LEADER

LV 5330SER01

LV 7330SER01

HISTOGRAM & USER GAMMA DISPLAY

INSTRUCTION MANUAL

LEADER
ELECTRONIC MEASURING INSTRUMENTS

TABLE OF CONTENTS

1. INTRODUCTION

Thank you for purchasing this LEADER instrument. To use this instrument safely, read this instruction manual thoroughly, and make sure that you know how to use the instrument properly.

If some point about the operation of this instrument is still unclear after you have read this instruction manual, refer to the contact information on the back cover of the manual to contact LEADER, or contact your local LEADER agent.
After you have finished reading this manual, keep it in a convenient place so that you can refer to it when necessary.

1.1 Scope of Warranty

This LEADER instrument has been manufactured under the strictest quality control guidelines.

LEADER shall not be obligated to furnish the following free services during the warranty period.

1 Repair of malfunction or damages resulting from fire, natural calamity, or improper voltage applied by the user.
2 Repair of an instrument that has been improperly repaired, adjusted, or modified by personnel other than a factory-trained LEADER representative.
3 Repair of malfunctions or damages resulting from improper use.
4 Repair of malfunctions caused by devices other than this instrument.
5 Repair of malfunctions or damages without the presentation of a proof of purchase or receipt bill for the instrument.

1.2 Notations Used in This Manual

The key and other operations explained in this manual apply to the LV 5330, but you can also perform similar operations on the LV 7330.

2. SPECIFICATIONS

2.1 General

This option adds to the LV 5330/7330 the ability to display histograms, S-Log2, and user CINEZONE.
A dedicated license key is necessary for the installation of this option.

2.2 Specifications

2.2.1 Histogram Display

Display Modes	YGBR, YRGB, Y1023
YGBR, YRGB	8-bit data processing
Y1023	10-bit data processing
Error Display	Values that are less than 0 % or greater than or equal to 100.1 % are displayed as errors.
Error Display Colors	
Y	Red
GBR	Yellow
Histogram Brightness	-128 to 127
Scale Brightness	-8 to 7
Scale Unit	%, 3FF, 1023
Scale Color	White, yellow, cyan, green, magenta, red, blue

2.2.2 S-Log2 Display

Function	Picture display compatible with S-Log2 output signals
Input Signal Format	BT709, S-Log2, User-defined gamma
Picture display for BT709 input	No conversion, HIGH KEY, LOW KEY
Picture display for S-Log2 input	No conversion, 709 (800), HIGH KEY, LOW KEY
Display Format during User-Defined Gamma Input	709 (800), HIGH KEY, LOW KEY

2.2.3 User CINEZONE Display

Function	Displays the specified luminance level range using a specific color on an otherwise monochrome picture display
Number of User Data Entries	2 (USER A, USER R)
Luminance Level Range	-7.3 to 109.4%
Color	RED, ORANGE, YELLOW, STRAW, PINK, GREEN, TEAL, BLUE, PURPLE

2.2.4 General Specifications

Environmental Conditions	Same as the LV 5330/7330
Contents	License key ..... 1 Instruction manual 1

3. PREPARATION

3.1 Viewing the Firmware Version

This option can only be installed to an LV 5330/7330 whose firmware version is as indicated below.

Table 3-1 LV 5330/7330 versions

Model	Firmware Version
LV 5330	4.21 or later
LV 7330	3.81 or later

The firmware version is displayed in the upper right of the license screen. For the procedure to follow to display the license screen, see the next section.
You cannot install this option to an LV 5330/7330 whose firmware version is earlier (whose firmware number is lower) than the versions listed above. In such a situation, contact your local LEADER agent.

3.2 Installation

To use this option, you need to enter the license key. A license key is a code, which is supplied with this option, used to add optional features to the LV 5330/7330. Each LV 5330/7330 requires a unique license key. You cannot use the same key for multiple instruments.

To install this option, follow the procedure below.

1. **Press SYSTEM.**

   The system menu appears.

2. **Press F•4 INTRFACE&LICENSE.**

3. **Press F•4 LICENSE SETUP.**

   The license display appears.

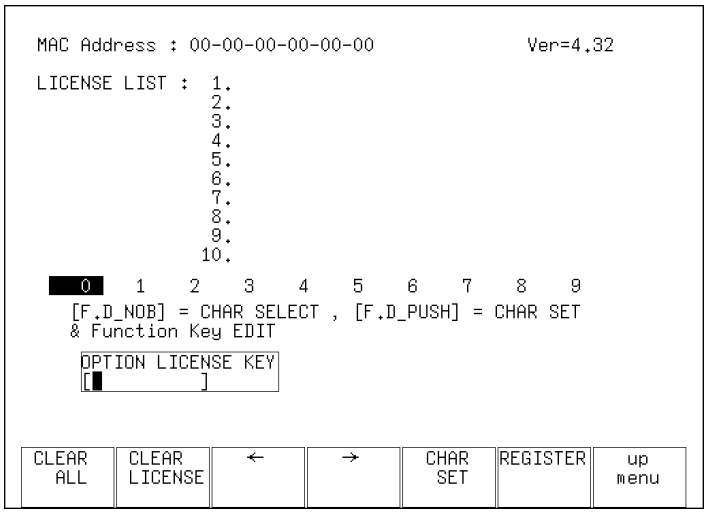


Figure 3-1 License display (before installation)

4. Enter the 10-digit license key number for the option that you want to install.

The key operations that you can perform in the license display are as follows:

F•1 CLEAR ALL: Deletes the license key that you are currently entering
F•3 ←: Moves the cursor to the left
F•4 →: Moves the cursor to the right
F•5 CHAR SET: Enters the selected number
F•D: Turn to select a number, and press to enter the number.

5. Press F • 6 REGISTER.

"ACCEPTED" appears after a license key has been entered correctly, and its corresponding option becomes usable. The name of the option that has been added appears in the LICENSE LIST.
"FAILED" appears if the license key is not correct. Reenter the license key correctly.

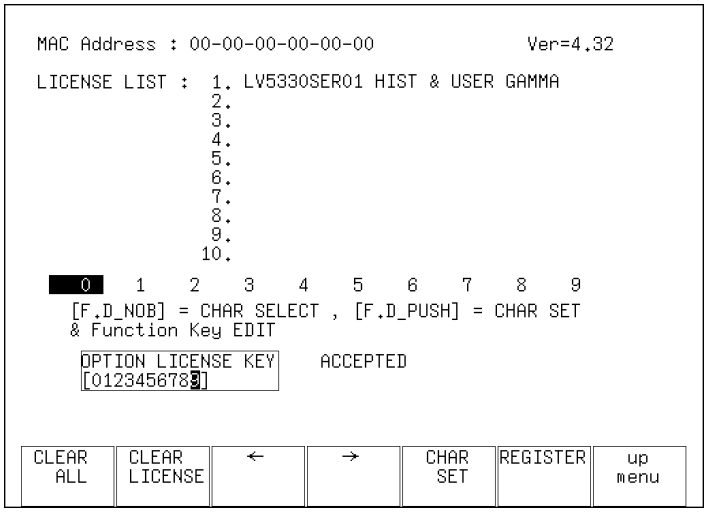


Figure 3-2 License display (after installation)

4. PROCEDURE

4.1 Histogram Display

You can use this option to display a histogram of the luminance and GBR signals. The histogram shows the distribution of the image data by plotting brightness on the horizontal axis and the number of pixels at each brightness level on the vertical axis. Dark points are displayed on the left of the histogram and bright points are displayed on the right.

On the histogram, values that are less than 0 % or greater than or equal to 100.1 % are displayed as errors. Luminance signal errors are displayed in red. GBR signal errors are displayed in yellow.

In the histogram display, the menu and the information displays at the top of the screen disappear approximately five seconds after the last operation is performed. To redisplay the menu and information, perform some kind of operation, such as pressing F•D.

To display the histogram, on the picture menu, press F•3 HIST. The histogram can be displayed when on the picture menu, SIZE is set to FIT. If SIZE is not set to FIT, F•3 HIST is not displayed.

PICTURE → F•7 next menu → F•3 ETC → F•3 HIST →

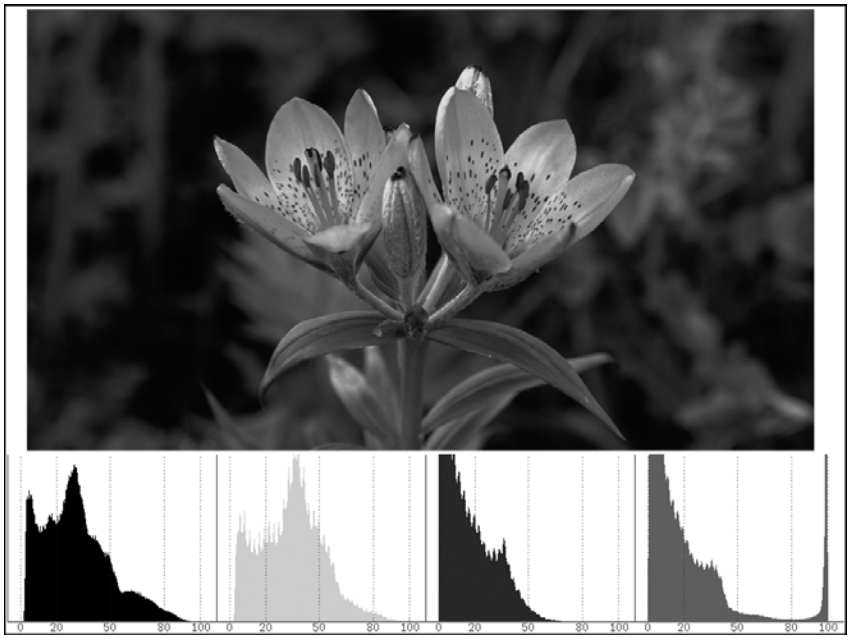


Figure 4-1 Histogram display

4.1.1 Setting the Histogram Brightness

To set the histogram brightness, follow the procedure below.
Press the function dial (F•D) to return the setting to its default value (127).

• Procedure

PICTURE → F•7 next menu → F•3 ETC → F•3 HIST → F•1 HIST INTEN

• Settings

Range: -128 to 127 (The default setting is 127.)

4.1.2 Setting the Scale Brightness

To set the scale brightness, follow the procedure below.
Press the function dial (F•D) to return the setting to its default value (4).

• Procedure

PICTURE → F•7 next menu → F•3 ETC → F•3 HIST → F•2 SCALE INTEN

• Settings

Range: -8 to 7 (The default setting is 4.)

4.1.3 Selecting the Scale Unit

To select the scale unit, follow the procedure below.

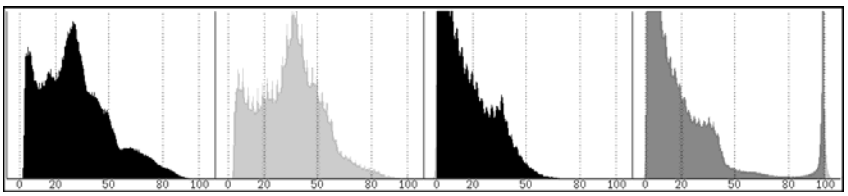
• Procedure

PICTURE → F•7 next menu → F•3 ETC → F•3 HIST → F•3 SCALE UNIT

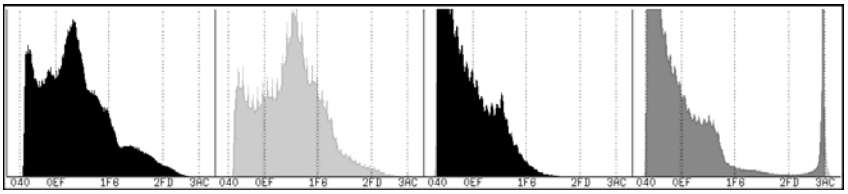
• Settings

%:	The scale shows percentages. This is the default setting.
3FF:	0 to 100 % is displayed as 040 to 3C0.
1023:	0 to 100 % is displayed as 64 to 960.

SCALE UNIT = %



SCALE UNIT = 3FF



SCALE UNIT = 1023

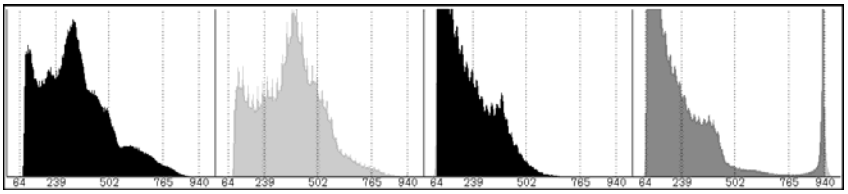


Figure 4-2 Selecting the scale unit

4.1.4 Selecting the Scale Color

To select the scale color, follow the procedure below.

• Procedure

PICTURE → F•7 next menu → F•3 ETC → F•3 HIST → F•4 SCALE COLOR

• Settings

WHITE:	The scale is displayed in white.
YELLOW:	The scale is displayed in yellow. This is the default setting.
CYAN:	The scale is displayed in cyan.
GREEN:	The scale is displayed in green.
MAGENTA:	The scale is displayed in magenta.
RED:	The scale is displayed in red.
BLUE:	The scale is displayed in blue.

4.1.5 Selecting the Display Mode

To select the display mode, follow the procedure below.

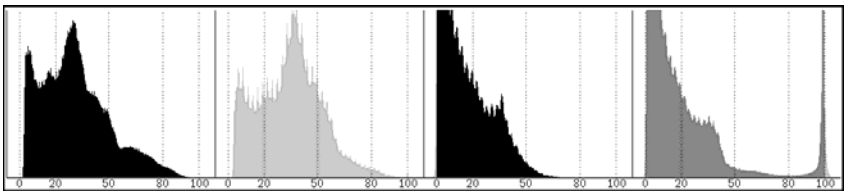
• Procedure

PICTURE → F•7 next menu → F•3 ETC → F•3 HIST → F•5 DISPLAY

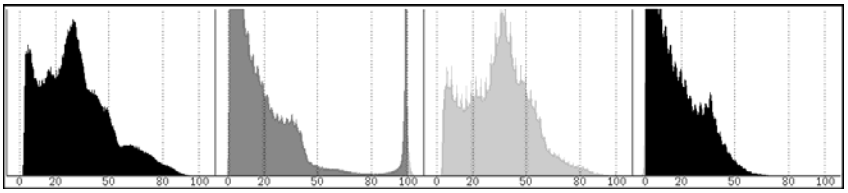
• Settings

YGBR:	Histograms of the luminance, G, B, and R signals are displayed, in that order. This is the default setting.
YRGB:	Histograms of the luminance, R, G, and B signals are displayed, in that order.
Y1023:	A histogram of the luminance signal is displayed.

DISPLAY = YGBR



DISPLAY = YRGB



DISPLAY = Y1023

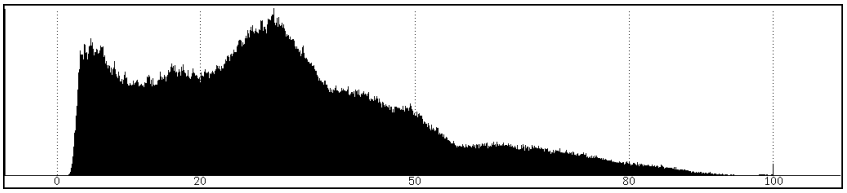


Figure 4-3 Selecting the display mode

4.2 S-Log2 Display

The S-Log2 feature can be used to show the picture display of S-Log2 output from Sony's CineAlta Camera F65. Set the F65 SDI output to S-Log2 and EI (Exposure Index) 800 before using this feature. Otherwise, the picture display will not be shown properly.

This option adds the S-Log2 menu to the picture menu. All the items on the S-Log2 menu are selected by toggling; pop-up menus do not appear.

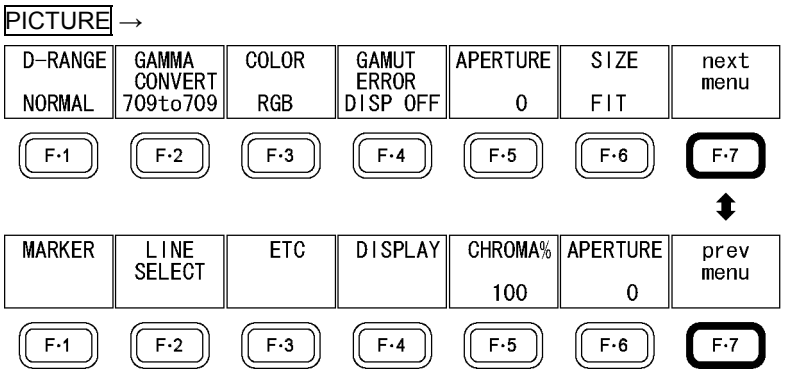


Figure 4-4 Picture menu

4.2.1 Selecting the Display Format

To select the picture display format, follow the procedure below.

• Procedure

PICTURE → F•1 D-RANGE
→ F•2 GAMMA CONVERT

• Settings (D-RANGE)

NORMAL:	The picture is displayed without highlighting the luminance. This is the default setting.
HIGH KEY:	Select this setting to view the gradations of the high luminance levels on the picture display.
LOW KEY:	Select this setting to view the gradations of the low luminance levels on the picture display.

• Settings (GAMMA CONVERT)

709to709:	Select this setting when you apply signals that comply with the gamma curve of BT709. This is the default setting.
SL2to709:	Select this setting to display S-Log2 signals to match the F65 709 (800).
SL2toSL2:	Select this setting to display S-Log2 signals without adjusting the gradation.
USRto709:	Select this setting to display the user-defined gamma signal in accordance with BT.709. To select the user-gamma type, use F•6 GAMMA on the CINELITE menu.

The display format varies depending on the F•1 D-RANGE and F•2 GAMMA CONVERT settings as shown below.

Table 4-1 Picture display formats

F•1 D-RANGE	F•2 GAMMA CONVERT (*2)	Display Format
NORMAL (default setting)	709to709 (default setting)	Displays BT709 compatible input without any adjustment
	SL2to709	Converts S-Log2 input to F65 709 (800) and displays the result
	SL2toSL2	Displays S-Log2 input without any adjustment
	USRto709	Converts the user-gamma input to BT.709 and displays the result
HIGH KEY (*1)	709to709	Displays the high luminance levels with less gain
	SL2to709	A display equivalent to the viewfinder display when the F65 is set to High Key (the gain of the high luminance level is reduced)
	SL2toSL2	
	USRto709	Displays the high luminance levels of the user-defined gamma input with less gain
LOW KEY (*1)	709to709	Displays the low luminance levels with higher gain
	SL2to709	A display equivalent to the viewfinder display when the F65 is set to Low Key (the gain of the low luminance level is increased)
	SL2toSL2	
	USRto709	Displays the low luminance levels of the user-defined gamma input with higher gain

*1 When F•1 D-RANGE is set to HIGH KEY or LOW KEY, the same result is displayed regardless of the F•2 GAMMA CONVERT setting.

*2 709to709 and SL2toSL2 produce the same display result.

4.2.2 Turning the RGB Signals On and Off

To turn the individual R, G, and B signals on or off, follow the procedure below.
This is equivalent to pressing, from the standard menu, PICTURE → F•7 next menu → F•4 DISPLAY → F•3 RGB.

• Procedure

PICTURE → F•3 COLOR: RGB / MONO / RG- / R-B / -GB / R-- / -G- / --B

4.2.3 Displaying Gamut Errors

To display the locations of gamut errors on the picture, follow the procedure below.
This is equivalent to pressing, from the standard menu, PICTURE → F•7 next menu → F•3 ETC → F•4 GAMUT ERROR.

• Procedure

PICTURE → F•4 GAMUT ERROR: DISP ON / DISP OFF

4.2.4 Setting the Aperture

To set the aperture, follow the procedure below.
This is equivalent to pressing, from the standard menu, PICTURE → F•7 next menu → F•6 APERTURE.

• Procedure

PICTURE → F•5 APERTURE: 0 to 200

4.2.5 Selecting the Display Size

To select the picture display size, follow the procedure shown below.
This is equivalent to pressing, from the standard menu, PICTURE → F•7 next menu → F•4 DISPLAY → F•1 SIZE.

• Procedure

PICTURE → F•6 SIZE: FIT / x1 / x2 / FULL

4.3 User CINEZONE Display

In the user CINEZONE display, the specified luminance level range is displayed using a specific color on an otherwise monochrome picture display. You can use this feature to highlight a specific luminance range, such as over level and skin tones.

Up to nine colors can be assigned to specific luminance levels. The luminance levels and assigned colors are displayed on the right of the display.

To display the user CINEZONE, on the CINEZONE menu, set F•1 MODE to USER A or USER R.

Figure 4-5 User CINEZONE display

The luminance level and color assignments are registered in USER A and USER R. To change the registered information, follow the procedure below.

1. **Press F•2 COLOR to select the color.**

   Select RED, ORANGE, YELLOW, STRAW, PINK, GREEN, TEAL, BLUE, or PURPLE.

2. **Press F•3 MARKING to turn the display on or off.**

   If you select OFF, the color selected with F•2 COLOR will not be displayed.

3. **If F•3 MARKING is set to ON, use F•5 UPPER% and F•6 LOWER% to set the corresponding luminance levels.**

   If the luminance level overlaps between colors, priority is given in order from RED to PURPLE.

4. **Repeat steps 1 to 3 to set all the colors.**

The default settings of USER A and USER R are shown below.

Table 4-2 Default settings of USER A and USER R

F•2 COLOR	USER A			USER R		
	F•3 MARKING	F•5 UPPER%	F•6 LOWER%	F•3 MARKING	F•5 UPPER%	F•6 LOWER%
RED	ON	109.4%	99.0%	ON	109.0%	108.0%
ORANGE	OFF	(99.0%)	(98.0%)	ON	108.0%	105.0%
YELLOW	ON	99.0%	97.0%	ON	105.0%	101.0%
STRAW	OFF	(97.0%)	(95.0%)	ON	97.0%	96.0%
PINK	ON	56.0%	52.0%	ON	58.0%	54.0%
GREEN	ON	42.0%	38.0%	ON	48.0%	44.0%
TEAL	OFF	(12.0%)	(9.0%)	ON	13.0%	9.0%
BLUE	ON	4.0%	2.5%	ON	4.0%	1.0%
PURPLE	ON	2.5%	-7.3%	ON	1.0%	-7.3%

MODE = USER A

MODE = USER R

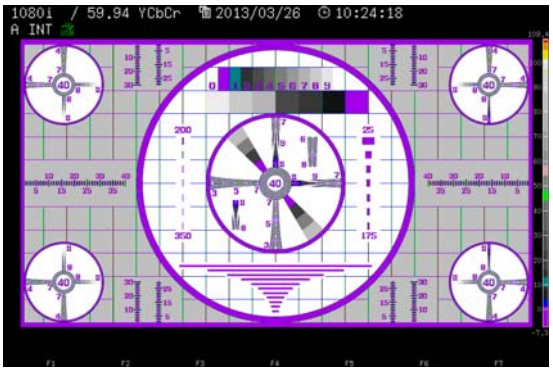


Figure 4-6 USER A and USER R

4.4 Remote Control

The TELNET commands and SNMP enterprise MIB traps for controlling the LV 5330/7330 remotely are indicated below.
For details about controlling the LV 5330/7330 remotely, see the instruction manuals for the LV 5330/7330.

Table 4-3 TELNET commands

Command	Parameters
PICTURE:D-RANGE	NORMAL / HIGH_KEY / LOW_KEY / ?
PICTURE:GAMMA_CONVERT	709TO709 / SL2TO709 / SL2TOSL2 / USRTO709 / ?
PICTURE:HIST:HIST_INTEN	-128 to 127 / ?
PICTURE:HIST:SCALE_INTEN	-8 to 7 / ?
PICTURE:HIST:DISPLAY	YGBR / YRGB / Y1023 / ?
CINEZONE:MODE	ZONE / SEARCH / USER-A / USER-R / ?
CINEZONE:COLOR	RED / ORANGE / YELLOW / STRAW / PINK / GREEN / TEAL / BLUE / PURPLE / ?
CINEZONE:MARKING	OFF / ON / ?

Table 4-4 LV 5330SER01 enterprise MIB

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l15picEtcTBL	l15pictureTBL.3	Aggregate	-	-
l15picHist	l15picEtcTBL.2	INTEGER	R/W	0=Hist
l15picHistTBL	l15picEtcTBL.3	Aggregate	-	-
l15picHistIntenHist	l15picHistTBL.1	INTEGER	R/W	-128 - 127
l15picHistIntenScale	l15picHistTBL.2	INTEGER	R/W	-8 - 7
l15picHistDisplay	l15picHistTBL.5	INTEGER	R/W	0=ygbr 1=yrgb 2=y1023
l15picDRange	l15pictureTBL.9	INTEGER	R/W	0=normal 1=high-key 2=low-key
l15picGammaConvert	l15pictureTBL.10	INTEGER	R/W	0=709to709 1=sl2to709 2=sl2tosl2 3=usrto709
l15cinezoneMode	l15cinezoneTBL.1	INTEGER	R/W	0=zone 1=search 2=user-A 3=user-R
l15cinezoneUserColor	l15cinezoneTBL.9	INTEGER	R/W	0=red 1=orange 2=yellow 3=straw 4=pink 5=green 6=teal 7=blue

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				8=purple
l15cinezoneUserMarking	l15cinezoneTBL.10	INTEGER	R/W	0=off 1=on

Table 4-5 LV 7330SER01 enterprise MIB

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l16picEtcTBL	l16pictureTBL.3	Aggregate	-	-
l16picHist	l16picEtcTBL.2	INTEGER	R/W	0=Hist
l16picHistTBL	l16picEtcTBL.3	Aggregate	-	-
l16picHistIntenHist	l16picHistTBL.1	INTEGER	R/W	-128 - 127
l16picHistIntenScale	l16picHistTBL.2	INTEGER	R/W	-8 - 7
l16picHistDisplay	l16picHistTBL.5	INTEGER	R/W	0=ygbr 1=yrgb 2=y1023
l16picDRange	l16pictureTBL.9	INTEGER	R/W	0=normal 1=high-key 2=low-key
l16picGammaConvert	l16pictureTBL.10	INTEGER	R/W	0=709to709 1=sl2to709 2=sl2tosl2 3=usrto709
l16cinezoneMode	l16cinezoneTBL.1	INTEGER	R/W	0=zone 1=search 2=user-A 3=user-R
l16cinezoneUserColor	l16cinezoneTBL.9	INTEGER	R/W	0=red 1=orange 2=yellow 3=straw 4=pink 5=green 6=teal 7=blue 8=purple
l16cinezoneUserMarking	l16cinezoneTBL.10	INTEGER	R/W	0=off 1=on

4.5 Menu Structure

The structure of the menu (excerpt) when this option is installed is shown below.
The sections enclosed in broken lines are the sections that are added or changed as a result of adding this option. The default settings are underlined.

4.5.1 Picture Menu

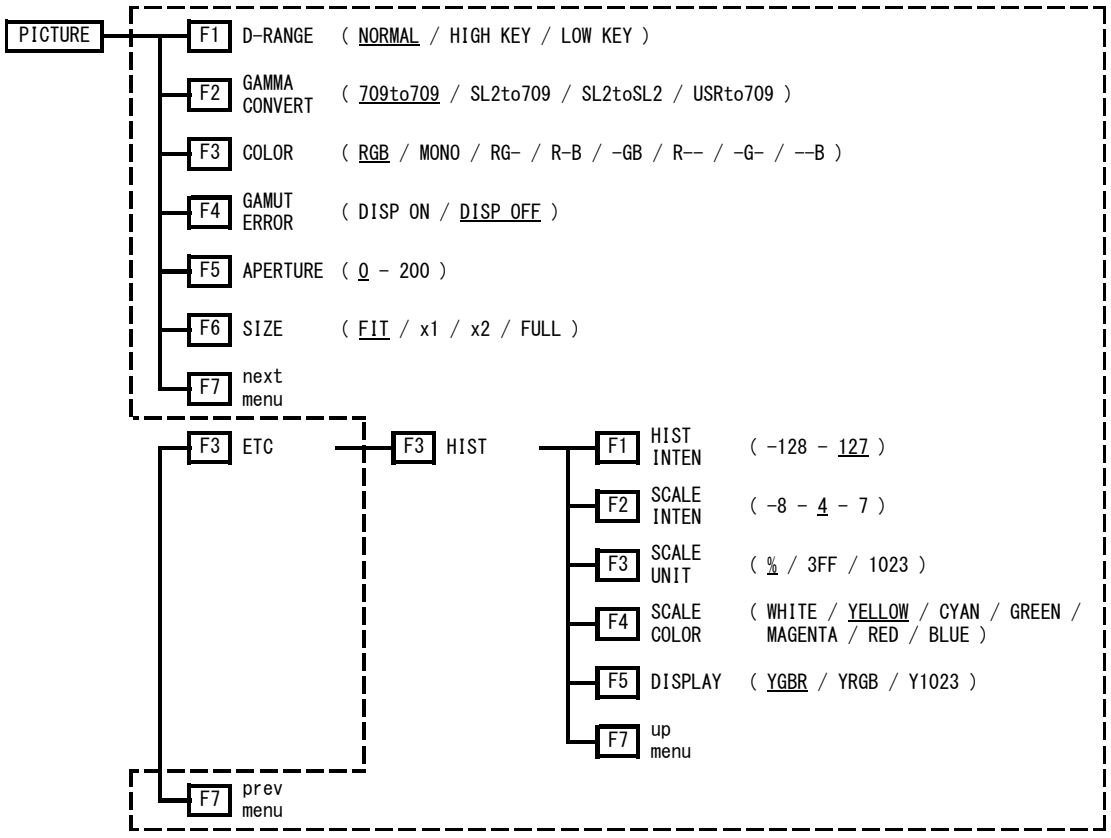


Figure 4-7 Picture menu

4.5.2 CINEZONE Menu

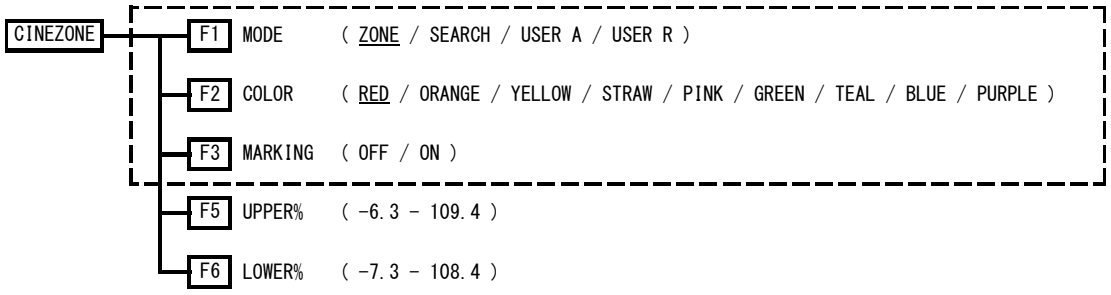


Figure 4-8 CINEZONE menu

5. CHANGE HISTORY OF THE SOFTWARE

This manual was written for the following firmware versions:

- Ver. 4.50 (LV 5330)
- Ver. 4.10 (LV 7330)

To view the firmware version, press SYS, F•4 INTRFACE&LICENSE, and then F•4 LICENSE SETUP.

Ver. 2.5 on the LV 5330 and Ver 2.0 on the LV 7330

- Support for LV 5330SER01/LV 7330SER01 (HISTOGRAM & USER GAMMA DISPLAY) was added.

Following information is for Chinese RoHS only

所含有毒有害物质信息

部件号码：LV 5330 SER01

此标志适用于在中国销售的电子信息产品,依据2006年2月28日公布的《电子信息产品污染控制管理办法》以及SJ/T11364-2006《电子信息产品污染控制标识要求》，表示该产品在使用完结后可再利用。数字表示的是环境保护使用期限，只要遵守与本产品有关的安全和使用上的注意事项，从制造日算起在数字所表示的年限内，产品不会产生环境污染和对人体、财产的影响。
产品适当使用后报废的方法请遵从电子信息产品的回收、再利用相关法令。
详细请咨询各级政府主管部门。

产品中有毒有害物质或元素的名称及含量

部件名称 Parts	有毒有害物质或元素 Hazardous Substances in each Part					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
本体部	×	○	○	○	○	○

备注）

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 规定的限量要求以下。

×：表示该有毒有害物质或元素至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。

Ver.1

Following information is for Chinese RoHS only

所含有毒有害物质信息

部件号码：LV 7330 SER01

此标志适用于在中国销售的电子信息产品,依据2006年2月28日公布的《电子信息产品污染控制管理办法》以及SJ/T11364-2006《电子信息产品污染控制标识要求》，表示该产品在使用完结后可再利用。数字表示的是环境保护使用期限，只要遵守与本产品有关的安全和使用上的注意事项，从制造日算起在数字所表示的年限内，产品不会产生环境污染和对人体、财产的影响。
产品适当使用后报废的方法请遵从电子信息产品的回收、再利用相关法令。
详细请咨询各级政府主管部门。

产品中有毒有害物质或元素的名称及含量

部件名称 Parts	有毒有害物质或元素 Hazardous Substances in each Part					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
本体部	×	○	○	○	○	○

备注）

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 规定的限量要求以下。

×：表示该有毒有害物质或元素至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。

Ver.1

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