
PRELIMINARY

APPROVAL SHEET

DESCRIPTION : **CCD Color Board Camera**

SET MODEL NO. : **CNB - EN300,350,300C,350C (NTSC)**
 CNB - EP300,350,300C,350C (PAL)

Receipt Stamp

ISSUED

CHECKED

APPROVED

CCD COLOR BOARD CAMERA

CNB – E N 3 0 0 C V
 ① ② ③ ④

- ① N : NTSC
 P : PAL
- ② 0 : HIGH
 5 : NORMAL
- ③ C : C/CS MOUNT LENS
 P : PIN HOLE LENS
 V : VARI-FOCAL LENS
- ④ V : VIDEO IRIS
 D : DC IRIS

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1. SPECIFICATIONS

Signal System	NTSC (CNB - EN300/C)	PAL (CNB - EP300/C)	REMARKS
Scanning System	2 : 1 Interlace		
Scanning Frequency (H)	15.734 KHz	15.625 KHz	
Scanning Frequency (V)	59.94 Hz	50 Hz	
Image Sensor	1 / 3 Inch Solid State Interline CCD Image Sensor		SONY
Total Pixels No.	811 (H) X 508 (V) 410K	795 (H) X 596 (V) 470K	
Effective Pixels No.	768 (H) X 494 (V) 380K	752 (H) X 582 (V) 440K	

Signal System	NTSC (CNB - EN350/C)	PAL (CNB - EP350/C)	REMARKS
Scanning System	2 : 1 Interlace		
Scanning Frequency (H)	15.734 KHz	15.625 KHz	
Scanning Frequency (V)	59.94 Hz	50 Hz	
Image Sensor	1 / 3 Inch Solid State Interline CCD Image Sensor		SONY
Total Pixels No.	537 (H) X 505 (V) 270K	537 (H) X 597 (V) 320K	
Effective Pixels No.	510 (H) X 492 (V) 250K	500 (H) X 582 (V) 290K	

“ Bold : Default Mode ”

- 1) Angle of view at Diagonal88。 (f= 3.8 mm) 60。 (f= 5.8 mm)
- 2) Signal ProcessDigital Signal Process
- 3) Sync SystemInternal
- 4) Camera Function

a) Digital Zoom**ON** / Off (3 times)

b) Video FocusFocus free from 0.1m(f= 3.8 mm) ,0.4m(f= 5.8 mm) to ∞

c) White Balance**Auto** / Indoor / Outdoor / Push Auto / Manual (R&B Gain Level UP/Down)
Special (R or B Gain Level Control)

c) Shutter Speed**Auto** / Manual (1/60 ~ 1/ 10000 (NTSC) / 1/50 ~ 1/10000 (PAL))

d) Iris Control**Fixed** / Manual (Video Iris, DC Iris Optional)

e) Gain Control**Auto** / Manual (Auto Gain Control : UP ~ Down)

f) Sharpness**Manual** (Sharpness UP ~ Down)

g) Brightness**Manual** (Brightness UP ~ Down)

h) Negative**Off** / On (Negative Level UP ~ DOWN)

i) Flickerless**Off** / On (1 / 100 sec Shutter Set (NTSC) / 1 / 120 sec Shutter Set (PAL))

j) Back LightAuto / **Off** / On

5) Video Output Level

NTSC	Video Level	0.714 ± 0.07V (100 ± 10 IRE)
	Sync Level	0.286 ± 0.035V (40 ± 10 IRE)
	Burst Level	0.286 ± 0.035V (40 ± 10 IRE)
PAL	Video Level	700 ± 70 mV
	Sync Level	300 ± 35 mV
	Burst Level	300 ± 35 mV

6) Color Reproduction

COLOR		RED	BLUE	YELLOW	BURST
NTSC	Amplitude (%)	200 ± 40 %	130 ± 40 %	115 ± 40 %	100 %(Base)
	Phase (°)	103 ± 20。	345 ± 20。	170 ± 20。	180。 (Base)
PAL	Amplitude (%)	200 ± 40 %	130 ± 40 %	115 ± 40 %	100 %(Base)
	Phase (°)	103 ± 20。	345 ± 20。	170 ± 20。	135。 (Base)

- 7) Horizontal Resolution More than 470 Lines (CNB-EN300/C,EP300/C)
More than 380 Lines (CNB-EN350/C,EP350/C)
- 8) Luminance S/N More than 48dB
- 9) Sensitivity Typ. 1Lux --- At signal Level 30 IRE
(LENS-F : F = 1.4 (WIDE) AGC Gain : Max)
- 10) Supplied Voltage 9.0 V ~ 15.0 V (Recommendation 12.0 V ± 0.5 V)
- 11) Supplied Current 150 mA
- 12) Power consumption 2.0 W (Max)
- 13) Dimensions 38.0 (W) × 38.0 (H) × 24.0(D) mm
- 14) Weight 25 g (Approx.)
- 16) Appearance / Dimensions See Attached **Page 8.**
- 17) Packing Method See Attached **Page 9.**

2. MEASUREMENT SPECIFICATIONS

* Standard Measurement Condition and Measurement Procedure

See an Annexed Document “ **APPENDIX 2** ”

3. ENVIRONMENT CONDITION AND TEST

- 1) Operating Condition
- Temperature -10 。 C ~ 50。 C (Recommendation : - 5 。 C ~ 40。 C)
- Humidity 10 % ~ 85 %
- 2) Storage Condition
- Temperature -20 。 C ~ 60。 C
- Humidity 0 % ~ 90 %

3) High Temperature storage Test

Leaving the packed at Temperature of 60。 C for 72 Hours, and after leaving it at Normal Temperature for 8 Hours, there should be no Problem in Performance.

4) Low Temperature storage Test

Leaving the packed at Temperature of -20。 C for 72 Hours, and after leaving it at Normal Temperature for 8 Hours, there should be no Problem in Performance.

4. INTERFACE

1) Pin Assignment (J204, 7 Pin Connector ; **Maker Molex , 12512WS-07A00**)

PIN No.	NAME	I/O	Note
1	VIDEO OUT	Output	1V ± 0.2 Vp-p
2	GND (For Video)		
3	DC IN (ALIVE)	Input	9 V ~ 15 V (Recommendation 12±0.5 V)
4	A/D	Input	
5	GND		
6	Line VD	Input	
7	5V OUT	Output	FOR AC 24V Line VD(Not used)

2) Pin Assignment (J203, 4 Pin Connector ; **Maker Molex , 12505WS-04A00**)

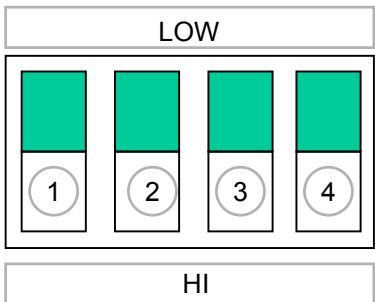
PIN No.	NAME	I/O	LEVEL
1	RD(For RS-232C)	Input	CMOS Level 5V (Low : Max 0.8V , High : Min 3.7V)
2	TD(For RS- 232C)	Output	CMOS Level 5V (Low : Max 0.8V , High : Min 3.7V)
3	5V	Output	FOR RS-232C
4	GND		FOR RS-232C

3) Pin Assignment (J205, 4 Pin Connector ; **Maker Molex , 12505WS-04A00**)

*** Optional DC/VIDEO TYPE**

PIN No.	DC IRIS	VIDEO IRIS	LEVEL
1	DAMP +	N.C	
2	DAMP -	12V	
3	DRIVE +	V. LEVEL	
4	GND	GND	

4) SW Assignment (SW201:MSH-04)



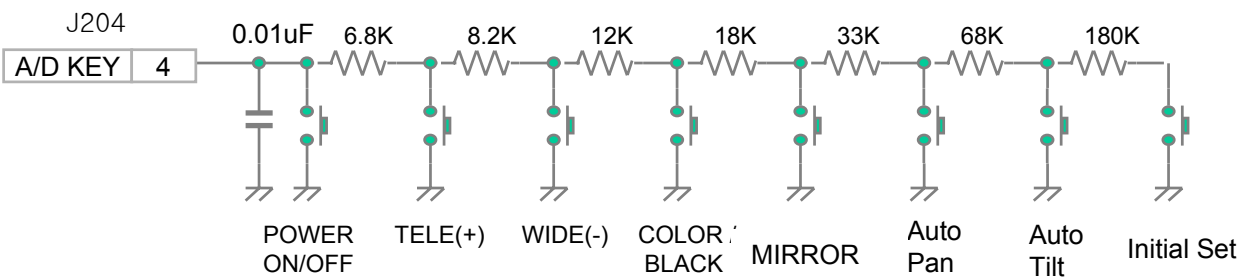
PIN No.	LOW	HIGH
1	BLC ON	BLC OFF
2	ALC	ELC
3	AGC OFF	AGC ON
4	Digital Zoom x2	Digital Zoom x1

5. RECOMMENDED CIRCUIT FOR LOCAL CONTROLS

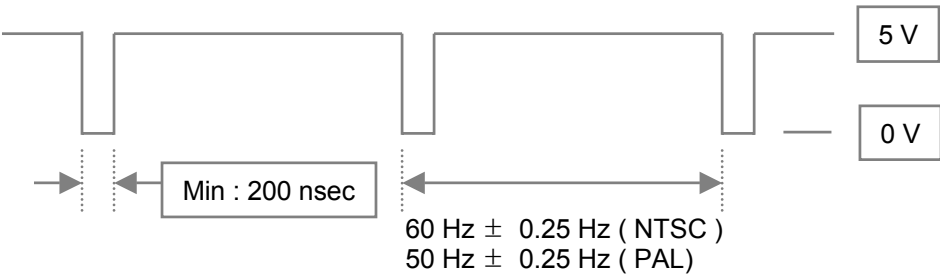
1) Selectable KEY Function

NO.	Function	NO.	Function
1	Tele (Digital Zoom)	16	Backlight On / Off
2	Wide (Digital Zoom)	17	Color / Black
3	Pan Right	18	Initial Set
4	Pan Left	19	Power On / Off
5	Tilt Up	20	
6	Tilt Down	21	
7	Auto Pan	22	Flickerless On /Off
8	Auto Tilt	23	
9		24	Red control
10	WB Push Auto	25	Blue control
11	Brightness (Negative) Control (+)	26	Mirror
12	Brightness (Negative) Control (-)	27	Auto Zoom
13	Sharpness Control (+)	28	AGC On/Off
14	Sharpness Control (-)	29	
15	Positive / Negative	30	

1-1) KEY Function

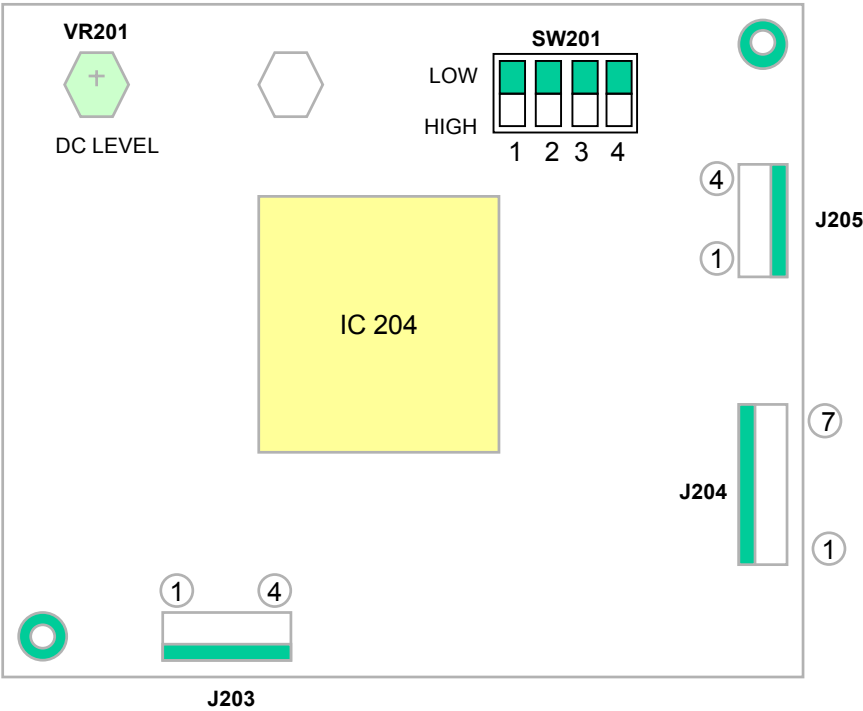


2) Line In Pulse (EX. FV)



A) Pulse- Signal Spec of EX.FV

3) PWB LAY OUT (CSP BOARD)



6. APPEARANCE

