FP-20S

Completely Self-contained Multi-role Television Camera with Three "SATICON" Pickup Tubes



HITACHI
Hitachi Denshi, Ltd.

3-tube Color Television Camera featuring High Registration Stability

The Hitachi FP-20S is a self-contained, three-tube color camera intended for portable, studio, and telecine applications.

The FP-20S features low power consumption, lightweight, and small size.

The integrated pickup component is employed in a color beam splitting system.

This feature, along with the rugged aluminum die-cast housing,

provides high registration stability.

The FP-20S employs 2/3-inch SATICON* tubes.

The FP-20 employs 2/3-inch vidicon tubes.

*SATICON: Trademark





High registration stability

High registration stability is ensured through the use of an IPC (Integrated pickup component) incorporating both color separating optics and a pickup tube assembly.

Excellent color reproduction

Built-in color temperature conversion filters ensure excellent color reproduction over a wide range of color temperature.

Easy color setting

Built-in color bar signal generator facilitates setting of encoders or color monitors.



through Hitachi's Space-Age IPC System



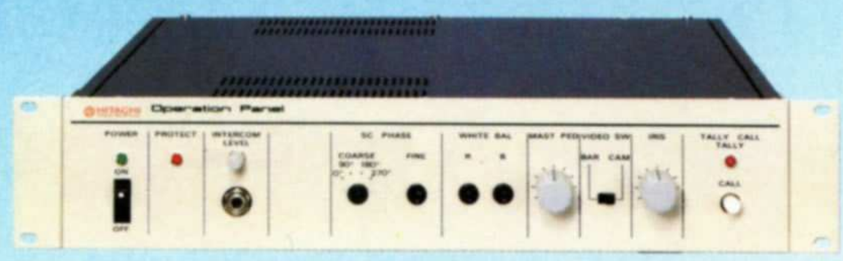
Simple registration check
Registration is easily checked by switch operation.

Multiple camera synchronizing
With an optional genlock unit, cameras can be locked to an external black burst or composite video signal.



Clear pictures assured
An optional vertical contour enhancer with a 1H delay line provides a crisp and sharp picture.

Remote operation
An operation panel (optional) permits remote control of the pedestal, iris, white balance, color bars, subcarrier phase, etc.



Optimum white balance display
The viewfinder includes a white balance indicator, facilitating optimum white balance adjustment.



Easy iris control
The viewfinder video level check indicates the video level exceeding 100%.
A zebra-like pattern indicates the area of a scene exceeding the 100% video level.

Wide selection of accessories
A variety of accessories is available for various applications such as studio viewfinder and cable drive lens.

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Suggested Compositions and Applications

Item	Type	Application (See Figs. A through H)								Remarks
		A	B	C	D	E	F	G	H	
Camera head	FP-20S/FP-20	○	○	○	○	○	○	○	○	
1.5-inch VF	VM-154					○	○	○		
7-inch VF	VM-702								○	
Studio adaptor	SA-60								○	
Hand grip	GR-60					○	○			
Zoom lens	H6x12.5ALC, F1.8	○*1	○*2			○*3	○*4	○*5		Manual
	H10x10.5RH, F1.6	○*1	○*2			○*3	○*4	○*5		Manual
	H10x10.5RS, F1.6					○*3	○*4	○*5		Power zoom
	H6x12.5RP, F1.8								○*6	Push-rod
	H6x12.5RW, F1.8								○*6	Cable drive
	H10x10.5RW, F1.6								○*6	Cable drive
Microphone	MC-30B					○				
AC adaptor	AP-60	○		○		△		○		
Battery charger	BC-20B					○				
Battery belt	PB-20A					○				
Shoulder pad	SP-60					○	○			
Operation panel	OP-60		○		○		○		○	
V-enhancer unit	VE-106A	△	△	△	△	△	△	△	△	
Genlock unit	GL-200	△	△	△	△		△	△	△	
Video cable (10m)	VBA-100	△	△	△	△		△	△	△	
Camera cable (15m)	C-152CC		○*7		○*7		○*7		○*7	
Camera cable (50m)	C-502CC		○*7		○*7		○*7		○*7	
VTR cable (2m)	C-201CK					○*8				
VTR cable (5m)	C-501CK					○*8				
Head set	TO-556						○		○	
Carrying case	CL-200					△	△	△		

○.....Required △.....Recommended

*.....Select any one of the indentical numbers.

NOTE: Regular PAL-B signal output can be obtained by using the PAL-B unit (PI-200).

Surveillance camera

Fig. A

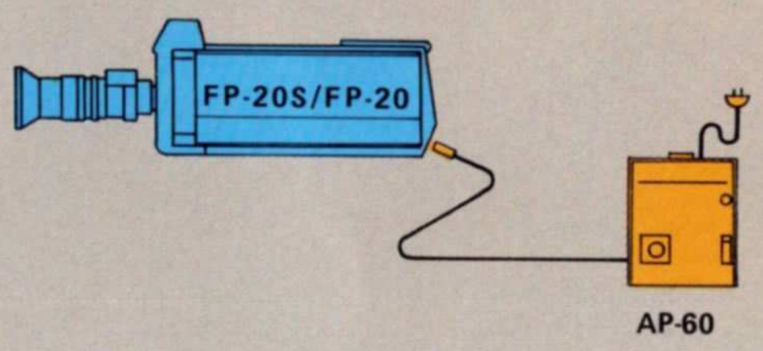
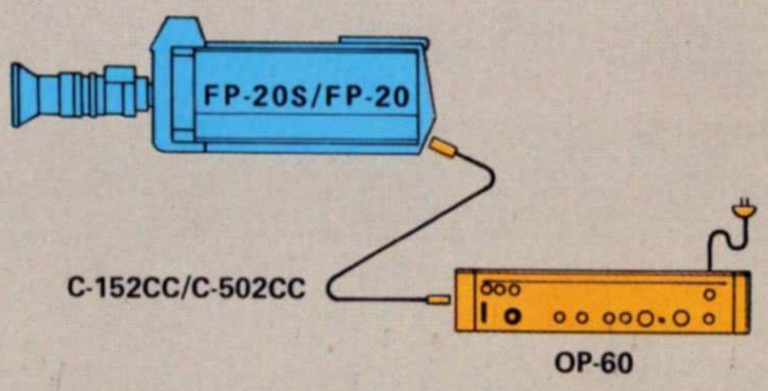


Fig. B



Telecine camera

Fig. C

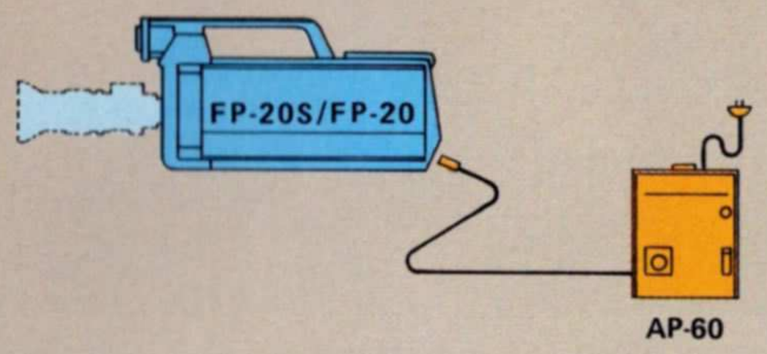
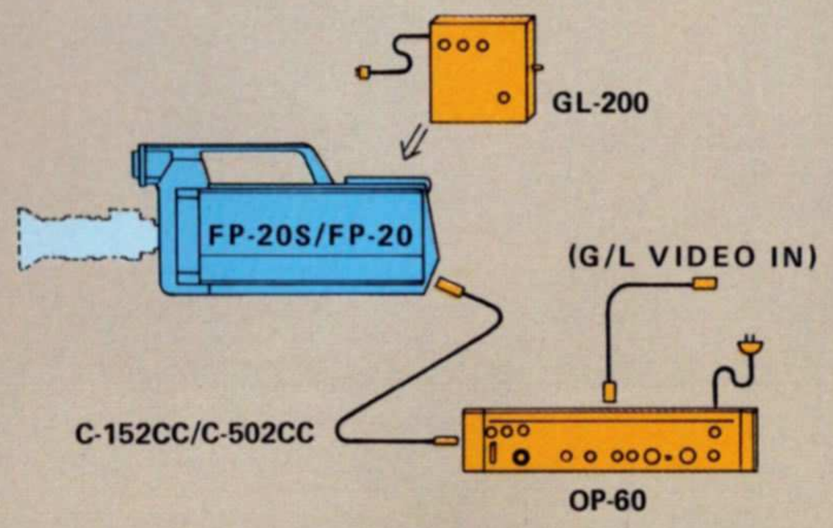
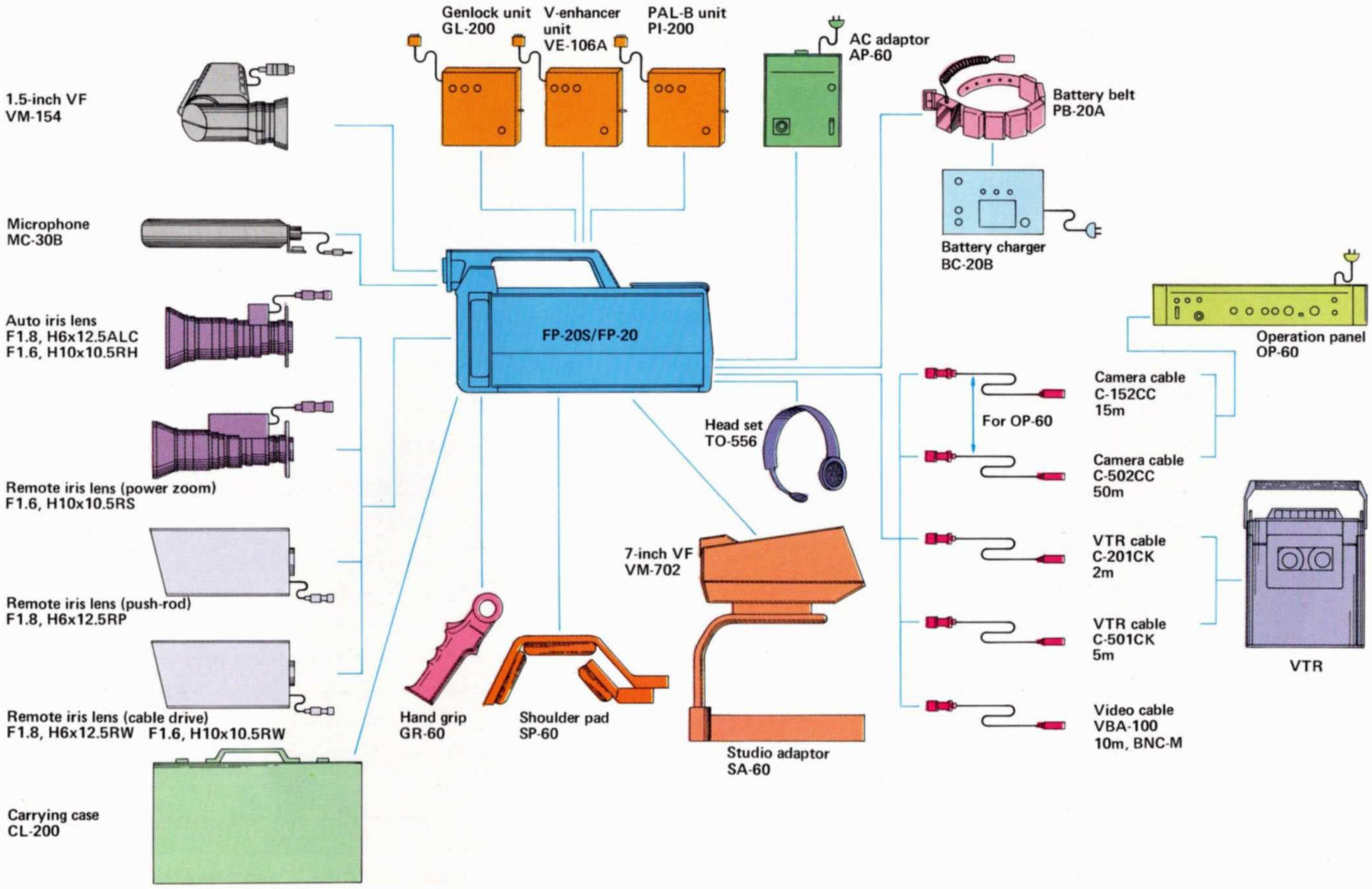


Fig. D



Camera Component Chart



Portable camera

Fig. E

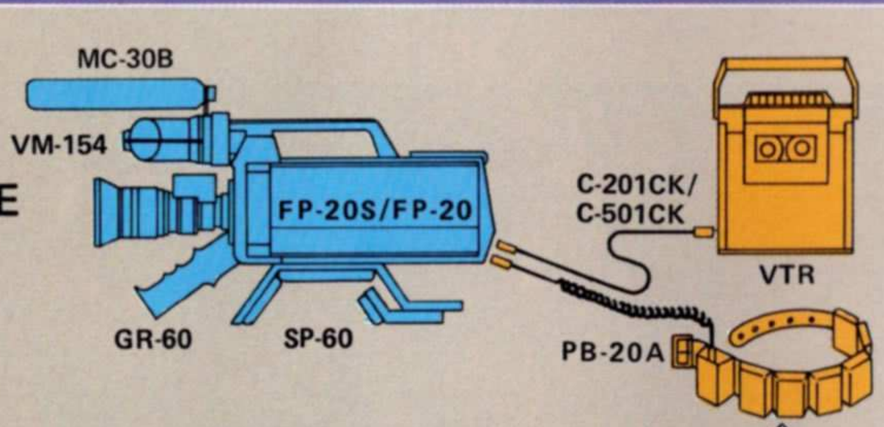


Fig. F

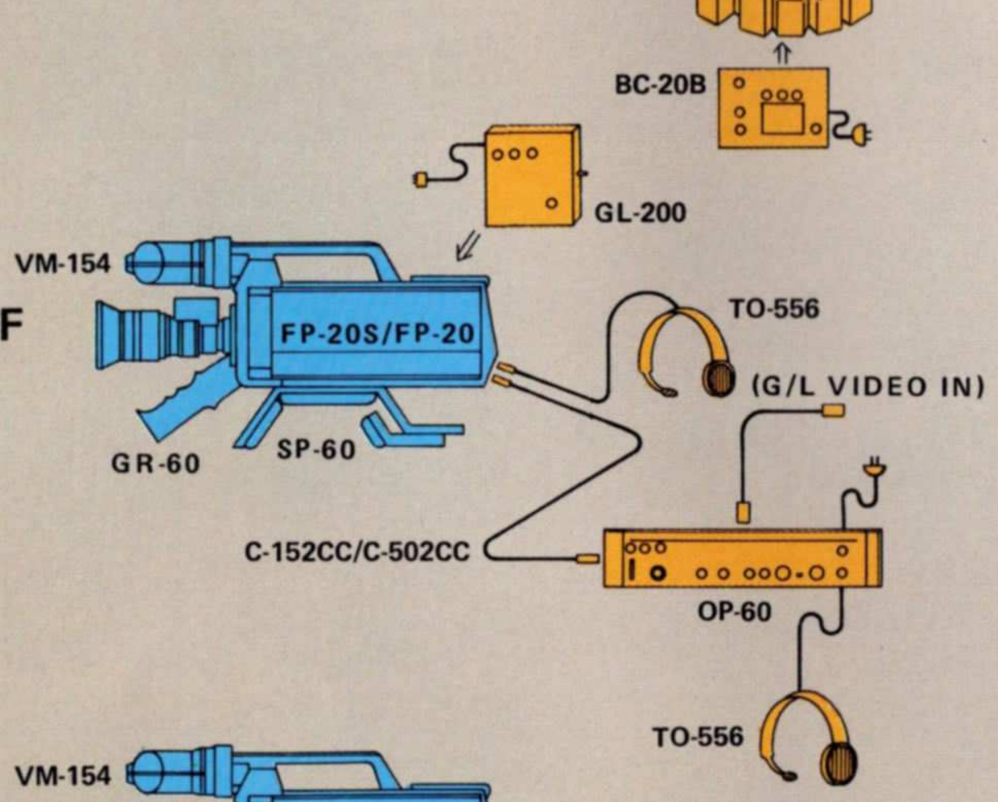
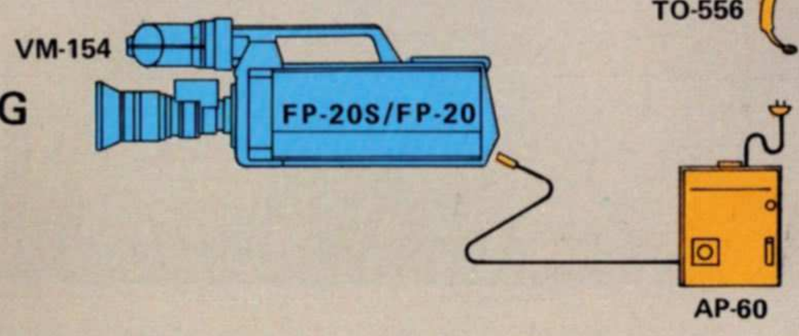
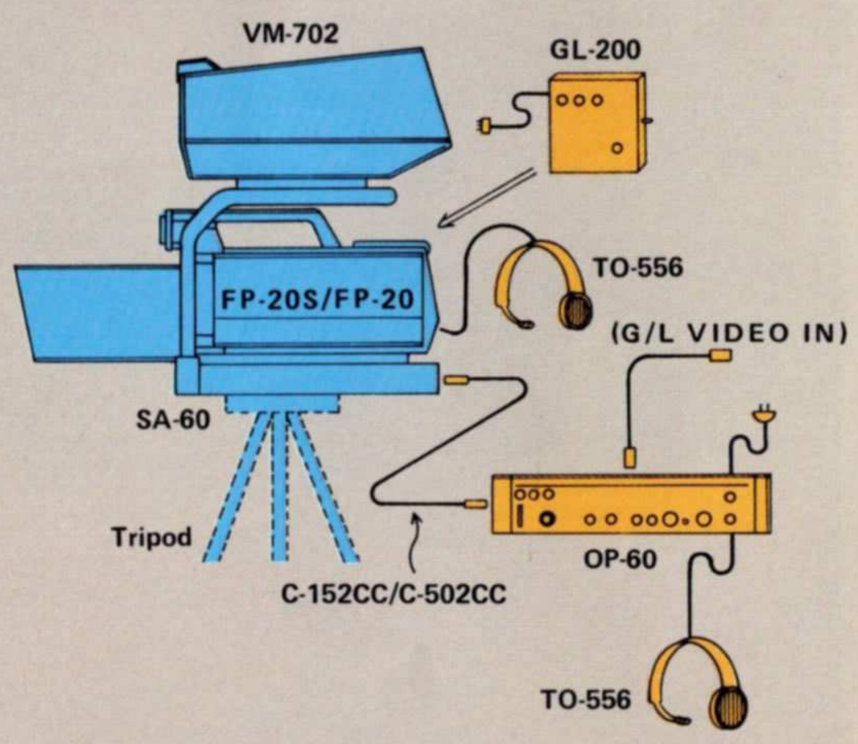


Fig. G



Studio camera

Fig. H

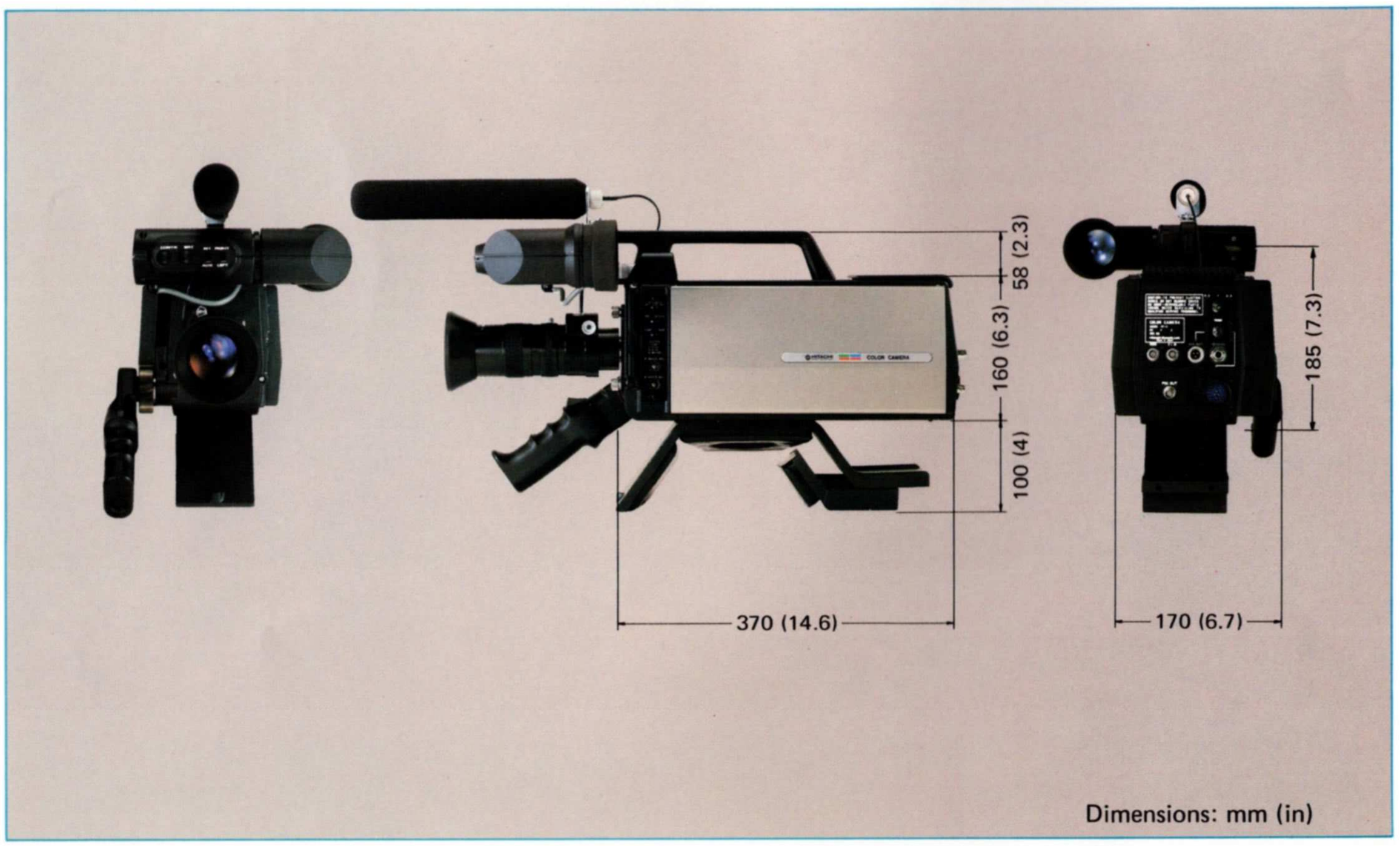


Specifications

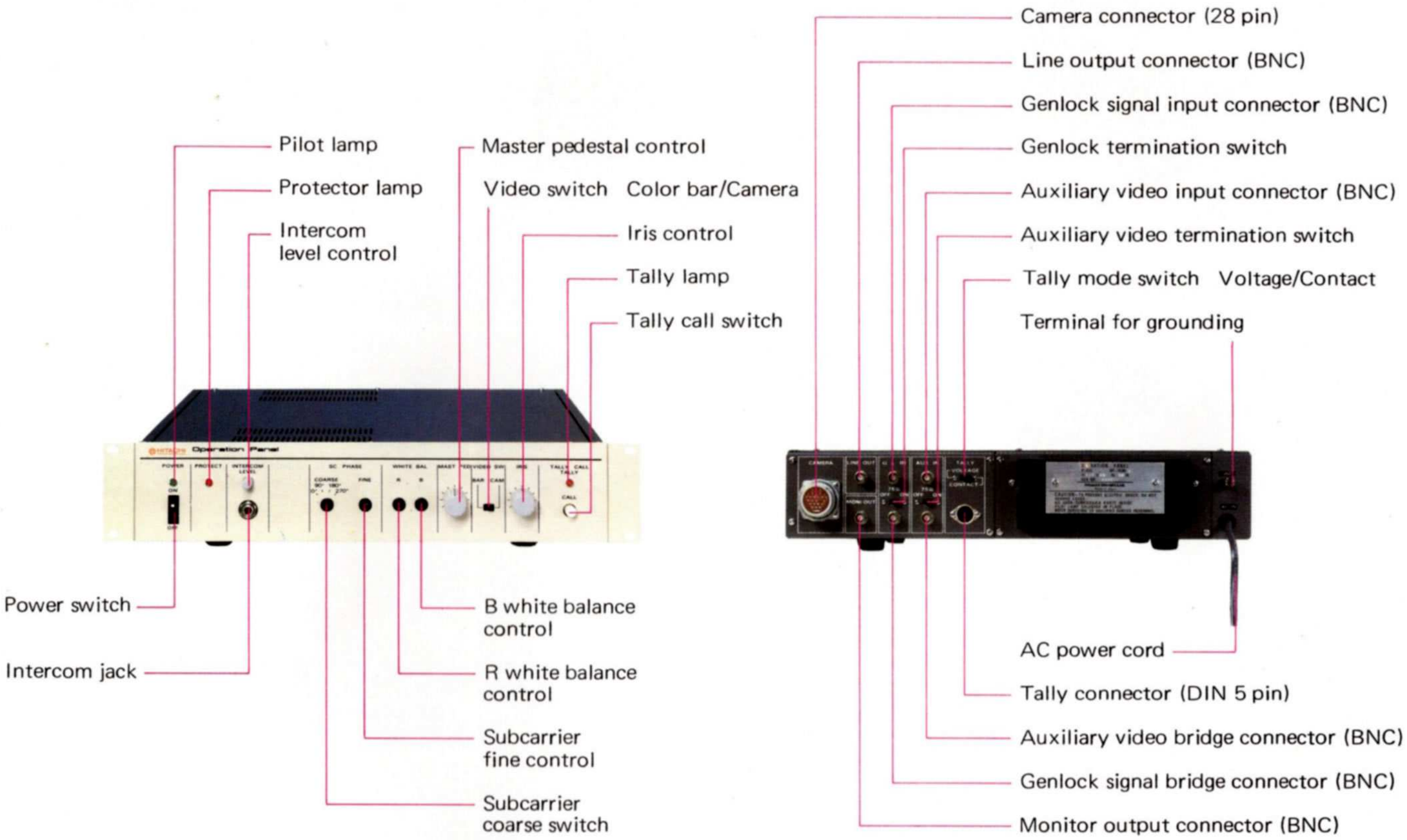
Optical system		Dichroic mirror, 3-tube system
Pickup tube		2/3 inch, electrostatic focus, magnetic deflection; SATICON tubes (FP-20 also employs vidicon tubes.)
Scan standards		NTSC 525/60 fields/sec., PAL 625/50 fields/sec.
Synchronization		Internal sync NTSC or PAL*
Resolution	**Horizontal**	500 lines at center (G channel, SATICON), 450 lines at center (G channel, vidicon)
	Vertical	350 lines at center (G channel, SATICON), 350 lines at center (G channel, vidicon)
Signal-to-noise ratio		49dB (SATICON), 46dB (vidicon) 1.0 gamma, at standard illumination
Standard illumination		2,500 lux (250 fc), F4 3,200° K
Minimum illumination		150 lux (15 fc), F1.8 3,200° K
Registration	**Zone 1**	0.1% (within center circle of diameter equal to 80% picture height)
	Zone 2	0.4% (within center circle of diameter equal to picture height)
	Zone 3	1.0% (elsewhere)
Geometry		1% (within center circle of diameter equal to 80% picture height)
Shading correction		Additive shading correction, both horizontally and vertically
Gamma correction		0.45
Encode system		R–Y, B–Y
Color temperature compensation		Optical filters; 3,200° K, 4,700° K, 6,000° K + ND (13%)
Lens mount		S mount (C mount is available as an option.)
Camera mount		2-1/4"-20UNC, 1-3/8"-16UNC
Video output signal		1.0Vp-p, VBS, 75Ω
Genlock signal		1.0Vp-p, VBS or black burst
Audio input		–75dBm, 600Ω
Power input		+12V DC, approx. 20W (excluding VF)
Operating temperature		–10 to +40° C (14 to 104° F)
Dimensions (W x H x D)		170 x 185 x 370mm (6.7 x 7.3 x 14.6 in.)
Weight		Approx. 5.5kg (12.1 lb) (excluding VF and Hand grip)

*Simplified PAL. (PAL-B unit is available as an option.)

External View



Operation Panel OP-60



Specifications

Control items	Iris BAR/CAM selection White balance Master pedestal Color Subcarrier Phase	28-pin connector	
	Camera call and tally	DIN 5-pin connector	
Genlock video input	Color composite video or black burst	1.0Vp-p BNC	
Line output	Color composite video	1.0Vp-p BNC	
Monitor output	Color composite video	1.0Vp-p BNC	
Auxiliary video input	Color composite or monochrome composite video	1.0Vp-p BNC	
Ambient temperature	0 to +40° C (32 to 104° F)		
Power requirements	U and C types	120V AC,	60Hz, 110W
	E type	220V AC,	50Hz, 110W
	K type	240V AC,	50Hz, 110W
Dimensions (W x H x D)	482 x 88 x 330mm (19.0 x 3.5 x 13.2 in)		
Weight	Approx. 10kg (22 lb)		

Standard Composition

Operation panel, OP-60 1

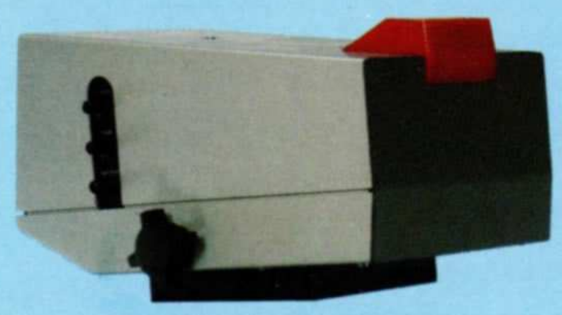
Operation manual 1

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Other Accessories



1.5-inch viewfinder (with 2 times magnifier)
VM-154



7-inch viewfinder
VM-702



Hand grip
GR-60



Zoom lenses



Microphone
MC-30B



AC adaptor
AP-60



Battery belt
PB-20A



Battery cord



Battery charger
BC-20



Shoulder pad
SP-60

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	:	58-25 Brooklyn-Queens Expressway, Woodside, N.Y. 11377, U.S.A. Phone: (212) 898-1261, TWX: 710-582-2495, Telex: 424304 HDAL UI
West Coast Office	:	21015-21023 So. Figueroa Street, Carson, Calif. 90745, U.S.A. Phone: (213) 328-2110, TWX: 910-349-6952
Midwest Office	:	1725 North 33rd Ave., Melrose Park, Illinois 60160, U.S.A. Phone: (312) 344-4020, TWX: 910-226-0411
Southwest Office	:	14169 Proton Road, Dallas, Texas 75240, U.S.A. Phone: (214) 233-7623, TWX: 910-860-5775
Southeast Office	:	3610 Clearview Parkway, Doraville, Georgia 30340, U.S.A. Phone: (404) 451-9453, TWX: 810-757-4228
Central Western Office	:	3538 Peoria, Aurora, Colorado 80010, U.S.A. Phone: (303) 344-3156, TWX: 910-932-2993
Northwest Office	:	1051 Andover Park West, Tukwila, Wash. 98188, U.S.A. Phone: (206) 575-1680, TWX: 910-444-2155

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

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

- **Hitachi Denshi Europa GmbH**

Head Office	:	6000 Frankfurt Am Main, Kennedy Allee 109, F.R. Germany Phone: (0611) 639063/4, Telex: 414-509

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

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

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