: Mode
0:Audio Output, 1:GPI Input5-8, 2:GPI Output5-8
b: Max Output Level
0:+24,,24:0 dBu (-1.0 dBu step)
System Sync Reference
SSR:a,b,c<CR>
a: Sync Reference
0:Internal, 1:REF IN, 2:IN1, 3:IN2
b: H Phase
-[OutHcycle]/2,,[OutHcycle]/2 pixel
c: V Phase
-[OutVcycle],,[OutVcycle] line
System Transition Time
STT:a<CR>
a: Transition Time
0.0,,4.0 sec
System LOS Mode
SLM:a<CR>
a: LOS Mode
0:Color, 1:Freeze
System No Signal Color
SNS:a,b,c<CR>
a: Red
0,,255
b: Green
0,,255
c: Blue
0,,255
System LOS Mute Clear Delay
SLD:a<CR>
a: LOS Mute Clear Delay
1,,10 frame

System Panel Lock
SPL:a<CR>
a: Panel Lock
0:Off, 1:On, 2:MENU Lock
System OSD Font Size Sel
SOF:a<CR>
a: OSD Font Size
0:Small, 1:Medium, 2:Large
System SDI Out Interface
SSI:a<CR>
a: SDI Out Interface
0:Off, 1:On
System LAN IP Address
LIP:a,b,c,d<CR>
a: IP Address 1st
0,,255
b: IP Address 2nd
0,,255
c: IP Address 3rd
0,,255
d: IP Address 4th
0,,255
System LAN Net Mask
LNM:a,b,c,d<CR>
a: IP Address 1st
0,,255
b: IP Address 2nd
0,,255
c: IP Address 3rd
0,,255
d: IP Address 4th
0,,255

System LAN Default Gateway
LDG:a,b,c,d<CR>
a: IP Address 1st
0,,255
b: IP Address 2nd
0,,255
c: IP Address 3rd
0,,255
d: IP Address 4th
0,,255
Input Reset
IRT:a,b<CR>
a: Input Channel
0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
b: Category
0:AOL, 1:Scaling, 2:Color Correct, 3:Analog Timing Adjust
Output Reset
ORT:a<CR>
a: Category
0:SDI Settings, 1:HDMI Settings, 2:USB3.0 Settings, 3:Output Zoom, 4:Output Color Correct
System Reset
SRT:a<CR>
a: Category
0:Transition Color, 1:No Signal Color, 4:LAN
Factory Reset
FRT:<CR>
Parameters Save
PSV:<CR>
Video Input Select
VIS:a<CR>
a: VIDEO INPUT SELECT
0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8

Req Command

Version
VER<CR>
Input Format
FMT:a<CR>
a: Input Channel
0:IN1, 1:IN2, 2:IN3, 3:IN4, 4:IN5, 5:IN6, 6:IN7, 7:IN8
Ext Audio Input Level
EIA<CR>
Output Audio Level
AOL<CR>

Response

Ack
ACK<CR>
Error
ERR:a<CR>
a: Information
0:Syntax Error, 1:Arg Number Error, 2:Arg Invalid Error, 3:Busy Error
Version
VER:a,b,c<CR>
a: Software
b: FPGA(MAIN)
c: FPGA(USB)
Input Format
FMT:a<CR>
a: Format Name
Ext Audio Input Level
EIA:a<CR>
a: Ext Audio Input Level <figure.2>
Output Audio Level
AOL:a<CR>
a: Output Audio Level <figure.2>

value	IN1, IN2	IN3, IN4	IN5, IN6	IN7, IN8
0	2K/59p	2K/59p	-	NTSC
1	2K/50p	2K/50p	-	PAL
2	2K/29p	2K/29p	-	-
3	2K/25p	2K/25p	-	-
4	2K/24p	2K/24p	-	-
5	2K/23p	2K/23p	-	-
6	1080/59p	1080/59p	1080/59p	-
7	1080/50p	1080/50p	1080/50p	-
8	1080/29p	1080/29p	1080/29p	-
9	1080/25p	1080/25p	1080/25p	-
10	1080/24p	1080/24p	1080/24p	-
11	1080/23p	1080/23p	1080/23p	-
12	1080/59i	1080/59i	1080/59i	-
13	1080/50i	1080/50i	1080/50i	-
14	720/59p	720/59p	720/59p	-
15	720/50p	720/50p	720/50p	-
16	480/59i	480/59p	480/59p	-
17	576/50i	576/50p	576/50p	-
18	-	480/59i	480/59i	-
19	-	576/50i	576/50i	-

<figure.1> Input Format Fix Table

Value	Input Level	Output Level
0	-INF	-INF
1	-84.2dB	-40.0dB
2	-71.5dB	-34.0dB
3	-64.1dB	-30.4dB
4	-58.8dB	-28.0dB
5	-54.7dB	-26.0dB
6	-51.4dB	-24.4dB
7	-48.6dB	-23.0dB
8	-46.1dB	-22.0dB
9	-43.9dB	-21.0dB
10	-42.0dB	-20.0dB
11	-40.3dB	-19.2dB
12	-38.7dB	-18.4dB
13	-37.2dB	-17.8dB
14	-35.8dB	-17.0dB
15	-34.6dB	-16.4dB
16	-32.3dB	-16.0dB
17	-31.2dB	-15.4dB
18	-30.3dB	-14.8dB
19	-29.3dB	-14.4dB
20	-28.4dB	-14.0dB
21	-27.6dB	-13.6dB
22	-26.8dB	-13.2dB
23	-26.0dB	-12.8dB
24	-25.2dB	-12.4dB
25	-24.5dB	-12.0dB
26	-23.8dB	-11.8dB
27	-23.1dB	-11.4dB
28	-22.5dB	-11.0dB
29	-21.9dB	-10.8dB
30	-21.3dB	-10.4dB
31	-20.7dB	-10.2dB
32	-20.1dB	-9.8dB
33	-19.6dB	-9.6dB
34	-19.1dB	-9.4dB
35	-18.5dB	-9.2dB
36	-18.0dB	-8.8dB
37	-17.5dB	-8.6dB
38	-17.1dB	-8.4dB
39	-16.6dB	-8.2dB
40	-16.2dB	-8.0dB
41	-15.7dB	-7.8dB
42	-15.3dB	-7.6dB
43	-14.9dB	-7.4dB
44	-14.5dB	-7.2dB
45	-14.0dB	-7.0dB
46	-13.7dB	-6.8dB
47	-13.3dB	-6.6dB
48	-12.5dB	-6.4dB
49	-12.2dB	-6.2dB
50	-11.8dB	-6.0dB
51	-11.5dB	-5.8dB
52	-11.1dB	-5.6dB
53	-10.8dB	-5.6dB
54	-10.4dB	-5.4dB
55	-10.1dB	-5.2dB
56	-9.8dB	-5.0dB
57	-9.5dB	-4.8dB
58	-9.2dB	-4.8dB
59	-8.9dB	-4.6dB
60	-8.6dB	-4.4dB
61	-8.3dB	-4.2dB
62	-8.0dB	-4.2dB
63	-7.7dB	-4.0dB
64	-7.4dB	-3.8dB
65	-7.2dB	-3.8dB
66	-6.9dB	-3.6dB
67	-6.6dB	-3.4dB
68	-6.4dB	-3.4dB
69	-6.1dB	-3.2dB
70	-5.8dB	-3.0dB
71	-5.6dB	-3.0dB
72	-5.3dB	-2.8dB
73	-5.1dB	-2.8dB
74	-4.8dB	-2.6dB
75	-4.6dB	-2.4dB
76	-4.4dB	-2.4dB
77	-4.1dB	-2.2dB
78	-3.9dB	-2.2dB
79	-3.7dB	-2.0dB
80	-3.2dB	-2.0dB
81	-3.0dB	-1.8dB
82	-2.8dB	-1.8dB
83	-2.6dB	-1.6dB
84	-2.4dB	-1.6dB
85	-2.2dB	-1.4dB
86	-2.0dB	-1.4dB
87	-1.7dB	-1.2dB
88	-1.5dB	-1.2dB
89	-1.3dB	-1.0dB
90	-1.1dB	-1.0dB
91	-0.9dB	-0.8dB
92	-0.8dB	-0.8dB
93	-0.6dB	-0.6dB
94	-0.4dB	-0.6dB
95	-0.2dB	-0.4dB
96	0.0dB	-0.4dB
97	0.0dB	-0.2dB
98	0.0dB	-0.2dB
99	0.0dB	0.0dB
100	0.0dB	0.0dB
101	0.0dB	0.0dB
102	0.0dB	-
103	0.2dB	-
104	0.5dB	-
105	0.7dB	-
106	0.9dB	-
107	1.4dB	-
108	1.6dB	-
109	1.9dB	-
110	2.1dB	-
111	2.3dB	-
112	2.5dB	-
113	2.7dB	-
114	3.0dB	-
115	3.4dB	-
116	3.6dB	-
117	3.8dB	-
118	4.0dB	-
119	4.2dB	-
120	4.4dB	-
121	4.6dB	-
122	4.8dB	-
123	5.2dB	-
124	5.4dB	-
125	5.6dB	-
126	5.8dB	-
127	6.0dB	-

<figure.2> Audio Input/Output Level Table

Support

The latest support information is available at the ATV website shown below.

- ATV Corporation website
<http://www.atvcorporation.com/>

- Product page



<http://www.atvcorporation.com/en/products/videos/ms-8/>