

One-Piece Betacam SP Camera/Recorder

HL-V55



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HL-V55 is a compact, lightweight, one-piece camera/recorder suitable for both EFP and ENG applications.

The Ikegami high performance camera employing advanced 2/3" Frame Interline Transfer CCD sensors is combined in a single compact unit with a Betacam SP VCR to form a professional and easy to operate camera/recorder.

It has high resolution, low noise and high sensitivity with minimal vertical smear and Fixed Pattern Noise (FPN).

For very low light ENG use sensitivity comparable to Image Intensifier cameras can be obtained with the Hyper gain setting of 30dB.

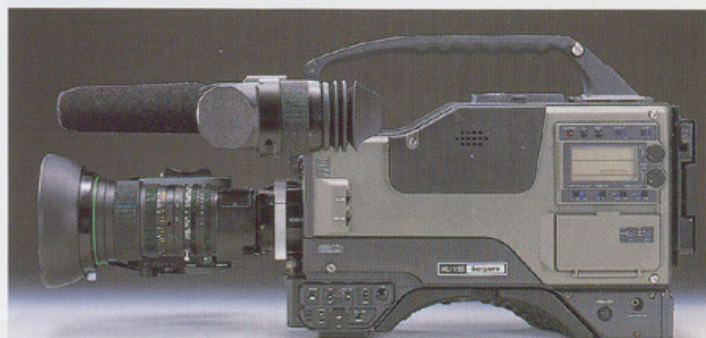
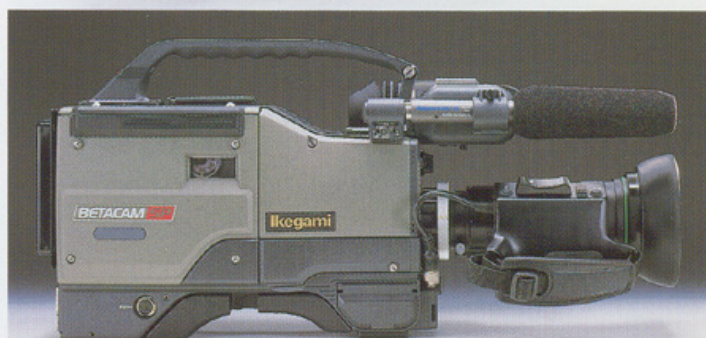
Due to a newly designed miniaturised VCR and high density circuit boards using original Ikegami technology the HL-V55 weighs only less than 7Kg including lens, viewfinder and battery and the power consumption is only 24W.

The performance and operational features of the HL-V55 make it very suitable for high quality field productions.

■ Features

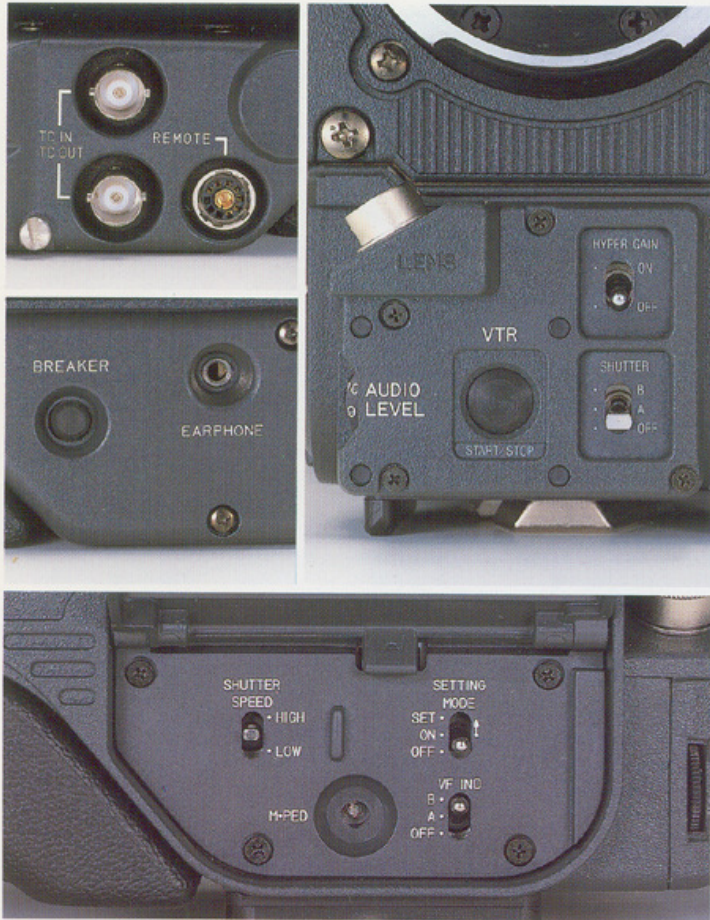
The Culmination of Ikegami's Advanced Video Circuit Technology Outstanding Image Quality Featured by the HL-Series

- FIT CCDs with 470,000 pixels (PAL), 400,000 pixels (NTSC)
- Optical system with colour analysis characteristics of HL-95 and HL-55A
- Optical low pass filter to reduce aliasing effects
- Highlight compression circuits for high contrast scenes
- White shading correction to correct white shading even when the lens extender is used
- Dynamic DTL to compensate for reduced resolution at periphery of lens field
- Electric colour temperature filter to permit switching of colour temperatures without sensitivity loss

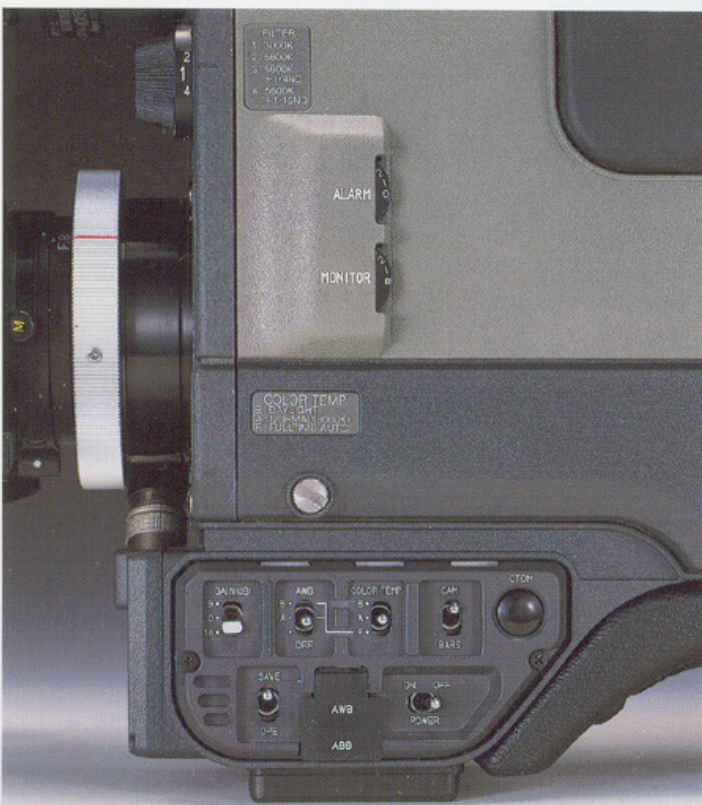


Exceptional Operability and Image Quality to Meet Professional Requirements

- Electronic shutter with speed selection (with 2CH memory capability)
- Auto black balance (including BLK SET)
- Colour bars
- Genlock
- Diagnostic system
- CTDM (Compressed Time Division Multiplex) signals can be monitored so that chroma signal can be checked
- Audio monitor speaker
- Audio level control (to set level of camera microphone)
- VF indicators (LED & characters)
- VF markers (centre marker, safe area marker, and audio marker)



- High resolution, quick start VF
- 48V phantom power for microphone
- Movable shoulder pad
- Substantially miniaturized mechanism and body shell by use of a compact rotating drum



Incorporating the Betacam SP Versatile Functionality to Achieve Full Operational Flexibility

- Playback adaptor available
- 26 pin VCR connector option available for separate VCR use
- Compatible with Betacam format
- Recording review facility (playback of last scene recorded)
- Back space edit facility (to allow smooth transition to next recording sequence)
- Built in time code generator/reader
- Simultaneous transverse audio FM recording and baseband longitudinal recording are possible when using metal tape
- LCD display for VCR status



Specifications

MECHANICAL

Dimensions (WHD)

121 × 208 × 319mm
4.8kg (including 1.5" VF)
Bayonet

ELECTRICAL

DC Input Power

+12V (+11~+17V)
Single phase
Using ACP-17E
220V or 240V ±5% (50Hz/60Hz)
Using ACP-23E
100V or 117V ±5% (50Hz/60Hz)

Power Consumption

Approx. 24W (12V)
VBS 1 Vp-p ±6dB, 75 Ω
BBS 0.45 Vp-p ±6dB, 75 Ω
600 Ω balanced.

Mic Input

-60dB/-40dB 12V AB power
48V phantom power

Video Output

Composite, 2 channels (using TC Box)
12.05 (μs) (PAL), 10.9 (μs) (NTSC) Standard
(Adjustable)

Vertical Blanking

25 (H) (PAL), 20 (H) (NTSC) Standard [NTSC:
19,20,21 (H), Adjustable]

Operating Temperature

0~40°C

Operating Humidity

Less than 85% RH
(Non condensing)

Storage Temperature

-20~+60°C

Tape

1/2" Metal tape or oxide tape
(Betacam format)

Tape Speed

101.5mm/sec. (PAL-B), 118.6mm/sec. (NTSC)

Recording/Playback

Max. 36 min. with BCT-30M (PAL)
Max. 30 min. with BCT-30M (NTSC)

CAMERA SECTION

Image Sensor

3-chip 2/3" FIT-CCD

Picture Elements

470,000 pixels (PAL)
400,000 pixels (NTSC)

Sensitivity

2000 lux (3000°K) f8.0, 0dB video gain, 89.9%
reflectance, KNEE off
60dB (PAL), 62dB (NTSC) typical
(camera output)
(with GAMMA, DTL, CHROMA, MATRIX, KNEE
APERTURE all off, PED 5%, bandwidth 5.0MHz)
(PAL), 4.5MHz (NTSC)

S/N

H: 700 TVL
V: 450 TVL (PAL), 400 TVL (NTSC)
(2000 lux, RETMA standard resolution chart,
GAMMA off)

Optical Filter

1	2	3	4
3000°K	5600°K	5600°K	5600°K
		+1/4 ND	+1/16 ND

DTL Correction

H: RGB mix

Shutter Speeds

V: 2H system (with comb filter)
1/50 (PAL), 1/60 (NTSC) (off) 1/100, 1/120,
1/250, 1/500, 1/1000, 1/2000 second

Gain Selection

+9dB/+18dB

VF Video

Mix video

Registration

Less than ±0.03% of picture height
(without lens)

Viewfinder

1.5" quick start type, 550 TVL of resolution at
center

Microphone

Uni-directional, phantom powering

External Control Functions

ON/OFF Items

BARS, CAL, AUTO IRIS, AWB (A/B/OFF), AWB
CONT (START), ABB CONT (START), GAIN UP,
SHUTTER SPEED, VTR (START/STOP)
PEDESTAL (R, B, MASTER), GAIN (R, B), IRIS,
BLACK SET (Rch, Gch, Bch)

LEVEL Items

VTR SECTION (with standard playback machine)

●PAL

[Video Performance]

Bandwidth

Luminance
(50% Modulation)
Colour Difference
(50% Modulation)

Metal Particle Tape

25Hz~5.5MHz
(+0.5dB, -3.0dB)
25Hz~1.5MHz
(+0.5dB, -3.0dB)

Oxide Tape

25Hz~4.0MHz
(+0.5dB, -6.0dB)
25Hz~1.5MHz
(+0.5dB, -3.0dB)

S/N Ratio

Luminance
(Component IN/OUT)
Colour Difference

more than 48dB

more than 46dB

Distortion

Differential Gain
Differential Phase
K-factor (2T Pulse)
Y/C Delay

less than 2%
less than 2°
less than 2°
less than 20nsec.

less than 3%
less than 3°
less than 3%
less than 20nsec.

[Audio Performance]

Longitudinal

Frequency Response *1

Metal Particle Tape

50Hz~15kHz
(+1.5dB, -3.0dB)
more than 62dB
less than 1.5%

Oxide Tape

50Hz~15kHz
(+3.0dB, -3.0dB)
58dB
less than 2%

S/N Ratio *2
Distortion (at 1kHz)
at OVU Level

less than 3%
less than -55dB
less than 0.15%

less than 3%
less than -55dB
less than 0.15%

*1 (at Peak Level)
Cross Talk (at 1kHz)
Wow and Flutter
(DIN 45507)

Depth of Erasure

more than 65dB

more than 65dB

AFM

Frequency Response *1

20Hz~20KHz
(+0.5dB, -2.0dB)

—

S/N Ratio *2

more than 68dB

—

Distortion (T.H.D.)

less than 0.6%

—

Cross Talk

less than -65dB

—

*1 Peak Level AFM: +19VU, LNG: +8VU

20dB below Peak Level
*2 Referred to Peak Level. Weighted CCIR468-3, with Audio NR

●NTSC

[Video Performance]

Bandwidth

Metal Particle Tape

Y: 30Hz~4.5MHz
(+0.5dB, -3.0dB)
C: R-Y 30Hz~1.5MHz
(+0.5dB, -3.0dB)
B-Y 30Hz~1.5MHz
(+0.5dB, -3.0dB)

Oxide Tape

Y: 30Hz~4.1MHz
(+0.5dB, -6.0dB)
C: R-Y 30Hz~1.5MHz
(+0.5dB, -3.0dB)
B-Y 30Hz~1.5MHz
(+0.5dB, -3.0dB)

S/N Ratio

Y: Better than 51dB
C: AM Better than 53dB
PM Better than 53dB

Y: Better than 48dB
C: AM Better than 50dB
PM Better than 50dB

Differential Gain

Differential Phase

K Factor (2T Pulse)

Y/C Delay

[Audio Performance]

Longitudinal

Frequency Response

50Hz~15KHz
(+1.5dB, -3.0dB)

50Hz~15KHz
(+3.0dB, -3.0dB)

S/N Ratio (at 3% Distortion)

72dB

50dB (Dolby NR off)

Distortion (T.H.D. at 1KHz

less than 1.5%

less than 2%

Reference Level)

Cross Talk

less than -55dB
(at 1KHz)
less than 0.15% rms

less than 3%
less than 3°
less than 3%

Wow and Flutter

Audio FM TRACKS

(Metal Tape only)

Frequency Response

20Hz~20KHz
(+0.5dB, -2.0dB)

more than 80dB

Dynamic Range

Distortion (T.H.D. at 1KHz

less than 0.5%

less than 2%

Reference Level)

Cross Talk

less than -65dB (at 1KHz)

Design and specifications are subject to change without notice.

Ikegami Tsushinki Co., Ltd.

Head Office

5-6-16 Ikegami, Ohta-ku, Tokyo 146, Japan TEL.03-5700-1111/FAX.03-5700-1137

Overseas Sales Division

JS Progrès 4-1-23 Heiwajima, Ohta-ku, Tokyo 143, Japan TEL.03-5762-5111/TLX.2466738 IKETSU J/FAX.03-5762-5110

Singapore Branch

66 Tannery Lane, #02-07 Sindo Building, Singapore 347805 TEL.745-5023/FAX.745-5635

Ikegami Electronics (Europe) GmbH

Headquarter

Ikegami Strasse 1, 41460 Neuss, Germany TEL.02131-1230/FAX.02131-102820

U.K. Branch

Kestrel Court, Pound Road, Chertsey, Surrey KT16 8ER, England TEL.01932-568966/FAX.01932-569637

Service Center Munich

Reger Strasse 27, 81541 München, Germany TEL.089-6886725/FAX.089-6886726

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