

PREPARED BY: _____ DATE: _____	<h1>SHARP</h1> <p>APPLIANCE SYSTEMS GROUP SHARP CORPORATION</p> <h2>SPECIFICATION</h2>	No. YH- 7787 - 02
APPROVED BY: _____ DATE: _____		FILE No. _____
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		PAGE 7 Pages
		APPLICABLE DIVISION YAO PLANT APPLIANCE SYSTEMS GROUP

Model No.

SPECIFICATION FOR COLOR CCD CAMERA

YH-7B57 ; NTSC
YH-7B67 ; NTSC (with microphone)
YH-8B57 ; PAL
YH-8B67 ; PAL (with microphone)

CUSTOMER'S APPROVAL

DATE _____

BY _____

PRESENTED BY *H. Madono*

H. Madono
 General Manager
 House Electronics Business Promotion Dept.
 Appliance Systems Group

SHARP CORPORATION

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1. Application

This document describes the specifications of Color CCD Camera to be supplied to _____.

All figures described in this document are based on the conditions that the camera is used under *normal operating temperature, normal operating humidity.

Normal operating temperature ; + 20 ~ + 25°C

Normal operating humidity ; 65 ± 5%RH

The monitor to be used shall be standard monitor.

Model No.	TV system	Output signal	Iris control	Built-in microphone
YH-7B57	NTSC	Composite	Electronic Exposure (EE)	—
YH-7B67				○
YH-8B57	PAL			—
YH-8B67				○

2. General Description

These color CCD cameras incorporate 1/4-inch CCD with following characteristics:

- 1) Focus ; manual adjustable
- 2) Structure; Tilt base (up) 45 ° , (down) 15 °
- 3) Output signal; Composite
- 4) Connector (Audio, Video)

Model No.	
YH-7B57	RCA pin jack (video)
YH-7B67	RCA pin jack x 2 (video, audio)
YH-8B57	RCA pin jack (video)
YH-8B67	RCA pin jack x 2 (video, audio)

DC power supply; power jack (EIAJ type A-2)
refer to see attached drawing (page YH-7787-02-7)

- 5) Iris control; EE type
- 6) White balance; Auto (TTL auto tracing white balance)
- 7) Contrast control; Adjustable contrast (up / down), Backlight compensation
 - When power on, contrast level comes to factory preset level (NTSC; 714mV, PAL ; 700mV)
 - Push *UP* button for level up
 - Push *DOWN* button for level down
- 8) Built-in microphone
 - Microphone type;No-directiity electret condensor microphone
 - Output voltage(built-in);150mVrms ± 6dB (input;0.1 Pa at 1KHz)
 - Output impedance; 1K Ω ± 30%
 - S/N ratio (built-in); ≥ 36dB (input;0.2 Pa at 1KHz, weighing filter A)
 - Frequency response; < 7KHz(-3dB/1KHz)

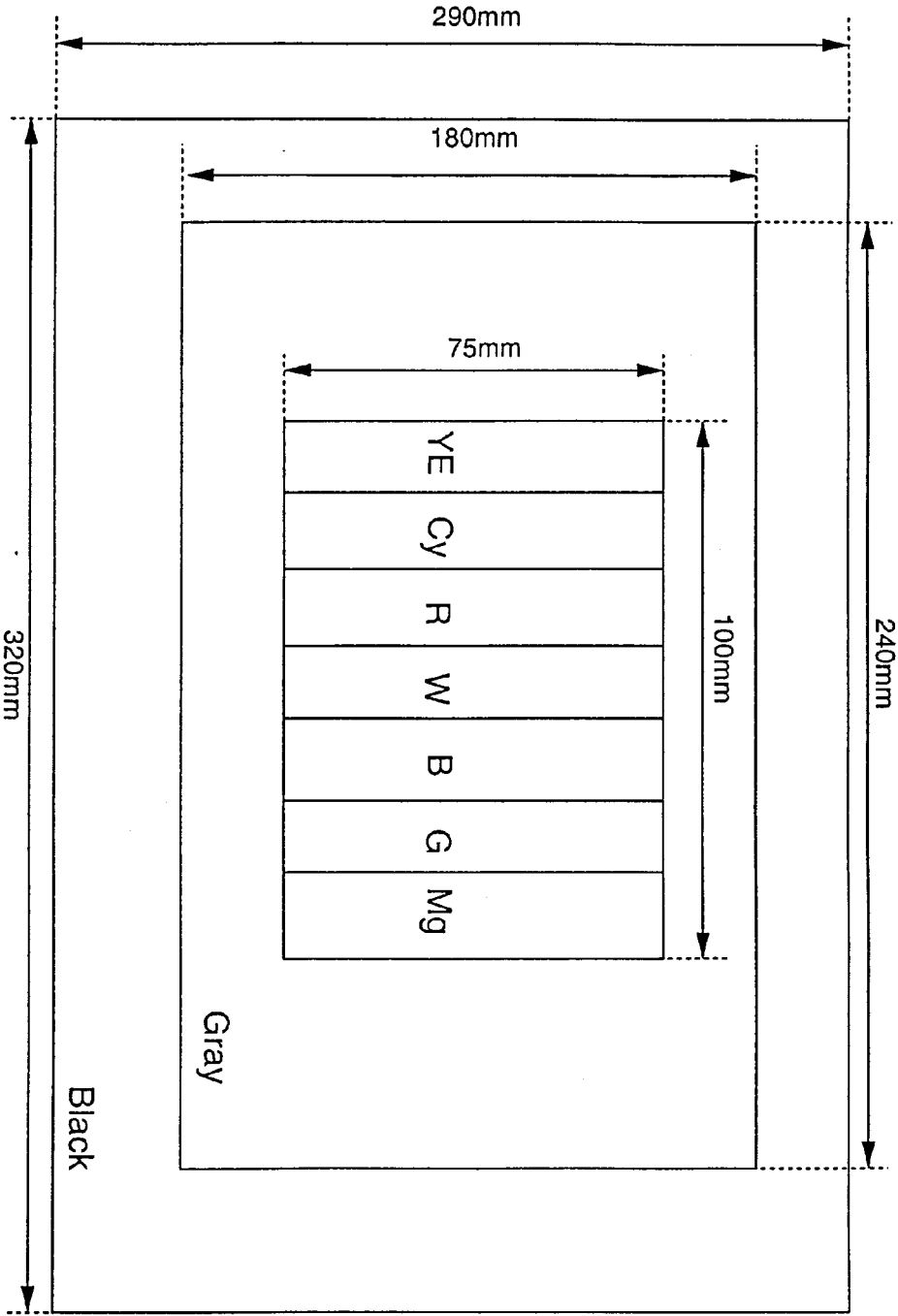
4.Specifications

YH-7787-02 -2

TV system	NTSC	PAL
Image sensor	1/4" Inter-line transfer CCD	
Total pixels	542(H) x 492(V) (Total; 270K)	542(H) x 582(V) (Total; 320K)
Effective pixels	512(H) x 492(V) (Total; 250K)	512(H) x 582(V) (Total; 300K)
Resolution Distance from chart to camera: 70cm	Horizontal : 310 TV lines Vertical : 280 TV lines	Horizontal : 310 TV lines Vertical : 350 TV lines
Focus	manual adjustable (50mm to infinity)	
S/N ratio	≥ 46 dB Condition: AGC off High pass filter 10KHz Fsc trap Weighting filter on Low pass filter(NTSC;4.2MHz, PAL;5.0KHz) Light shield	
Minimum illumination	≤ 20 lx Condition: ITE gray scale chart(Gamma = 1.0) Y signal amplitude 350mV	
White balance	TTL auto tracing white balance, Range; 2,800 to 6,800°K	
Iris control	EE type	
Gamma correction	approx. 0.6	
Auto Gain Control	auto only	
Sub-carrier frequency	3.579545 MHz \pm 200Hz	4.43361875 MHz \pm 200Hz
Sync. system	Internal only	
Output video signal		
Composite type	1.0Vp-p/75 Ω	1.0Vp-p/75 Ω
•Y signal amplitude *(condition 1)	714mV \pm 100mV	700mV \pm 100mV
•Color signal*(condition 2)		
R amplitude	88.25 IRE \pm 25%	94.8 IRE \pm 25%
R phase	103.4° \pm 15°	103.4° \pm 15°
B amplitude	62.2 IRE \pm 25%	67.2 IRE \pm 25%
B phase	347.1° \pm 15°	347.1° \pm 15°
•Sync. amplitude	286mV \pm 80 mV	300mV \pm 80 mV
•Burst amplitude	286mV \pm 90mV	300mV \pm 90mV
Lens		
focal length	approx. 4.3mm(fixed)	
F number	approx.2.4	
viewing angle	Horizontal : approx. 46° Vertical : approx. 35°	
TV distortion	approx. 2%	
DC power supply	DC 4.5V - DC7.0V , \leq 2W	
Operating temperature	-10 to +40°C	
Storage temperature	-20 to +60°C	
Case size (excluding tilt stand)	74(W) x 28(H) x 87(D) mm (without connector)	
Weight	approx. 190g	

- * Condition 1; ITE gray scale chart(Gamma = 1.0)
- Condition 2; Exclusive color chart (page YH-7787-01 -4)
 - Line select; 141 lines(NTSC), 166 lines(PAL)
 - Y(white) amplitude; 714mV(NTSC), 700mV(PAL)
 - Color temp.; 5,100°K

Proprietary color chart: • Transmissive type
• Transmissivity of Gray part: 27%



5. Reliability Tests

Unless otherwise stated, the following reliability tests are conducted (sampling base) to confirm the reliability of the camera in the testing room kept in normal temp. and humidity.

1) Low temp. storage test

To prove that the camera shows no abnormal operation and function after it is stored at ambient temp. of -20°C for 24 H and then left at room temp. for 2 H min.

2) Low temp. operation test

To prove that the camera normally operates for continuously 5H at ambient temp. of -10°C .

3) High temp. storage test

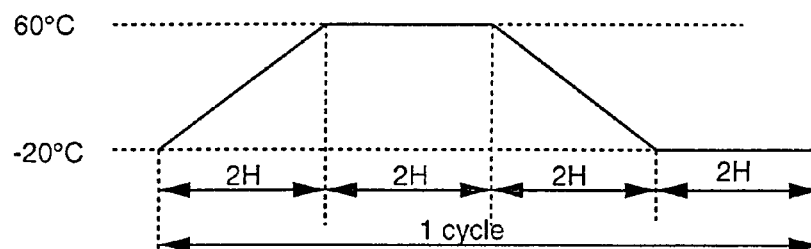
To prove that the camera shows no abnormal operation and function after it is stored at ambient temp. of 60°C for 24 H and then left at room temp. for 2 H min.

4) High temp. operation test

To prove that the camera normally operates for continuously 5H at ambient temp. of 40°C .

5) Temp. cycle test

To prove that the module shows no abnormal operation and function during 5 cycles as stipulated in the following pattern, and then 2H storage at room temp.



6) Normal humidity test

To prove that the camera shows no abnormal operation and function after the camera has been operated for 24H at ambient temp. of 30°C and relative humidity of 90%RH, and take out from test chamber with water drop removed.

7) Vibration test for unpackaged unit

To prove that the camera shows no abnormal operation and function after vibration test under the condition of 10~55~10Hz/min. at acceleration speed 3.6G and up/down for 4H and left/right for 2H and back/forward for 2H.

8) Shock test

Three successive shocks shall be applied in both direction of 3 mutually perpendicular axes(a total of 18 shocks).

Peak acceleration: 50 G, Duration of pulse: 10 msec.

6. Pixel Defect

Number of defective pixels	not more than 10
Condition:	Temperature 25°C Shield the light AGC off Standard monitor(NTSC/PAL)

*10 pixels in both horizontal edges and 9 pixel in both vertical edges shall be disregarded as a void area.

7. Packing case; TBD

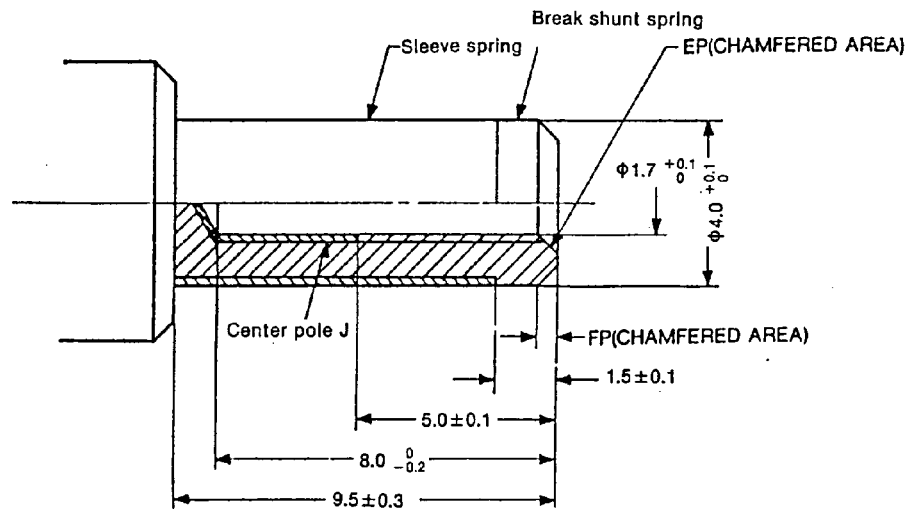
8. Operation manual; Not included

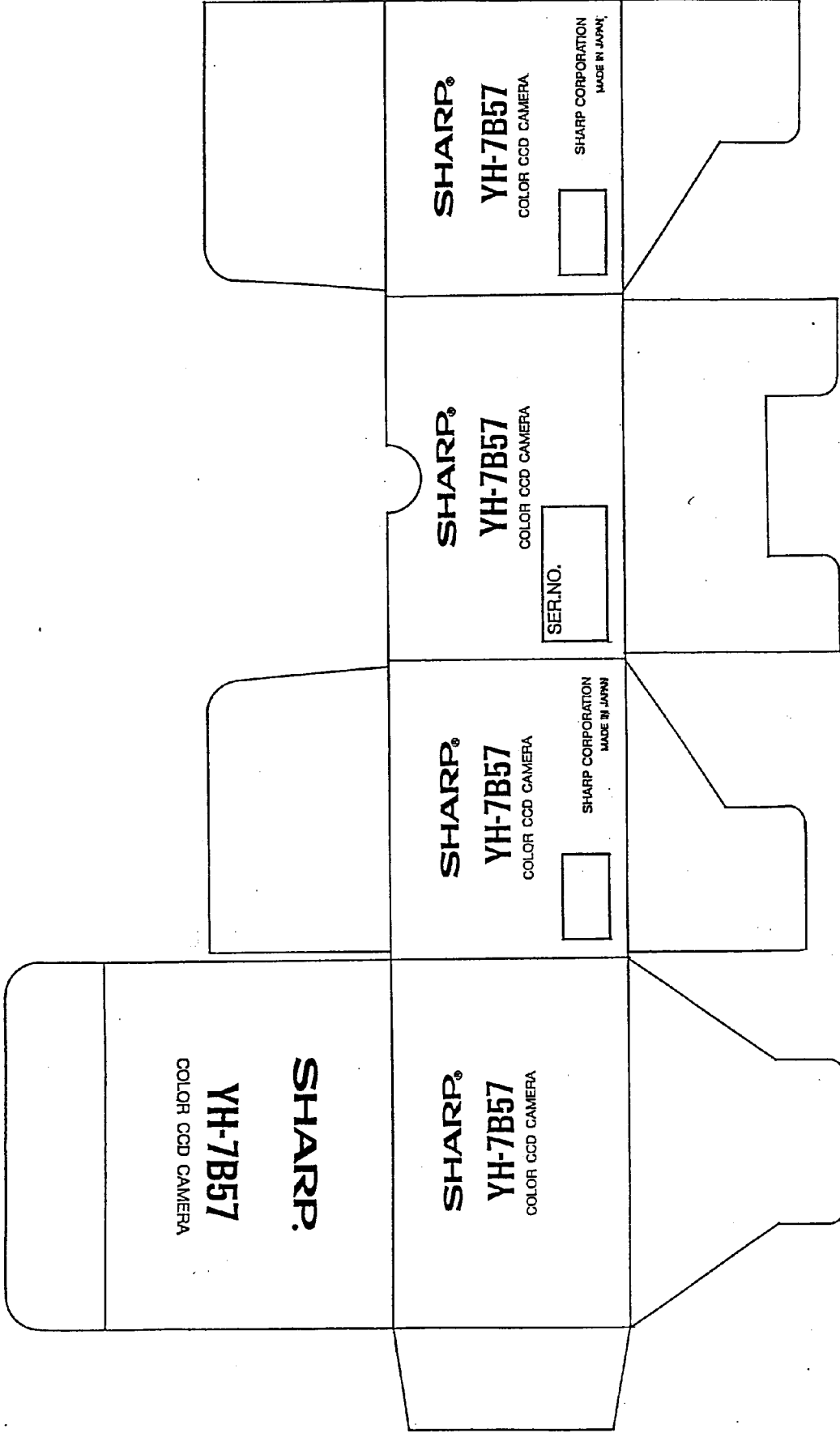
9. Precautions & Notes

- 1) Do not shoot at direct sunlight.
The display picture disappears in case of shooting at direct sunlight.
- 2) Under fluorescent lamp, the color images taken by EE type camera shift slowly change color.
- 3) Under fluorescent lamp of 50Hz light, camera image taken by NTSC will flicker.
- 4) Under fluorescent lamp of 60Hz light, camera image taken by PAL will flicker.
- 5) Care shall be used not to damage the camera during installation or removed of the extension cable.
- 6) These products are made specifically for indoor use.
(Office and ordinary home-use environment.)
- 7) Since EMI and CE vary depending on various systems, these agency approvals need to be taken at customer side.
- 8) Any agency approval for safety is not applicable to this color CCD camera.

Please note that Sharp cannot guarantee the performance and quality under any use other than the conditions stated above, such as circumstances where vibrations are constant as in a moving vehicle, where shocks may occur as in a moving vehicle or where shocks exceeds ordinary house-hold or office use.

DC POWER SUPPLY MATING PLUG





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COLOR CCD CAMERA

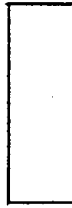


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COLOR CCD CAMERA

20PIECES



SHARP.
COLOR CCD CAMERA



20PIECES

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20PIECES

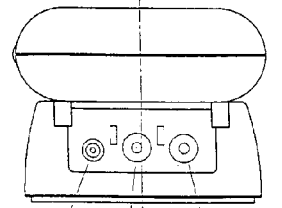
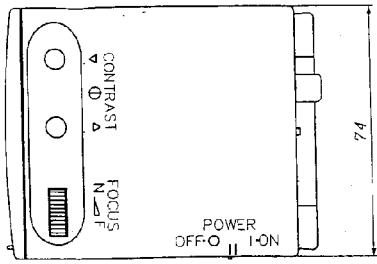
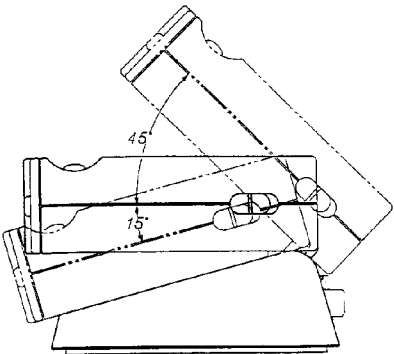
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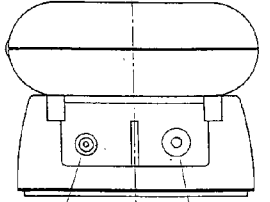
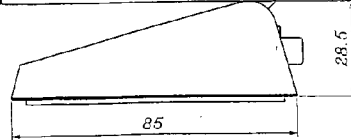
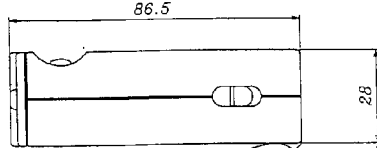
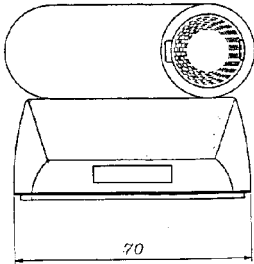
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開発部長	設計部長	生産部長	品質部長	営業部長	総務部長	経理部長	技術部長	製造部長	検査部長	部品部長	倉庫部長	事務部長
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発注部	部品名	数量	納入先	納入期	納入方法	納入条件	納入場所	納入担当者	納入連絡先	納入備考
部品名	数量	納入先	納入期	納入方法	納入条件	納入場所	納入担当者	納入連絡先	納入備考	



Audio Output
RCA Pin Jack
Supply Input
DC Power Jack
Video Output
RCA Pin Jack

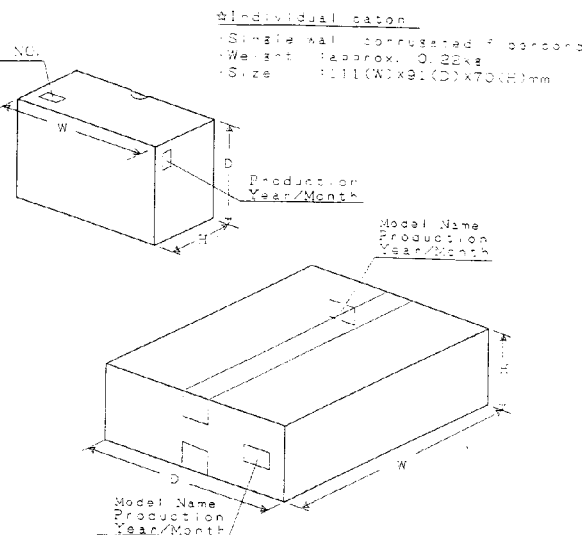
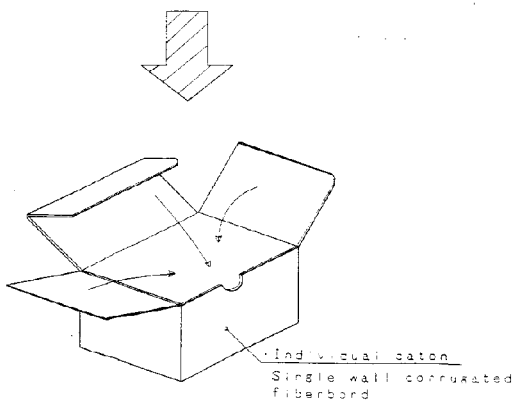
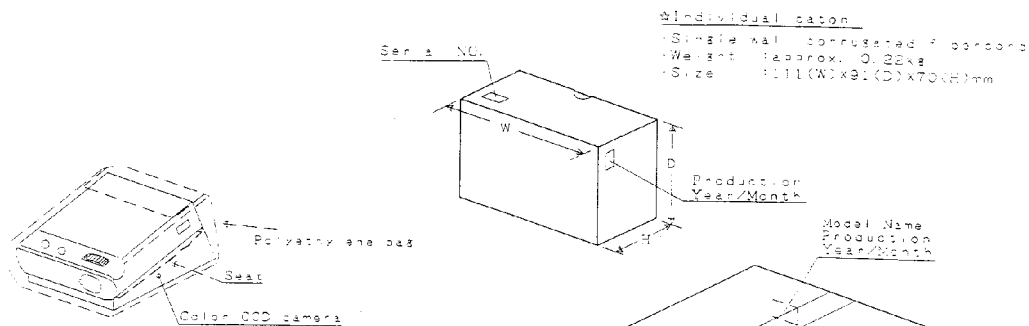


Supply Input
DC Power Jack
Video Output
RCA Pin Jack

NO.		PARTS CODE		PROCESS		MATERIAL		FINISH		Color CCD Camera	
SCALE		UNIT		20-70 (mm)		AL A2 A4 (mm)		3/16		3/16	
APPROVE		CHECK		DESIGN		DRAW		CHANGE			
DATE		NO.		REVISE		ASSIGN NO.		DRAWING NO.			
1996.3.1		APPLIANCE SYSTEM		P.LAB		SHARP CORPORATION		SHARP CORPORATION		SHARP CORPORATION	

SHARP CORPORATION 電化システム事業本部 SHARP CORPORATION 機種 JIG AD 297X420

PACKAGE SPECIFICATION (Color CCD camera)



- Individual carton**
- Single wall corrugated fiberboard
 - Weight : approx. 0.22kg
 - Size : 111(W) x 91(D) x 70(H)mm
- Master carton**
- A-1 type (Regular Slotted Container)
 - I-Seal (Double wall corrugated fiberboard)
 - Weight : approx. 7.0 kg TBD
 - Size : 481(W) x 247(D) x 171(H)mm
 - Quantity : 20 pieces/CTN

PARTS CODE				PROCESS	PIECES	MATERIAL	FINISH	PACKAGE SPEC.	
								DESIGN	NAME
				APPROVE	CHECK			DESIGN	NAME
								DESIGN	NAME
DATE	NO.	ELVIDE						DESIGN	NAME
DATE 29 FEB 1988								DESIGN	NAME

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