

# Ikegami

# MKC-307

High Video Quality Digital  
Processing 3CCD Color  
Camera



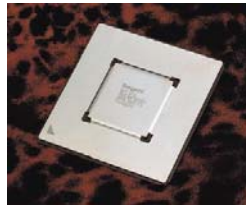
- Realizes High Video Quality (H Resolution 850TVL and S/No. 64dB) and High Sensitivity (2000 lux/F14).
- High performance digital processing technology is used to achieve reliable broadcast quality pictures through our latest ASIC.
- Provides a function to invert the right and left of an image or the top and bottom of an image.
- Fluorescence photographing as well as a microsurgical application.

# MKC-307 Digital Process Small 3CCD Color Camera

## High End SDTV Image

### ■ Latest Digital Processing

Same Digital Processing IC (ASIC) used in our broadcast camera is adopted. It realizes a clear video image using 0.18 $\mu$ m rule ASIC capable of maximum 38 bit video processing.



Digital Process IC (ASIC)

### ■ 14 Bit A/D Converter

Lower noise 14 bit A/D converter is used. This reproduces smooth gradation in the dark image.

### ■ High Sensitivity F14, 2000 Lux

It realized higher sensitivity (F14, 2000 Lux) using a higher Sensitivity 410,000 pixels 1/2" IT CCD

### ■ S/No. 64dB

By newly developed CCD video processing circuit and a lower noise 14 bit A/D converter, it produces very clear image S/No. -64dB.

### ■ High Quality Image

It realizes Horizontal Resolution 850TV lines to produce high quality image which is the best suitable for medical field use, like the operating microscope system and the astral lamp system.

### ■ A Compact and light weight camera head

Newly developed, high sensitivity C-mount Optics block is adopted to achieve both high video quality, a compact and light weight.

### ■ Control Panel

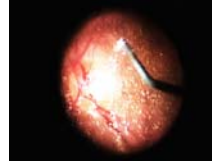
## Excellent practical use and functions

### ■ Image Enhancement Function\*

This function optimizes each pixel of the video signal using a calculation circuit and sets a contrast at proper level. This reduces poor image in white portion or black portion so that it becomes to a true image that a human can see the object using his eyes.

\*This function uses a technology of APICAL CO.

NORMAL



ENHANCEMENT ON



NORMAL



ENHANCEMENT ON



### ■ Digital Automatic Gain Control

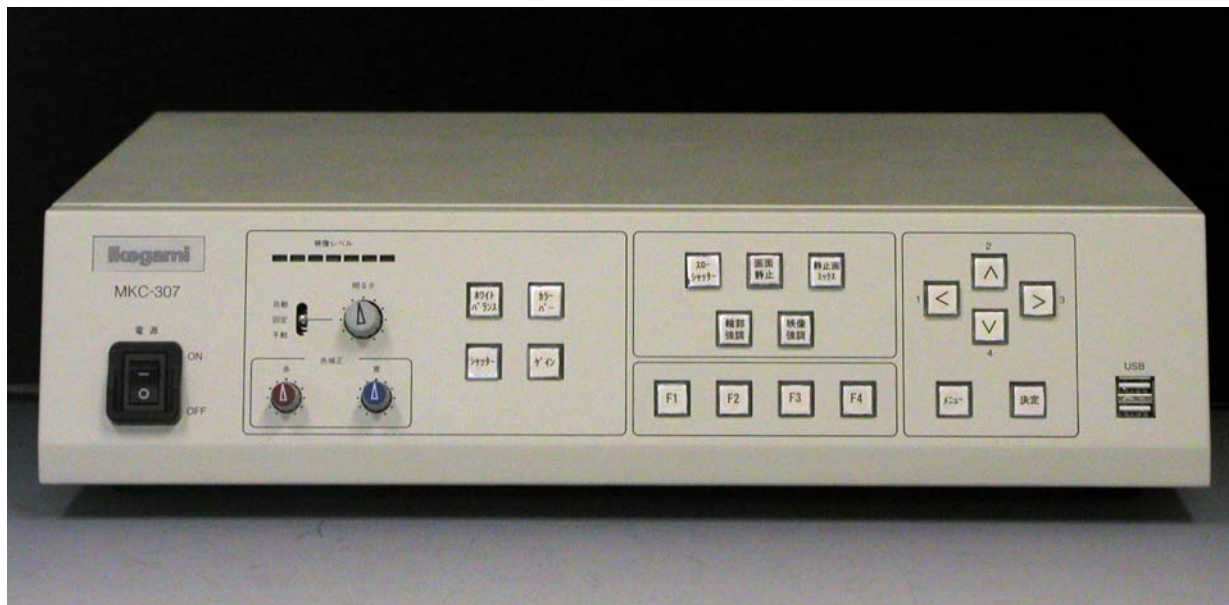
It reduces a deterioration of a gain up comparing with conventional analog AGC.

### ■ Adaptive Auto Knee

Even with a sudden change of brightness, it prevents high light parts from changing its color. And appropriate video is reproduced.

### ■ Black Stretch

A video without under exposure is reproduced by adjusting contrast of dark affected parts.



## Realized Advanced Functions

### ■Best in Fluorescence Photography

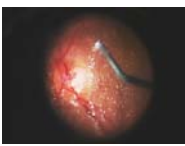
Even the fluorescence object under Near-IR area which a conventional camera is in difficulty to capture, the MKC-307 captures it perfectly

\*Optional filter is available.

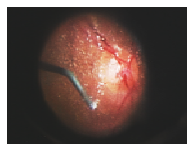
### ■Invert Top and Bottom or Right and Left

For a reverse video caused by the optical equipment like a microsurgical use, this camera provides a function to invert the top and bottom or the right and left to see an image properly. An optional foot switch also controls it externally.

Original Image



Reversed Image



### ■Image Overlay Function

This function displays a multiple still images from the storage to compare each image stored.

### ■Auto Slow Shutter (Sensitivity Up Mode)

This makes an increase of a sensitivity automatically by a multiple exposure of the light input to the CCD.

### ■External Trigger

This camera has an external trigger function to capture an image under any timing by input of an external trigger signal.

## Various Functions makes a system camera operation

### ■Still Picture Storage Function

This can be stored with either non-compression format or JPEG format in an external USB Memory as VGA (640X480) size

### ■Moving Video Record Function

Moving image can be recorded with DV (AVI) format into an external HDD recorder (option).

### ■Simple Filing Function

To use with a touch panel capable LCD monitor, a simple filing function can be used. Any of recorded still images (VGA size) or moving image be viewed on the screen.

### ■DICOM Transmitting Function (Option)

Stored data (still picture) are available to transmit to the DICOM server through a network by changing into DICOM files.

### ■DICOM Patient Information Communication Function (Option)

The patient information can be accessed by inputting a patient ID with using DICOM QR service. And patient information can also be accessed by the reservation information list with using a DICOM MWM service, too.

## Superb Operation and Usage

### ■Superb Operation

A CCU and a camera head are separated. All adjustments of the image and selection of function can be done with CCU on hand.

### ■Scene File Function

This function is capable of store and select a setting of each correction and each function up to four (4) positions.

### ■Function Switch

This switch is assignable to each function so that it can be called by one touch.

### ■Remote Control

Optional foot switch is capable to control a function switch remotely.

### ■DV Output

The DV Output Terminal has the capability to connect and system up with various DV equipment like a PC or a DV video recorder.

\*Some equipment may be not be compatible.

### ■Optional Focus Control

When installed in a surgical microscope and connected with an optional remote focus auto iris adaptor, a focus adjustment can be done by a remote controller.

GUI screen example

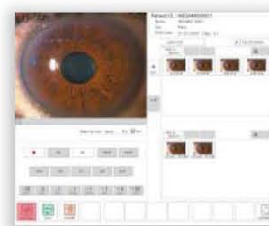
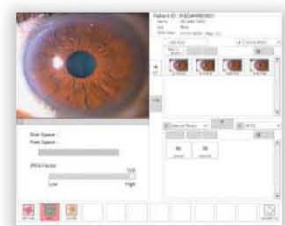


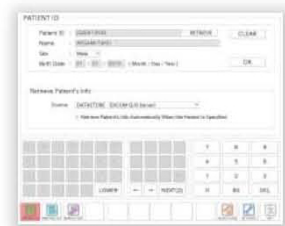
Image capture screen



Still picture storage screen



DICOM transmitting screen



Patient ID input screen

# 3CCD Color Camera

# MKC-307

## Rating

Optics	RGB Prism method
Lens Mount	C Mount
Image Sensor	1/2Inch 410,000 Pixel IT CCD x 3
Scanning Method	2:1 Interlace 525 lines 60 fields 30 frames
Aspect Ratio	H4:V3
Output Signal	
Composite output	VBS: 1.0Vp-p(75 Ω) BNC x 2
S-VIDEO	Y: VS1.0Vp-p(75 Ω) S Terminal x 2
	C: 0.286Vp-p(75 Ω) Mini D-Sub 15 pin x1
RGB/YpPr output	Y: VS1.0Vp-p(75 Ω)/PbPr: 0.7Vp-p(75 Ω)
	RB : 0.7Vp-p(75 Ω)
	G : 1.0Vp-p(75 Ω) [G on Sync]
	SYNC: 2.5Vp-p(75 Ω)
	[RGB or YpPr select on D-Sub pin x 1]
	YUV : 4:1:1 x1 [IEEE1394 6pin]
DV output	
Input Signal	
External sync input	VBS: 1.0Vp-p(75 Ω)
	BBS: 0.4Vp-p(75 Ω)
	-60dB (mono)
Audio input	RS-232C (x1 D-Sub 9 pin Male)
Remote input	Freeze, Record Start/Stop, Scene File Selection, Florescence
Control input	Mode Selection : x 1, 4 Contact (D-Sub 9 pin Female)
Interface	USB 2.0 x 4 Ports
	LAN 100 Base-T x 1
	PS/2 1 system
	RS-232C 1 system
Shutter Speed	1/100 ~ 1/10000 Continuous Variable (Auto Shutter Function)
Detail Correction	Horizontal: 2H, Vertical: 2H
Camera Cable Length	5m + 10m (Option) [Maximum 30m]
Power Requirement	AC100V ~ 240V ± 10%
Power Consumption	100W Approx.
Operating Temperature	0°C ~ +40°C
Dimensions/Weight	Head: W38xH53xD65mm/ 170g or less
	CCU: W415xH95xD325mm/ 4 kg or less

## Performance

Resolution	Horizontal 850TVL, Vertical 400TVL
S/No.	64dB (Gamma/DTL off, ENC Output)
Sensitivity	2000 Lux F14 /3200K or above
Registration Error	Within 0.05% of entire picture

## Function

Function	Top/Bottom and Right/Left Reverse, Florescence Mode, External Trigger, Picture Overlay, Scene File, Still Picture Storage, Moving Picture Storage, Simple Filing
Auto Function	Auto White Balance, Auto Gain Control, Auto Shutter Iris, Auto Iris Control, Auto Slow Shutter, Auto White Shading
Detail Enhancement	Skin Detail ON/OFF
CCD Read Out	Field or Frame Selectable
Freeze	Field or Frame Selectable on menu.
Color Correction	Rch/Bch ±3dB (Continuously variable by knob)
Brightness	Brightness Adjustment
Video Level Indicator	Seven (7) steps
Color Bar	Built-in SMPTE Color Bar
Light Measure Area	Selectable in Menu
External Remote	Available (Option)

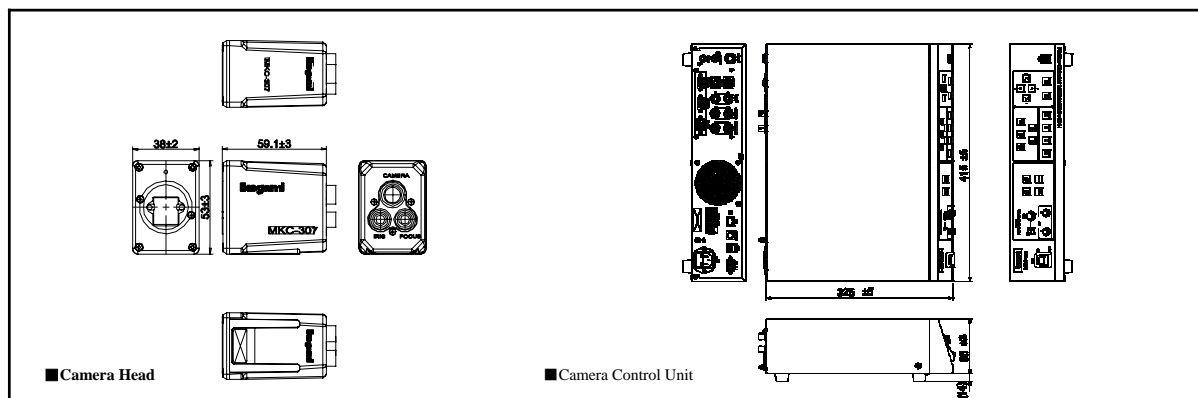
## Standard Accessories

AC Power Cord and an USB Memory

## Option

Camera Cable 5m + 10m (Maximum 30m)  
 External HDD Disk,  
 Foot Switch,  
 DICOM Transmitting Function, DICOM Patient Information Communication Function,  
 Microscope Auto Iris Adaptor

## External Drawing (mm)



Design and specifications are subject to change without notice.

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