FP-60S

Studio Color Television Camera



HITACHI
Hitachi Denshi, Ltd.

Hitachi FP-60S, a Full Performance C
Adopting Newly Developed Prism Optic

The Hitachi FP-60S Color TV Camera adopts newly developed prism optics and three 1-inch SATICON* pickup tubes, featuring superb resolution, signal-to-noise ratio and color rendition.
The camera head, of sturdy die-cast aluminum construction, can be used for studio use as well as field applications under severe operating conditions.

*Trademark

Features

- **Prism optics and 1-inch SATICON tubes**
  The newly developed prism optics and 1-inch SATICON tubes provide a high signal-to-noise ratio of 52dB and a high resolution of 600 TV lines.
- **Built-in Automatic Beam Optimizer**
  An Automatic Beam Optimizer developed by Hitachi greatly extends dynamic range and reduces comet-tailing.
- **Built-in bias light**
  A built-in bias light assures image reproduction with minimized afterimages.
- **Built-in test signals**
  Built-in test signals facilitate presetting of the input/output levels of each module. The color encoder can also be easily preset by special test signals without employing a vector scope.
- **Tiltable viewfinder**
  A tiltable viewfinder uses a 7-inch CRT and provides a clear picture. A high-grade viewfinder is available as an optional item to provide pictures of higher brightness and higher resolution.
- **Combined color-temperature compensation method**
  By the combined use of a color temperature conversion filter method featuring superior color reproduction and an electronic color temperature compensation method featuring better sensitivity, fine color temperature compensation is ensured for variations of light sources over a wide range. An ND filter is also built in.
- **Built-in iris servo amplifier**
  A built-in iris servo amplifier and a servoed zoom lens combine to maintain the amount of incident light at an optimum level. Manual control is also possible.
- **Built-in shading compensators**
  Built-in compensators for modulation shading and black shading provide accurate color balance.
- **Extra video gain**
  With extra video gain (+6dB and +12dB), the FP-60S can be used under low lighting conditions.
- **Built-in contour corrector**
  Sharp, clear pictures can be obtained by use of the H-detail and 1H delay vertical contour corrector. As an optional item, a 2H delay vertical contour corrector is also available.
- **Auto white balance**
  Digital memory type automatic white balance produces stable and high-quality images over a long period. White balance can also be set manually.
- **Painting**
  A "Painting" control is provided on the remote control panel for optimum color balance among the cameras. "Painting" is inactivated by switch operation.
- **Masking amplifier (option)**
  A masking amplifier is available for fine color adjustment.
- **Automatic wobbling compensation**
  An automatic wobbling circuit facilitates alignment adjustment.
- **Negative G signal for registration adjustment**
  A negative G signal is provided for registration adjustment.
- **R, G, and B signal outputs**
  Noncomposite R, G, and B signal outputs are provided for chroma key etc.
- **Level meter**
  A level meter facilitates presetting of the black level and black balance.
- **Built-in color bar generator**
  A built-in color bar generator facilitates color matching among cameras and the adjustment of color monitors. Changeover between active video and color bars is made on the remote-control panel.
- **Intercom with sound level control**



olor Television Camera for Studio Use
and Three 1-inch SATICON Pickup Tubes

Specifications

Optical system		High-transmission prism optics
Pickup tube		Three 1-inch SATICON (H9324) tubes
Scan standards		NTSC: 525/60 fields/sec, PAL-B: 625/50 fields/sec
Synchronization		External sync (Internal & Genlock possible)
Horizontal resolution		600 lines at center (G-ch.)
Signal-to-noise ratio		52dB (Gamma off, Detail off)
Standard illumination		2,000 lx (200 fc) 3,200°K, F4, (measured on a gray chart of 90% reflectance)
Minimum illumination		50 lx (5 fc), 3,200°K, F1.8, +12 dB (measured on a gray chart of 90% reflectance)
Registration	Zone 1	Less than 0.1% (within center circle of a diameter equal to 80% picture height)
	Zone 2	Less than 0.4% (within center circle of a diameter equal to picture width)
	Zone 3	Less than 1.0% (elsewhere)
Shading compensation		Modulation and black shading compensation
Gamma correction		0.45 to 1.0 (variable)
Color temperature compensation		Optical: 3,200, 4,700, 6,000°K, and 6,000°K +ND6.3% Electronic: 5,000, 6,000, 7,000°K (switchable)
Encoder		NTSC: IQ, PAL-B: UV
Lens mount		Bayonet mount
Video outputs	Line	1.0Vp-p (VBS) or 0.7Vp-p (VB or V) 75Ω BNC
	Mon.	1.0Vp-p (VBS or VS) 75Ω BNC
	PIX	1.0Vp-p (VS) 75Ω BNC
	R ch.	0.7Vp-p (V) 75Ω BNC
	G ch.	0.7Vp-p (V) 75Ω BNC
	B ch.	0.7Vp-p (V) 75Ω BNC

Drive inputs	HD	2 to 4Vp-p	Negative
	VD	2 to 4Vp-p	Negative
	SYNC	2 to 4Vp-p	Negative
	SC	1 to 2Vp-p	Sine wave
	PID (PAL)	2 to 4Vp-p	fH/2
	BF (PAL)	2 to 4Vp-p	Negative
Genlock signal		Composite (VBS) or black burst	
Camera cable		15m (Std.) 300m (Max.)	
Remote control cable		10m (Std.) 100m (Max.)	
Operating temperature		Camera head with VF-702A −20 to +40°C (−4 to +104°F) Camera head with VM-702 −10 to +40°C (14 to 104°F) CCU 0 to +40°C (32 to 104°F)	
Power requirements	U & C types	120V AC, 50/60Hz	ap 15
	E type	220V AC, 50Hz	
	K type	240V AC, 50Hz	
Dimensions (WxHxD) and Weight	Camera head	402 x 507 x 456 mm (15.8 x 20.0 x 18.0 in.) approx. 26 kg	
	VF	190 x 196 x 340 mm (7.5 x 7.7 x 13.4 in.) approx. 6 kg	
	CCU	432 x 132.5 x 321 mm (17 x 5.2 x 12.6 in.) approx. 14.5 kg	
	RCP	432 x 43.5 x 200 mm (17 x 1.7 x 7.9 in.) approx. 3.5 kg	

Suggested Composition

Camera head FP-60S 1
Viewfinder VM-702 (with indoor-use hood) 1
Camera control unit CU-60S 1
1H Enhancer A404 (NTSC), A414 (PAL). 1
Remote control panel RP-60S 1
Camera cable (15m) C-152CF 1
Remote cable (10m) C-102RA. 1
Iris servo cable . . . . . 1 set
Extension boards
(one each for camera head and CCU). . . . . 1 set

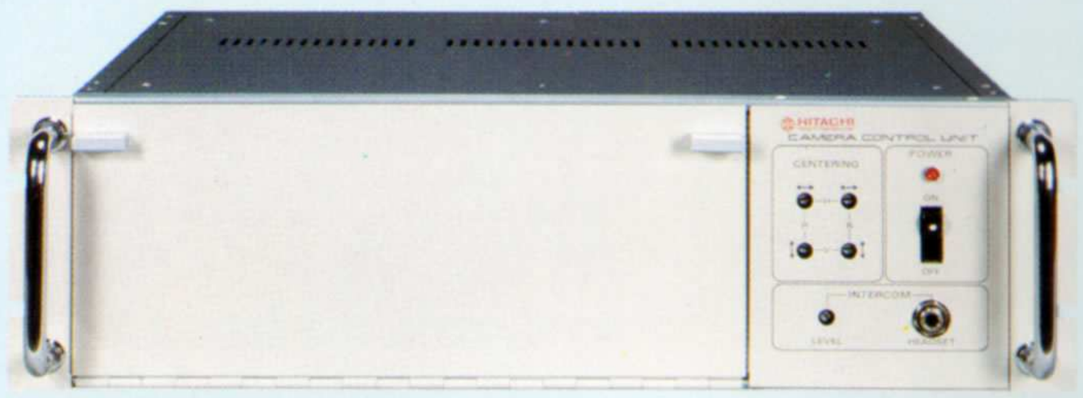
Optional Accessories

Internal sync unit A401 (NTSC), A451 (PAL)
Genlock unit A431N (NTSC), A461 (PAL)
High-grade viewfinder VF-702A
2H V-Enhancer unit A424N (NTSC), 424P (PAL)
Masking unit A407
Zoom lens K10x15RW-1
F1.8, 15 to 150 mm (cable drive)

CAMERA HEAD FP-60S



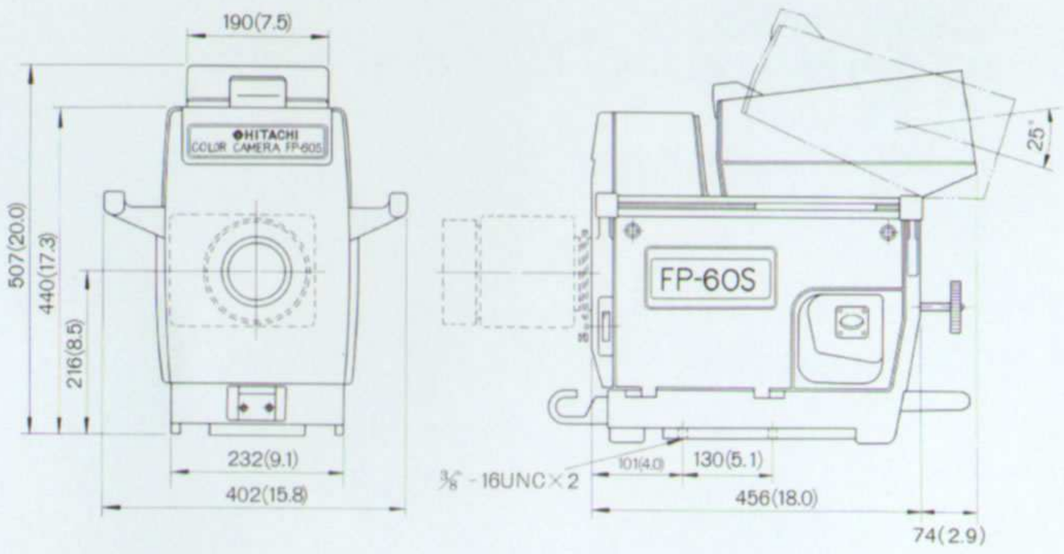
CAMERA CONTROL UNIT CU-60S



REMOTE CONTROL PANEL RP-60S

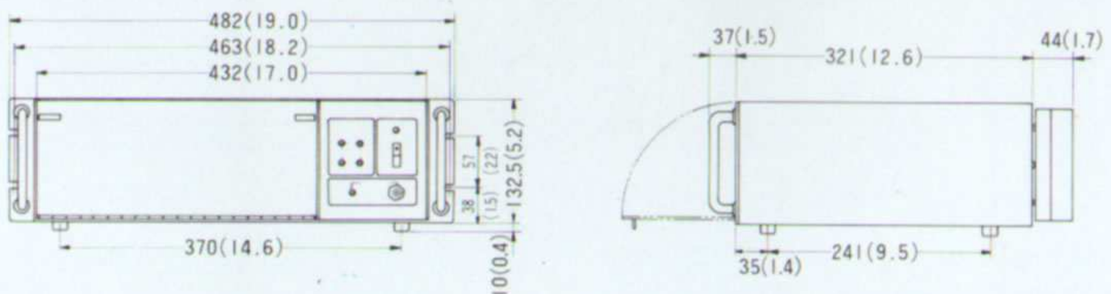
External View

CAMERA HEAD FP-60S



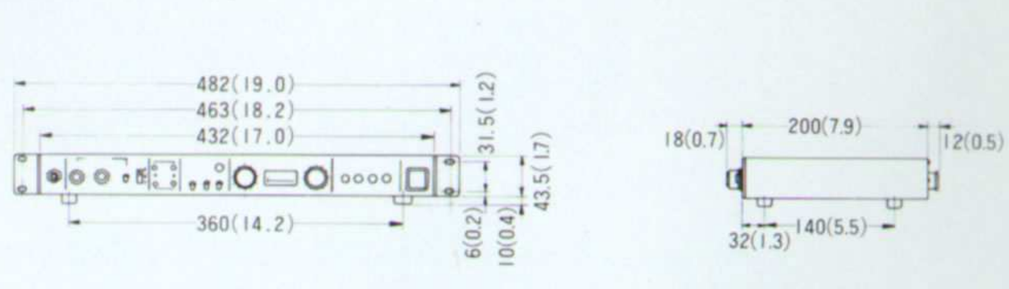
Dimension: mm (in)

CAMERA CONTROL UNIT CU-60S



Dimension: mm (in)

REMOTE CONTROL PANEL RP-60S



Dimension: mm (in)

Specifications are subject to change without notice.

Hitachi Denshi, Ltd.
1-23-2, Kanda Suda-cho, Chiyoda-ku, Tokyo 101, Japan Phone: (03) 255-8411 Telex: J24178

- **Hitachi Denshi America, Ltd.**

Headquarters and East Coast Office	:	175 Crossways Park West, Woodbury, New York 11797, U.S.A. Phone: (516) 921-7200, TWX: (25) 510-221-1899
West Coast Office	:	21015-21023 So. Figueroa Street, Carson, Calif. 90745, U.S.A. Phone: (213) 328-2110, TWX: (25) 910-349-6952
Midwest Office	:	1725 North 33rd Ave., Melrose Park, Illinois 60160, U.S.A. Phone: (312) 344-4020, TWX: (25) 910-226-0411
Southwest Office	:	14169 Proton Road, Dallas, Texas 75240, U.S.A. Phone: (214) 233-7623, TWX: (25) 910-860-5775
Southeast Office	:	3610 Clearview Parkway, Doraville, Georgia 30340, U.S.A. Phone: (404) 451-9453, TWX: (25) 810-757-4228
Central Western Office	:	3538 Peoria, Aurora, Colorado 80010, U.S.A. Phone: (303) 344-3156, TWX: (25) 910-932-2993
Northwest Office	:	1051 Andover Park West, Tukwila, Wash. 98188, U.S.A. Phone: (206) 575-1680, TWX: (25) 910-444-2155
Washington D.C. Office	:	4720P Boston Way, Lanham, Maryland 20801, U.S.A. Phone: (301) 459-8262
Cincinnati Office	:	11250 Cornell Park Drive, Suite No. 202, Cincinnati, Ohio 45242, U.S.A. Phone: (513) 891-8091

- **Hitachi Denshi, Ltd. (Canada)**

Head Office	:	922 Dillingham Road, Pickering, Ontario L1W 1Z6, Canada Phone: (416) 839-5134, Telex: (21) 698-1286
Quebec Office	:	8100-G Trans-Canada, St-Laurent, Quebec H4S 1M5, Canada Phone: (514) 332-6687, Telex: (21) 582-5739
Western Office	:	3433-12th St North-East, Calgary, Alberta T2E 6S6, Canada Phone: (403) 276-8508, Telex: (21) 382-5861

- **Hitachi Denshi (Europa) GmbH**

Head Office	:	Weiskircher Straße 88, D-6054 Rodgau 1 (Jügesheim), West Germany Phone: (06106) 3027/8/9, Telex: (41) 417-849

- **Hitachi Denshi (U.K.) Ltd.**

Head Office	:	Lodge House, Lodge Road, Hendon, London NW4 4DQ, United Kingdom Phone: (01) 203-4242 Telex: (51) 27449
Leeds Office	:	Video House, 55 Manor Road, Leeds, LS11, 5PZ, United Kingdom Phone: 0532-30294/5

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