

# Ikegami

3CCD Broadcast Quality Portable Digital Camera

# HL-45A/45AW



3CCD High Quality Portable Digital Camera

# HL-45A/45AW

**New Horizons And Possibilities**

The HL-45A/45AW is a cutting-edge, high-performance digital camera with new-generation ASICs that support reductions in camera size, weight and power consumption.

High performance is achieved through three IT CCDs that provide an astounding 900 (HL-45A), 750(HL-45AW) TV lines, or more, resolution, a modulation depth of 75% (5MHz), a dynamic range of 600%, a sensitivity of f10 (HL-45A), f11 (HL-45AW) at 2000 lux and a S/N of 64dB (NTSC), 61dB (PAL). For cost-savings, the HL-45A/45AW connects with existing TA/BS-OCP-40, and newly developed TA/BS/OCP-45 for wideband triax operation.

The HL-45A/45AW sports a slew of capabilities for leading-edge performance.

For example, a memory card can store operating status to facilitate camera setup.

The camera uses an advanced RGB DTL System to enhance resolution, plus much more, all made possible through advanced digital signal processing.



# New Standard for High Image Quality

## ■ High Density CCDs

High-performance 520,000-pixel(NTSC) for HL-45A/45AW, 620,000-pixel(PAL) for HL-45A and 600,000-pixel(PAL) for HL-45AW, IT CCD image sensors provide exceptional smear characteristics. A horizontal resolution of 900(HL-45A), 750(HL-45AW) TV lines, or more, and a modulation depth of 75% (5MHz) deliver top-notch performance.

## ■ Digital Process

Newly-developed digital processing ICs (ASICs) with 12-bit analog to digital(A/D) conversion deliver a high S/N ratio of 64dB (NTSC), 61dB (PAL). Because all the processing after PRE KNEE is digitized, high image quality with rock-solid stability is achieved. Because the processes, such as gamma and DTL, are also digitized, video with a good S/N ratio is maintained during operating conditions.

## ■ Super-V

The Super-V function enhances the vertical resolution by 20% through combination of the frame store mode and 1/60(NTSC), 1/50(PAL) shutter.

## ■ Color Matrix

A six-axis color linear matrix circuit is incorporated to compensate for optics-related color reproduction, thereby achieving vivid, true-to-life color tones.

## ■ Dynamic Range

The HL-45A/45AW delivers a dynamic range of 600%. Even for high contrast subjects, video with proper contrast can be produced.

## ■ Sensitivity of f10(HL-45A), f11(HL-45AW)

A sensitivity of f10(HL-45A),f11(HL-45AW) at 2000 lx is realized. A greater depth of field facilitates simple focusing. In addition, clear images can be acquired even when the camera is used under poor lighting conditions.

## ■ Lineup for Supporting User Needs

In flexible response to diverse user needs, the HL-45A(a fixed aspect ratio of 4:3) and the HL-45AW( switchable between 4:3 and 16:9) are available.

## Digital-Specific Versatile Videography

### ■ RGB DTL Method

Conventionally, the vertical DTL signal is derived from the G signal alone, so that the sense of resolution for red and blue subjects was insufficient. This shortcoming is overcome by the HL-45A/45AW, which produces independent vertical DTL signals from the respective R, G, and B signals, thereby substantially enhancing the sense of resolution for red and blue subjects.

### ■ Black Stretch

The Black Stretch function improves the reproduction in shadow areas of a subject by raising the video level only for low-brightness portions. The stretch level is variable in 3%, 5% and 7%.



Normal



Black Stretch on (7%)

### ■ DTL Function

Numerous DTL functions are incorporated, such as, Diagonal DTL, soft DTL, Skin DTL, as well as variable boost frequency (in 8 steps) and H/V balance.

# More Flexibility for High Image Quality

## ■ Memory Card

The HL-45A/45AW is memory-card-ready so that camera operating status can be stored. Thus, camera setup, color matching and identical DTL settings for several cameras is greatly simplified (The SmartMedia with a capacity of 2MB is used for storage).



## ■ Variable Shutter

In addition to six shutter presets, a variable shutter is also employed which can be set from 1/60.3 to 1/201 (NTSC), 1/50.3 to 1/200 (PAL) of a second.

## ■ +36dB Gain

A +36dB gain allows for minimum illumination of 0.7 (HL-45A), 0.5(HL-45AW) lx (f1.4). Because sensitivity is enhanced electronically, loss of resolution is minimized.



## ■ Filter

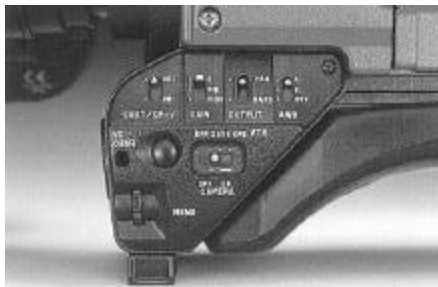
The HL-45A/45AW has a built-in CC filter disk. A color temperature conversion filter can be selected to best match surrounding illumination conditions.

## ■ High-Resolution Viewfinder

The HL-45A/45AW comes standard with a 1.5-inch high-resolution viewfinder that delivers a horizontal resolution of 600TV lines. This ensures clarity and consistently high image quality.

## ■ Menu Switch

Shutter speed and Super-V can be set with a menu switch located on the switch panel. Various camera settings can be made on screen in a menu-driven manner, thereby substantially improving ease of operation.



## Design and Functionality

### ■ Low Center of Gravity

The camera head is designed with a low center of gravity for operator comfort.

The camera head is compact, weighing less than 6 pounds. High-density CCDs are used, and the power consumption is a low 15W, thanks to newly developed ASICs.

### ■ Shoulder Pad

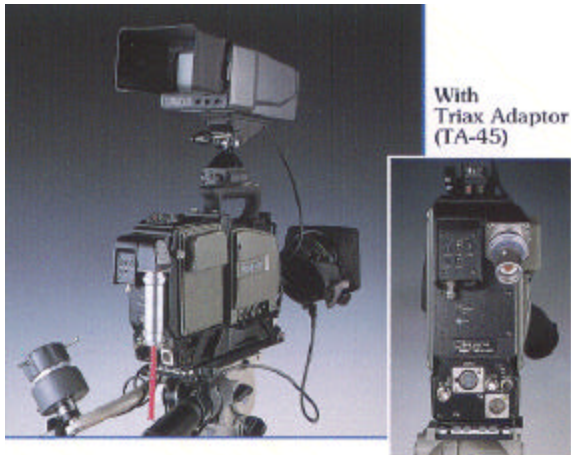
A new non-slip material is used for the shoulder pad. Pad position can readily be adjusted front and rear, as well as right and left angle.

# Quest for Further Improvement in Operability

## ■ Triax Operation

Triax operation can be achieved by connecting the existing TA/BS/OCP-40. Remote control and high-resolution video transmission can be implemented.

And also, a newly developed triax system (TA/BS/OCP-45) is now available. Moreover, because a 5-inch or 6-inch VF can be mounted, the HL-45A/45AW can be configured as a studio camera.



## Main Features of New Triax System

### ■ TA-45

- Equipped with a pivoting type TRIAX connector.
- INCOM facilities.
- Q-TV output available as an option.

### ■ BS-45

- Compact Size (4U half-rack size) and lightweight (13.2 lbs)
- SDI (D1) output and Q-TV (max. 300m with 8.8 mm diameter TRIAX cable) available as options.
- DC operation available as an option.

### ■ Control Panel

- Three types of control panels available.

#### (1) OCP-45

- Joystick operational remote control for HL-45A/45AW and BS-45.
- Various set-up controls available by the remote function of the camera menu.

#### (1) RM-45

- Compact control panel equipped with basic operating controls.
- Can be attached to the front of the BS-45.

#### (1) RCP-50

- Full control of camera functionality.
- Can be attached to the front of the BS-45.
- Equipped with memory card function.

## ■ Rear Panel Adaptor/VCR Dockable

The HL-45A/45AW can be docked with various VCRs, with the aid of very compact VCR rear panel adaptors.

## ■ Dockable Disk Recorder (DNR-20)

The HL-45A/45AW can also be docked with a DNR-20, hard disk recorder, as well as a conventional VCR system.



With Betacam SP VCR (BVV-5)



## ■ Supports Various Video Output Signals

The HL-45A/45AW can output composite video, Y/C, component, and RGB signals.

# ACCESSORIES



Camera Adaptor  
**CA-40**



Triax Adaptor  
**TA-45**



Base Station  
**BS-45**



Operation Control Panel  
**OCP-45**



6-inch Viewfinder  
**VF6-6XU/XUW**



5-inch Viewfinder  
**VF5045W**



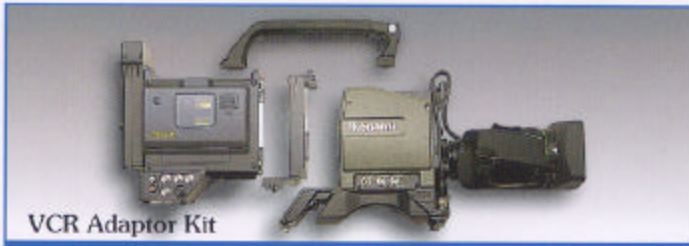
1.5-inch Viewfinder  
**VF15-46**



Camera Control Unit  
**MA-200A**



Remote Control Unit  
**RCU-240A**



**VA-39P** for DUCAM VCR (DSR-1)  
for Betacam SP VCR (PVV-3)  
for Hi-8 VCR (EVV-9000)  
**VA-39G** for S-VHS VCR (AG-7450A)

**VA-45VD** for S-VHS VCR (BR-S422)  
for DIGITAL S VCR (BR-D40)  
**VA-39A** for DVCPRO VCR (BR-D90/AJ-D90)  
for MB VCR (AU-45H)



Head Set (for CA-40)  
**MT-667D-01**

## SPECIFICATIONS

### ■ New Triax System

- **TA-45**
  - MIC Input 1ch(ch-2:option)
  - Q-TV Out 1ch BNC 1.0Vp-p 75ohm(option)
  - Incom 1ch XLR or 110 type
  - Max Transmission Distance 600m (8.8mm dismeter TRIAX cable) Q-TV: 300m
  - Power Consumption 7W approx.
  - Weight 2.2kg approx. (4.85 lbs)
  - Dimensions W110 x H233 x D180mm (4.33 x 9.17 x 7.09 inches)
- **BS-45**
  - Genlock In BNC (loop through) VBS/BBS
  - Q-TV In 1 ch BNC(loop through) VBS
  - Composite Video Out 2 ch BNC 1.0Vp-p 75ohm
  - Component Video Out 1 ch each 75ohm
  - RGB Video Out 1 ch each BNC 0.7Vp-p 75 ohm
  - SDI Out 2 ch BNC 0.8Vp-p 75 ohm (Option)
  - Incom 1 ch XLR or 110 type
  - MIC Output 1 ch XLR 3pin
  - Power AC or DC12V
  - Power Consumption 95W
  - Dimensions W212 x H155 x D291mm (8.35 x 6.10 x 11.46 inches)
  - Weight 6kg approx (13.23 lbs)
- **OCP-45**
  - Power Consumption 5W approx.
  - Dimensions W92.2 x H343 x D107.2mm (3.63 x 13.50 x 4.22 inches)
  - Weight 2.0kg approx (4.41 lbs)



**BS-45 (with RCP-50)**



**BS-45 (Rear View)**

# SPECIFICATIONS

## ■ HL-45A/45AW

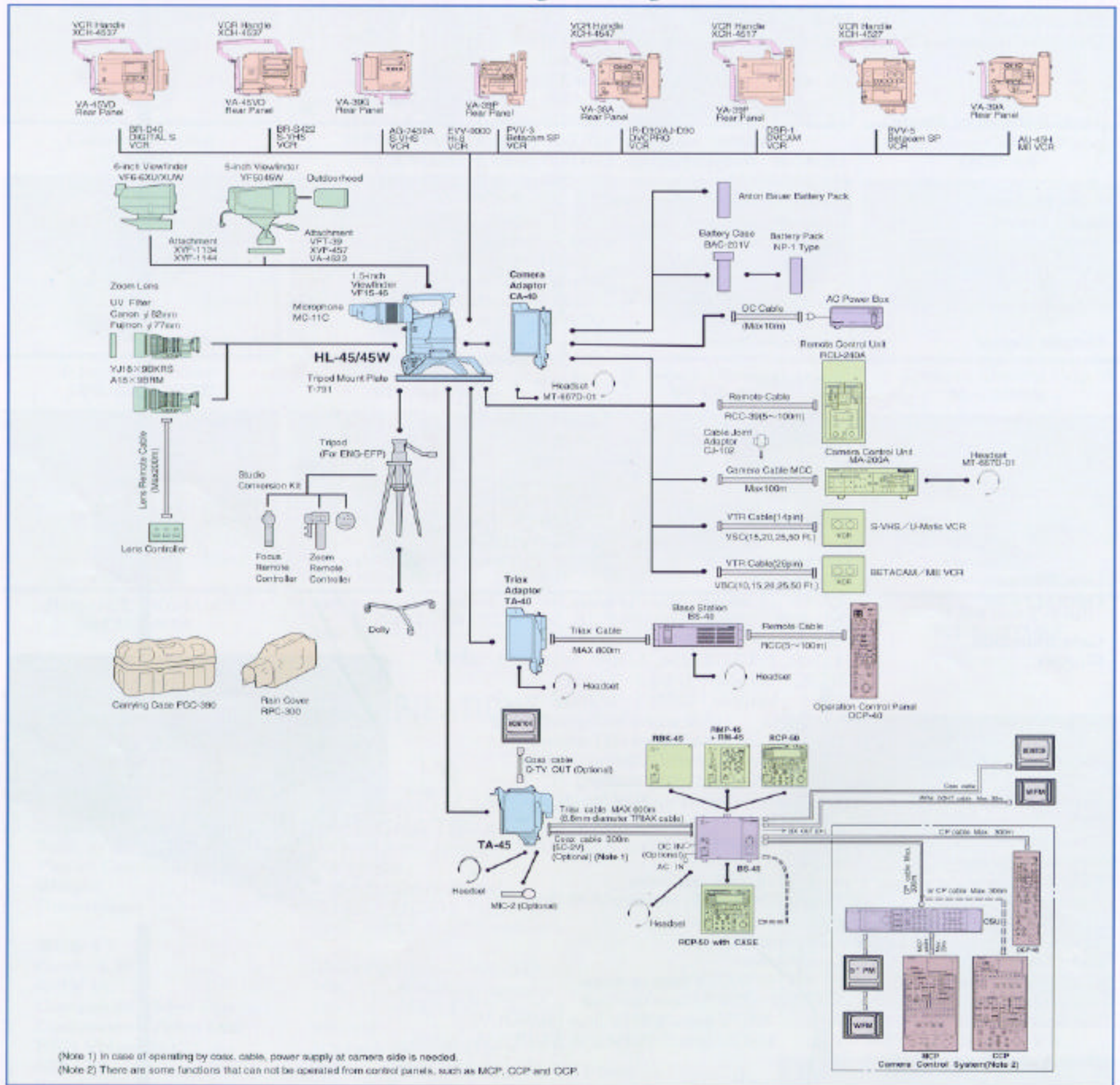
<b>Optical System</b>	RGB prism type f1.4	
<b>Image Sensor</b>	2/3" 3 IT CCDs	
<b>Effective Number of Pixels</b>	HL-45	NTSC: Approx. 480,000 pixels (H980 x V494) PAL: Approx. 570,000 pixels (H980 x V582)
	HL-45W	NTSC: Approx. 460,000 pixels (H948 x V485) PAL: Approx. 540,000 pixels (H936 x V575)
<b>Total Number of Pixels</b>	HL-45	NTSC: Approx. 520,000 pixels (H1038 x V504) PAL: Approx. 620,000 pixels (H1038 x V594)
	HL-45W	NTSC: Approx. 520,000 pixels (H1020 x V505) PAL: Approx. 600,000 pixels (H1008 x V591)
<b>Sync System</b>	Internal/External Sync (genlock)	
<b>Input Signal</b>	External Sync Signal:	VBS 1.0Vp-p 75ohm or (genlock) BBS 0.45Vp-p----- 1channel
	RET Video Signal:	VBS 1.0Vp-p 75ohm----- 1channel (26pin connector)
	Microphone Input:	-60dB balance high impedance--- 1channel (XLR type, 3pin connector)
<b>Output Signal</b>	Composite Signal:	1.0Vp-p 75ohm----- 2channels (BNC connector, 26pin connector)
	Y/C Signal:	Y: 1.0Vp-p 75ohm C: 0.286Vp-p 75ohm (26 pin connector)----- 1channel
	Component Signal:	Y: 1.0Vp-p 75ohm Pb/Pr: 0.7Vp-p (NTSC) 75ohm Pb/Pr: 0.525Vp-p(PAL) 75ohm (26pin connector)----- 1channel
	RGB Signal:	V 0.7Vp-p 75ohm----- 1channel (26 pin connector)
	Audio Signal:	-20dBm/-60dBm 600ohm balance 1channel
<b>Lens Mount</b>	B4 bayonet	
<b>Optical Filter</b>	HL-45A: 3200K, 5600K+1/16, 5600K, Effect HL-45AW: 3200K, 5600K+1/16, 5600K, 5600K+1/64	
<b>Gain Selection</b>	-3, 0, +6, +9, +12, +18, +30, +36dB	
<b>Shutter</b>	1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 NTSC: Variable 1/60.3 to 1/201 PAL: Variable 1/50.3 to 1/200	
<b>DTL Correction</b>	Horizontal: Dual edged (with comb filter) Vertical: Dual edged (2H system)	
<b>Shading Correction</b>	Corrects the horizontal/Vertical shading (black shading and white shading)	
<b>Flare Correction</b>	Can be corrected for each of R, G, B channels	
<b>Color Bar</b>	SMPTE Bar	
<b>Color Matrix</b>	6 axis linear matrix	
<b>Dynamic Range</b>	600%	
<b>Auto Knee</b>	Auto, fixed, OFF selectable	
<b>Auto White Balance</b>	Preset (3200K) 1ch, Memory (A,B) 2ch	
<b>Auto Black Balance</b>	Built-in	
<b>Scene File</b>	4ch memory	
<b>Auto Iris</b>	Digital system	
<b>Horizontal Resolution</b>	HL-45A: 900TV lines or more HL-45AW: 750TV lines or more	
<b>Vertical Resolution</b>	NTSC: 400TV lines.480TV lines (SUPER-V) PAL: 450TV lines/570TV lines (SUPER-V)	
<b>Modulation Depth (5MHz)</b>	75%	
<b>S/N</b>	NTSC: 64dB PAL: 61dB	
<b>Sensitivity</b>	Standard	HL-45A: f10 at 2000 lx HL-45AW: f11 at 2000 lx
	Minimum	HL-45A: f1.4 at 0.7 lx (with +36dB gain up) HL-45AW: f1.4 at 0.5 lx (with +36dB gain up)
<b>Registration</b>	Entire screen : within 0.05%	
<b>Input Voltage</b>	DC +11V ~ +16V	
<b>Power Consumption</b>	Approx. 15W (excluding VF)	
<b>Ambient Temperature</b>	-10°C ~ +40°C (+14°F ~ +104°F)	
<b>External Dimensions</b>	W126 x H2851x V170mm (4.96 x 11.06 x 6.69 inches)	
<b>Weight</b>	Approx. 2.6kg (5.7 lbs) (excluding VF, Mic, VCR adaptor)	

Design and specifications are subject to change without notice.

# SYSTEM DIAGRAM

3CCD High Quality Portable Digital Camera

## HL-45/45W



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\*Betacam SP is a registered trademark of SONY Corp.

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