

**SPECIFICATIONS : V-35W Camera Head**

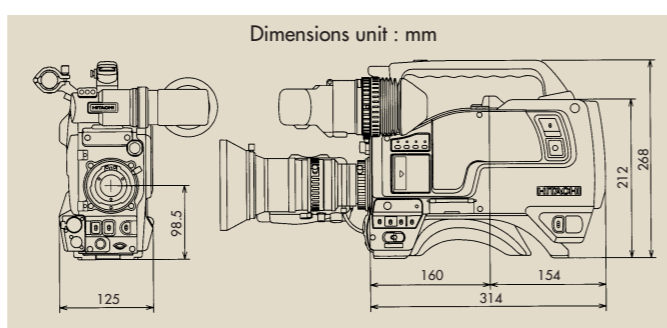
<b>Color System</b>	PAL-B
<b>Optical system</b>	2/3" F1.4 prism
<b>Pickup system</b>	RGB 31F-CCD, 2/3" Image format
<b>Picture elements (pixels)</b>	Total 1008(H) x 591(V) Effective 936(H) x 575(V)
<b>Sync system</b>	Internal or genlock
<b>Horizontal resolution</b>	800 TV lines
<b>Signal-to-noise ratio</b>	63 dB typical (Gamma : 1, DTL : off, Gain : 0 dB, Y-OUT, DNR: off) 66 dB typical (Gamma : 1, DTL : off, Gain : 0 dB, Y-OUT, DNR: on)
<b>Standard sensitivity</b>	F11+1/2 at 2000 lx
<b>Minimum illumination</b>	0.5 lx F1.4 / 0.8 lx F1.8 (Gain : +24dB, digital gain : on)
<b>Gamma correction</b>	0.35 to 1.0 (ON/OFF switchable)
<b>Geometric distortion</b>	All zones : less than measurement limit (excluding lens)
<b>Registration</b>	All zones : less than 0.05% (excluding lens)
<b>Optical filters</b>	3200K, 5600K +1/16ND, 5600K, 5600K+1/64ND
<b>Vertical detail correction</b>	2H
<b>DTL controls</b>	DTL LEVEL, DTL FREQ, FLESH TONE, LEVEL DEP, CRISP, H-V BAL, SOFT DTL, etc.
<b>Lens mount</b>	Bayonet (Backfocus : 48mm in air)
<b>Gain selector</b>	Low : -3, 0, 3, 6, 9dB Mid : 0, 3, 6, 9, 12, 15, 18dB High : 3, 6, 9, 12, 15, 18, 21, 24dB Remote mode : 0dB to +24dB (3dB steps)
<b>Digital-Gain function</b>	Gain is increased +6dB, +12dB by Internal processing of DSP
<b>Scene file</b>	4 scene files Items: gain, DTL, masking, gamma, electronic shutter, auto iris mode, contrast, etc.
<b>Electronic shutter</b>	Preset mode 1/60, 1/250, 1/500, 1/1000, 1/2000 CC FRAME Lock SCAN mode : approx 1/50 to approx. 1/2000 (in 1H steps); Automatic Electronic Shutter (AES) mode : (up to 4 lens-stops)
<b>Input signals</b>	1.Genlock input (BNC or multi-connector) : VBS 1.0Vp-p ±3dB or black burst/75Ω (sync 0.3±0.1Vp-p, burst : 0.3±0.1Vp-p) 2.Viewfinder AUX input (multi-connector) : VBS 1.0Vp-p ±3dB / 75Ω
<b>Output signals</b>	1.Video output(BNC) VBS 1.0Vp-p / 75Ω 2.VTR output 1 (multi-connector) VBS 1.0Vp-p / 75Ω 3.VTR output 2 (multi-connector) a : Composite signal: VBS 1.0Vp-p / 75Ω b : Y/C output : Y : 1.0Vp-p / 75Ω, C : 0.3Vp-p (burst), c : RGB output : RGB : 0.7Vp-p / 75Ω d : Component output: VS : 1.0Vp-p / 75Ω R-Y, B-Y : 0.525Vp-p / 75Ω 4.Monitor output (BNC) VBS 1.0Vp-p / 75Ω, with characters 5.Audio output (multi-connector) -20dBm or -60dBm
<b>Ambient temperature</b>	Operating: -10 to +45°C (+14 to +113F) Storage: -20 to +60°C (-4 to +140F)
<b>Power requirement</b>	12 V DC (+10.5VDC to +17VDC)
<b>Power consumption</b>	Approx. 10.5W (excluding GM-10, camera adapter)
<b>Dimensions</b>	125(W)x268(H)x160(D)mm (excluding camera adapter)
<b>Mass</b>	Approx. 2.6kg (5.7 lb) (excluding GM-10, lens and camera adapter)

**SPECIFICATIONS : RU-Z35**

<b>LINE 1/2</b>	VBS 1.0Vp-p/75Ω
<b>SDI output</b>	0.8Vp-p/75Ω
<b>MON</b>	VBS 1.0Vp-p/75Ω
<b>RGB R-Y, Y, B-Y</b>	V : 0.7Vp-p VS1.0Vp-p/75Ω
<b>AUDIO output</b>	0dB, 600Ω, one system
<b>PROMPT</b>	VBS 1.0Vp-p/75Ω or loop-through
<b>AUX VIDEO</b>	VBS 1.0Vp-p/75Ω or loop-through
<b>GENLOCK</b>	VBS 1.0Vp-p ±3dB or black burst/75Ω or loop-through
<b>TALLY</b>	Closure or Voltage(24V)
<b>INTERCOM</b>	XLR-5pin Corresponding to dynamic mic
<b>Power requirements</b>	230 V AC, 50 Hz
<b>Power consumption</b>	Approx. 120W
<b>Maximum cable length</b>	Approx. 300m (980 ft)
<b>Ambient temperature</b>	5 to 40°C (41 to 104°F)
<b>Dimensions</b>	482(W) x 88(H) x 300(D)mm (19.0 x 3.5 x 11.8 in)
<b>Mass</b>	Approx. 9kg (20 lb)

**SPECIFICATIONS : GM-10 1.5-inch Viewfinder**

<b>Input signal</b>	VS 1.0Vp-p, sync negative
<b>CRT</b>	1.5" B/W
<b>Resolution</b>	Approx. 600 TV lines (horizontal center)
<b>Aspect ratio</b>	4:3
<b>LED display</b>	TALLY, BATT, SAVE, (!) Warning indicator : out of standard application
<b>Controls</b>	Brightness, Peaking, Contrast, Front tally ON/OFF
<b>Power supply</b>	9V DC
<b>Power Consumption</b>	Approx. 1.4W
<b>Mass</b>	Approx. 0.6kg (1.3 lb)



# Digital Camera V-35W



Hitachi has once again elevated the standard by which professional video cameras are judged with the introduction of our V-35W.

This latest generation of V-camera has improved performance over previous models by the incorporation of the newest electronic devices and circuit designs. Popular features such as aspect ratio switching have been retained to facilitate TV program production for SDTV in 4:3 and 16:9. Pristine picture quality in both aspect ratios is provided by the use of new high-performance CCD imaging devices. These new CCDs bring to reality never before seen performance in the areas of picture quietness, highlight smear suppression and object depth-of-field characteristics. Hitachi's Digital Signal Processing now benefits from an increased dynamic range and resolution offered by the latest generation of 14 bit Analog to Digital converters at the output of the CCD imaging device.

The new ADCs make it possible to eliminate analog pre-processing associated with older devices thereby decreasing the manipulation of the image signal prior to digital processing. Hitachi's latest Digital Signal Processor VLSIC is at the heart of the V-35W's upgraded performance. The new DSP offers superior color rendition and reproduction characteristics while offering the highest accuracy in edge definition. This translates to cleaner, sharper images. Also performed in the digital domain within the V-35W's DSP device, are video signal encoding and advanced noise reduction for low-light scenes.

**CAUTION:** To ensure safe operation, please read the instruction manual before using this product.

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CERTIFICATE No. JMI-0062  
ISO 9001/BS 5750Pt1  
EN 29001/JIS Z9901

## Outstanding Features

### Resolution 800TV lines

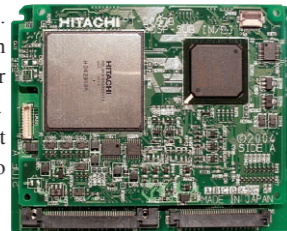
An outstanding 800 TV Lines of resolution are achieved through the use of Hitachi's own Digital Signal Processor and new 2/3-inch, 600,000 pixel IT-CCDs.

### Switchable 16:9/4:3

The V-35W provides the video professional the freedom to do productions in a 16:9 or 4:3 aspect ratio at the push of a button. The 2/3-inch, 600,000 pixel CCD's and digital switching assure the highest picture quality is preserved in either aspect ratio.

### Next-Generation DSP

Hitachi's unique DSP technology encompasses the video digital processing and the encoder into a single LSI device. This single chip 3 million gates 0.18µm DSP design reduces the size, power consumption and greatly enhances stability. The 14 bit A/D converter and 20 to 30 bit DSP processing provide a high S/N ratio and wide dynamic range.



### Signal to Noise Ratio 66dB

With the new digital noise reduction and low noise DSP technology, a S/N ratio of -63dB(DNR off)/ -66dB(DNR on) is achieved. This new technology assures clear low noise images while operating in the high gain modes.

### Sensitivity - F11+1/2 (2000 lx)

A total of +36dB of gain is available for reproducing low light scenes down to 0.5 lx (F1.4). The +36dB gain is a combination of +24dB high gain and +12dB digital gain.

### Versatile CCD Shutter

Four modes of shutter operation are provided : Five Preset electronic shutter speeds, Lock Scan to image computer monitors without flicker, Auto Electronic Shutter (AES) maintains the video level with a fixed lens f-stop, and CC Frame offers improved vertical resolution.

### Digital Processing Improves Image Highlight Quality

#### Dyna-Chroma and Auto Knee

The auto knee provides a wide dynamic range by compressing the video above 100%. Dyna-chroma restores color saturation to scene highlights above 100%.

#### Automatic Flesh Tone Detail

Flesh tone detail smooths and softens facial lines and blemishes without sacrificing overall scene detail. Automatic flesh tone detail provides an easy and fast means to optimize flesh tone detail.

#### Variable Detail Boost Frequency

The detail center frequency is user selectable to match the detail signal to the scene.

#### 6-Vector and Linear Matrix

The 6-vector color corrector and linear matrix provide the user a wide latitude in subjective image color control. The linear matrix provides overall color control and the 6-vector color corrector provides independent control of the hue and saturation for each of the three primary and three secondary colors.



### Special Gamma

Adjusts the initial gamma gain to optimize the reproduction of the dark areas in a scene.

### Gray Scale Automatic Setup

This "through the lens" automatic is used in combination with a standard gray scale chart to automatically setup gain, gamma, black and flare. Markers are provided in the viewfinder to aid in the positioning of the gray scale chart and the iris is automatically adjusted to the correct video level.

### Automatic shading

Automatic shading corrects white vertical shading at the push of a button. This feature provides separate setups to optimize the X1 and X2 lens extender positions.

### Extensive User-Friendly Features

#### • Quick Focus

Quick Focus automatically opens the iris then sets the video level with the electronic shutter. With the resulting shallow depth of focus, the exact focus point can be set easily.

#### • Two User-Programmable Switches (CS-1, CS-2)

The user can assign full auto, quick focus or contrast to either of the two programmable switches for ease of operation.

#### • Full Auto

The built-in automatic electronic shutter (AES) and automatic iris maintain the video level even with radically changing light levels. Real-time automatic white balance corrects color temperature variations due to changing types of lighting conditions.

• Four scene files are provided to store and recall functions such as gain, detail, masking, gamma and other settings.

• Title texts are displayed on the color bar display.

• Audio test tone (1kHz) is output when color bars are selected.

### Viewfinder Displays

• The viewfinder displays the function tree menus.

#### • Status display

Indicators for zoom and focus (with compatible lenses), iris F-stop, color temperature for auto white balance and other functions are displayed.

#### • Two mode zebra

Menu selection of over-level or between range zebra is provided.

#### • Viewfinder V-Detail

Vertical detail is enhanced in both the 1.5-inch VF (GM-10) and 5-inch VF (GM-52) viewfinders for easy lens focus. Horizontal detail is also provided.

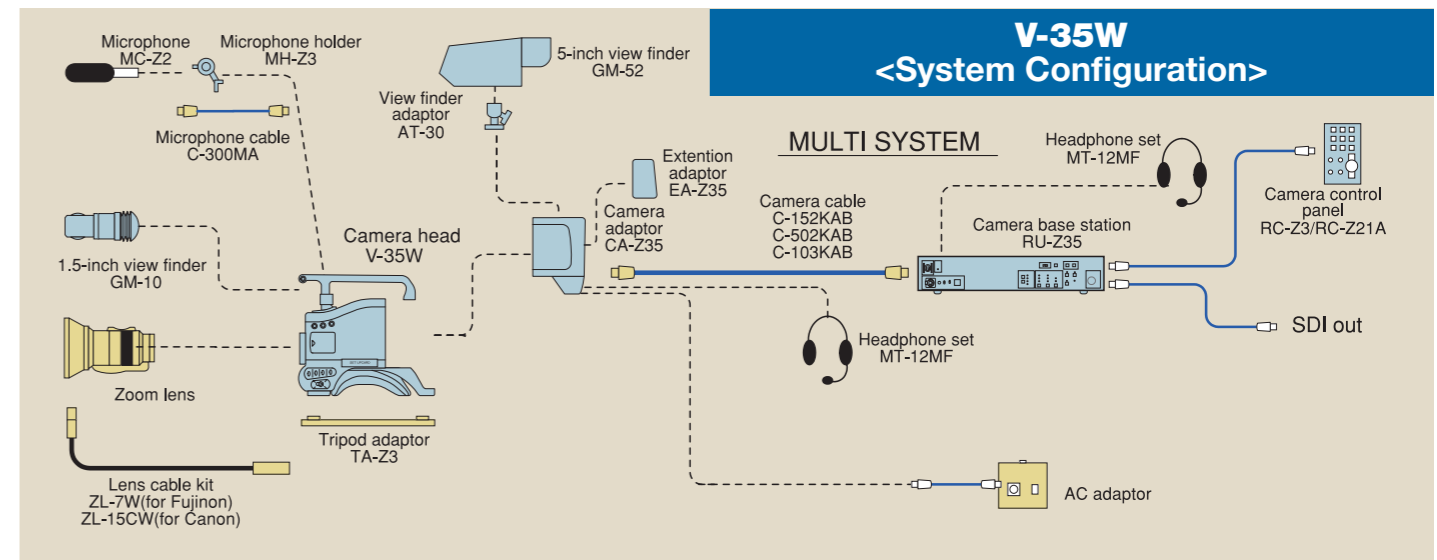
### High Performance 1.5 inch Viewfinder (GM-10)

• The 600 TV line resolution assures easy focus.

• Large aperture lens improves viewfinder viewing.

• Front-back, left-right and tilt positioning is provided for optimum user comfort. The bayonet mount provides a direct connection to the camera eliminating the need of a cable.

• Rotates to a perpendicular position for convenient carrying.



## FLEXIBLE CHOICE OF REMOTE CONTROL UNITS

### Suggested System Configurations

RU-Z35 Camera Base Station, CA-Z35 Camera Adaptor, RC-Z3/RC-Z21A Camera Control Panel, and GM-52 5-inch viewfinder.

### Operation Enhancement

The optional EA-Z35 Extension Adaptor adds (used with the RU-Z35) intercom channel PD/ENG switching, prompter video output and a call button to alert a video operator by the Camera Base Station or Camera Control Panel.



Camera Control Panel RC-Z3

Camera Control Panel RC-Z21A

### RU-Z35 Camera Base Station

The new Camera Base Station model RU-Z35 includes all the essential camera system features and offers a high picture quality in demanding production studio applications. Production Switcher independent Green Tally and Red Tally are available as standard features. Prompter video and power at the camera head are also standard functions offered.



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## ACCESSORIES



CA-Z35  
Camera adaptor for RU-Z35



MC-Z2  
Microphone



MH-Z3  
Microphone holder



C-300MA  
Microphone cable



GM-10  
1.5-inch viewfinder



GM-52  
5-inch viewfinder



AT-30  
Viewfinder adaptor for GM-51



MT-12MF  
Headset



TA-Z3  
Tripod adaptor



C-502KAB/C-152KAB/C-103KAB  
Camera cable



EA-Z35  
Extension adaptor for CA-Z35



A20 x 8.6BRM-24  
Zoom lens



YJ20 x 8.5BKRS  
Zoom lens