



**CCD Color Camera
Model CS5801-01
Model CS5801P-01
Specification**

**Please return three complete sets with
An authorized signature by NET**

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Log List of Spec Changes on Delivery

(Revised page after revision date)

No.	Revised date & page	Revised items	Reason of revision
	Jun. 20, 2003	New	
①	Feb. 19, 2004 / Page 3	<u>5. Interface</u> (1) FRONT PANEL ALC level is changeable by input DOWN SW contact signal or UP SW contact signal when OSD menu OFF.	The details of specification are added.
	Feb. 19, 2004 / Page 10	<u>11. External-view Drawing</u> (2) Camera Head Width of a prism: 18mm → 20mm Interval of a M2: 13mm → 15mm	The parts of a prism are communalized. Clerical error
②	Aug. 23, 2004 / Page 8	Contents change of <u>10. cases for indemnity</u> <u>10. Limited Warranty</u> → <u>10. Cases For Indemnity (Limited Warranty)</u> The addition of <u>11. restriction for use.</u>	Reexamination of the contents
	Aug. 23, 2004 / Page 9	<u>11. External-view Drawing</u> → <u>12. External-view Drawing</u>	Reexamination of the contents
	Aug. 23, 2004 / Page 10	<u>12. External-view Drawing</u> (2) Camera Head Thickness of a base plate: 2.5mm → 2.9mm	The parts of a prism are communalized.
③	May. 12, 2005 / Page 2	<u>4. Specifications</u> (25) Spot standards TOSHIBA TELI CORPORATION warrants white pixels until NET incoming inspection, other warranty issues are same condition. Test times of white pixels are 5 min. after switch on.	The details of specification are added.

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1. Product Description

The model CS5801-01/5801P-01 are remote head type 3CCD camera supplied for The NET having 3 pieces of 400,000 pixel image sensors. This model realizes high-resolution and excellent color reproduction. Both NTSC and PAL models are available.

NTSC CS5801-01
PAL CS5801P-01

2. Features

- (1) High Resolution, H750TV lines
- (2) ALC (Automatic Lighting Control) Function
- (3) DSP (Digital Signal Processor) Adopted
- (4) ATW (Auto Trace White Balance) Function
- (5) Video Output: RGB 1line, VBS 1line, Y/C composite 2 lines.
- (6) DC12V drive
- (7) Open-Frame body suitable for easy system integration

3. Configuration

(1) Camera Board (Main + DSP)	1
(2) Camera Head	
Prism Block	1
Driver Board	1
(3) Package	1
(4) Accessories	Nothing

*As camera cables, various wire harnesses, and camera control switches are not included in the components, these need to be prepared by NET or end-user.

4. Specifications

([]) in the table below.

(1)TV system	PAL	[NTSC]
(2)Image sensor	ICX409AL	[ICX408AL]
Scanning format	Interline CCD x 3	
Effective pixel counts	752(H) x 582(V)	[768(H) x 494(V)]
	Approx. 440,000	[Approx. 380,000]
Scanning area	4.8mm(H) x 3.7(V)mm (1/3 type)	
(3)Pixel shift	Special offset	
(4)Scanning lines	625 lines	[525 lines]
(5)Interlace	2:1 interlace	
(6)Sync system	Internal sync.(Ex-sync OK with an option board)	
(7)Scanning frequency	H: 15.625kHz	[H: 15.734kHz]
	V: 50Hz	[V: 59.94Hz]
(8)Aspect ratio	4:3	
(9)Subject illumination	Standard: 2500 lx, F11, 3000K	
	Minimum: 5 lx, F2.2	

(10)Video output	RGB: 1 line, VBS and Y/C: 2 lines each
RGB	V: 0.7V(p-p)/75-ohm [0.714V(p-p)/75-ohm]
VBS	V: 0.7V(p-p)/75-ohm [0.714V(p-p)/75-ohm]
	B: 0.3V(p-p)/75-ohm [0.286V(p-p)/75-ohm]
	S: 0.3V(p-p)/75-ohm [0.286V(p-p)/75-ohm]
Y/C Y	V: 0.7V(p-p)/75-ohm [0.714V(p-p)/75-ohm]
	S: 0.3V(p-p)/75-ohm [0.286V(p-p)/75-ohm]
C	BST: 0.3V(p-p)/75-ohm [0.286V(p-p)/75-ohm]
(11)Sync signal output	C.SYNC: 4V(p-p)/HIGH (1k-ohm), Negative
(12)Resolution	Horizontal: 750TV lines Vertical: 430TV lines [350TV lines]
(13)S/N	58dB (AGC: OFF, ELC: OFF, Edge enhancement: OFF)
(14)Gamma	ON/OFF selectable
(15)WB	AUTO/MANUAL selectable
Color temperature range:	From 2250K through 6000K
(16)ALC	ON/OFF selectable
Correction range:	From -92dB though +12dB
(17)Edge enhancement	ON/OFF selectable H: Both edges V: One edge
(18)Shading correction	Manual shading correction on V color shading
(19)Masking correction	ON/OFF selectable
(20)Color-bar generator	Color-bar signal is generated when the camera cable is disconnected from CCU
(21)Power supply	DC12V +/- 10%
(22)Current consumption	Approx. 800mA
(23)Ambient condition	Temperature: From 0 degree through 55 degrees C Humidity: From 30% through 90%
(24)External dimension	Refer to the attached external-view drawing
(25) Spot standards	35.7mV(p-p) [5IRE]or less
Measurement Condition	
Illumination	2500 lx, 3000 k
Lens Aperture	F11
Camera Setting	GAIN: +12dB [ALC ON] DETAIL: OFF GAMMA: OFF
Waveform Monitor	LPF: ON
Ambient Temperature	From 20 degrees through 25 degrees
TOSHIBA TELI CORPORATION warrants white pixels until NET incoming inspection, other warranty issues are same condition. Test times of white pixels are 5 min. after switch on.	

5. Interface

(1) FRONT PANEL J1:FH12-20S-0.5SV (HIROSE)

Pin No.	Signal Name	I/O	Function
1	GND		
2	GND		
3	+3.3V	O	Power source (Approx. 30mA)
4	+5V	O	Power source (Approx. 10mA)
5	USER3	O	LED lightning signal
6	USER2	O	LED lightning signal
7	USER1	O	LED lightning signal
8	WND-LED	O	LED lightning signal
9	FRZ-LED	O	LED lightning signal
10	AWB-LED	O	LED lightning signal
11	ALC-LED	O	LED lightning signal
12	DISP	I	DISP SW contact signal
13	RIGHT	I	RIGHT SW contact signal
14	LEFT	I	LEFT SW contact signal
15	DOWN	I	DOWN SW contact signal
16	UP	I	UP SW contact signal
17	USER	I	USER SW contact signal
18	WND	I	WND SW contact signal
19	AWB	I	AWB SW contact signal
20	ALC	I	ALC SW contact signal

ALC level is changeable by input DOWN SW contact signal or UP SW contact signal when OSD menu OFF.

(2) CAMERA HEAD J2:00-8283-0612-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	OS-R	I	CCD output R
2	OS-GND		
3	OS-G	I	CCD output G
4	OS-GND		
5	OS-B	I	CCD output B
6	OS-GND		

(3) CAMERA HEAD J3:00-8283-1211-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	+15V	O	Power source
2	+5V	O	Power source
3	GND		
4	-7V	O	Power source
5	XSG2	O	CCD driving signal
6	XSG1	O	CCD driving signal
7	XV4	O	CCD driving signal
8	XV3	O	CCD driving signal
9	XV2	O	CCD driving signal
10	XV1	O	CCD driving signal
11	XSHT	O	CCD driving signal
12	GND		

(4) CAMERA HEAD J4:00-8283-0811-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	XRG	O	CCD driving signal
2	H.GND		
3	XH2	O	CCD driving signal
4	H.GND		
5	XH1	O	CCD driving signal
6	H.GND		
7	OPEN		
8	CBL-DET	I	Camera cable detection

(5) POWER SOURCE J5:00-8283-0611-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	+12V IN	I	Power source
2	0V IN	I	Power source
3	+12V SW	O	Power source
4	LED+	O	LED Power source
5	+12V	I	Power source
6	GND		

(6) PC I/F (JIGU) J7:00-8283-0512-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	+3.3V	I	Power source
2	TXD	O	Control signal
3	RXD	I	Control signal
4	COMM-ON	I	COMM BOARD detection
5	GND		

(7) VBS OUT J8:00-8283-1211-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	V-OUT1	O	VBS1
2	GND		
3	Y-OUT1	O	Luminance signal 1
4	GND		
5	C-OUT1	O	Color signal 1
6	GND		
7	V-OUT2	O	VBS2
8	GND		
9	Y-OUT2	O	Luminance signal 2
10	GND		
11	C-OUT2	O	Color signal 2
12	GND		

(8) EXT. SYNC (OPTION) J9:00-8283-1511-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	+12V	O	Power source
2	+5V	O	Power source
3	GND		
4	-5V	O	Power source
5	XHD	O	HD
6	XVD	O	VD
7	VRI	O	V Reset signal
8	LALTRI	I	LALT Reset signal
9	EXT/INT	I	EXT SYNC signal detection
10	SC DET	I	SC signal detection
11	H-PHASE	O	H-PHASE control signal
12	SC-PHASE	O	SC-PHASE control signal
13	SC-SEL	O	SC-PHASE control signal
14	EXT 28M	I	28MHz COLCK IN
15	GND		

(9) EXT. SYNC (OPTION) J10:00-8283-0611-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	EXT-14M	I	4Fsc (NTSC only)
2	GND		
3	FSC	O	Fsc
4	GND		
5	SC-CONT	I	4Fsc Control voltage
6	GND		

(10) RGB OUT J11:00-8283-0811-00-000 (KYOCERAELCO)

Pin No.	Signal Name	I/O	Function
1	R-OUT	O	R OUT
2	GND		
3	G-OUT	O	G OUT
4	GND		
5	B-OUT	O	B OUT
6	GND		
7	SYN-OUT	O	SYNC OUT
8	GND		

(11) Camera cable connector
ConnectorP1: FTE112-01-G-DV-P (SAMTEC)
CLE112-01-G-DV (SAMTEC)

Pin No.	Signal Name	I/O	Function
1	+15V	I	DC+15V
2	+5V	I	DC+5V
3	GND	---	GND
4	-7V	I	DC-7V
5	XH1	I	CCD Horizontal Driving Pulse 1
6	XH2	I	CCD Horizontal Driving Pulse 2
7	XRG	I	Reset Gate Pulse
8	XSHT	I	CCD Electric Charge Disposing Pulse
9	XV2	I	CCD Vertical Driving Pulse 2
10	XV1	I	CCD Vertical Driving Pulse 1
11	XSG1	I	CCD Electric Charge Readout Pulse 1
12	XV3	I	CCD Vertical Driving Pulse 3
13	XSG2	I	CCD Electric Charge Readout Pulse 2
14	XV4	I	CCD Vertical Driving Pulse 4
15	GND	---	GND
16	WP	O	Write Protect Signal
17	B-OSOUT	O	CCD B Signal
18	G-OSOUT	O	CCD G Signal
19	R-OSOUT	O	CCD R Signal
20	OSGND	---	GND for OS
21	OPEN	---	-----
22	SCL	I	EEPROM Serial Clock
23	PB1	---	Un-plugged
24	SDA	I	EEPROM Serial Data

6. Cautions

- (1) The data shown in this specification is the factory shipped setting.
- (2) In installing your camera/assembling your camera, image noise might be observed if there is noise-generating source, such as electric lamp line, motor, etc. Avoid installing/assembling near the noise-source.
- (3) Do NEVER use the camera under the operating temperature/humidity conditions other than specified. Otherwise, it might cause not only picture-quality deterioration, but after inner parts. Especially avoid placing the camera where it's exposed to direct sunlight.
- (4) In connecting/disconnecting your camera-head with CCU, make sure to turn CCU power OFF first. Making CHU-CCU connection/disconnection with power ON might cause CHU breakdown.

7. Warranty

TOSHIBA TELI CORPORATION(hereafter to as "TELI") warrants this model for the period ending 15 months after delivery to NET, or 12 months after NET's delivery to its end-user, whichever is earlier. In accordance with 8-Repair below, TELI guarantees free-repair if there is any design/manufacturing defects, which is attributable to TELI, are found during the above warranty period.

Notwithstanding the above stipulation, TELI shall be exempted from the free-repair, or entitled to requesting reimbursement of cost incurred if either one of the following conditions exists.

- (1) Any damage or malfunction which is caused by NET/end-user's improper use, or by force-majeure, including but not limited to, earthquake, fire, flood, or any other Act of God beyond the control of TELI
- (2) Malfunction caused by deterioration/degradation of CCD device itself, the risk of which is inherent in the device and therefore unavoidable by TELI
- (3) Actual costs incurred by TELI for cause-investigating analysis and/or corrective action taken on the malfunction/trouble, which is found to be attributable to NET/end-user's equipment/appliance or their installation/operation/environment condition.

8. Repair

(1)Factory repair

Defective unit(s) shall be returned for repair at TELI's factory, unless otherwise agreed.

(2)Repair acceptance period

- (a) Warranty repair --- As stipulated in 7-Warranty above
- (b) Out-of-warranty repair --- Within 7 years after production discontinuation, unless otherwise agreed.

9. Maintenance

To be negotiated by TELI/NET

10. Cases For Indemnity (Limited Warranty)

We shall be exempted from taking responsibility and held harmless for damages or losses incurred by the user in the following cases.

- (1) In case damages or losses are caused by fire, earthquake, or other acts of Gods, the act by third party, misuse by the user deliberately or erroneously, use under extreme operating conditions.
- (2) In the case of indirect, additional, consequential damages (loss of business interests, suspension of business activities) are incurred as result of malfunction or non-function of the equipment, we shall be exempted from responsibility for such damages. In case damages or losses are caused by malfunction resulting from bad connection with other equipment.
- (3) In the case damage or losses are caused by failure to observe the information contained in the instructions in this instruction manual and specifications.
- (4) In the case damage or losses are caused by use contrary to the instructions in this instruction manual and specifications.
- (5) In the case damage or losses are caused by malfunction or other problems resulting from use of equipment or software that is not specified.
- (6) In the case damage or losses are caused by repair or modification conducted by the customer or any unauthorized third party (such as an unauthorized service representative).
- (7) Expenses we bear on this product shall be limited to the individual price of the product.

11. Restriction For Use

- (1) Should the equipment be used in the following conditions or environments, give consideration to safety measures and inform us of such usage:
 - (a) Use of the equipment in the conditions or environment contrary to those specified, or use outdoors.
 - (b) Use of the equipment in applications expected to cause potential hazard to people or property, which require special safety measures to be adopted.
- (2) This product can be used under diverse operating conditions. Determination of applicability of equipment or devices concerned shall be determined after analysis or testing as necessary by the designer of such equipment or devices, or personnel related to the specifications. Such designer or personnel shall assure the performance and safety of the equipment or devices.
- (3) This product is not designed or manufactured to be used for control of equipment directly concerned with human life (*1) or equipment relating to maintenance of public services/functions involving factors of safety (*2). Therefore, the product shall not be used for such applications.

(*1): Equipment directly concerned with human life refers to.

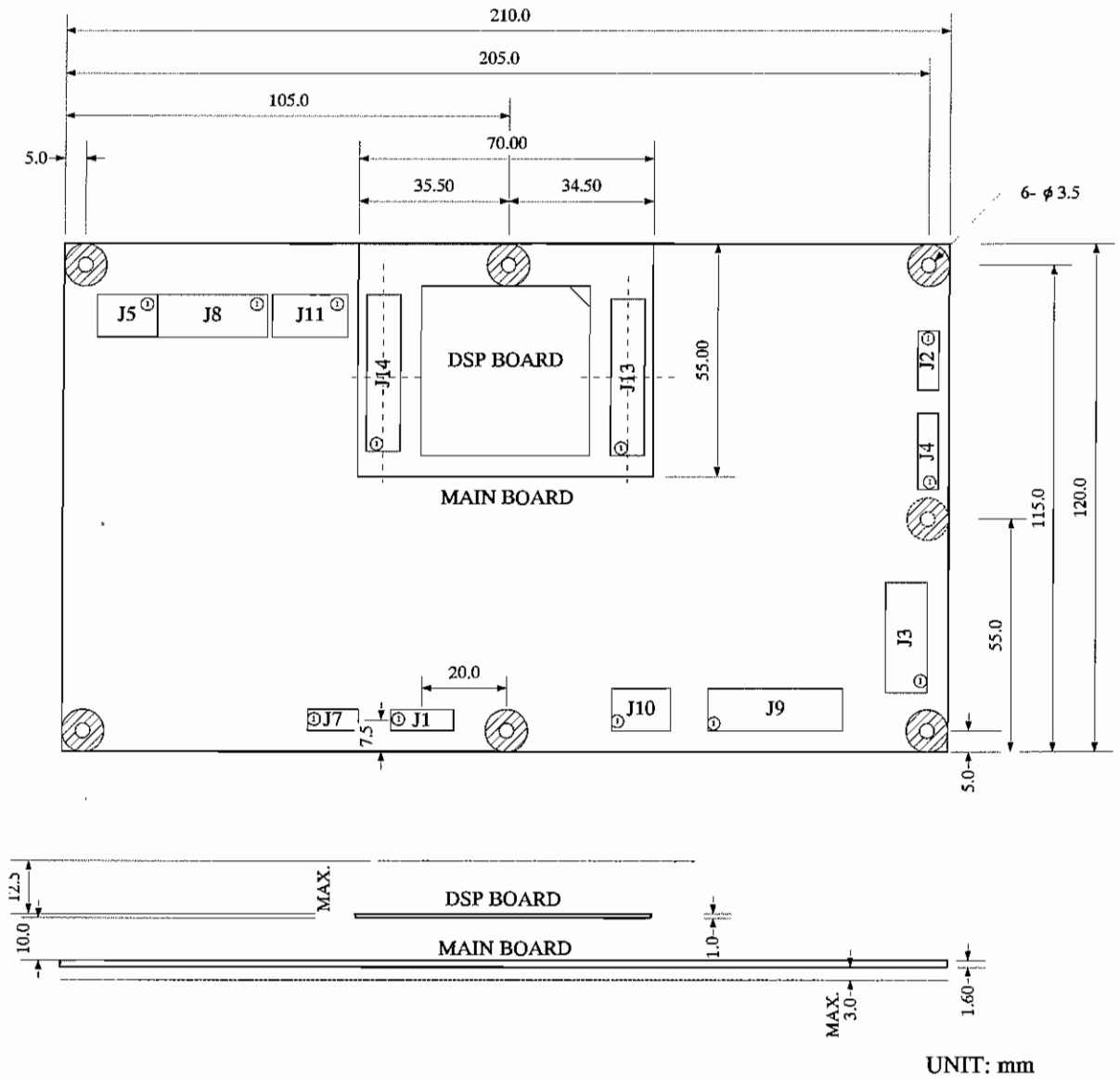
 - Medical equipment such as life-support systems, equipment for operating theaters.
 - Exhaust control equipment for exhaust gases such as toxic fumes or smoke.
 - Equipment mandatory to be installed by various laws and regulations such as the Fire Act or Building Standard Law
 - Equipment related to the above

(*2): Equipment relating to maintenance of public services/functions involving factors of safety refers to.

 - Traffic control systems for air transportation, railways, roads, or marine transportation
 - Equipment for nuclear power generation
 - Equipment related to the above

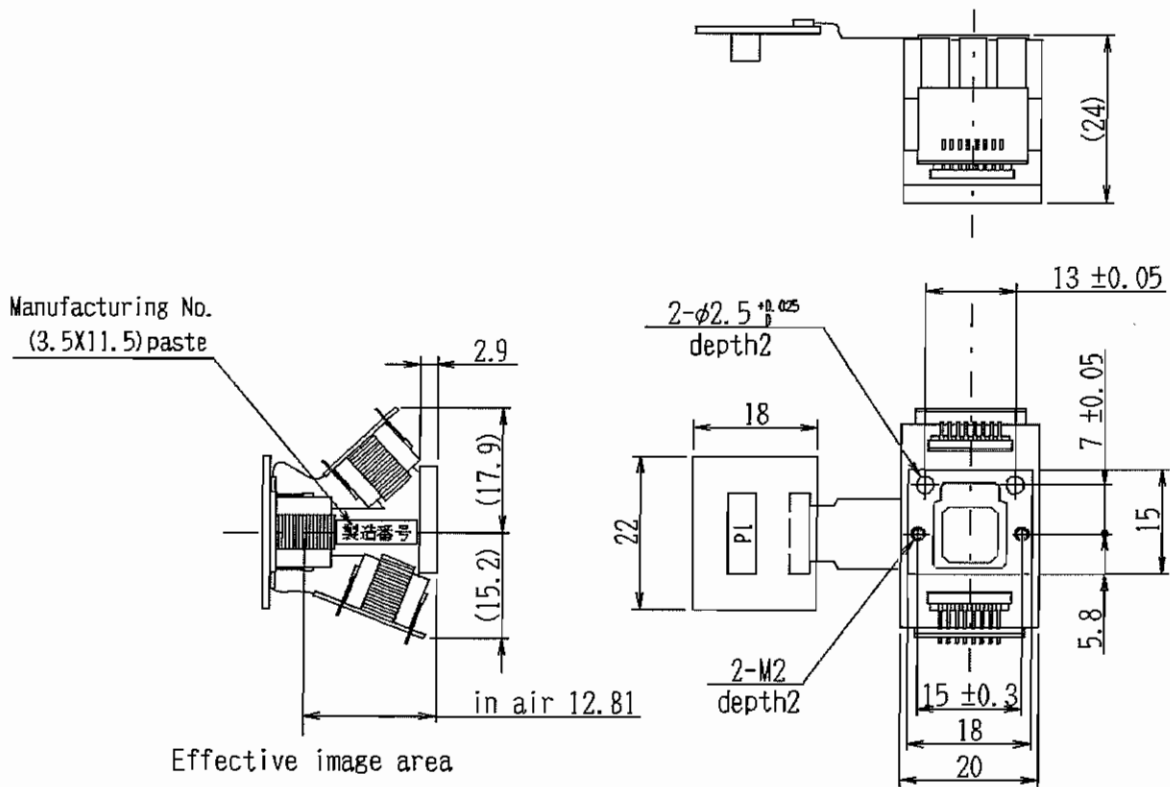
12. External-view Drawing

(1)CCU Board (Main + DSP)



UNIT: mm

(2) Camera Head



UNIT: mm