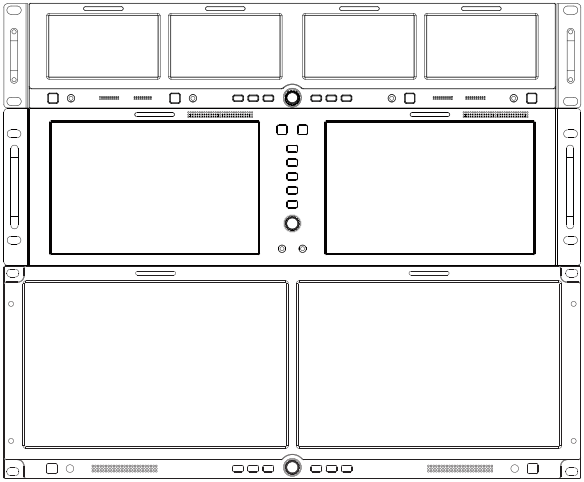
Konvision

V4.0



KRM-404U

KRM-802U

KRM-1002U

12G-SDI KRM 4K Series Rackmount
Konvision LCD Monitor

USER MANUAL

WWW.KONVISION.COM

Catalogue

About This Manual

The instructions in this manual are for KRM series Rackmount.
Please confirm the model number of the device before reading this manual.

Notes

Safety

For the safety use of products, please read the following instructions regarding the installation, use and maintenance carefully.

- Please read the product safety and operating instructions carefully before the product is operated.
- Please keep the safety and operating instructions for future reference.
- Please pay strict attention to the warnings and implement the products according to the operating instructions closely.
- All operating instructions should be strictly enforced.

1. Please use the power cord recommended by the manufacturer.
2. Please do not expose the product in high heat, humid, dusty, strong electric or magnetic environment to avoid fire or electric shot accident.
3. If there is any solid or liquid accidentally into the product, please unplug the power cord for instant and contact professionals for safety check, secure the condition can only for further operation.
4. Please make sure the earth terminal is good to avoid electric shock.
5. Please do not open the back cover to avoid electric shock. Please contact professionals for service needs.
6. Please do not touch the power plug with wet hands, as it will cause electric shock.
7. If do not use the device for a long time, please unplug the power cord from the AC outlet.
8. To disconnect the power cord, please hold the plug and pull it out. Do not drag the cord.
9. The power supply should be placed near the product for convenience.
10. Please keep not less than 5cm space around the vents while using the monitor to obtain a good heat dissipation effect.

Screen Maintenance

Please follow the below guidelines carefully to prevent discoloration, stains and scratches on the screen:

- Avoid striking the screen with any object.
- Do not wipe the screen hard.
- Do not wipe the screen with solvents such as alcohol, thinner or gasoline.
- Do not expose the screen to sunlight direct for a long time. Otherwise, the screen may be damaged or aged.
- Do not spray detergent or other cleaners on the monitor or LCD panel, as it may cause fault because of water droplets into the monitor.
- Do not paste or stick any viscous markers on the screen. For the more difficult cleaning, use lint free cloth that has been very lightly dampened with detergent, then dry any excess moisture from the monitor or LCD panel immediately to prevent damage.

LCD and OLED Screen Note

- The monitor may appear unrecoverable residual images, when it switches to other signals after displaying the same images for a long time, even if the images is in a moving video, such as still LOGO or still characters etc. Please use a screen saver or timer to avoid displaying the same images for a long time.

Importance

Long-term using the product under following circumstances may cause panel burning damage and remain residual image, please be cautious using:

- Exclusive still images.
- Television test pattern, such as color bars.
- Safety area, audio level, waveform, vector scope, etc.
- Image with frames(including multiview windows)

The reasons of burning residual images occur are same as they occur on other third party OLED product, the damages cite in this note will not be suitable for warranty policy.

When the following situations occur, please turn off the power, do not insert the plug and contact a professional service staff to deal with it in a timely manner.

1. This product smells of smoke and off-flavor.
2. When this product displays abnormal operating conditions, such as there is no picture or sound.
3. When any liquid is splashed into the product or product dropped.
4. When the product soaked or fell into the water.
5. When the product has been damaged or other damage circumstances.
6. When the power cord or plug is damaged.

The following does not belong to failures:

1. If the static image displayed too long, it will have residual image, which should be attributed to the characteristics of LCD display but not a failure. Residual image will disappear automatically after a period.

3. LCD screen may appear tiny spots (red, blue or green), this is not a fault, LCD screens are manufactured with high precision technology, and a small number of pixels may not be able to show intermittent.
4. Screen and cabinet will become warm gradually during operation.

Smear

· Display constant signal or/and patterns may cause picture smear or/and flick on the monitor screen due to the construction design and material properties of the LCD panel. If the situations occurred, please display white pattern or motion pictures in a while.

Cabinet Maintenance

Please follow the guidelines below to prevent potential damage.

1. Do not wipe the cabinet with solvents such as alcohol, thinner or gasoline.
2. Do not wipe the cabinet hard. Use a soft, lint free cloth to clean. If the cabinet cleaning is more difficult, use lint free cloth that has been very lightly dampened with detergent and then dry it to wipe.

Installation

· Keep adequate air circulation to prevent device internal overheating.
· Please do not place the product on the surface of some certain objects (such as blankets, carpets, etc.), as these objects may block the vents.
· Please keep the device away from heat generating sources, such as radiator, heaters and air duct, also keep it away from much dust or mechanical vibration.
· Please disconnect the power source and cord when move the device.

Rack mount Installation

For rack mount installation, please keep 1U space from both top and bottom to make sure, adequate air circulation, or install an external electric fan. Please follow the instructions and install with the rack mounts provided by the manufacturer.

Cable connection

· Please do not connect the cables and power cord to the front of the monitor, the plug may be overloaded.
· Please do not place the headphone close to the surface of the monitor when using it, the headphone may play noise.

Connect to other devices

· When connect the monitor to other devices, please turn off the power of the monitor and other devices, if the connection is operated with power on, it may cause failure of the monitor or other devices.

Transportation

· Please use professional packing material to transport this monitor. Do not let the monitor transport under strong quake or fierce shock, otherwise it may cause inner or outer construction damage, hardware failure or screen damage.

What's Inside

Please check following item included inside package:

· Monitor
· Power cord, screws
· User Manual, certification

Specification

The KRM 4K series monitors have several specifications:

Rack Mount Unit Monitoring

The KRM 4K monitors can perfectly be installed in any rack unit facility. To start monitoring, only need to connect the power supply and video source.

Multi Definition Support

The KRM 4K monitors support SD, HD and Ultra HD video signal to be compatible with multiple environments.

Multi I/O Connection

The KRM 4K monitors equip with HDMI, SDI, USB Type-C, RS-422/GPI, LAN, compatible with other kinds of device connection.

One Key for All

The KRM 4K monitors have control keys in the front, all screens can use the same keys for operation, only need to press down the SEL key to select the target screen, or press down multiple SEL keys to operate the menus, audio levels, shortcuts simultaneously.

Wide Gamut

The KRM 4K monitors are calibrated with advanced 3D LUT application, guaranteed accurate display of EBU, ITU and DCI standard.

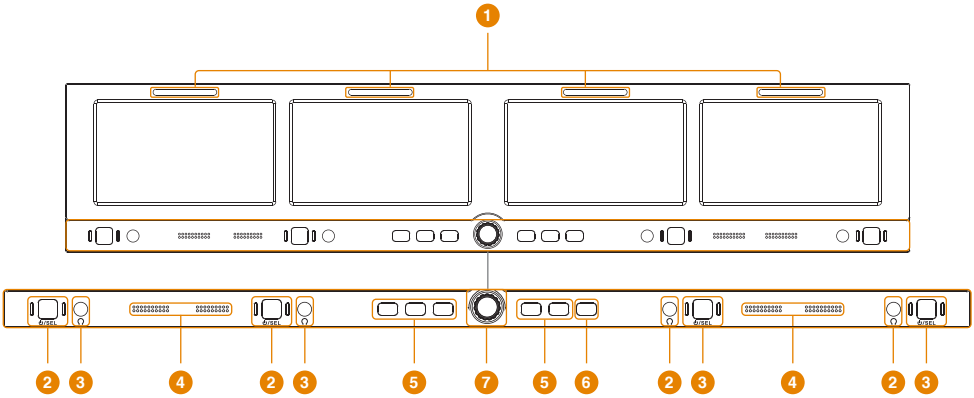
Friendly Handles

The KRM monitors have ergonomic designed handles for fast, user-friendly modification.

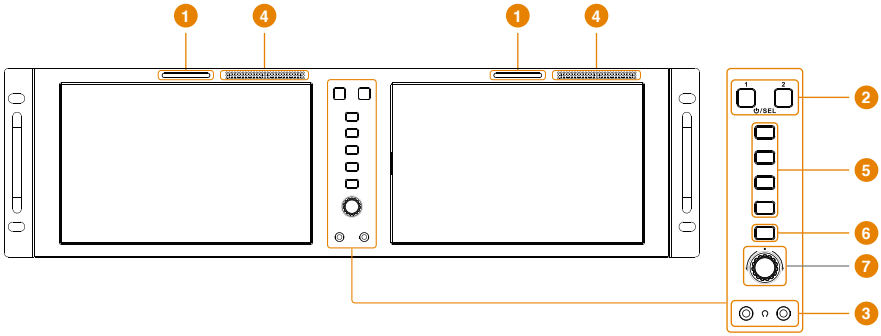
Parts and Functions

Front View

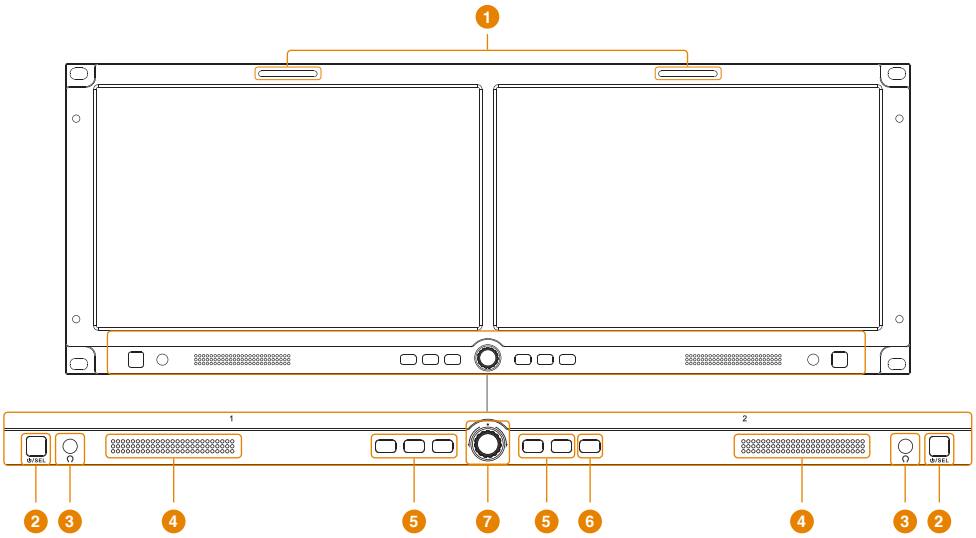
KRM-404U Front View: (Note: Screen selection by ⏻/SEL keys)



KRM-802U Front View: (Note: Screen selection by ⏻/SEL keys)



KRM-1002U Front View: (Note: Screen selection by ⏻/SEL keys)



Instruction of KRM-404U, KRM-802U, KRM-1002U front panel

1 Tally

Tally controlled by RS422 and GPI.

2 ⏻/SEL

- When connecting to power source, the monitor will automatically turn on, the power indicators will flash red, then turn to blue while the welcome animation showing on the screens, the indicators will turn off when enter the home page.
- Short press the ⏻/SEL key can control the indicator on/off, when the blue indicator lights up, operation menu and function keys are activated.
-Long press the ⏻/SEL key for 3s can turn off the monitor, then long press it for 3s again can turn on the monitor.

3 Headphone Jack

3.5mm headphone output.

4 Speaker

Speaker audio output.

5 Function Keys

Press down the function keys to use shortcuts, KRM-404U and KRM-1002U have 5 function keys, F1-F5, KRM-802U have 4 function keys, F1-F4, functions binding can be set in the OSD menu.

6 MENU

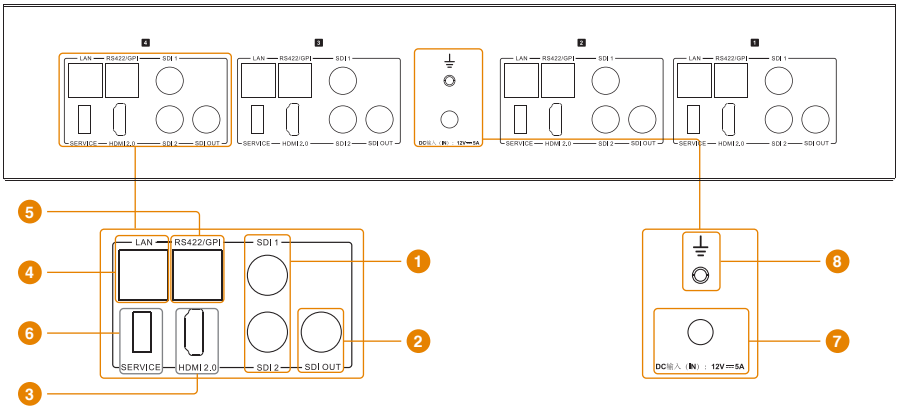
-Press down the MENU key can display OSD menu, press again to exit.
- When operating in the sub menu, press down the MENU key to return to the previous menu.

7 Knob

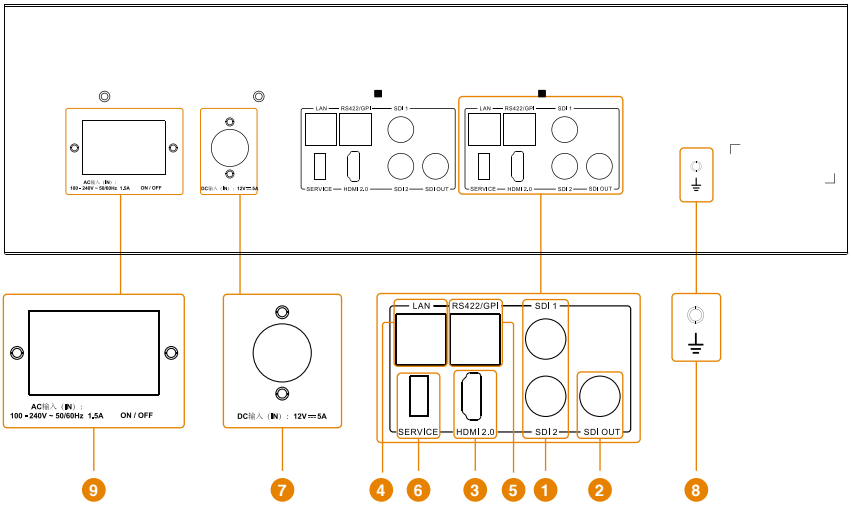
- When the OSD menu is not displaying, rotate the knob to adjust the audio level, press down the knob can mute the sound.
- When the OSD menu is displaying, rotate the knob to select the menu items, press down the knob to confirm operation.

Rear View

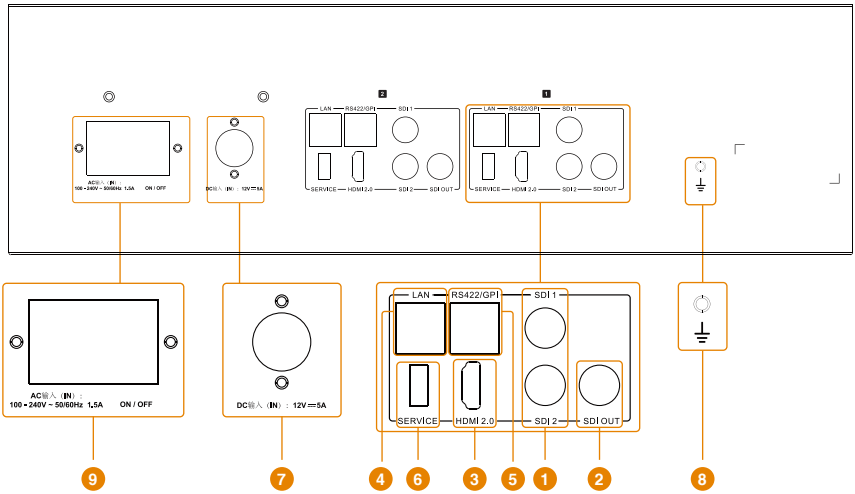
KRM-404A: (Note: Silk prints 1 2 3 4 respectively indicate the first, second, third and fourth screen I/O instruction.)



KRM-802U: (Note: Silk prints 1 2 respectively indicate the first, second, third and fourth screen I/O instruction.)



KRM-802U: (Note: Silk prints 1 2 respectively indicate the first, second, third and fourth screen I/O instruction.)



Rear View Instruction

1 SDI IN
SDI signal input, SDI1 and SDI2 lanes input selection.

2 SDI OUT
SDI signal output, SDI1 and SDI2 lanes output selection.

3 HDMI 2.0
HDMI 2.0 Input.

4 LAN
Ethernet port for program update of each screen.

5 RS422/GPI
RS422 in and out. RS422 control adoptive TSL3.1 or TSL4.0 protocol. According to this protocol, it supports dynamic UMD/Tally control. (RS422 interface, 8bit data, 1 stop, even parity, 38400 baud)

6 SERVICE
USB port for program update of each screen.

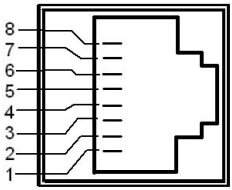
7 DC 12V IN
DC 12V power in.

8 Ground Connection
Outer shell grounding port.

9 AC In and switch
When connecting to AC power source, switch to I to turn on the monitor, switch to O to turn it off.

RS422 IN and RS422 OUT

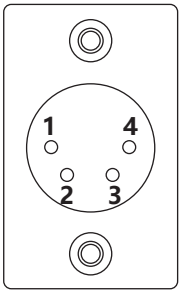
RS422/GPI Interface:



Pin	GPI Signal	RS422 OUT Signal name
1	GPI1	When connect GND (or lower level), GPI 1 works, GPI 1 function can be set in the menu function option.
2	GPI2	When connect GND (or lower level), GPI 2 works, GPI 2 function can be set in the menu function option.
3	GPI3	When connect GND (or lower level), GPI 3 works, GPI 3 function can be set in the menu function option.
4	RX+	RS422 receive + port for controlling UMD and Tally
5	RX-	RS422 receive - port for controlling UMD and Tally
6	GPI4	When connect GND (or lower level), GPI 4 works, GPI 4 function can be set in the menu function option.
7	NC	Not connect.
8	GND	\

Note RX+ and RX- for receiving RS422 command signal to control UMD.

DC 12V IN Interface:



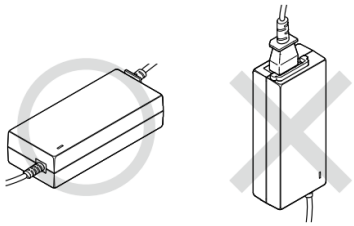
Pin	Description
Pin 1	GND
Pin 2	NC
Pin 3	NC
Pin 4	12V

Physical Operation

Connecting to Power Cord

1. Check the models with AC In port and its I/⏻ switch are setting to ⏻ (Standby Status).
2. Connect the DC adaptor to the DC In port on the rear panel completely until it is locked.

Note Please make sure the DC adaptor is putting on a level ground, use wire binder to regular the adaptor to avoid falling.



3. Connect the AC power cord to the DC adaptor.
4. Connect the power plug to the socket.

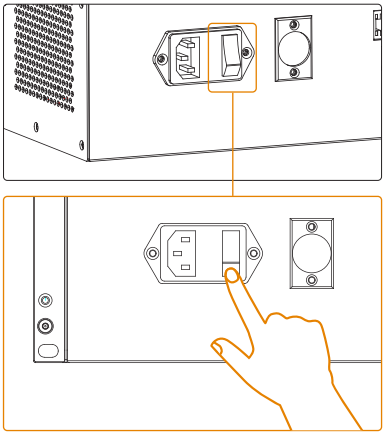
Remove the Power Cord

1. For models with AC In port and I/⏻ switch, switch ⏻ to and the device will be set to standby status,pull out the power cord from the DC adaptor, then pull out the adaptor form the device.
2. For models only with DC In port, turn off the power of the socket, and pull out the power cord from the device.

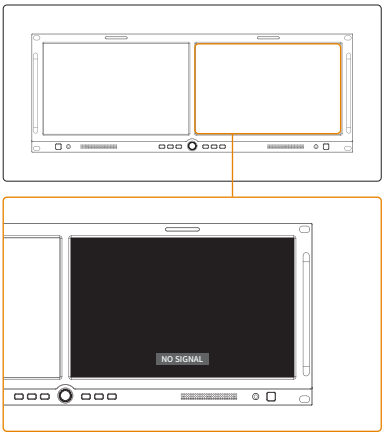
Power On/Stand By

Power On

1. When connecting to the power source, set the I/⏻ switch to I.

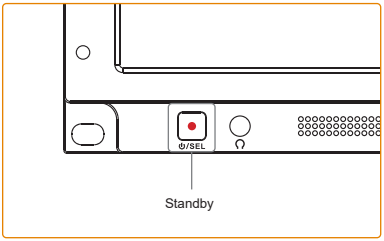


2. The ⏻/SEL indicators on the front panel will flash red and turn off, seconds later the screen will display welcome animation, while the ⏻/SEL indicators turn blue and turn off, the monitor is on, enter the main screen interface, if there were no signal input, the screen would display “NO SIGNAL” sign.



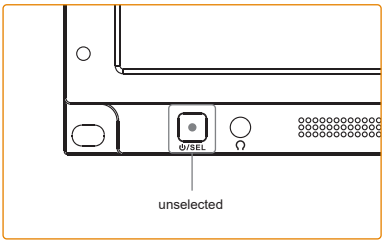
Stand By

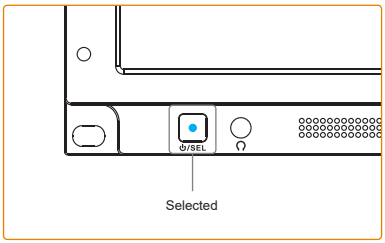
Long press the ⏻/SEL key for about 3 seconds, the monitor will enter into standby mode, the ⏻/SEL indicator turn red, press it again to turn on the monitor.



OSD Menu Operation

All function keys and menu keys should be activated when the SEL key be selected.





Source

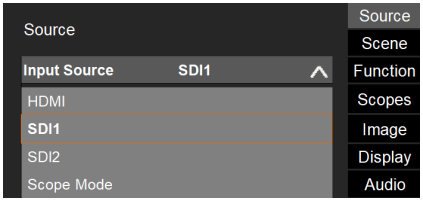
Input Source

Video signal from cameras or other source can be input into the monitor through cables and displayed, use the knob to select input as HDMI, SDI or Waveform Scope mode.

Item	Description
HDMI	High-Definition Multimedia Interface for transmitting uncompressed video data and compressed or uncompressed digital audio data from a source device, such as a display controller, to a compatible computer monitor, video projector, digital television.
SDI1	Serial digital interface is used for transmission of uncompressed, unencrypted digital video signals(optionally including embedded audio) between professional video devices such as cameras and monitors.
SDI2	
Scope Mode	Display the waveform scopes from another screen. **Note** Corresponding waveform scopes should be enabled in the scopes menu.

How to choose different source:

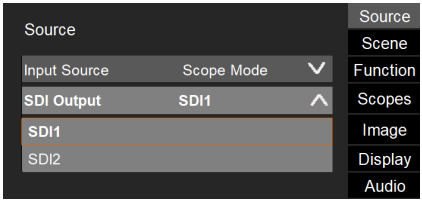
1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Source item and press the knob to open the sub menu.
3. Rotate the knob, select the Input Source item and press the knob to select different source.



SDI Output

Output the SDI signal from the monitor to other devices for further processing or multiview.
This function extends the flexibility of monitoring system, in a complex system, the signal output can be used in maintenance such as troubleshooting, system testing. The output selections include SDI1&SDI2.

Note Select the Input Source to HDMI or Scope Mode to activate the SDI Output.

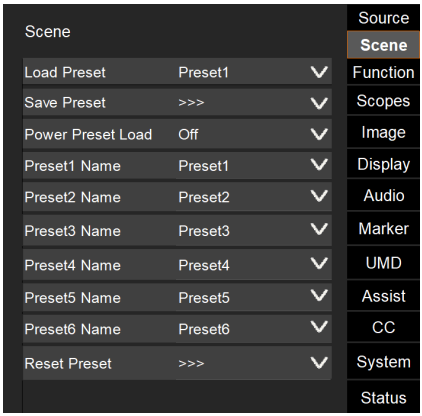


Scene

Users can save the frequently used settings to the preset slots to quickly enable them. Supporting to 6 presets, the name of preset can be customized.

How to set the preset:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scene item and press the knob to open the sub menu.
3. Rotate the knob, select the Load Preset item and press the knob to select different presets to load.



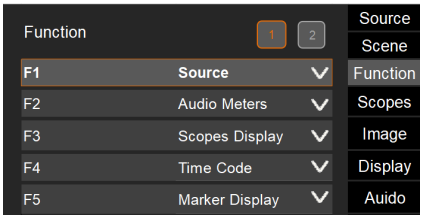
Function

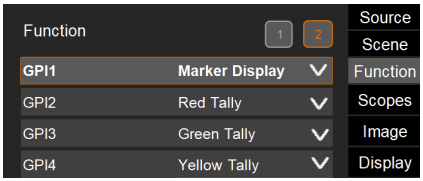
Function keys can be set to quickly enable special functions of the monitor and promote the efficiency and convenience.
Function keys and GPI function can be set in the Function menu.
Function keys can be set to Undefined, Input Source, Waveform Scopes, Audio Meter, Data Level, Color Space, EOTF, Color Temperature, Focus Assist, False Color, Zebra, Timecode, Blue Only, Mono, Red Only, Green Only, Marker, UMD, CC.
GPI can be set to Undefined, Marker, Red Tally, Green Tally, Yellow Tally, Blue Only, Mono, Red Only, Green Only.

Note KRM-404U and KRM-1002U have 5 function keys KRM-802U has 4 function keys.

How to set the preset:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Function item and press the knob to open the sub menu.
3. Rotate the knob, select different F keys or GPI items and press the knob to select different functions to bind.





Scopes

Waveform scope is a monitoring method that processes the luminance and chrominance information into visualized graphs and data, helping users analyze and modify the quality of images more accurately. The monitor scopes are waveform, vector, histogram, audio phase.

Note When the source is set to HDMI, the Scopes function is invalid.

Scopes Display

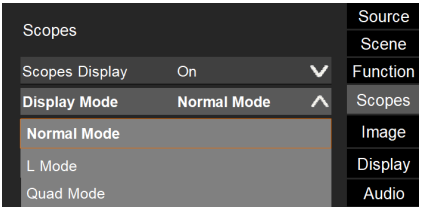
There are 3 display modes of the KRM monitors: Normal Mode, L Mode and Quad Mode.

Note The various display modes are not suitable for KRM-404U.

Item	Description
Normal Mode	Scopes display side by side on the bottom of the screen that overlay on the images, up to 5 scopes can be displayed once.
L Mode	Scopes display side by side on the bottom of the screen that overlay aside from the images, 5 scopes can be displayed once, the right side of the screen displays the Payload ID information of the signal.
Quad Mode	The screen is quartered with the image displaying on the top left area and the scopes displaying on the other three area, up to 3 scopes can be displayed once. **Note** Only the first three channel scopes can be displayed.

How to set the scopes display mode:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select the Scopes Display item and press the knob to turn it on.
4. Rotate the knob, select Display Mode items and press the knob to select different modes.

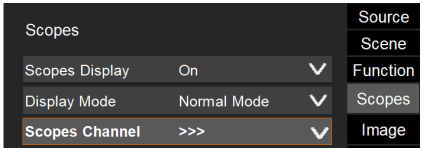


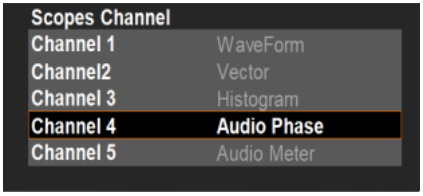
Scopes Channel

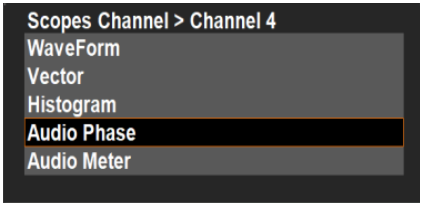
The KRM monitors supports setting waveform, vector, histogram, audio phase, audio level in different scopes channels, using scopes display mode and Scope Mode in the Source menu, users can display images on one screen and scopes on another for more convenient monitoring and postproduction workflow.

How to set the Screen 2 to display the scopes of Screen 1:

1. Input the video signal to the Screen 1, loop out to the Screen 2.
2. Press down the ⏻/SEL key to select Screen 2, press ☰ key to display the OSD menu, rotate the knob to select the Source item and press the knob to open the sub menu.
3. Set the Input Source to Scope Mode, press ☰ key to return to the main menu.
4. Rotate the Knob, select the Scopes item and press the knob to open the sub menu.
5. Rotate the Knob, select different scopes in the Scopes Channels, the ceiling of the scopes display simultaneously is decided by the Display Mode.







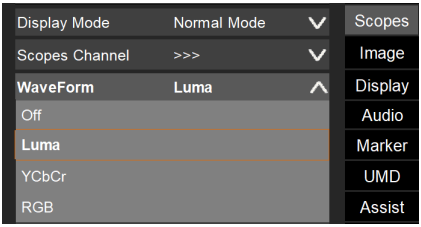
Waveform

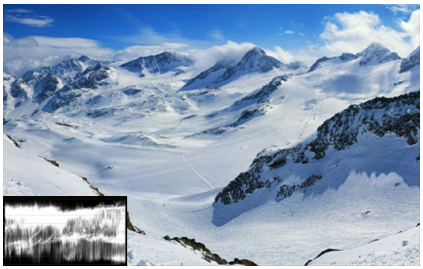
The waveform display provides a digitally encoded waveform similar to traditional luminance waveform monitors, which is used to monitor and adjust the luma, or brightness, levels of your video signal. Three waveforms: Luma, YCbCr and RGB.

Item	Description
Luma	L Luma waveform indicates the luminance information of the video signal, precisely processing each frame to the luminance graph that tells the dynamic range of the image, helps user analyze the contrast and exposure.
YCbCr	Y is the luma component and Cb and Cr are the blue-difference and red-difference chroma components, YCbCr shows the luma and the chroma information and is helpful for calibrating a video signal's chroma values, also compatible to the traditional black and white TV. YCbCr waveform is widely used in digital video system, such as TV station, video conference.
RGB	RGB waveform shows luminance information of Red, Green, Blue separately, analyze 3 waveforms can assess the luminance balance of the 3 color channels to adjust white balance and the accuracy of the color.

How to display different waveforms:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select WaveForm item and press the knob to open the sub menu, select different waveforms.





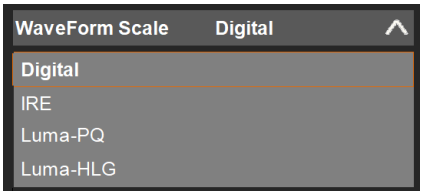
Waveform Scale

Waveform Scale is a useful measurement and monitoring tool for luminance and chrominance information in the production and television industry. Read the information according to the waveform scale to assess the video quality and broadcast compliance.
Four waveform scales: Digital, IRE, Luma-PQ and Luma-HLG.

Item	Description
Digital	Measurement for digital video, using 0-1023 range to represent the digital level, mainly used in digital video system, including HD and UHD production.
IRE	The IRE unit is used in the measurement of video signal, the scale ranges from 0 to 100, with 0-7.5 representing complete black and 100 representing the reference white, part over 100, such as 110 or 120 IRE representing brightness white, the IRE scale can help exposure assist of SDR production, also is the commonly used exposure standard in TV production.
Luma-PQ	Waveform scale for ST 2084 EOTF, ranges in a larger dynamic level, used for film and advanced TV production such as HDR10, HDR10+ and Dolby Vision.

How to set different waveform scales:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select the WaveForm Scale item and press the knob to select different scales.

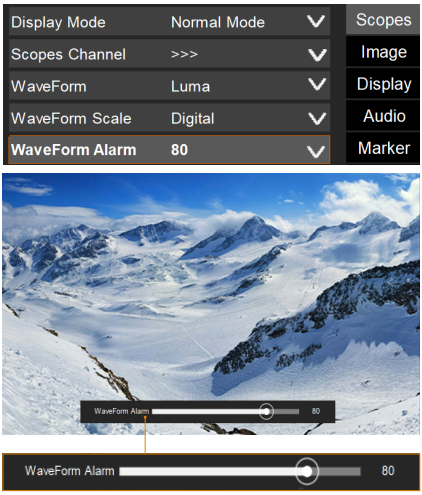


Waveform Alarm

Set a safety range of the waveform, when the luminance and chrominance level over the range, the alarm will be activated, a red part display on the waveform. Set the alarm level in a rational value can help adjust the exposure so that the efficiency will be promoted.

How to set the waveform alarm:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select the WaveForm Alarm item and press the knob to set different value.



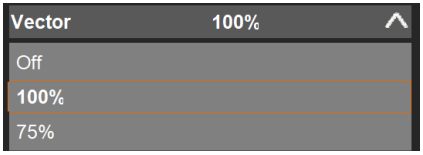
Vector

Vectorscope shows the colors in a vector view. Professionals can assess the color performance. Vectorscope can indicate the color accuracy. If some areas in the vectorscope had deviated, it might mean the headend device or the signal transmission cause failure. Two vectorscope scale: 100% and 75%.

Item	Description
100%	100% vectorscope usually indicates high saturation and the maximum amplitude, assessment to the color range of the signal can be covered to any level. Also, 100% vectorscope can indicate color synchronizing signal more accurately, compatible for strict demand of color accuracy, such as film production and editing.100% vectorscope usually indicates high saturation and the maximum amplitude, assessment to the color range of the signal can be covered to any level. Also, 100% vectorscope can indicate color synchronizing signal more accurately, compatible for strict demand of color accuracy, such as film production and editing.
75%	75% vectorscope reduces 25% amplitude, is suitable for broadcast-safe monitoring.

How to set different vectorscopes:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select the Vector item and press the knob to set different scale.



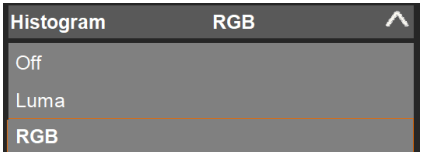
Histogram

Histogram is the instant indicator of luminance and chrominance for adjusting exposure and color. It shows the distribution of whites and blacks of the video. Two mode of the histogram: Luma and RGB.

Item	Description
Luma	The Luma histogram shows the distribution of the luminance or the black to white information along a horizontal scale, and lets you monitor 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. 1. Shadows: The left edge of the histogram, if the graph mostly centralized on the left side, indicated that the image was dark. 2. Midtone: The middle area of the histogram, if the graph mostly centralized in the middle, indicated that the image was under a good exposure. 3. Highlight: The right edge of the histogram, if the graph mostly centralized on the right side, indicated that the image was bright.
RGB	RGB Histogram separately indicates the luminance distribution of red, green and blue channels. You can analyze the color consistence of the image.

How to set the histogram:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select the Histogram item and press the knob to set different mode.



Audio Phase

Audio Phase refers to the timing relationship between multiple sound waves and indicates how these waves align or misalign when interacting. It's a crucial element in sound reproduction and impacts the overall quality, depth, and clarity of audio.

How to set the Audio Phase:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Scopes item and press the knob to open the sub menu.
3. Rotate the knob, select the Audio Phase item and press the knob to turn it on or off.

Note The audio phase difference only displays when audio output with the headphone.

Image

Data Level

Data Level, also called Data Range, refers to the range of color and brightness information that is present in a video file. Including Limit(64-940), Extend(64-1019), Full(0-1023), SMPTE Full(4-1019).

Item	Description
Limit (64-940)	Typically used by Y'CBCR video data. All image data from 0 to 100 percent must fit into the numeric range of 64–940. Specifically, the Y' component's range is 64–940, while the numeric range of the CB and CR components is 64–960. The lower range of 4–63 is reserved for "blacker-than-black," and the higher ranges of 941/961–1019 are reserved for "super-white." These "out of bounds" ranges are recorded in source media as undershoots and overshoots, but they're not acceptable for broadcast output.
Extend (64-1019)	Extended data range of Limit to increase the dynamic range of the image, especially the highlight and the shadow, compatible for more dynamic range but lower than Full range requirement, including some HDR production.
Full (0-1023)	Typical for RGB 444 data acquired from digital cinema cameras, or film scanned to DPX image sequences. All image data from 0 to 100 percent is simply fit into the full numeric range of 4 to 1023.
SMPTE Full (4-1019)	Compliance for SMPTE data range standard, ensure the accuracy and consistency of professional broadcast, high level film production and postproduction.

Suggestions for different application environment when setting the data level:

- Working in the professional film production, better to set Full(0-1023) or SMPTE Full(4-1019) since they provide the most accurate color and the widest dynamic range.
- For HDR monitoring, Extend(64-1019) may be a better choice, because it provide a wider dynamic range than the Limit(64-940).

How to set the Data Level:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Data Level item and press the knob to select different data level.

Color Space

Color Space is the specific organizations of colors that the monitor can display and process, defined by various standard.
The KRM 4K Monitors support color space: Auto(vpid/avi), Auto(Format), Bypass, Rec709, EBU, DCI P3 D65, DCI P3, Rec2020, USER1, USER2.

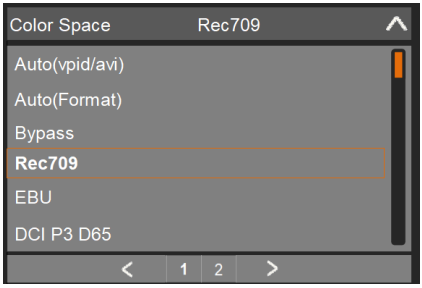
Item	Description
Auto(vpid/avi)	Automatically recognizing and setting the color space and EOTF of the input signal.
Auto(Format)	Automatically set the color space/ EOTF to Rec2020/HLG when the input signal format is 4K and set the color space/EOTF to Rec709/2.4 when the input signal format is 2K.
Bypass	Bypass will display the image with the native color display capability of the screen, without any calibration or color processing.
Rec709	Rec709 is a standard developed by ITU-R for image encoding and signal characteristics of HDTV, widely used in SDR content display.
EBU	EBU is the standard color space recommended by the European Broadcasting Union, the color temperature usually sets to 6500K.
DCI P3 D65	Standard P3 RGB primaries instead of the white point is calibrated to D65.
DCI P3	DCI-P3 is developed by the Digital Cinema Initiatives organization, it is a wide color gamut that displays more saturated color, especially enhances the red and green expression, provides more vivid visual experience, usually used in digital film production and postproduction.
Rec2020	Rec2020 defines various aspects of UHDTV and HDR contents. Rec2020 supports 10bit and 12bit color range that provides wide color depth, using for the advanced 4K and 8K television system and high-end postproduction.
USER1	User customized color space.
USER2	

Suggestion for different application environment when setting the color space:

- If you work in film production industry, select DCI P3 will be suitable for the standard.
- For professional design and postproduction, select BT2020 will provide HDR display and wider color gamut.
- For consumers, BT709 or DCI P3 D65 would be considerable.How to set different color space:

How to set different color space:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Color Space item and press the knob to select different color space.



EOTF

Images and videos use specific transfer functions to describe the relationship between electrical signal, scene light and displayed light. The EOTF is the transfer function having the picture or video signal as input and converting it into the linear light output of the display. This is done within a display device.
The KRM 4K Monitors supports: Gamma2.0, Gamma2.2, Gamma2.4, Gamma2.6, Gamma2.4(HDR), Rec.2100 HLG 1.03, Rec.2100 HLG 1.11, Rec.2100 HLG 1.16, Rec.2100 HLG 1.20, Rec.2100 HLG 1.27, Rec.2100 HLG 1.33, ST2084 PQ, ST2084 PQ(softroll), Slog, Slog2, Slog3, Clog, Clog2, Clog3, Vlog, Dlog, LogC, the differences are:

Item	Description
Gamma 2.0	A balanced Gamma that enhances the detail of shadow, using for dark environment requires detail in the shadow.
Gamma 2.2	The default gamma setting of majority graphic and visual software.
Gamma 2.4	Enhance the detail in the part of a little over-exposure, improve the contrast and saturation. It is compatible for HDTV production and broadcast, especially in Rec.709 color space.

Item	Description
Gamma 2.6	Enhance the contrast in of color in highlight, compatible for film production and relatively high dynamic range content.
Gamma2.4(HDR)	This gamma is suitable for HDR content that provides wider contrast and color depth. It can be selected with BT2020 color space.
Rec.2100 HLG 1.03	Rec.2100 HLG series has downward compatibility of SDR, provides a larger contrast and supports 10bit color depth. It can be selected with BT2020 color space for better color performance.
Rec.2100 HLG 1.11	
Rec.2100 HLG 1.16	
Rec.2100 HLG 1.20	
Rec.2100 HLG 1.27	
Rec.2100 HLG 1.33	
ST2084 PQ	The EOTF PQ provides large contrast, compatible with 10bit even 12bit color depth. It improves the highlight detail preserving and has great color performance when compatible with BT2020 color space, using for HDR10 and Dolby Vision content.
ST2084 PQ(softroll)	
Slog	Slog, Clog, Vlog are using in camera recording, provides wide dynamic range for postproduction workflow, suitable for color grading.
Slog2	
Slog3	
Clog	
Clog2	
Clog3	
Vlog	
Dlog	
LogC	

How to set different EOTF:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the EOTF item and press the knob to select different EOTF.

Transfer Matrix

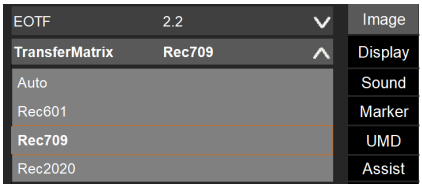
Transfer Matrix is the mathematic transfer relationship between different color space, through the matrix calculation to realize different color space mapping and match the color display capability of different devices.

Item	Description
Auto	Through the recognized PayLoad ID, automatically match the color space.
Rec601	Using for standardizing the color space transfer, definition, and frame rate of image processing of SDTV.

Note Rec709 and Rec2020 please refer to the description of Color Space.

How to set different Transfer Matrix:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the TransferMatrix item and press the knob to select different transfer matrix.

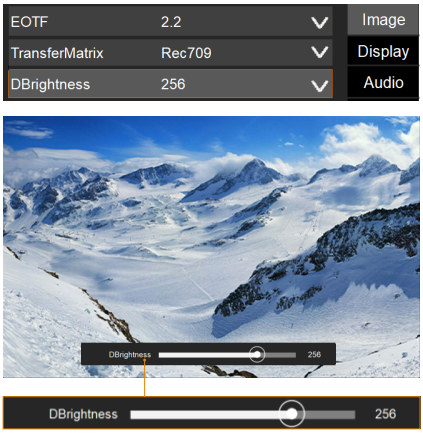


DBrightness

The DBrightness indicates the monitor will process the brightness of the signal itself.

How to set the DBrightness:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the DBrightness item and press the knob, rotate the knob to set the volume.

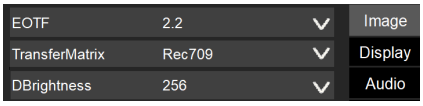


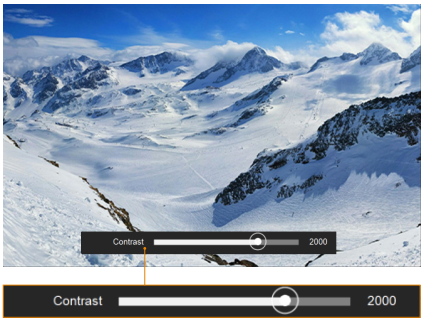
Contrast

The Contrast is the definition ratio between the ultra-brightness and black of the monitor.

How to set the Contrast:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Contrast item and press the knob, rotate the knob to set the volume.



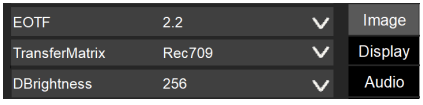


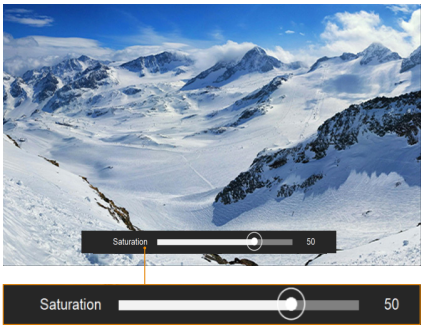
Saturation

Saturation range from 0% to 100%, the volume is higher, the color performance is showier.
Set the parameter considerably to adapt to different environment.

How to set the Saturation:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Saturation item and press the knob, rotate the knob to set the volume.



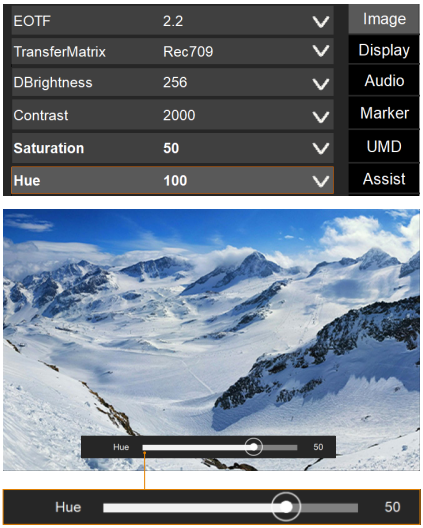


Hue

Hue is the balance of color display of the monitor.

How to set the Hue:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Hue item and press the knob, rotate the knob to set the volume.

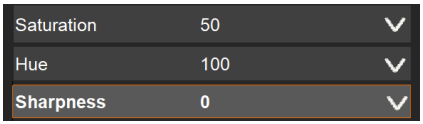


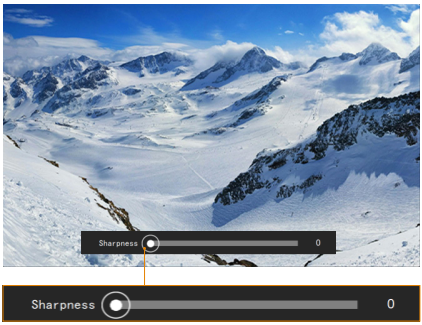
Sharpness

Sharpness indicates the definition to the edge of the image. Set the sharpness to obtain the suitable detail in the edge of the image to get the vivid image display.

How to set the Sharpness:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Sharpness item and press the knob, rotate the knob to set the volume.





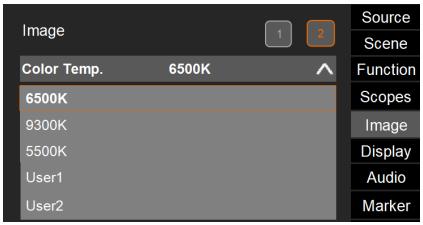
Color Temperature

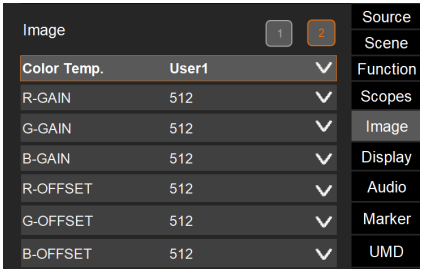
The volume of color temperature is lower, the display is warmer, the color intend to yellow or red, the color temperature is higher, the display is colder, the color intend to blue. The KRM 4K Monitor include color temperature: 6500K, 9300K, 5500K, User1, User2.

Item	Description
6500K	6500K usually be defined as the standard color temperature, widely used in image processing, video editing, is a relative setting that balance the reality and visual comfort.
9300K	The coldest color temperature in visual perception, the color display intend to blue, the image would be brighter at this temperature, easier provides the sense of unnaturalness.
5500K	A relative warm display of the monitor.
User1	Users can modify different R/G/B GAIN or R/G/B OFFSET to customize the color temperature.
User2	

How to set different Color Temperature:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Image item and press the knob to open the sub menu.
3. Rotate the knob, select the Color Temp item and press the knob to select different color temperature.
4. If select the User item, rotate the knob to set the R/G/B GAIN or R/G/B OFFSET.





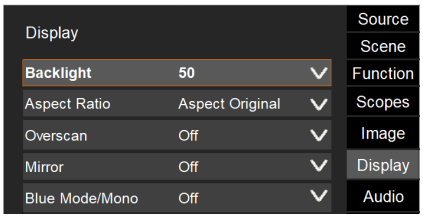
Display

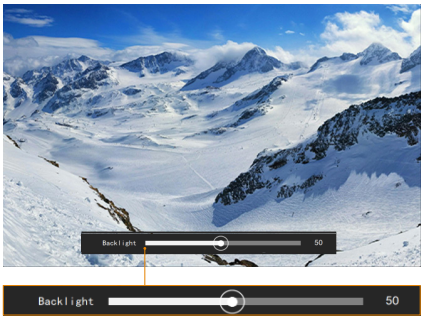
Backlight

Backlight is the luminance of the backlighting source of the monitor, setting a high backlight volume can guarantee the display quality in a bright environment, and a low backlight can be used in a dark environment to reduce the eyestrain.

How to set the backlight volume:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the Backlight item and press the knob, rotate the knob to set the volume.





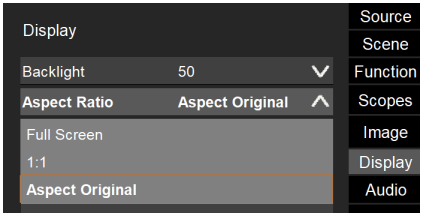
Aspect Ratio

Set the image display ratio, include Full Screen, 1:1 and Aspect Original.

Item	Description
Full Screen	Scale the image to fulfill the screen regardless its origin aspect ratio. It may cause deformation of the image.
1:1	Scale the image pixel to pixel.
Aspect Original	Scale the image with its original ratio, it may remain the blank area on the screen instead of the deformation, as known as “the black edge”.

How to set different Aspect Ratio:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the Aspect Ratio item and press the knob to select different item.

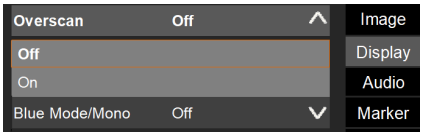


Overscan

Overscan is a behavior in display devices in which part of the input picture is cut off by the visible bounds of the screen.

How to set Overscan:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the Overscan item and press the knob to set on/off.

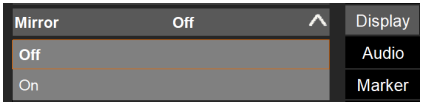


Mirror

Mirror display will flip the image with vertical axis like the reflect in the mirror.

How to set Mirror:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the Mirror item and press the knob to set on/off.



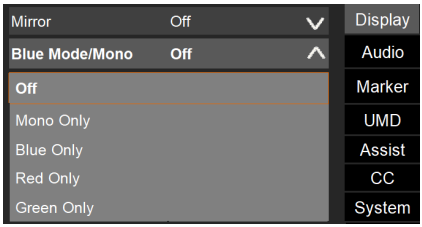
Blue Mode/Mono

Blue Mode/Mono display the mono color channel of the image, compatible for checking the noise of the video signal, include Mono Only, Blue Only, Red Only, Green Only.

Item	Description
Mono Only	Only display the luminance information of the signal without chrominance information. The image will look like grey.
Blue Only	Only the single color channel be activated (Blue, Red or Green)
Red Only	
Green Only	

How to set the Blue Mode/Mono:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the Blue Mode/Mono item and press the knob to select different items.

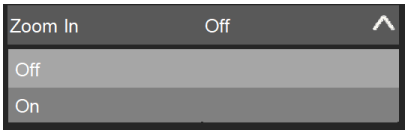


Zoom

Zoom the central area of the image to observe the detail for further analyze and processing.

How to set Zoom:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the Zoom item and press the knob to set on/off.



H/V delay

The H/V delay function completely displays the accurate time delay between the signal inputs to the monitor and the images display on the screen during the processing of the video signal. The H/V delay may effect the synchronization and instant of the video content under the circumstance that multiple input sources are demand synchronization or instant monitoring, such as audio-video unsynchronized.

How to set H/V delay:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Display item and press the knob to open the sub menu.
3. Rotate the knob, select the H/V delay item and press the knob to set on/off.

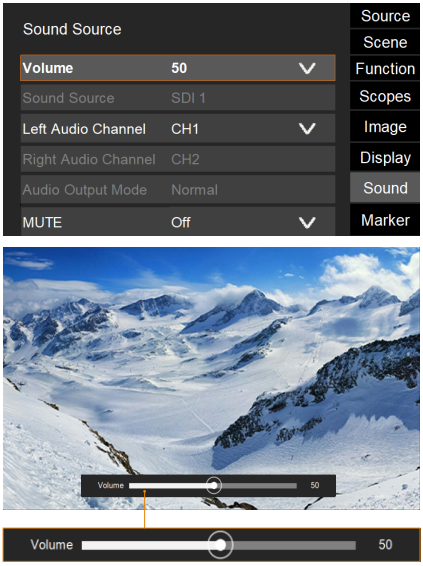
Sound

Volume

The KRM 4K Monitor has horizonal and vertical audio meter. The horizonal audio meter display channels 1&2 audio level and the vertical audio meter display 16 channels audio level.
Read the “Sound Source” to check the audio output is SDI or HDMI.

How to set the Volume:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Sound item and press the knob to open the sub menu.
3. Rotate the knob, select the Volume item and press the knob, rotate the knob to set the volume.
4. Rotate the knob in the main screen can directly modify the volume.



Audio Channel

Each Audio Channel can select CH1 to CH16 for output, when select one channel in the Left Audio Channel, the corresponding number of the channel under the audio meter will turn green, select one channel in the Right Audio Channel, its number will turn purple.

How to set different Audio Channels:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Sound item and press the knob to open the sub menu.
3. Rotate the knob, select the Left Audio Channel item and press the knob to select different audio channels.
4. When using the headphone, the Right Audio Channel can be activated and select different audio channels.

Note When the audio output is by the speaker, only the Left Audio Channel is available. When using the headphone, the Left and Right Audio Channel can be set.

Audio Output Mode

When using the headphone, the Audio Output Mode will be activated, including Normal, Right Channel Only, Left Channel Only.

Item	Description
Normal	Audio output with both channels.
Right Channel Mute	
Left Channel Mute	

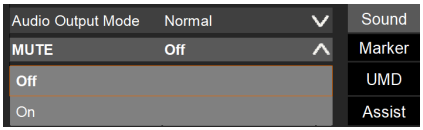
How to set Audio Output Mode:

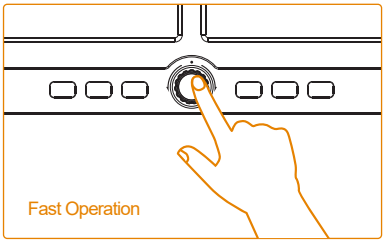
1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Sound item and press the knob to open the sub menu.
3. Rotate the knob, select the Audio Output Mode item and press the knob to select different modes.

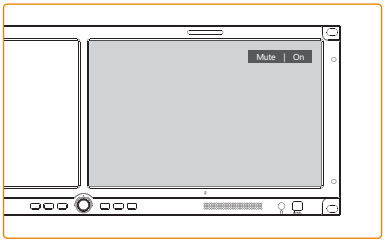
Mute

How to set Mute:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Sound item and press the knob to open the sub menu.
3. Rotate the knob, select the Mute item and press the knob to set on/off.
4. Press the knob in the main screen can directly mute the sound.







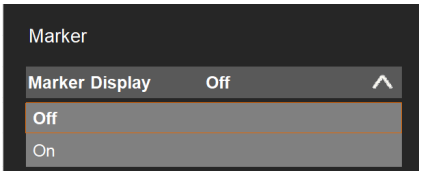
Marker

Marker Display

The Marker provides aspect ratio frame guidelines overlay on the image.

How to set Marker Display:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Marker item and press the knob to open the sub menu.
3. Rotate the knob, select the Marker Display item and press the knob to set on/off.



Aspect Marker

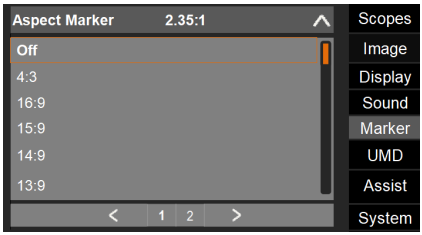
Aspect Marker ratio include: 4:3, 16:9, 15:9, 14:9, 13:9, 1.85:1, 2.35:1.

Item	Description
4:3	Traditional television and displayer ratio.
16:9	HDTV and popular displayer ratio.
15:9	CCTV ratio.
14:9	
13:9	
1.85:1	Mainly used in film production.
2.35:1	Mainly used for anamorphic film production.

How to set different Aspect Marker:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Marker item and press the knob to open the sub menu.
3. Rotate the knob, select the Aspect Marker item and press the knob to select different items.

Note The Marker Display should be set to “On” to activate the Aspect Marker.



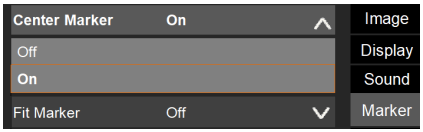
Center Marker

A crosshair marker display on the center of the screen.

How to set the Center Marker:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Marker item and press the knob to open the sub menu.
3. Rotate the knob, select the Center Marker item and press the knob to set on/off.

Note The Marker Display should be set to “On” to activate the Center Marker.



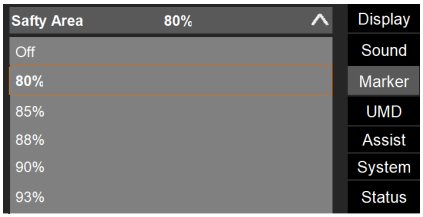
Safety Area

Guidelines for safety area to guarantee the image area could be displayed on various devices.

How to set the Safety Area:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Marker item and press the knob to open the sub menu.
3. Rotate the knob, select the Safety Area item and press the knob to set on/off.

Note The Marker Display should be set to “On” to activate the Safety Area.



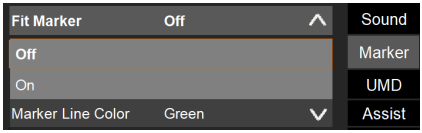
Fit Marker

Set the Safety Area ratio under the Aspect Marker ratio.

How to set the Fit Marker:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Marker item and press the knob to open the sub menu.
3. Rotate the knob, select the Fit Marker item and press the knob to set on/off.

Note The Marker Display should be set to “On” to activate the Fit Marker.



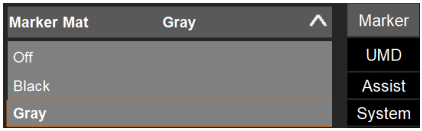
Marker Mat

Marker Mat can set the area outside the marker to black or grey.

How to set the Marker Mat:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Marker item and press the knob to open the sub menu.
3. Rotate the knob, select the Marker Mat item and press the knob to select different items.

Note The Marker Display should be set to “On” to activate the Marker Mat.



UMD

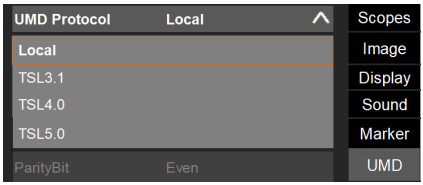
UMD Protocol

The KRM 4K Monitors support following UMD protocols: Local, TSL3.1, TSL4.0, TSL5.0.

Item	Description
Local	Local UMD. Compatible for application that doesn't need advanced network control or long-distance transmission.
TSL3.1	TSL3.1 is the basic standard serial protocol to ensure the stability of signal transmission and image quality.
TSL4.0	A higher-level standard that extends the basic TSL3.1, enhances the transmission and compatibility, suitable for high resolution and quality image transmission environment.
TSL5.0	The newest protocol that supports the advanced image processing and the highest transmission speed, compatible for high-end image transmission such as 4K/8K or high-level postproduction.

How to set different UMD Protocol:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the UMD item and press the knob to open the sub menu.
3. Rotate the knob, select the UMD Display item and press the knob to set on/off.
4. Turn on the UMD Display, rotate the knob, select the UMD Protocol item and press the knob to select different UMD protocols.



UMD Character and Color

When the multiple signals input into the monitor, their UMD character and display color can be customized to distinguish different content.
UMD color can be set to White, Red, Green, Yellow.

Note To customize the UMD Character, the UMD Protocol should be set to Local.

How to set the UMD Character:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the UMD item and press the knob to open the sub menu.
3. Rotate the knob, select the UMD Display item and press the knob to set on/off.
4. Turn on the UMD Display, rotate the knob, select the UMD Character item and press the knob to customize the character.
5. Rotate the knob to select letters, press the knob to set.

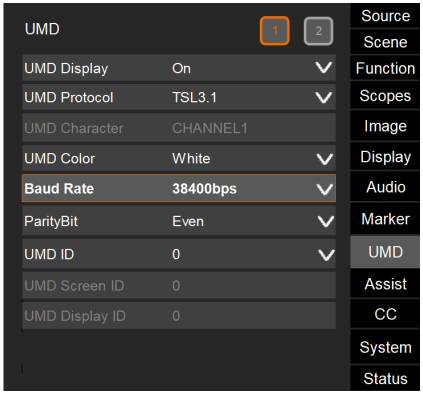
UMD Parameter

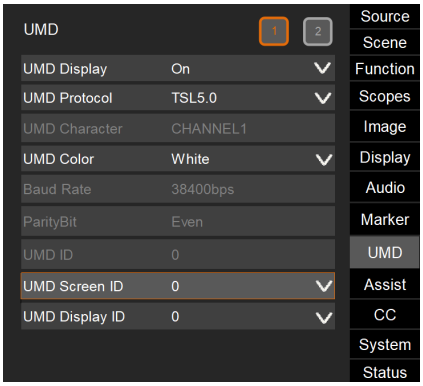
Set different UMD parameter to control the monitor remotely, including Baud rate, Parity Bit, UMD ID, UMD Screen ID and UMD Display ID.

Sub Menu	Item	Description
UMD ID	0-254	Only can be set when UMD Protocol is TSL3.1 or TSL4.0
UMD Screen ID	0-255	Only can be set when UMD Protocol is TSL5.0
UMD Display ID	0-255	Only can be set when UMD Protocol is TSL5.0
Baud Rate	4800bps	Only can be set when UMD Protocol is TSL3.1 or TSL4.0
	9600bps	
	19200bps	
	38400bps	
	57600bps	
	115200bps	
ParityBit	None	Only can be set when UMD Protocol is TSL3.1 or TSL4.0.
	Even	

How to set UMD Parameter:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the UMD item and press the knob to open the sub menu.
3. Rotate the knob, according to different UMD Protocols, select different sub menus, set the different items.



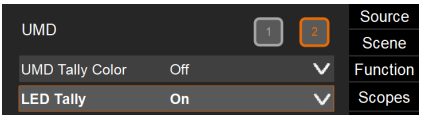


Tally

The KRM 4K Monitor supports UMD Tally control by TSL3.1 Protocol, the color can be set to Red/Green, Green/Red, Red/Green/Yellow.

How to set the UMD Tally:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the UMD item and press the knob to open the sub menu.
3. Select TSL3.1 Protocol, rotate the knob to LED Tally item, press the knob to set on/off.
4. Rotate the knob to UMD Tally item and set different color.



Assist

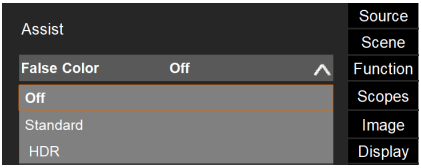
False Color

The false color feature displays color overlays on your image that represent exposure values. With a range of tonal values on the LCD at once, this gives you a broader overview of your exposure which you can use to refine lighting on set or make exposure changes to compensate.

Item	Description
Standard	SDR False Color
HDR	HDR False Color

How to set the False Color:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Assist item and press the knob to open the sub menu.
3. Rotate the knob, select the False Color item and press the knob to select different items.

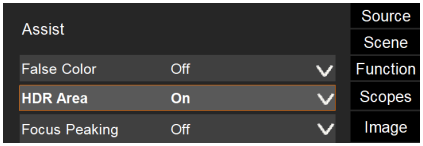


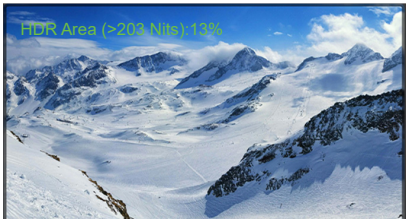
HDR Area

To analyze the HDR area over 203 Nits in the image and display as a percentage.

How to set the HDR Area:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the Assist item and press the knob to open the sub menu.
3. Rotate the knob, select the HDR Area item and press the knob to set on/off.
4. When the EOTF is set to HDR, the account for HDR area can be read.





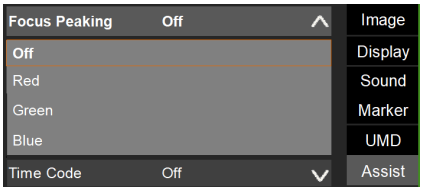
Focus Peaking

Assistance for manual focus that displays a color on the edge of the focusing item, the color includes red, green, blue.

Item	Description
Red	
Green	
Blue	

How to set the Focus Peaking:

1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the Assist item and press the knob to open the sub menu.
3. Rotate the knob, select the Focus Peaking item and press the knob to select different colors.



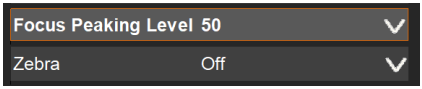
Focus Peaking Level

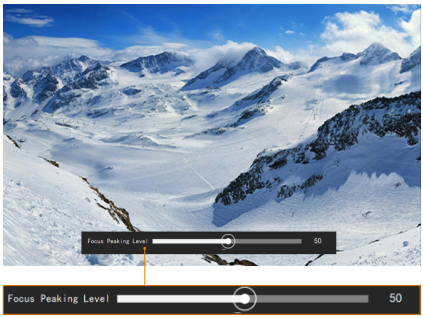
Set the sensitivity of the Focus Peaking detection.

How to set the Focus Peaking Level:

1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the Assist item and press the knob to open the sub menu.
3. Rotate the knob, select the Focus Peaking Level item and press the knob, rotate the knob to set the Focus Peaking Level.

Note Only can set the Focus Peaking Level when the Focus Peaking is on.



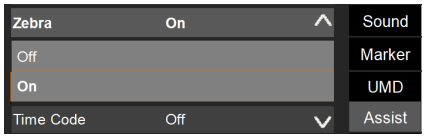


Zebra and Zebra Level

The zebra feature helps you achieve optimum exposure by displaying diagonal lines over areas of the video that exceed your set zebra level.

How to set the Zebra Level:

1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the Assist item and press the knob to open the sub menu.
3. Rotate the knob, select the Zebra item and press the knob to set on/off.
4. Rotate the knob, select the Zebra Level item and press the knob, rotate the knob to set the Zebra Level, the volume is lower, the zebra lines are more, the volume is higher, the zebra lines are less.



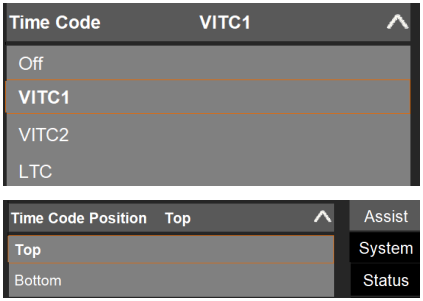
Timecode

Supports Timecode modes: VITC1, VITC2, LTC. Timecode display can be located on the top or the button.

Item	Description
VITC1	A kind of Vertical Interval Timecode.
VITC2	Another kind of Vertical Interval Timecode.
LTC	Line in Timecode.

How to set different Timecode:

1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the Assist item and press the knob to open the sub menu.
3. Rotate the knob, select the Timecode item and press the knob to select different items.



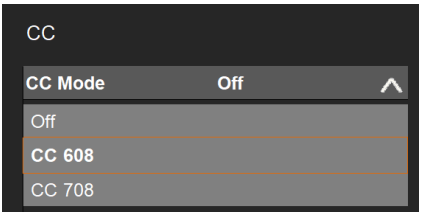
Closed Caption

Closed captioning (CC) is a form of subtitling, a process of displaying text on a television, video screen, or other visual display to provide additional or interpretive information. The term closed indicates that the captions are not visible until activated by the viewer, usually via the remote control or menu option. On the other hand, the terms open, burned-in, baked on, hard-coded, or simply hard indicate that the captions are visible to all viewers as they are embedded in the video. Closed captions are typically used as a transcription of the audio portion of a program as it occurs (either verbatim or in edited form), sometimes including descriptions of non-speech elements.
There are two types of common CC: 708 type and 608 type.

Item	Description
CC 708	CC 708 is the standard developed by the Consumer Technology Association for television viewing in the US, provides more caption included text, graphs and color.
CC 608	CC 608 is a standard for closed captioning for NTSC TV broadcasts. This standard only provides basic caption such as text and simple location information.

How to set the Closed Caption:

1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the CC item and press the knob to open the sub menu.
3. Rotate the knob, select the CC Mode item and press the knob to select different items.



System

Language

System Language can be set to Chinese or English, default is English.

How to set the Language:

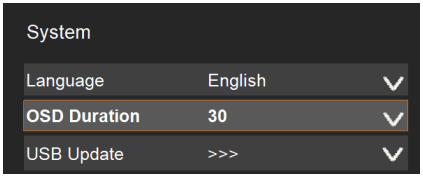
1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the System item and press the knob to open the sub menu.
3. Rotate the knob, select the Language item and press the knob to select different items.

OSD Duration

The menu display will disappear after a while when no operation occurs to avoid the screen burning. The default duration time of the OSD screen is 30s, users can customize up to 60s.

How to set the Language:

1. Press down ☰ key to enter the menu.
2. Rotate the Knob, select the System item and press the knob to open the sub menu.
3. Rotate the knob, select the OSD Duration item and press the knob, rotate the knob to set the volume.

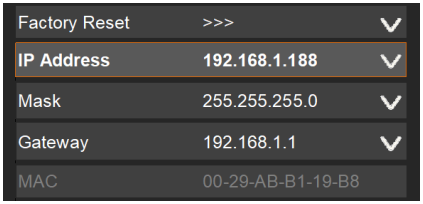


Ethernet

The KRM 4K Monitor support network, users can set IP Address, Mask and Gateway manually.

How to set the network:

1. Press down ☰ key to enter the menu.
2. Rotate the knob, select the System item and press the knob to open the sub menu.
3. Rotate the knob, set the IP Address.



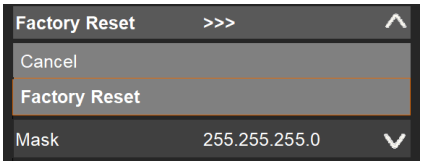
Factory Reset

When the following circumstances occur, users can reset the monitor:

- The parameter settings of the monitor are mixed up.
- The image display or audio output is abnormal without any hardware failure.

How to Factory Reset:

1. Press down the ⏻/SEL key, press down ☰ key to enter the menu.
2. Rotate the Knob, select the System item and press the knob to open the sub menu.
3. Rotate the knob, select the Factory Reset item and press the knob to select Factory Reset.
4. Press the knob to choose “Yes”, the indication will display Restore is processing.
5. After reset, the display will be refreshed.



USB Update

When the following circumstances occur, users can reset the monitor:

Fault

Item	Description
The key indicators are unlit	. Check the power switch near the AC in on the rear of the monitor, switch to “I” is power on. . Check the power cord is connected. If the issue is still there, turn off the power a few minutes and then restart.
The key is unavailable	. The SEL key is not selected.
No image	. Check the signal input. . Switch the signal to the actual connected interface. . Turn off the power and restart. . Check whether the input signal format is supported by the monitor.
Smear	. Display still image in a long time may cause screen damage that develop to smear. . Avoid to displaying the same image in a long time. . Please use screen protection programme.
Screen spots	. The screen may display color spots as red, green, blue, white or black, it is normal due to the feature of the screen panel itself.

Konvision

WARRANTY CARD

No

User			
Tel			
Address		Postal Code	
Model. No		Serial Number	
Warranty Date		Purchase Date	

Item	Contents of Reparation	Replacement parts name	Replacement parts quantity	Remark
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Repairer Signature	Service hotline	User Signature

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