

FALCON EYE COLOR NIGHT VISION

View and record in colors during day and night





The same scenes shot with the Falcon Eye camera, a consumer HandyCam video camera, and a professional Generation III Night Vision camera.
See the videos at: www.falconeyecnv.com



EASY IDENTIFICATION

High resolution in clear colors and progressive scanning technology gives outstanding target recognition and identification capability.

FALCON EYE - COLOR NIGHT VISION

A new range of Falcon Eye cameras with truly unique features making it possible to view and record in colors during night - even in the near total darkness of scenes invisible to the human eye.

FALCON EYE

NEW TECHNOLOGY - UNIQUE FEATURES

A break through in advanced CMOS and noise elimination technology is the secret behind the revolutionary Falcon Eye cameras.

NIGHT AND DAY

High quality viewing, video recording and photo capturing during day and night.



MADE IN JAPAN

All parts 100% designed, manufactured and assembled in Japan including sensor, housing, and optics.

AFFORDABLE LENSES

Interchangeable CS-mount lenses offers great flexibility in focal length for different applications at an affordable price level.

ADAPTS TO LIGHT CHANGES

Rapid overload response gives smooth transition when illumination is changed.





SURVEILLANCE

Gives the power to see and record unwanted personnel and threats invisible to the naked eye, and helps security professionals, homeland security officers and coast guards to improve surveillance, increase security and prevent crimes.



MILITARY

Recording of military drills and actual operations during night and day with an easy to use camera build for rough environments. The high resolution color image is pleasant for the eye even after long time use, and reveals important details in the recorded scene.



NATURE

Outdoor recording of wildlife at night in HD color can now document and entertain us in ways we have never seen before.



LAW ENFORCEMENTS

Excellent recognition performance and tamper proof data makes the Falcon Eye system ideal for monitoring of crime scenes and recording as evidence.



NEWS & DOCUMENTATION

Broadcast companies, TV stations, newspapers, and magazines can report in HD full color videos and still images of events and disasters happening around the clock.



ENVIRONMENT RESEARCH

Documentation and research of the nature and environment is no longer limited by availability of light. With the Falcon Eye camera scientists have a tool to enhance our knowledge and to increase the protection of the environment.



RESCUE

Operations are needed night and day all year round. The Falcon Eye camera is designed to be effective regardless of weather or lighting conditions, and gives the maximum support to rescue teams in their effort to save lives.



FALCON EYE



“Defog mode” not activated.



FOG OFF

The Falcon Eye cameras include a fog elimination feature. The Fog Mode cuts through mist - boosts contrast to enhance clarity.

FALCON EYE



“Defog mode” activated.



Imaging Unit

Minimum Subject Illumination: 0.005 lx (F1.4, 30 frames per second)
Image Sensor: CMOS, 2/3" size
Resolution: HD (High Definition) resolution. 1280 (H) x 720 (V) pixels.
Pixel size: 7.1µm (H) x 7.1µm (V)
Image Sensing: Color
Filter: RGB Primary Color Filter (Bayer Array).
Spectral Sensitivity: 390-700 nm
Dynamic Range: 250%
Scanning system: Progressive
Overload response: Rapid, makes consecutive recording possible even with large change in ambient light
Video mode: H.264 / Still image: JPEG
Frame rate: Video mode: 30 fps

Recording and settings

Exposure mode: Automatic, and manual settings of exposure time (1/8 sec - 1/10,000 sec).
Manual
Focus Settings: N/A
Autofocus System: N/A
White Balance setting: Automatic, and manual select between 6 pre-sets.
Recording Media: SD Card (standard and WORM)
Menu system: Yes
Fog removal: Yes, can enhance image quality and make details more visible. Setting: OFF / AUTO

Lens

Lens System: Interchangeable Lens System
Lens Mount: CS (C mount lenses can be used together with the optional 5mm adapter ring).

Viewing

Viewfinder: Electronic (EVF) with Diopter Adjustment
LCD Monitor: Not Available

Audio

Recording Format: Linear PCM 16bit/48KHz. Build in microphone: mono, optional microphone: stereo
Audio input: Build in microphone
External audio input: Optional external microphone, 3.5mm stereo mini-jack port
Audio settings: Automatic
Audio output: Built-in Speaker: None
Headphone Jack: Available: 3.5mm stereo mini-jack

Output

Format: HD 1280x720 (with embedded audio)
HDMI: Yes (Type A)

Power

Power Source: 7.4 V Li-ion battery, 4,900 mAh
Power supply: DC
Max. Recording Time: 5 hours consecutively with the standard battery

Other

Tripod screw: Yes, 1/4" diameter
Accessory mount: Hot shoe
Construction: Weather sealed / Splash-proof, rugged compact housing made of aluminum
Weight camera: 995 g (accessories and battery not included)
Dimensions: 85 mm diameter x 150 mm length
Environment requirements: Temperature: -15°C to 40°C
Humidity Non-condensing: 95%

FALCON EYE KC-2000 CAMERA

DUAL FUNCTION

Captures video and still images with simple two button operation.

USE AS EVIDENCE

Movies and images can be used as evidence of crime scenes, as tamper-proof SD cards can be used (Write Once Read Many SD memory cards).

FULL METAL JACKET

Build for operation in tuff environments. Housing made of aluminum. Weather proof.

PLEASANT FOR THE EYE

High resolution image (HD) with natural colors makes it pleasant for the eye also after long time use.



AUTOMATIC

Easy to operate with most settings done automatically. Video recording can be handled by persons without photographic background.

HANDHELD OPERATION

Compact, light weight and excellent portability. Designed for handheld shooting.

KC-2000 隼
MADE IN JAPAN FALCON EYE



Accessories –
included with camera

Falcon Eye KC-2000 Accessories

Lithium Ion Battery

A high capacity rechargeable Li-ion battery for use with Falcon Eye KC-2000 camera.

Capacity: 7.4V, 4900mAh, 37Wh
(minimum capacity)

Safety features: Over charge, over discharge and over load protection

Maximum load: 3.5A / 21W

Dimensions: 43(W) x 70.4(H) x 47(D) mm

Weight: 225g approx.

2-Channel Battery Charger

7.4V 2-Channel Simultaneous Quick Charger for the KC-2000 li-ion battery.

Each channel is operated independently, so batteries can be placed on charge in any order and at any time for a quick turnaround

AC Adaptor input voltage: AC100 240V 50/60Hz

Charger input voltage: 12-19V DC

Charge current: 1.6A

Compatible batteries: IDX SSL-JVC50

Charging time: 230 mins approx.

Dimensions (mm): 140(W) x 46(H) x 129(D)

Weight: 500g approx.



Optional accessories –
(not included with camera):



Stereo Directional Microphone

Stereo Electret Condenser type (dual uni-directional).

Frequency Response: 100-18,000Hz

Sensitivity: -40dB @1kHz (1V/Pa)

Output Impedance: 1.5 k ohm @ 1kHz

Signal-to-Noise Ratio: 60dB (1kHz @ 1Pa)

Dynamic Range: 66dB

Power Supply: 1.5VDC ("AAA" size battery)

Max. SPL: 100dB

Battery Current Drain: 0.5mA

Battery Life: 400 hours with Alkaline battery

Weight w/o battery: 52g

Dimensions: 177mm long – 18.2mm diameter

Output cable: attached with 3.5mm plug

Supplied Accessories: Camera hot-shoe mic holder, wind-screen

Kowa TP556 Telephoto Lens

500mm f/5.6 FL Telephoto Lens/Scope

Optional adapters available from Kowa will turn this lens into a 350mm lens or an 850mm lens

Fluorite crystal Prominar XD lenses

Lightweight & compact design, Dust & weather proof

Dual focus rings

Focus type: Manual

Aperture: Maximum: f/5.6 Minimum: f/11

Angle of View: 4.9°

Minimum Focus Distance: 3.0 m

Magnification: 0.17x

Elements/Groups: 7/7

Diaphragm Blades: 9

Image Stabilization: No

Tripod Collar: Yes, Removable – rotating

Filter Thread: Front: 95 mm

Dimensions (DxL): 10.16 x 34.04 cm

Weight: 1.97 kg



Kowa LMZ69M Macro Zoom lens

Iris Range F1.4 ~ Close, Focal Length (mm) 11.5 ~ 69 (6x)

Capacity: 7.4V, 4900mAh, 37Wh (minimum capacity)

Safety features: Over charge, over discharge and over load protection

Maximum load: 3.5A / 21W

Dimensions: 43(W) x 70.4(H) x 47(D) mm

Weight: 225g app



Elicar V-HQ Macro Zoom Lens

f/4.1-5.7 Macro Zoom Lens, 300 – 600mm IF ED

Focal Length on c-mount: 450-900 mm

Continuous focusing from 0.55 cm to infinity.

All rings (focusing/zooming/aperture/macro) are of solid metal, not rubberized.

The markings of all scales are engraved.

Focus type: Manual

Zoom type: Rotating

Aperture: Maximum: f/4.1

Minimum: f/32

Maximum reproduction ratio: 1:4

Elements/Groups: 19/16

Diaphragm Blades: 10

Minimum Focus Distance: 0.55 m

Angle of View: 7°55' – 4°06'

Coating: Multi-coated

Hood: Build-in retractable

Tripod Mount: Build-in

Magnification: 0.17x

Filter Thread Front: 112 mm

Mount: C/CS

Dimensions (DxL): 120mm x 414 cm

Weight: 3,750 g

Warranty: Five-Year



Falcon Eye KC-1000

Camera Head Unit

Minimum Subject Illumination:	0.005lx (F1.4, 1/30, +66 dB)
Image Sensor:	CMOS, 2/3" size, Color
Pixel size:	7.1µm (H) × 7.1µm (V)
Resolution – total:	Approx. 1.47 Mpixles. 1408 (H) × 1042 (V) pixels
Resolution – effective:	Approx. 1.33 Mpixles. 1288 (H) × 1032 (V) pixels
Filter:	RGB Primary Color Filter (Bayer Array).
Sensitivity:	F16 2000lx
S/N ratio:	Over 50dB (Gamma =1, edge enhancement OFF)
Spectral Sensitivity:	390–700 nm
Dynamic Range:	250%
Scanning system:	Progressive
Frame rate:	60 fps
Spectral Sensitivity:	390–700 nm
CCU Port:	J45 x 1 (screw lock)
Lens mount:	C
Overload response:	Rapid, for recording with large change in ambient light

Camera Control Unit

Video output format:	HDMI x 1 HD-SDI (BNC) x 1, (VBS)(BNC) x 1
Sync signal input:	External sync input (VBS / bi-level) BNC×1
USB:	USB 2.0 x 1
Serial port:	RS-232C (D-Sub 9-pin male) x 1
GPI (Contact type):	2 circuits (using unutilized serial port pins)
LAN:	RJ45 x 1 (10Base, 100Base-TX)
IR remote receiver (optional):	Front x 1, rear expansion port x 1
Camera port:	RJ45 x 1
Video output format HDMI:	1920×1080/59.94p, 1920×1080/59.94i, 1920×1080/50p, 1920×1080/50i, 1280×720/59.94p, 1280×720/50p
Video output format 3G-HDSLI:	1920×1080/59.94p, 1920×1080/59.94i, 1920×1080/50p, 1920×1080/50i, 1280×720/59.94p, 1280×720/50p
Video output format Composite:	NTSC, PAL down converted (letterboxed)
Still photo format:	(USB) JPEG (1280×1024)
Fog Mode:	Yes, boost contrasts. Setting: OFF / AUTO

General Specifications

DC Input Voltage:	DC12V ± 10%
Power consumption:	13W or less
Operating temp. / humidity range:	0°C - 45°C / 35-90%
Storage temp. / humidity range:	-20°C - 60°C / 20 - 90%
Dimensions Camera head:	46.0(W)×55.2(H)×51.9(D)mm
Dimensions camera control unit:	170.0(W)×47.0(H)×183.5(D)mm
Weight camera head / control unit:	160g / 1100g
Distance camera to control unit:	Up to 100m (twisted pair cable) by using repeaters

Other features

Quality adjustment:	Automatic / Shutter Priority / gain priority.
Gain:	AUTO / MANUAL (0- 78.0dB)
Shutter speed:	1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
Gamma correction:	Variable 0.35 ~ 0.55, OFF
Knee:	Fixed / Auto
White Clipping:	Variable 100-109%
WDR:	OFF / ON
DNR:	OFF, LOW, MIDDLE, HIGH
White Balance:	ATW / AWC / MANUAL
R/B:	Variable gain 0-1023
Black Level:	Variable -100-0-100
Chroma Level:	Variable 0-255
Electronic zoom:	x2
Image inversion:	Upside down, flip horizontal, vertical and horizontal inversion
Picture freeze:	Pause live video
Scene file:	Up to 5
Test pattern:	Color bars , gray scale , cross-line built-in
OSD:	Display operation for menu, message, time, the scene file numbers, etc.



BROADCAST QUALITY

High quality output in HD-SDI / HDMI / Composite Video format.

FAST FRAME RATE

Captures action scenes with a fast frame rate of 60 frames per second at night.

OPTIONAL RECORDING

By connecting image recorder or a PC, it is possible to record videos in HD quality.

POWER SAVING

Advanced non-cooling type technology consumes minimum level of power.

KC-1100



FALCON EYE

Falcon Eye KC-1100

Camera Specifications

Minimum Subject Illumination:	0.005lx (F1.4, 1/30, +60 dB)
Image Sensor:	CMOS, 2/3" size, color
Pixel size:	7.1µm (H) × 7.1µm (V)
Resolution – total:	Approx. 1.47 Mpixles. 1408 (H) × 1042 (V) pixels
Resolution – effective:	Approx. 1.33 Mpixles. 1288 (H) × 1032 (V) pixels
Filter:	RGB Primary Color Filter (Bayer Array).
Sensitivity:	F22 2000lx
Horizontal definition:	Over 650TV lines
Spectral Sensitivity:	390–700 nm
Dynamic Range:	250%
Scanning system:	Progressive
Overload response:	Rapid, makes recording possible with large change in ambient light

Frame rate:	60 fps
Sensitivity:	90–700 nm
Electronic zoom:	x1, x2, x3, x4, x5, x6, x7, x8, x9, x10
Picture flip:	Vertical flip, horizontal flip, vertical & horizontal flip

Test patterns:	Color bars, grayscale, crosslines available internally
----------------	--

Privacy mask:	8 masks GRAY/WHITE/BLACK
OSD:	Operation menu S/N RATIO Over 50dB (· =1, edge enhancement OFF)
Lens mount:	CS
Lens control:	4-pin DC iris control

Picture Quality Control:	OFF, 1/100, 1/125, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000, Variable
Electronic sensitivity boost:	AGC / HYPER-AGC, Manual: LOW / MID / HIGH

Gain Auto:	AGC / HYPER-AGC, Manual: LOW / MID / HIGH
------------	---

Electronics shutter:	OFF, 1/100, 1/125, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000, Variable
----------------------	--

Backlight correction:	×5 area select
Gamma correction:	45 / 0.75 / 1
DNR:	FF, Low, High
White balance:	W1 / ATW2 / AWC / manual
WDR mode:	FF / WDR / AUTO KNEE / AUTO BLACK STRETCH

Fog mode:	Yes, boost contrasts to make details more visible. Setting: OFF / AUTO
-----------	--

Color matrix:	R/G/B/Ye/Cy/Mg 6-axis control
Other:	Digital / Chroma / Black Level

Interface Specifications

Video output:	HD-SDI (BNC) × 1
Video output:	Composite video (BNC) × 1
Synchronization signal input terminal:	External sync input (VBS / 2 level sync) BNC × 1

Port:	Serial RS-485
GPI (Contact type):	IR cut filter (switchable)
Output format HD-SDI:	1920 × 1080/59.94i, 1920 × 1080/29.97p, 1280 × 720/59.94p, 1280 × 720/29.97p, 1920 × 1080/50i, 1920 × 1080/25p, 1280 × 720/50i, 1280 × 720/25p

Output format Composite video:	NTSC, PAL downconverted (letter box / side cut / squeeze)
--------------------------------	---

General Specifications

DC Input Voltage:	DC12V ± 10% (ripple 50mVp-p or less)
Power consumption:	6W
Operating temp./ humidity range:	0°C - 50°C / 35-90%
Storage temp. / humidity range:	-20°C - 60°C / 20 - 90%
Dimensions (Excluding protrusions):	78.0 (W) × 66.0 (H) × 139.0 (D) mm
Weight:	650 g



THE COMPANY BEHIND FALCON EYE

Komamura Corporation was established in 1947 and has for more than 60 years been an important player in the international professional camera business. Komamura Corporation developed and marketed the Horseman Professional Camera product range. First for large format film and later new models with world first technology for digital photography. Komamura Corporation has now shifted the focus from professional photographic equipment into ultra high sensitivity recording technology, and has amazed the world with the introduction of the new Falcon Eye product range.

KOMAMURA CORPORATION
Komamura Bldg.
3-2-4 Nihonbashi,
Ningyo-cho, Chuo-ku
Tokyo
Phone: +81-3-3808-0118
www.falconeyecnv.com

