AVIDEONE AH7S Camera Field Monitor User Guide

AVIDEONE

User Guide

AH7S Camera Field Monitor

Contents

AH7S Camera Field Monitor

Important Safety Instructions

 The device has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the device should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Please do not place the display screen towards the ground to avoid scratching the LCD surface.
- Please avoid heavy impact.
- Please do not use chemical solutions to clean this product. Simply wipe with a soft cloth to keep clean of the surface.
- Please do not place on uneven surfaces.
- Please do not store the monitor with sharp, metallic objects.
- Please follow the instructions and trouble-shooting to adjust the product.
- Internal adjustments or repairs must be performed by a qualified technician.
- Please keep user guide for future reference.
- Please unplug the power and remove the battery if long-term no-use, or thunder weather.

Safety Disposal For Old Electronic Equipment

Please do not regard the old electronic equipment as municipal waste and do not incinerate old electronic equipment. Instead please always follow local regulations and hand it over to the applicable collection stand for safe recycling. Ensure that these waste materials can be effectively disposed of and recycled to prevent our environment and families from negative effects.

Introduction

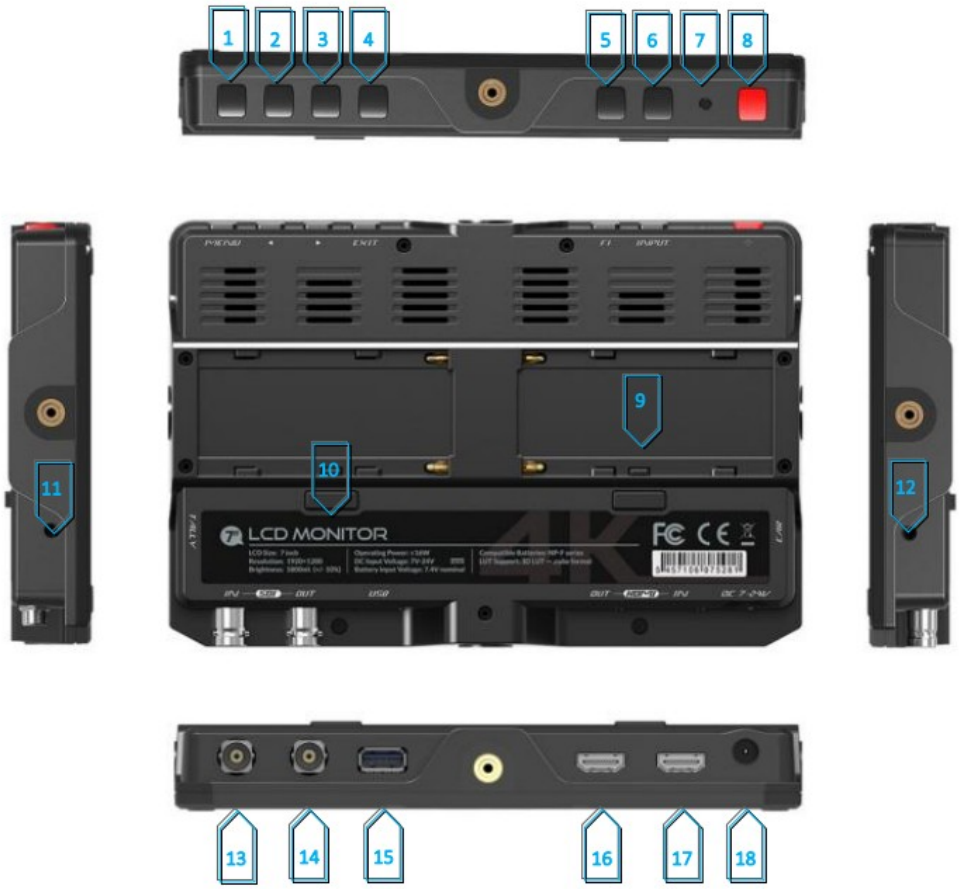
This gear is a precision camera monitor designed for the film and video shooting on any type of camera.
Providing the superior picture quality, as well as a variety of professional assist functions, including 3D-Lut, HDR, Level Meter, Histogram, Peaking, Exposure, False Color, etc. It can help the photographer analyzing every detail of the picture and final capture the best side.

Features

- HDMI1.4B input & loop output
- 3G-SDIinput & loop output
- 1800 cd/m?high Brightness
- HDR (High Dynamic Range) supporting HLG, ST 2084 300/1000/10000
- 3D-Lut option of color production includes 8 default camera log and 6 user camera log

- Gamma adjustments (1.8, 2.0, 2.2,2.35,2.4,2.6)
- Color Temperature (6500K, 7500K, 9300K, User)
- Markers & Aspect Mat (Center Marker, Aspect Marker, Safety marker, User Marker)
- Scan (Underscan, Overscan, Zoom, Freeze)
- CheckField (Red, Green, Blue, Mono)
- Assistant (Peaking, False Color, Exposure, Histogram)
- Level Meter (a key Mute)
- Image Flip (H, V, H/V)
- F1&F2 User-definable function button

Production Description



1. MENU button:
   Menu key: Press to display menu on the screen when screen is lit.
   Switch key: Press ▶/◀ to activate Volume when out of Menu, then press MENU button to switch the functions among [Volume], [Brightness], [Contrast], [Saturation], [Tint], [Sharpness], [Exit] and [Menu].
   Confirm key: press to confirm the selected option.
2. ◀ Leftselection key: Select option in the menu. Decrease the option value.
3. ▶ Right selection key: Select option in the menu. Increase the option value.
4. EXIT button: To return or exit the menu function.
5. F1button: User-definable function button.
   Default: [Peaking]
6. INPUT/F2 button:

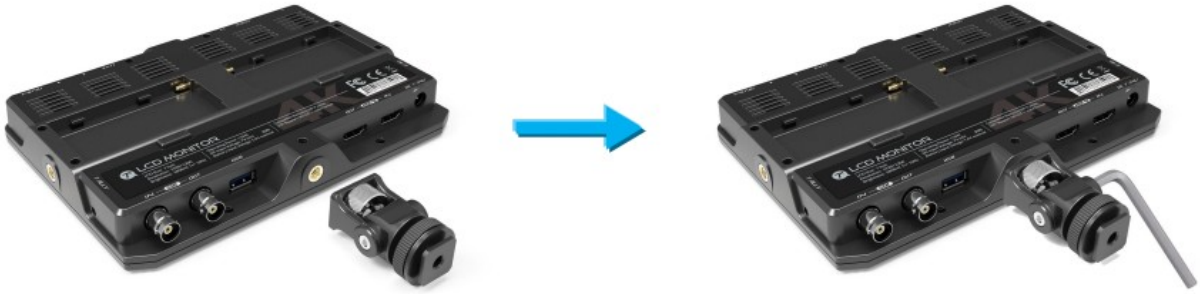
1. When the model is SDI version, it is used as INPUT key – Switch the signal among HDMI and SDI.
2. When the model is HDMI version, it is used as F2 key – User-definable function button.
Default: [Level Meter]

7. Power indicator light: Press POWER button to turn on monitor, the indicator light will turn green as operating.
8. ⏻ : POWER button, power on/off.
9. Battery slot (Left/Right): Compatible with F-series battery.
10. Battery release button: Push button to remove the battery.
11. Tally: For tally cable.
12. Earphone jack: 3.5mm earphone slot.
13. 3G-SDI signal input interface.
14. 3G-SDI signal output interface.
15. UPGRADE: Log update USB interface.
16. HDMII signal output interface.
17. HDMII signal input interface.
18. DC 7-24V power input.

Installation

2-1. Standard mounts process

2-1-1. Mini Hot Shoe



– It has four 1/4 inch screw holes. Please choose the mounting position of mini hot shoe according to direction of shooting.
– The joint tightness of mini hot shoe can be adjusted to appropriate level with a screwdriver.
Note! Please slowly rotate the mini hot shoe into screw hole.

2-1-2. DV Battery

– Place battery to the slot, and then slide it down to finish mounting.
– Press the battery release button, and then slide battery up to take it out.
– The two batteries can be used alternately to ensure continuous power supply.

2-2. DV Battery Mount Plate Specification

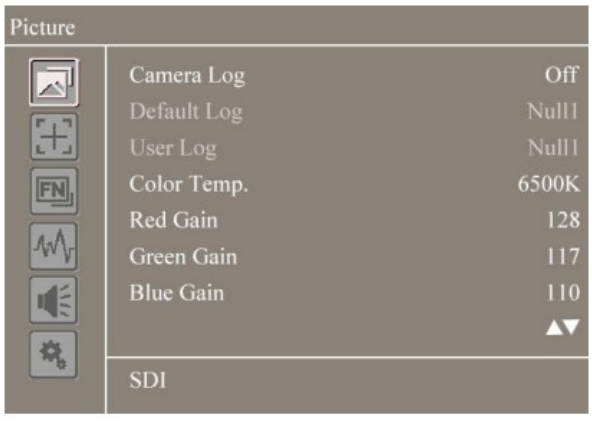
Model F970 for battery of SONY DV: DCR-TRV series, DCR-TRV E series, VX2100E PD P series, GV-A700, GV-D800 FD/CCD-SC/TR3/FX1E/HVR-AIC, HDR-FX1000E, HVR-Z1C, HVR-V1C, FX7E F330.

Menu Settings

3-1.Menu Operation

When power on, press [MENU] button on the device. The menu will display on the screen. Press ►/◄ button to choose menu item. Then press [MENU] button to confirm.
Press [EXIT] button to return or exit the menu.

3-1-1. Picture



– Brightness –

Adjust the general brightness of the LCD from [0]-[100]. For example, if the user is outside in bright conditions, increase the LCD brightness to make it easier to view.

– Contrast –

Increases or decreases the range between the bright and dark areas of the image. High contrast can reveal detail and depth in the image, and low contrast can make the image appear soft and flat. It can be adjusted from [0]-[100].

– Saturation –

Adjust the color intensity from [0]-[100]. Turn the knob right to increase the color intensity and turn left to decrease it.

-Tint-

It can be adjusted from [0]-[100]. Affect the resulting color mixture's relative lightness.

– Sharpness –

Increase or decrease the sharpness of the image. When the image sharpness is insufficient, increase the sharpness to make the image clearer. It can be adjusted from [0]-[100].

-Gamma –

Use this setting to choose one of the Gamma tables:

[Off], [1.8], [2.0], [2.2], [2.35], [2.4], [2.6].

Gamma correction represents the relationship between the pixel levels from the incoming video and the luminance of the monitor. The Lowest gamma level available is 1.8, will cause the image to appear brighter.

The highest gamma level available is 2.6, will cause the image to appear darker.

Note! Gamma mode can be ONLY activated while HDR function closed.

Gamma1.8

Gamma2.6

-HDR –

Use this setting to choose one of the HDR presets:

[Off], [ST 2084 300], [ST 2084 1000], [ST 2084 10000], [HLG].

When HDR is activated, the display reproduces a greater dynamic range of luminosity, allowing lighter and darker details to be displayed more clearly. Effectively enhancing the overall picture quality.

-Camera LUT –

Use this setting to choose one of the camera Log modes:

-[Off]: Sets off Camera Log.

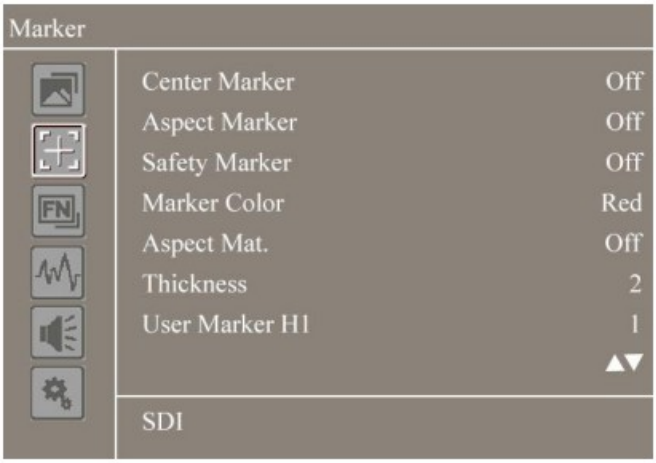
-[Default Log] Use this setting to choose one of the Camera Log modes:

[SLog2ToLC-709], [SLog2ToLC-709TA], [SLog2ToSLog2-709],
[SLog2ToCine+709], [SLog3ToLC-709], [SLog3ToLC-709TA],
[SLog3ToSLog2-709], [SLog3ToCine+709].

-[User Log] Use this setting to choose one of the User Log modes (1-6).
Please install the User Log as following steps:
The User Log must be named with .cube in the suffix.
Please note: the device only support the format of User Log:
17x17x17 , Data format is BGR, Table format is BGR.
If the format does not meet the requirement, please use tool “Lut Tool.exe” to transform it. Naming the User Log as Userl~User6.cube, then copy the user Log into USB flash disk (Only support USB2.0 versions).
Insert the USB flash disk to the device, the User Log is saved to the device automatically at the first time. If the User Log is not loaded for the first time, the device will pop up a prompt message, please choose whether to update or not. If there is not a prompt message, please check the format of document system of the USB flash disk or format it (The document system format is FAT32). Then try it again.
– Color Temp –
[6500K], [7500K], [9300K] and [User] mode for optional.
Adjust the color temperature to make the image warmer (Yellow) or colder (Blue). Increase the value to make the image be warmer, decrease the value to make the image be colder. User can use this function to strengthen, weaken or balance the image color according requirements. The standard white light color temperature is 6500K.
Color Gain/Offset is available only under “User” mode to choose the color value.
-SDI (or HDMI) –
Representing the source that is currently being displayed on the monitor. It is unable to choose and change the source from OSD.

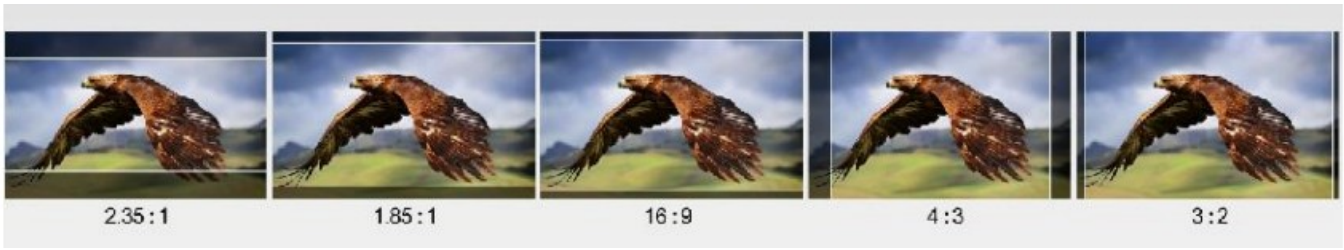
3-1-2. Marker

Marker	Center Marker	ON, OFF
	Aspect Marker	OFF, 16:9, 1.85:1, 2.35:1, 4:3, 3:2, 1.3, 2.0X, 2.0X MAG, Grid, User
	Safety Marker	OFF, 95%, 93%, 90%, 88%, 85%, 80%
	Marker Color	Red, Green, Blue, White, Black
	Marker Mat	OFF 1,2,3,4,5,6,7
	Thickness	2,4,6,8
	User Marker	H1(1-1918), H2 (1-1920), V1 (1-1198), V2 (1-1200)



– Center Marker –
Select On, it will appear “+” marker on center of screen.

– Aspect Marker –
The Aspect Marker provides various aspect ratios, as the following:
[OFF], [16:9], [1.85:1], [2.35:1], [4:3], [3:2], [1.3X], [2.0X], [2.0X MAG], [Grid], [User]

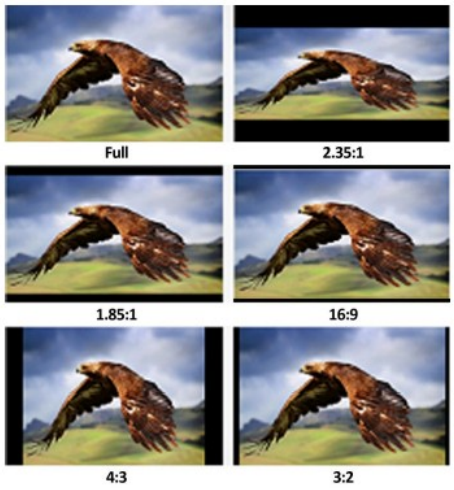


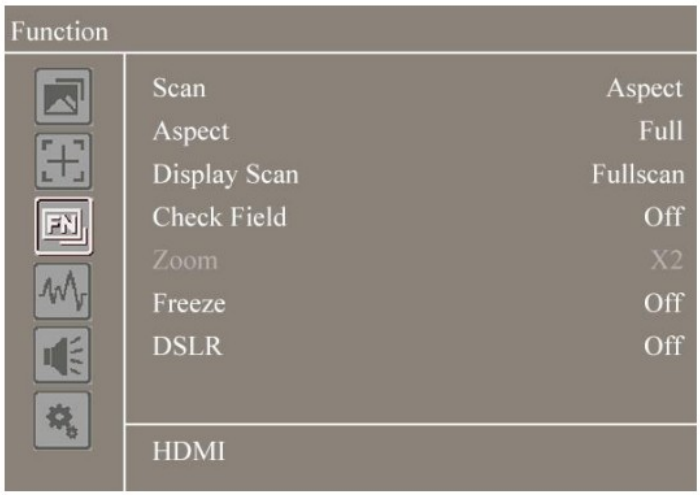
– Safety Marker –
Used to select and control the size and availability of the safety area. Available type are [OFF], [95%], [93%], [90%)], [88%], [85%], [80%)] preset to choose.
– Marker Color & Aspect Mat & Thickness –
Marker Mat darkens the area of the outside of Marker. The degrees of darkness are between [1] to [7].
Marker Color controls the color of the marker lines and the thickness controls the thickness of the marker lines.

– User Marker –
Precondition: [Aspect Marker] – [User] Users can choose abundant ratios or colors according to different background colors when shooting.
Adjusting the value of the following items to move the coordinate of marker lines.
User Marker H1 [1]-[1918]: Starting from left edge, marker line moves to right as the value increases.
User Marker H2 [1]-[1920]: Starting from right edge, marker line moves to left as the value increases.
User Marker V1 [1]-[1198]: Starting from top edge, marker line moves down as the value increases.
User Marker V2 [1]-[1200]: Starting from bottom edge, marker line moves up as the value increases.

3-1-3. Function

Function	Scan	Aspect, Pixel To Pixel, Zoom
	Aspect	Full, 16:9, 1.85:1, 2.35:1, 4:3, 3:2, 1.3X, 2.0X, 2.0X MAG
	Display Scan	Fullscan, Overscan, Underscan
	Check Field	OFF, Red, Green, Blue, Mono
	Zoom	X1.5, X2, X3, X4
	Freeze	OFF, ON
	DSLR (HDMI)	OFF, 5D2, 5D3





-Scan –
Use this menu option to choose Scan mode. There are three modes preset:

- Aspect

  Select Aspect under Scan option, then use Aspect option to switch between several aspect ratio setting. For example:

  In 4:3 mode, images are scaled up or down to fill the maximum 4:3 portion of the screen.

  In 16:9 mode, images are scaled to fill the entire screen.

  In Full mode, images are scaled to fill the entire screen.
- Pixel to Pixel

  The pixel to pixel is a monitor set to 1:1 pixel mapping with native fixed pixels, which avoids loss of sharpness due to scaling artifacts and normally avoids incorrect aspect ratio due to stretching.
- Zoom

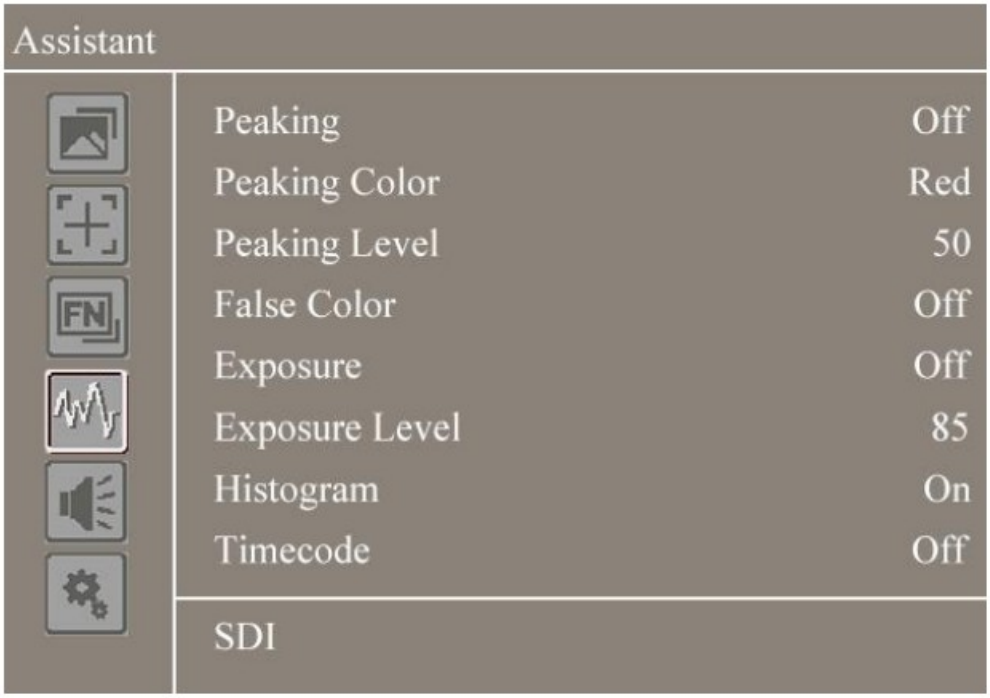
  The image can be enlarged by [X1.5], [X2], [X3], [X4] ratios. To select the [Zoom] under [Scan], choose the times under [Zoom] option which underneath the Check Field option.

  Note! Zoom option can ONLY be activated as user select [Zoom] mode under [Scan].

– Display Scan –
If the image shows size error, use this setting to zoom in/out pictures automatically when receiving signals.
The scan mode can be switched among [Fullscan], [Overscan], [Underscan].
– Check Field –
Use the check field modes for monitor calibration or to analyze individual color components of an image. In [Mono] mode, all color is disabled and only a grayscale image is shown. In [Blue], [Green], and [Red] check field modes, only the selected color will be shown.
-DSIR –

Use the DSLR Preset option to reduce the visibility of on screen indicators shown with popular DSLR cameras. The available options are: 5D2, 5D3.
Note! DSLR is available ONLY under HDMI mode.

3-1-4. Assistant



– Peaking –

The peaking is used to aid the camera operator in obtaining the sharpest possible picture. Select “On” to display colored outlines around sharp areas of the image.

– Peaking Color –

Use this setting to change the color of focus assist lines to [Red], [Green], [Blue], [White], [Black]. Changing the color of the lines can help make them easier to see against similar colors in displayed image.

– Peaking Level –

Use this setting to adjust the level of focus sensitivity from [0]-[100]. If there are plenty of details of image with high contrast, it will display lots of focus assist lines that may cause visual interference. So, decrease the value of peaking level to reduce the focus lines to see clearly. Conversely, if the image has less details with low contrast, it should be increase the value of peaking level to see the focus lines clearly.

– False Color –

This monitor has a false color filter to aid in the setting of camera exposure. As the camera Iris is adjusted, elements of the image will change color based on the luminance or brightness values. This enables proper exposure to be achieved without the use of costly, complicated external equipment.

– Exposure & Exposure Level –

The exposure feature helps the user achieve optimum exposure by displaying diagonal lines over areas of the image that exceed the setting exposure level.

The exposure level can be set to [0]-[100].

– Histogram –

The histogram shows the distribution of the luminance or the black to white information along a horizontal scale, and lets the user monitors how close the detail is to being clipped in the blacks or whites of the video.

The histogram also lets you see the effects of gamma changes in the video.

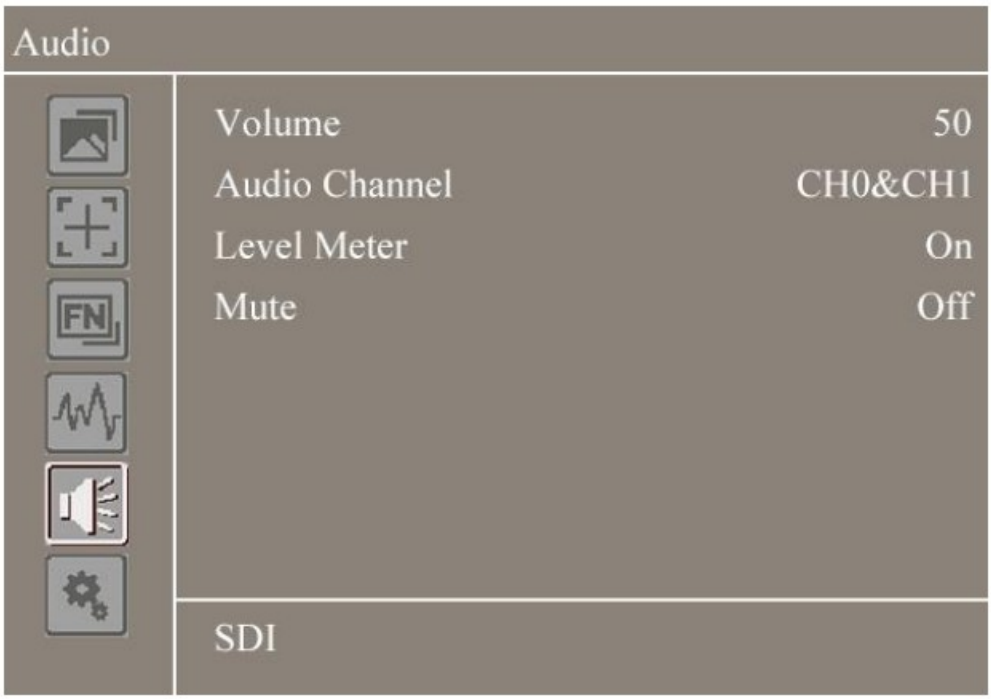
The left edge of the histogram displays shadows, or blacks, and the far right displays highlights, or whites. If monitoring the image from a camera, when the user closes or opens the lens aperture, the information in the histogram moves to the left or right accordingly. The user can use this to check “clipping” in the image shadows and highlights, and also for a quick overview of the amount of detail visible in the tonal ranges. For example, a tall and broad range of information around the middle section of the histogram corresponds to good exposure for details in the midtones of your image.

The video is likely being clipped if the information bunches to a hard edge at 0% or above 100% along the horizontal scale. Video clipping is undesirable when shooting, as detail in the blacks and whites must be preserved if the user subsequently wants to perform color correction in a controlled environment. When shooting, try to maintain the exposure so information falls off gradually at the edges of the histogram with most forming around the middle. This will give the user more freedom later to adjust colors without whites and blacks appearing flat and lacking in detail.

– Timecode –

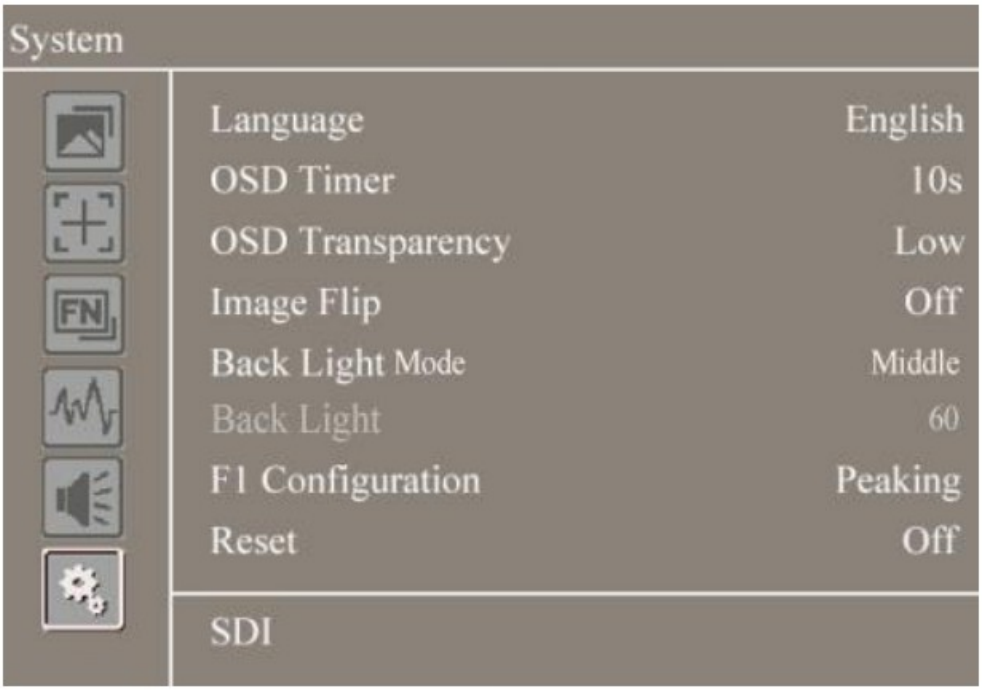
The type of timecode can be selected to display on the screen. [VITC] or [LTC] mode.
Note! Timecode is ONLY available under SDI mode.

3-1-5. Audio



– Volume –
To adjust the volume from [0]-[100] for the built in speaker and earphone jack audio signal.
– Audio Channel –
The monitor can receive 16 channels audio from SDI signal. The audio channel can be changed among [CHO&CH1], [CH2&CH3], [CH4&CH5], [CH6&CH7], [CH8&CHI], [CH10&CH11], [CH12&CH13], [CH14&CH15]
Note! Audio Channel is ONLY available under SDI mode.
– Level Meter –
The left side of the on screen meters displays level meters showing audio levels for channels 1 and 2 of the input source. It features peak hold indicators which stay visible for a short time so the user can clearly see the maximum levels reached.
To achieve optimum audio quality, ensure the audio levels do not reach 0. This is the maximum level, meaning that any audio that exceeds this level will be clipped, resulting in distortion. Ideally peak audio levels should fall in the upper end of the green zone. If the peaks enter into the yellow or red zones, the audio is in danger of clipping.
– Mute –
Disable any sound output when turn it off.

3-1-6. System



(OSD for SDI Model)

Note! The OSD of No SDI model contains “F1 Configuration” and “F2 Configuration” option, but SDI model only have “F1 Configuration”.

– Language –

Switch between [English] and [Chinese].

– OSD Timer –

Select the displaying time of the OSD. It has [10s], [20s], [30s] preset to choose.

– OSD Transparency –

Select the transparency of the OSD from [Off] – [Low] – [Middle] – [High] – Image Flip –

The monitor support [H], [V], [H/V] three preset Flip modes.

Original V H H/V

– Back Light Mode –

Switch between [Low], [Middle], [High] and [Manual]. Low, Midele and High are fixed backlight values, Man ual can be adjusted according to people’s needs.

– Back Light –

Adjusts the level of the back light level from [0]-[100]. If the back light value is increased, the screen becomes brighter.

– F1 Configuration –

Select F1 “Configuration” for setting. Functions of F1 button can also be customized: [Peaking] > [False Color] – [Exposure] > [Histagram] – [Mute] – [Level Meter] – [Center Marker] – [Aspect Marker] – [Check Field] – [Display Scan] – [Scan] – [Aspect] > [DSLR] – [Freeze] – [Image Flip] .

Default function: [Peaking] After set up it, the user can press F1 or F2 to pop up the function directly on screen.

– Reset –

If there is any problem unknown, press to confirm after selected. The monitor will return to default settings.

Accessories

4-1. Standard

1. HDMI A to C cable	1pc
2. Tally cable*!	1pc
3. User Guide	1pc
4. Mini Hot Shoe Mount	1pc
5. Suitcase	1pc

*1_Specification of tally cable:
Red Line — Red tally light; Green Line — Green tally light; Black Line — GND.
Short the red and black lines, a red tally light is shown at the top of screen as
Short the green and black lines, a green tally light is shown at the top of screen as
Short three lines together, a yellow tally light is shown at the top of screen as

Parameter

ITEM		No SDI Model	SDI Model
Display	Display Screen	7″ LCD	
	Physical Resolution	1920×1200	
	Aspect Ratio	16:10	
	Brightness	1800 cd/m²	
	Contrast	1200: 1	
	Pixel Pitch	0.07875mm	
	Viewing Angle	160°/ 160°(H/V)	
Power	Input Voltage	DC 7-24V	
	Power Consumption	≤16W	
Source	Input	HDMI1.4b x1	HDMI1.4b x1 3G-SDI x1
	Output	HDMI1.4b x1	HDMI1.4b x1 3G-SDI x1
Signal Format	3G-SDI LevelA/B	1080p(60/59.94/50/30/29.97/25/24/23.98/30sf/29.97sf/25sf/24sf/ 23.98sf) 1080i(60/59.94/50)	
	HD-SDI	1080p(30/29.97/25/24/23.98/30sf/29.97sf/25sf/24sf/23.98sf) 1080i(60/59.94/50) 720p(60/59.94/50/30/29.97/25/24/23.98)	
	SD-SDI	525i(59.94) 625i(50)	
	HDMI1.4B	2160p(30/29.97/25/24/23.98) 1080p(60/59.94/50/30/29.97/25/24/2 3.98) 1080i(60/59.94/50)	
Audio	SDI	12ch 48kHz 24-bit	
	HDMI	2 or 8ch 24-bit	
	Ear Jack	3.5mm	
	Built-in Speaker	1	
Environment	Operating Temperature	0℃~50℃	
	Storage Temperature	-10℃~60℃	
General	Dimension (LWD)	195×135×25mm	
	Weight	535g	550g

*Tip: Due to constant effort to improve products and product features, specifications may change without notice.

3D LUT Loading Demo

6-1. Format Requirement

- LUTformat

  Type: .cube

  3D Size: 17x17x17

  Data Order: BGR

  Table Order: BGR
- USB flash disk version

  USB: 20

  System: FAT32

  Size: <16G
- Color calibration document: lcd.cube
- User Log: Userl.cube ~User6.cube

6-2. LUT Format conversion

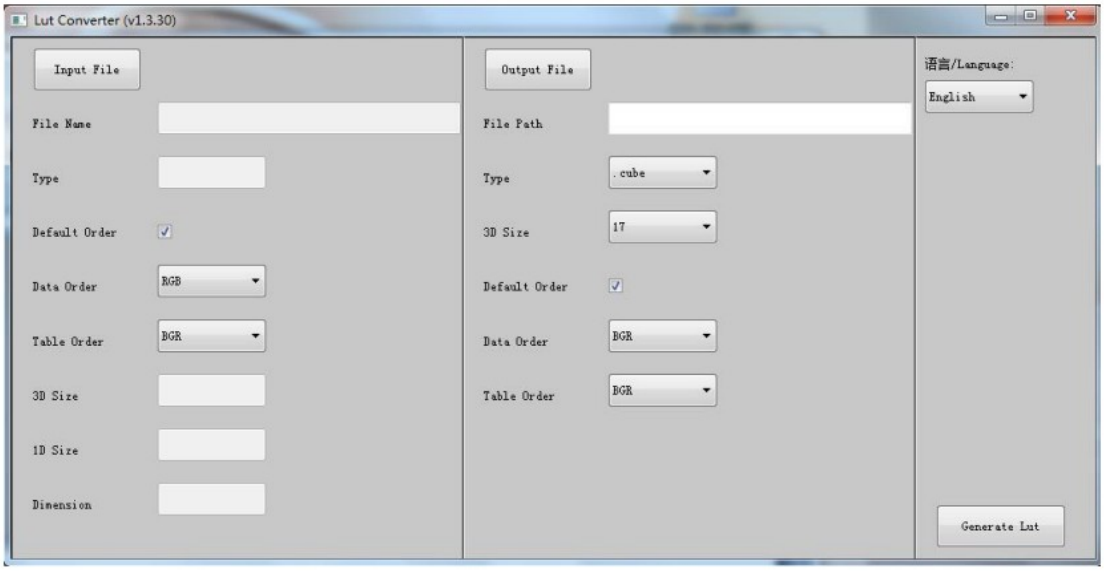
The format of LUT should be transformed if it doesn't meet monitor's requirement. It can be transformed by using Lut Converter (V1.3.30).

6-2-1. Software user demo

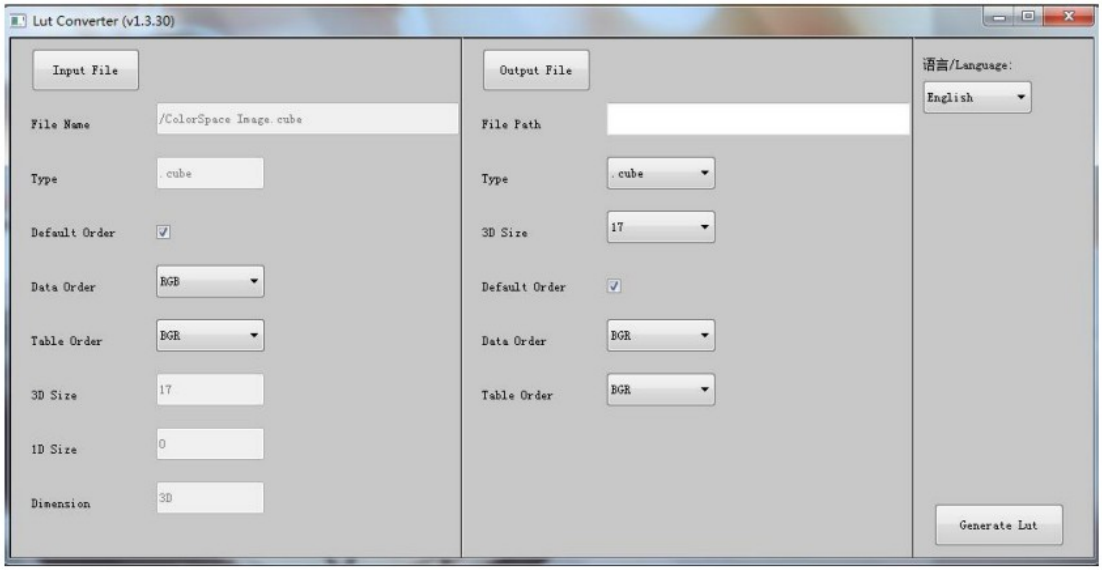
6-2-2-1. Activate Lut converter

One individual Product ID for one computer. Please send the ID number to Sales to get an Enter Key.
Then the computer gets the permission of the Lut Tool after input the Enter Key.

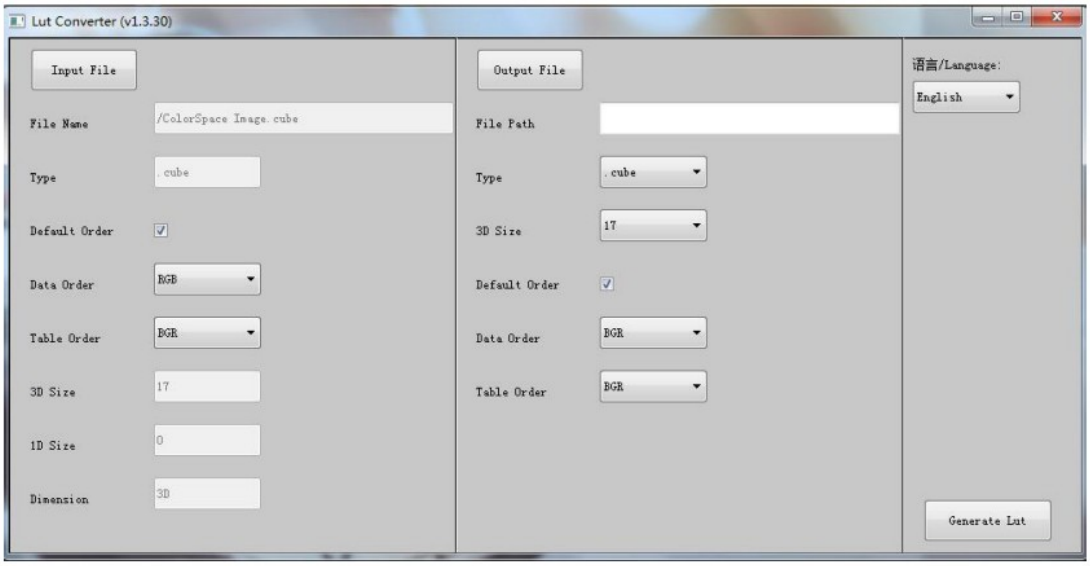
6-2-2-2. Enter the LUT Converter interface after input the Enter Key.



6-2-2-3. Click Input File, then select *LUT.



6-2-2-4. Click Output File, choose the file name.



6-2-2-5. Click Generate Lut button to finish.

6-3. USB Loading

Copy the needed files to the root directory of the USB flash disk. Plug the USB flash disk into USB port of the device after power on. Click “Yes” on the pop-up prompt window (If the device doesn’t pop-up the prompt window, please check if the LUT document name or the USB flash disk version meets monitor’s requirement.), then press Menu button to update automatically. It will pop-up a prompt message if the update completed.

Trouble Shooting

1. Only black-and-white display:

   Check whether the color saturation and check field are properly setup or not.
2. Power on but no pictures:

   Check whether the cables of HDMI, and 3G-SDI are correctly connected or not. Please use the standard power adapter coming with the product package. Improper power input may cause damage.
3. Wrong or abnormal colors:

   Check whether the cables are correctly and properly connected or not. Broken or loose pins of the cables may cause a bad connection.
4. When on the picture shows size error:

   Press [MENU] = [Function] = [Underscan] to zoom in/out pictures automatically when receiving HDMI signals
5. Other problems:

   Please press Menu button and choose [MENU] = [System] > [Reset] – [ON].

6. According to the ISP, the machine can not function properly:
   ISP for program upgrades, non-professionals do not use. Please reboot your device if press accidentally!
7. Image Ghosting:
   If continue to display the same image or words on the screen for a long period of time, part of that image or words may burn into the screen and leave a ghosting image behind. Please understand it ‘s not quality issue but the character of some screen, so no warranty/return/exchange for such situation.
8. Some options can not be select in the Menu:
   Some options are available only in a certain signal mode, such HDMI, SDI. Some options are available only when a certain feature is turned on. For example, Zoom function shall be set after following steps:
   [Menu] = [Function] > [Scan] – [Zoom] = [Exit] = [Function] – [Zoom].
9. How todelete 3D-Lut User camera log:
   The User camera log can not be deleted directly from the monitor, but can be replaced by reloading the camera log with same named.

Note: Due to constant effort to improve products and product features, specifications may change without priority notice.

AVIDEONE

Documents / Resources

	**AVIDEONE AH7S Camera Field Monitor** [pdf] User Guide AH7S Camera Field Monitor, AH7S, Camera Field Monitor, Field Monitor, Monitor

References

- **User Manual**