

C30

Mini Bullet Camera
With On Screen Menu
Installation and Operating Guide



KJM is dedicated to providing the finest in shipboard cameras and video equipment. Our high quality cameras are built to withstand the harsh marine environment, and are designed by people with over three decades of experience in the marine industry. KJM cameras provide crystal-clear images of whatever you need to monitor, from the engine room to the aft deck. Built to exacting standards from the finest materials, KJM products are rugged, available in a wide variety of styles and configurations, and will work with most marine monitors or Chart Plotters. No matter what your marine surveillance requirements, KJM has a product to meet your needs.

Please read the following pages before attempting installation to ensure complete understanding of the KJM C30 Mini Bullet Camera.

Precautions

- To reduce the risk of electric shock, do not remove disassemble the bullet camera as there are no user serviceable parts inside.
- Qualified service personnel or system installers must install this product.
- Do not operate beyond its specified temperature, humidity and power source ratings.
- Clean only with a dry cloth.

If you require additional support for the installation or use of this camera please contact us via email at info@kjm-holdings.com

FEATURES

- Mini and stylish and designed from the ground up for demanding marine installations.
 - Ideal inboard larger leisure yachts, commercial vessels and workboats alike.
 - 18 Infra-Red LEDs for true day / night operation
 - 3.6mm fixed lens / 800 TVL
 - On Screen Display (OSD) camera selections - Normal and Mirror image selection
- Supplied with power cord and stainless steel mount hardware

ACCESSORIES

AMP-1/4



Video Distribution Amp
(1 Camera In, 4 Outputs)

BNC-5



5 Meter Video Cable

COMB-10



10 Meter Power and Video Cable

COMB-25



25 Meter Power and Video Cable

POW-5

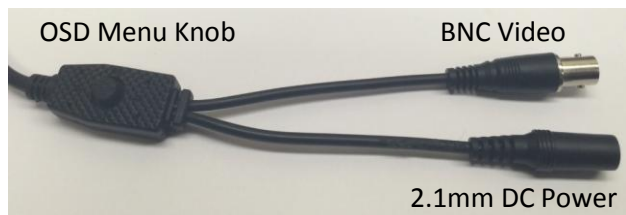


5 Meter Power Cable

INSTALLATION

CAUTION:

1. Be careful not to pinch video or power cables during installation.
2. Connect to 12VDC only
3. KJM recommends not cutting the 2.1mm DC power connector off the camera. Removing the connector voids the warranty and could physically damage the camera circuitry.



Electrical Connections

2.1mm DC Power

- +12VDC, 500mA
- Center pin +12VDC
- Body = Ground

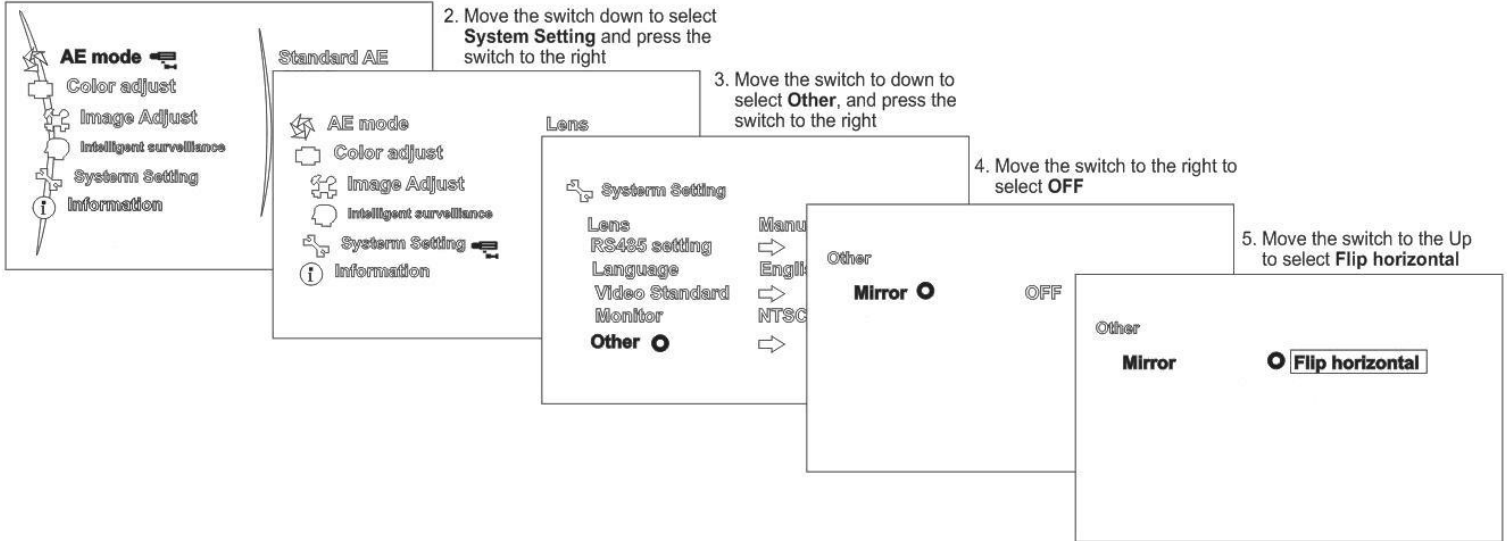
BNC Video Output

- BNC female
- 1vP~P, 75 Ω Composite video
- Center pin: Video positive,
- Body: Video ground

INITIAL SETUP

1. Run a power (**12VDC Only**) video cable (COMB-10 or COMB-25) from the chart plotter or monitor to the camera's final location and connect to the camera power and video cables.
2. Locate the OSD Menu switch on the camera power/video cable and press it in to show the main menu on the chart plotter or monitor.
3. There are many customizable selections, one of the most used are Normal or Reverse image.
4. Refer to the steps below to make the change and to become familiar with menu operation for other selections detail in **On Screen Display** section.

1. Press the OSD Switch to show **MAIN MENU**



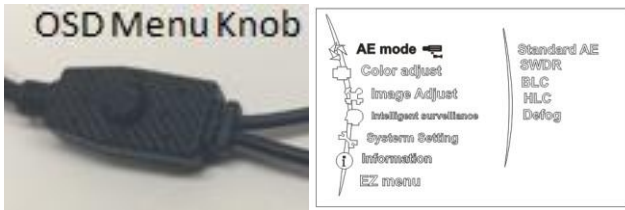
MOUNTING THE CAMERA

1. Drill a 3/4" (20mm) hole for the camera's cables, and 3 pilot holes for the base mounting screws.
2. Carefully feed the cables through the hole and attached the base with 3 mounting screws, carefully so not to pinch the power/video cable
3. Adjust the camera to the proper angle by using the Small Allen wrench (Horizontal) and Large Allen wrench (vertical) mounting base adjustments

On Screen Display

Menu Setup

1. Locate the OSD Menu switch on the power/video cable of the camera.
2. Press the switch to show the MAIN MENU on the monitor or chart plotter's display.
3. To browse menu functions, press the knob up or down, to select a sub-menu press the on the knob to the right or the left.



Layer 1	Layer 2	Layer 3	Layer 4	Note	
AE mode					
	Standard AE			Standard exposure mode	
		Smart WDR		0~3 [0]	
	SWDR				Double scan wide dynamic range mode
		Auto switch		Auto, On [Auto]	Auto switch SWDR mode by program or manual open
		Level		0~8 [3]	The proportion of WDR long and short exposure, the smaller value, the outdoor gets high percentage, more bright.
		Low lum brightness		0~40 [0]	
	BLC				Backlight compensation mode
		Level		Auto, Low, Middle, High [Auto]	Dark area compensation level
	HLC				
		Set range		(Right clock setting)	Set over exposure range, click enter to switch upper-left point and lower-right point, click 4 time for leaving mask setting
		Level		Low, Middle, High [High]	Dark area compensation level
		Mask grayscale		1~6 [1] (1-->Black(0,0,0), Other 40, 80, 120, 160, 200)	Mask grayscale level
	Demist				The demist mode
	Level		Auto, Low, Middle, High [Auto]	The demist level	
	3D-NR		Off, On [On]	Switch of 3DNR	
Color adjust					
	White Balance		ATW	Auto white balance	
	Brightness		0-99 [60]	Brightness	
	Color-Red		0-99 [50]	Color of red	
	Color-Green		0-99 [50]	Color of green	
	Color-Blue		0-99 [50]	Color of blue	
	Contrast		0-99 [50]	contrast	
	Saturation		0-99 [50]	saturation	
	CR suppress		Off, On [Off]	Color rolling suppression	
Image Adjust					
	Day & Night			Day and Night mode	

	D&N mode	Color, BW, Auto-Progressive, Auto-General, EXT [EXT]	Color: Color mode BW : Black and white mode Auto-Progressive : Human-like progressive black and white mode Auto-General : General black and white mode EXT: Switch by external signal, input from PIO 1 of main board. At the same time, need to set detect level that under [System setting]->[IR input level]
	Color burst	Off, On [Off]	Enable / disable color burst signal. Works under [BW] , [Auto-General] , [EXT] mode
	Delay Control	0-255 [0]	The delay time(second) of switch of D&N, Works under [Auto-General] mode
	Day -> Night	0-255 [64]	The entry point of Day to Night, this entry point must be late the back point of [Night -> Day]. Works only under [Auto-General] mode
	Night -> Day	0-255 [48]	The back point of Night to Day. This back point must be early the entry point of [Day -> Night]. Works only under [Auto - General] mode
	IR-CUT output	High, Low, Off [Off]	Output high or low level path through PIO 4 of main board to control IR-CUT device. Works only under [Auto-General] mode
	IR input level	High, Low [High]	
	Smart IR control	0 ~ 6 [3]	Set smart IR level
	Delay time	0 ~ 60 [2]	
	Digital slow shutter	1/100000, 1/10000, 1/5000, 1/2000, 1/500, 1/250, 1/100, 1/50, Auto, 1x,2x, 3x,4x, 5x,6x,7x,8x, 16x, 32x, 64x, 128x, 256x [5x]	Shutter speed
	3D-NR	0-3 [3]	3DNR level
	2D-NR	0-32 [16]	2DNR level
	Sharpen	0-7 [3]	Sharpen level
	FC suppress	0-15 [8]	False color suppression level
	Blemish compensation	0-3 [1]	Blemish compensation level
Intelligent surveillance	Motion detection		Motion detection
	Set range	(Click right button)	Set range

	Sensitivity	-2 ~ 2 [0]	Set sensitivity of motion detection	
	Warning trigger	High, Low, Off [Off]	Set the output level of motion detection, Output pin is PIO 3 of main board.	
	Alarm time	0~65535 [10]	Alert time from GPIO when motion object detected	
D-Zoom			Digital zoom	
	D-Zoom	1~4 [1]	Digital magnification	
	Tilt	Not available		
	Pan	Not available		
Privacy mask			Set privacy mask	
	Opacity	0-3 [3]	Set opacity of privacy mask	
	Mask select	1,2,3,4,5,6,7,8	Select mask	
	Set mask	(Click right button)	Set size and position of mask, Enter for switch upper-left point and lower-right point, click 4 times for leaving mask setting	
	Switch	Off, On [Off]	Mask switch	
	Mask color	0~15	Mask color	
Close IS		Not available		
System setting				
	Lens			Lens type
		mode	DC-Indoor, DC-Outdoor, Manual [Manual]	
		Brightness	-50 ~ 50 [0]	Works only under DC IRIS lense
		Aperture speed	1~8 [4]	Control IRIS lens aperture speed
	RS485 Setting			
		Camera ID	Not available	
		Baud rate	Not available	
	Language			Set language(Support 2 language)
	Monitor		CRT, LCD [CRT]	Switch monitor type
	Other			
		Mirror	Off, Flip vertical, Flip horizontal	Set mirror direction of camera image
		Show ID/Icon	Off, Show ID/Icon, Show ID, Show Icon [Off]	Show ID or icon
			Information	
Information			Information	

SPECIFICATIONS

Dimensions	Φ:36mm x L:55mm x H:40mm
Weight	100g.
Material	Aluminum, White Power Coat Finish
Environmental Rating	IP66
Camera Sensor	SONY 1/3" 960H HAD CCD Sensor
Picture Elements	NTSC: 976(H)*494(V) ; PAL:976(H)*582(V)
Camera Resolution	800 TVL
White Balance	AWB (2000°K ~10500°K)
Digital slow shutter	Auto x2...x256 1/50...1/100000
DNR	3D / 2D
WDR	SWDR
HLC	High / Middle / Low
BLC	Auto / High / Middle / Low
Lens	3.6mm Fixed
Reverse image	Yes
IR Illumination	18 LED's / IR Distance 50 FT
Useable Illumination	0 Lux / F2.0 (IR LED On)
Connections	Video: BNC Female, Power: DC 2.1mm Jack
Output Signal / Signal to Noise	Composite Video 1V P-P 75 Ohms / 72dB (WDR On)
Operating Temp	14F to 122F 95% Relative Humidity
Power	12VDC, 500mA (Max LED On)



FCC STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class "A" digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the users will be required to correct the interference at their own expense.

FCC CAUTION: To assure continued compliance, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This Class A digital apparatus meets all the requirements of the Canadian Interference Causing Equipment Regulations. WARNING- this product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

LIMITATION OF LIABILITY

- This publication is provided "AS IS" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for any particular purpose, or non-infringement of the third parties right.
- This publication could include technical inaccuracies or typographical errors. Change are added to the information herein, at any time, for the improvements of the publication and/o the corresponding product(s).

DISCLAIMER OF WARRANTY

In no event shall the supplier be liable to any party or any person, except for replacement or reasonable maintenance of the product, for the cases, including but not limited to the following:

- Any damage or loss, including but without limitation, direct or indirect, special, consequential or exemplary, arising out of or relating to the product.
- Personal injury or any damage caused by inappropriate use or neglect of the user.
- Unauthorized disassembly, repair or modification of the product by the user.
- Any problem, consequential inconvenience, or loss or damage, arising out of the system combined with the devices of the third party.
- Any claim or action for damages, brought by any person or organization being photogenic subject, due to violation of privacy with the results of the camera's picture, including save3d data, for some reason, becomes public or is used for the purpose other than surveillance.

TERMS

1. BLC (Back Light Compensation) - In images where a bright light source is behind the subject of interest, the subject would normally appear in silhouette. BLC allows the camera to adjust the exposure of the entire image to properly expose the subject in the foreground. WDR is a more effective alternative to BLC because it handles multiple exposure zones to give both the highlight and low light areas a proper exposure.
2. WDR (Wide Dynamic Range) - Adjustment used to enhance the image when the subject is in a shaded or brightly lit area.
3. HLC (High Light Compensation) - Setting used to lower strong spots of light to produce clearer images.
4. DNR (Digital Noise Reduction) - Image noise is interference in the video signal that shows up as grainy specks, DNR is a technique of removing image noise from a video signal by applying a digital comb filter.
5. Video Privacy Mask - Privacy Masking is a feature that allows you to blur or completely block certain areas seen on the monitor within the field of view of the camera.
6. Auto-iris - Allows the camera to control the lens iris to adjust for varying lighting conditions. There are often two related options as well, DC and Video - DC means the camera actually controls the iris, Video means the camera only supplies power to the lens, and a sensor in the lens controls the iris.
5. Backlight compensation - Brightens the image so that dark objects can be seen in strong lighting conditions.
6. White balance - Allows adjustments for different "temperatures" of lighting. Incandescent light, have more red and yellows, while fluorescent tends to be more blue / greenish. Because camera sensors see all colors equally, cameras may show those color casts.
7. Slow shutter - Provides low-light images by reducing the shutter speed below the normal, which allows more light to be collected by the sensor... however, that also allows motion blur to occur.
8. Mirror - Option simply flips the picture left-to-right, perfect setting for a reverse camera on a back deck for docking.