



User Manual

Mini Full HD HDMI 4K Multiviewer

Version 1
Updated 27/10/2023



Please read this manual prior to installation and operation and save this manual for future reference.

Thank You for Choosing Craltech technology

We expect you enjoy your choice.

Feel free to:

1. Contact us if you need support during configuration
2. Share your feedback, project pictures and your additional needs or desired features with us
3. Share your experience at social media using *#craltech*

Your opinion matters and is important!

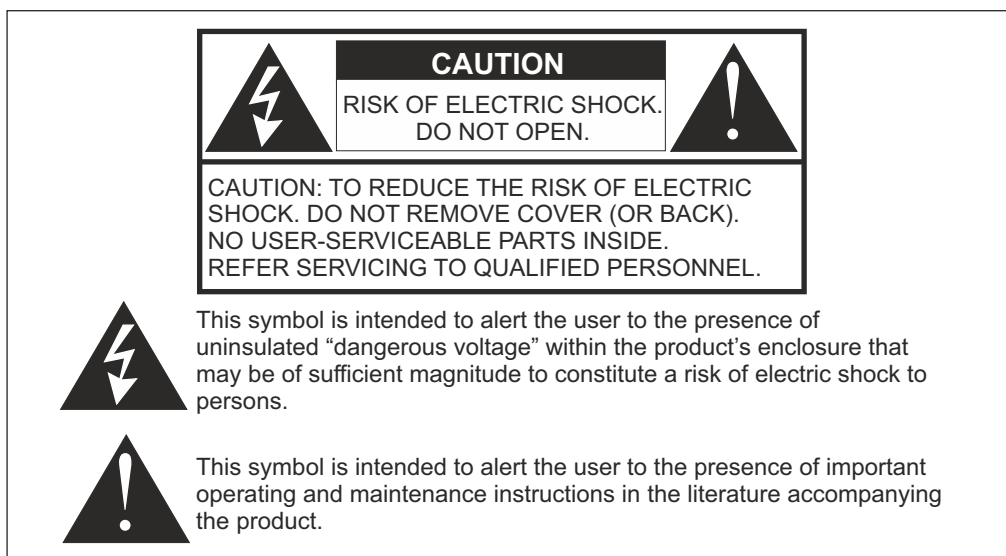
So if you want to suggest further features that could be included on the product or if anything at all with your craltech experience does not live up to your expectations be sure to reach out to us at *support@craltech.com*.

A handwritten signature in black ink that reads "Craltech Team". The signature is written in a cursive, flowing style.

Laura Campoy
CEO, Craltech
craltech@craltech.com

IMPORTANT INFORMATION

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE



SAFETY INSTRUCTIONS

This product has been designed with the highest priority on safety, however, there are basic precautions that should be taken to avoid injury or damage.

- 1) Read, keep and follow all these instructions.
- 2) Water and Moisture. Do not use this product near water and do not expose it to humidity. Keep the unit dry.
- 3) Handle and operate this product with care, and do not expose the unit to vibrations.
- 4) Clean only with dry cloth. Do not use liquid or aerosol cleaners to clean the product, and be sure not to spill liquid of any kind into it. Unplug the power cord before cleaning the product.
- 5) Do not insert anything into or block the ventilation slots, you could get a shock or cause fire.
- 6) Do not remove cover or back to reduce the risk of electric shock.
- 7) Keep the product away from heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 8) Only use accessories specified by the manufacturer.
- 9) Power Sources: This product should be operated only from the type of power source indicated on the marking label. If you are not sure, check with your dealer or contact us for assistance.
- 10) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 11) If any of the following occur, unplug the power cord and seek the assistance of a qualified service personnel for servicing:
 - Power cord or plug becomes damaged.
 - When any liquid is spilled on or in the product.
 - When the product has been exposed to water.
 - When the product does not operate properly as described in the instruction manual.
 - When the product has been damaged in any way.
- 12) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way.

If the product requires replacement parts, make sure that the service personnel uses replacement parts recommended by the manufacturer. Use of unauthorized parts can result in fire, electric shock, and other damage.

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CONTROLS AND CONNECTIONS



1. **HDMI Inputs:** up to Full HD resolution (NO HDCP)
2. **HDMI Output:** Up to 4K UHD 60hz
3. **Ethernet connector for remote control**
4. **USB connector for updates**
5. **Audio Out**
6. **DC in: 12V**
7. **ON / OFF mini switch**
8. **Menu encoder (Click to access menu and keep press to ESC) (For forcing resolution change keep pressing encoder when being outside the menu until you see image on screen and you can then change it using the menu System > output resolution)**

ON SCREEN MENU

- **AUDIO:** Select an input / Meters Mode / Meters Channels / Meters x/y Position / Meters Size / Transparency / Yellow Level / Red Level / Audio Output / Audio Mode / Speakers Channels / Jack Volume
- **MARKERS:** Select an Input / Center Marker / Security Area / Markers / Marker H/V / Markers Color / Curtain
- **INPUT:** Select an Input / UMD / Aspect Ratio / Data Conversion / Hide Image / Image Size / Image x/y Position
- **DISPLAY:** Layout / Format Info / Border Color / UMDs Color
- **NETWORK:** LAN IP / IP MASK / GATE IP / UDP PORT / Apply Config / Default Config
- **SYSTEM:** Equipment ID / Encoder Sensitivity / Tally UMD Source / Display On UMD / Display Squares / OSD Size / OSD x/y Position / OSD Transparency / Display Data Conv / Factory Default / Update Firmware

AUDIO MENU

Bre4K By Craltech		
AUDIO	Selected an input:	SDI1
MARKERS	Meters Mode	OFF
INPUT	Meters Channels	016
DISPLAY	Meters x Position	004
NETWORK	Meters y Position	004
SYSTEM	Meters Size	Small
	Transparency	Min
	Yellow Level	-18dB
	Red Level	-05dB
	Audio Output	HDMI
	Audio Mode	Layout
	Speakers Channels	Pair1
	Jack Volume	63

1. Select the **AUDIO** menu and press the encoder to enter.
2. Press Menu Encoder to select the adjustment to be modified (adjustment will be marked in white), and use the encoder to adjust the value. Press Menu Encoder again to Exit adjustment (adjustment will be marked in grey), and continue navigating.
3. Long press Encoder to **ESC** and move back to main menu.

SELECT AN INPUT

Used to select the the input which audio is going to be modified.

MODE

Used to select the audio level meters mode. Available different modes with Scale, No Scale, Pairs/Odds,...

1. Select **Meters Mode** adjustment and press the encoder to enter.
2. Use the Encoder up and down to select the mode.
3. Press Menu Encoder again to Exit adjustment.

METERS CHANNELS

Used to select the audio channels to be displayed in the Audio Level Meters.

1. Select **Meters Channels** adjustment and use the Encoder up and down to modify value. Values are: 2, 4, 6, 8, 12, 14 and 16 channels.
2. Press Menu Encoder again to Exit adjustment.

METERS x/y POSITION

Used to select position of Audio Level Meters. Audio Level Meters can be located anywhere on the window.

1. Select **Meters x/y Position** adjustment and use the Encoder up and down to modify value.
2. Press Menu Encoder again to Exit adjustment.

METERS SIZE

Used to select Audio Level Meters size. Values are: Small, Large

1. Select **Meters Size** adjustment and use the Encoder up and down to modify value.
2. Press Menu Encoder again to Exit adjustment.

YELLOW/RED LEVEL

Used to select Yellow / Red Level.

1. Select **Yellow/Red Level** adjustment and use the Encoder up and down to modify value.
2. Press Menu Encoder again to Exit adjustment.

AUDIO OUTPUT

Used to select the audio output (Vumeters, Jack, HDMI)

ON SCREEN MENU

AUDIO MODE

Used to select the audio mode (per input, QUAD, LAYOUT (Layout will adapt the audio out depending on the input))

SPEAKERS CHANNELS

Used to select the audio channels (pair) of the audio output (Speakers and Phone Jack).

JACK VOLUME

Used to adjust the audio volume of the audio output (Phone Jack and speakers).

MARKERS MENU

Bre4K By Craltech		
AUDIO	Selected an input	SDI1
MARKERS ▶	Center Marker	OFF
INPUT	Security Area	OFF
DISPLAY	Markers	OFF
NETWORK	Marker H	000
SYSTEM	Marker V	000
	Markers Color	White
	Curtain	OFF

1. Select the **MARKERS** menu and press the encoder to enter.
2. Press Menu Encoder to select the adjustment to be modified (adjustment will be marked in white), and use the encoder to adjust the value. Press Menu Encoder again to Exit adjustment (adjustment will be marked in grey), and continue navigating.
3. Long press Encoder to **ESC** and move back to main menu.

SELECT AN INPUT

Used to select the the input which Markers are going to be modified.

CENTER MARKER

Used to enable/disable Center Marker.

1. Select **Center Marker** adjustment and press the encoder to enter.
2. Use the Encoder up and down to enable/disable.
3. Press Menu Encoder again to Exit adjustment.

SECURITY AREA

Used to enable/disable Security Area. Options: OFF, 80, 85, 88, 90, 93, 100.

1. Select **Security Area** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify value.
3. Press Menu Encoder again to Exit adjustment.

MARKER

Used to select the Marker. Options: OFF, 16:9, 4:3, 15:9, 14:9, 13:9, 1.85:1, 2.35:1, 1.85:1 and 4:3, User.

1. Select **Marker Status** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify value.
3. Press Menu Encoder again to Exit adjustment.

MARKER H/V

Select USER option at Markers Adjustment.

1. Select **Marker H/V** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify value.
3. Press Menu Encoder again to Exit adjustment.

MARKER COLOUR

1. Select **Marker Color** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify color.
3. Press Menu Encoder again to Exit adjustment.

CURTAIN

1. Select **Curtain** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify color.
3. Press Menu Encoder again to Exit adjustment.

ON SCREEN MENU

INPUT MENU

Bre4K By Craltech		
AUDIO	Select an Input	SDI1
MARKERS	UMD	[UMD 1]
INPUT	Display UMD	ON
DISPLAY	UMD Size	Normal
NETWORK	Aspect Ratio	16:9
SYSTEM	Data conversion	AUTO
	Hide Image	OFF
	Image Size	254
	Image x/y Position	00

1. Select the **INPUT** menu and press the encoder to enter.
2. Press Menu Encoder to select the adjustment to be modified (adjustment will be marked in white), and use the encoder to adjust the value. Press Menu Encoder again to Exit adjustment (adjustment will be marked in grey), and continue navigating.
3. Long press Encoder to **ESC** and move back to main menu.

SELECT AN INPUT

Used to select the Input which UMD,...is going to be modified.

UMD

16 character UMD per input.

1. Select the **Input NUMBER** to be modified and press the encoder to enter.
2. Use the Encoder up and down to modify value.
3. Press Menu Encoder again to Exit adjustment.

Display UMD

Display the UMD of the selected input

UMD Size

Select the size of the UMD (Normal or Large)

ASPECT RATIO

Used to select **Aspect Ratio**. Values are 4:3 and 16:9.

DATA CONVERSION

Data Conversion is used to select the mode of data conversion form YCbCr to RGB. Values are REC 601, REC 709 and AUTO. Default Value is AUTO. AUTO mode uses REC 601 data conversion for SD SDI inputs and REC 709 data conversion for HD SDI inputs.

HIDE IMAGE

Used to hide or display the image.

IMAGE SIZE

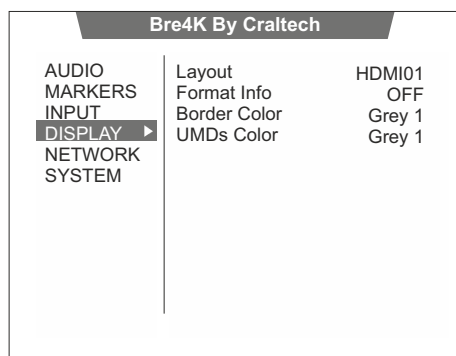
Used to modify image size. Image Size can be modified in Full screen view and in Quad Mode.

IMAGE X/Y POSITION

Used to modify image position.

ON SCREEN MENU

DISPLAY MENU



1. Select the **DISPLAY** menu and press the encoder to enter.
2. Press Menu Encoder to select the adjustment to be modified (adjustment will be marked in white), and use the encoder to adjust the value. Press Menu Encoder again to Exit adjustment (adjustment will be marked in grey), and continue navigating.
3. Long press Encoder to **ESC** and move back to main menu.

LAYOUT

Used to select a screen layout. Options are: Quad View, SDI1, SDI2, SDI3, SDI4, PaP, 4K UHD

FORMAT INFO

Used to Enable/Disable visualization of source's format information (resolution). This information will be displayed in right-up corner of the image.

BORDER COLOR

Used to select color of Border/Frame of the image in Quad View.

UMD COLOR

Used to select UMD color

ON SCREEN MENU

NETWORK MENU

Bre4K By Craltech		
AUDIO	LAN IP	127.000.000.002
MARKERS	IP MASK	255.255.255.000
INPUT	GATE IP	127.000.000.001
DISPLAY	UDP PORT	01030
NETWORK ▶	Apply Config	NO
SYSTEM	Default Config	NO

1. Select the **NETWORK** menu and press the encoder to enter.
2. Press Menu Encoder to select the adjustment to be modified (adjustment will be marked in white), and use the encoder to adjust the value. Press Menu Encoder again to Exit adjustment (adjustment will be marked in grey), and continue navigating.
3. Long press Encoder to **ESC** and move back to main menu.

LAN IP

This option is used to modify LAN IP.

1. Select **LAN IP** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify values.
3. To apply the new Network configuration Select "Yes" at Apply Config in Network Menu, and unplug (not stand by) the equipment.

IP MASK

This option is used to modify IP MASK.

1. Select **IP MASK** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify values.
3. To apply the new Network configuration Select "Yes" at Apply Config in Network Menu, and unplug (not stand by) the equipment.

GATE IP

This option is used to modify GATE IP. GATE IP is the router LAN IP.

1. Select **GATE IP** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify values.
3. To apply the new Network configuration Select "Yes" at Apply Config in Network Menu, and unplug (not stand by) the equipment.

UDP PORT

This option is used to modify UDP PORT.

1. Select **UDP PORT** adjustment and press the encoder to enter.
2. Use the Encoder up and down to modify values.
3. To apply the new Network configuration Select "Yes" at Apply Config in Network Menu, and unplug (not stand by) the equipment.

Apply Config

This option is used to apply all the modifications/values of the Network Menu, so after modifying a value of any of the adjustments of the Network Menu select "Yes" at Apply Config and unplug (not stand by) the equipment to apply the new network configuration.

Default Config

This option is used to set to default (factory settings) the monitor.

ON SCREEN MENU

SYSTEM MENU

Bre4K By Craltech		
AUDIO	Equipment ID	01
MARKERS	Encoder Sensitivity	0
INPUT	Tally UMD Source	TSL
DISPLAY	Display on UMD	ON
NETWORK	Display Squares	ON
SYSTEM	OSD Size	Small
	OSD x/y Position	00
	OSD Transparency	00
	Display Data Conv	Rec709
	Factory Default	NO
	Update Firmware	NO

1. Select the **SYSTEM** menu and press the encoder to enter.
2. Press Menu Encoder to select the adjustment to be modified (adjustment will be marked in white), and use the encoder to adjust the value. Press Menu Encoder again to Exit adjustment (adjustment will be marked in grey), and continue navigating.
3. Long press Encoder to **ESC** and move back to main menu.

EQUIPMENT ID

Used to set Equipment ID to identify it for Ethernet communications.

For TSL, the equipment ID is the Offset on the first UMD and Tally that will be used.

For example: To control 2 equipments with 8 inputs, first equipment will have ID 01 and the second equipment will have ID 09.

ENCODER SENSITIVITY

Used to adjust sensitivity of the encoder.

TALLY UMD SOURCE

Used to select Tally and UMD Source. Values are: GPIO, RS-232, TSL. Tally can be displayed on UMD and/or with squares at the bottom of the image.

OSD SIZE

Used to select OSD size. Values are: Small, Large

OSD x/y POSITION

Used to select OSD position.

OSD TRANSPARENCY

Used to select OSD Transparency.

DISPLAY DATA CONV

Display Data Conversion is used to select the mode of data conversion form YCbCr to RGB for the display. Values are REC 601, REC 709. Default Value is REC 709.

FACTORY DEFAULT

This option is used to reset the monitor. **NOTE: This option will set Equipment ID to 01 (Factory value).**

UPDATE FIRMWARE

Used to update the monitor.

SPECIFICATIONS

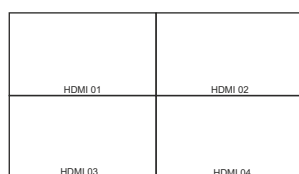
Bre4K SPECIFICATIONS

UMD	16 characters (IMD) TSL comp.
Tally	Green, Red and Amber, TSL comp.
Cabinet	Aluminium. Textured Black Powder Coat
Dimensions	150.00 x 110.00 x 25.00 mm (1U)
Weight	500 gr
Power supply	12V DC
Power Consumption (Approx.)	10W
Operating temperature	5 °C a 40 °C
HDMI Output	1 x HDMI. Supported resolutions: 1080i (50Hz / 60Hz), 1080p (25Hz / 30Hz / 50Hz / 60Hz), 4K UHD (25Hz / 30Hz / 50Hz / 60Hz)
Remote Control	Ethernet Connector
USB connector	Updates

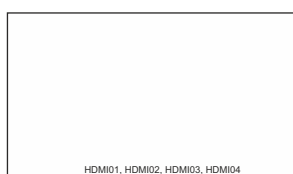
INPUTS

HDMI Inputs Formats	1080p (60 / 59.84 / 50 / 30/ 29.97 / 25 / 24 / 23.98) 1080i (60 / 59.94 / 50), 720p (60 / 59.94 / 50)
Aspect Ratio	16.9, 4:3
Audio IN	Embedded Audio.8 Channels Audio Level Meters
UMD	16 characters (IMD)

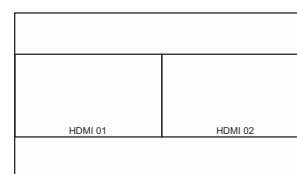
SCREEN CONFIGURATIONS



QUAD



FULL



Picture by Picture