



CCD Color Board Camera

Model : VPC-895A

1. Specification

No. 900-456-01
24 Dec. 2005 / Ver 2.0

Item	Description	Remarks
Image Sensor	1/3" Inter-line CCD Image sensor	
Effective picture element	752(H) x 582(V)	
Signal system	PAL	
Video Output	1) VBS :1.0Vp-p (sync negative / 75 unbalanced) 2) Y/C separate Y : 1.0Vp-p (sync negative / 75 unbalanced) C : to be determined by Burst level	
External Sync	1) VS/VBS or SYNC 2) HD / VD	Input impedance 4.7KΩ Available 75Ω by JP
Horizontal Resolution	450TV lines (condition: luminance signal)	Luminance signal only
Minimum Illumination	0.5lux or less at F1.4, AGC ON (standard +39dB) (A_Gain+24dB and D_Gain+15dB Total +39□□□□dB) <Reference value by Aperture/Signal level> Aperture at 50% at 30% F1.2 0.37 Lux 0.23 Lux F1.4 0.5 Lux. 0.3 Lux F3.0 2.3 Lux 1.38 Lux	at signal level 50% A_AGC: Analog_AGC D_AGC: Digital_AGC
Sensitivity	2000 lux at F5.6 or more	706nit (3200°K)
S/N ratio	48dB at aperture=off, γ=off, gain=0dB, SC TRAP ON (measuring instrument), and 100KHz to 5.2MHz	
AGC	OFF/ON/Other (Standard : ON)	Setting by R/C
Elec. Shutter	OFF/FL/EI/Other (ON/Auto select by S/W)	See attached details.
White Balance	3200/5600/ATW/Other (Standard : ATW)	
Lens Mount	Without lens or D-mount lens	Stand. f=5.6mm F3
Standard color Temperature	3200°K± 50°K for adjustment	
White clip	850±60mV	
Setup level	35±20mV	at AGC OFF
SYNC level	300±30mV	
Sync signal frequency	15.62500KHz ± 12ppm	Including temperature characteristic tolerance
Sub-carrier frequency	4.433618MHz ± 12ppm	Including temperature characteristic tolerance
Gamma characteristic	Approx. 0.45	
Power Requirement	DC +10.5V to +15V	
Power Consumption	Max. 1.6W at Vin=DC12V	
Operation Temperature	Performance guarantee: 0 to +40°C (Humidity 20 to 80% without condensation) Operation guarantee: -5 to +50°C (Humidity 20 to 80% without condensation)	
Storage Temperature	-25 to +60°C (Humidity 20 ~ 80% without condensation)	
External Dimensions	See outline drawing	
Weight	Approx.13g	without lens

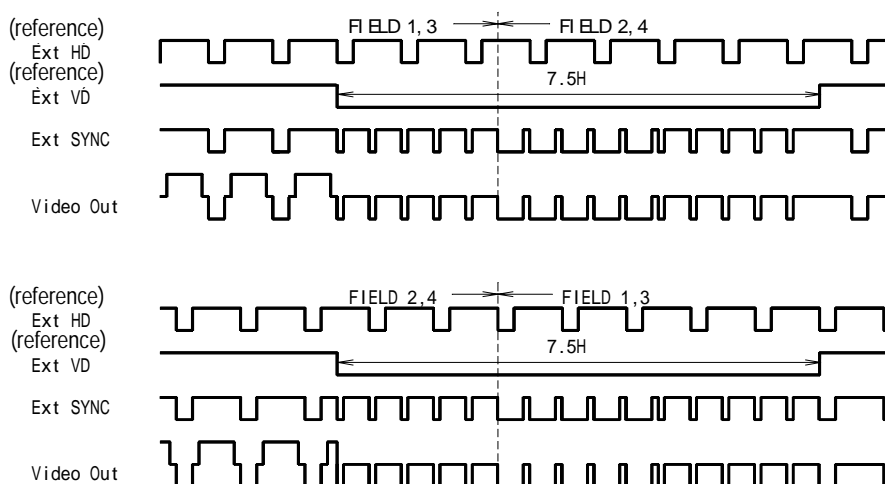


2. External Sync

Input Signal Level	a) VS, VBS or SYNC: 0.3Vp-p±3dB or 2 to 5V at EXT HD/SYNC terminal b) HD/VD: HD 2 to 5V at EXT_HD/SYNC terminal VD 2 to 5V at EXT_VD terminal	
Input Frequency	Sync or HD/VD: 15.62500kHz ±12ppm	
Phase Adjustment	Adjusted by Remote control Sync or HD/VD: Output VBS horizontal phase is changeable more than ±1.0µs against a horizontal phase of external sync. signal.	When SW board is installed or adjustment by remote control

Timing chart (reference)

HD/VD and SYNC



Camera Signal specifications

Item	Standard	Remarks
White clip level	850 ± 60 mV	at AGC OFF
Setup level	35 ± 20 mV	
Sync. level	300 ± 30 mV	
Sync. signal frequency	15.62500 KHz ± 12 ppm	incl. temperature drift
Sub-carrier frequency	4.433618 MHz ± 12 ppm	incl. temperature drift
Gamma compensation	around 0.45	
Burst level	300 ± 30 mV	

CE Standard :

EN55022 ClassB 1998

EN50082-1 1997



3. Settings

Gain control

JP1	Gain selection
Open	AGC ON Max Gain 39dB (Analog 24dB and Digital 15dB)
470KΩ	AGC ON Max Gain 48dB (Analog 24dB and Digital 24dB)
220KΩ	+24dB fix (Analog gain)
120KΩ	+18dB fix (Analog gain)
82KΩ	+12dB fix (Analog gain)
47KΩ	+6dB fix (Analog gain)
22KΩ	AGC OFF (0dB fixed)
Short (0 ohm)	AGC ON Max Gain 24dB (Analog)

Note:

1. Use a Chip Resistor with size 1.6x0.8mm.
2. As Gain increases larger, Chroma level becomes lower. The Chroma level goes to zero (only B/W) at AGC ON Max gain 30dB.

Electronic shutter

JP2	Shutter speed selection
Open	E. IRIS ON 1/50 to 1/30000
470KΩ	1/40000 fix
220KΩ	1/2000 fix
120KΩ	1/1000 fix
82KΩ	1/500 fix
47KΩ	1/250 fix
22KΩ	FL 1/120
Short	E. IRIS OFF 1/50

Note : Use a Chip Resistor with size 1.6x0.8mm.

White balance and BLC

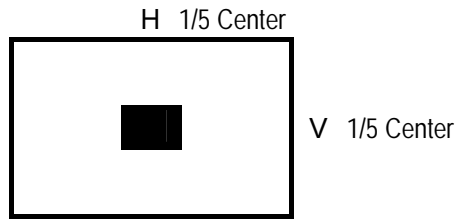
JP3	White balance selection	BLC measuring area selection*2
Open	ATW (2600 to 9000K)	OFF (whole area)
470KΩ	ATW LOCK*1	OFF (whole area)
220KΩ	5600°K fix	OFF (whole area)
120KΩ	3200°K fix	OFF (whole area)
82KΩ	3200°K fix	ON (Center measuring)
47KΩ	5600°K fix	ON (Center measuring)
22KΩ	ATW LOCK*1	ON (Center measuring)
Short	ATW (2600 to 9000°K)	ON (Center measuring)

Note:

1. ATW LOCK: Fix Color temperature at ATW ON by jumper connection with 22K/470KΩ .
2. BLC selection sets measuring area of E. Iris and AGC only.
While area of ATW is always Whole area.
3. Use a Chip Resistor with size 1.6x0.8mm.



Area of center measuring



Electronic zoom

JP4	Electronic zoom
Open	Stop
22KΩ	moving towards Tele side (Max. 4 times)
Short	moving towards Wide side

Note : Use a Chip Resistor with size 1.6x0.8mm.

External sync

EXT HD/SYNC terminal (CN1-7)	EXT VD terminal (CN1-5)	Sync mode
No signal	No signal	Internal sync
EXT SYNC signal input	No signal	External sync: SYNC mode
EXT HD signal input	EXT VD signal input	External sync: HD/VD mode

Note:

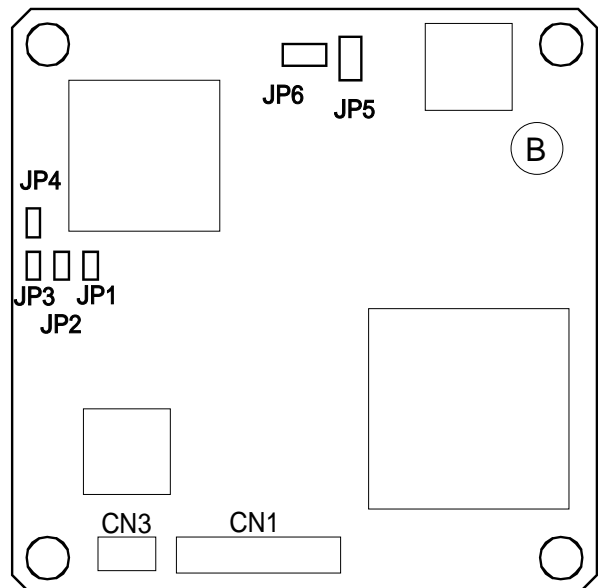
1. External sync mode is selected automatically by the type of sync. signal which is inputted to EXT HD/SYNC terminal and EXT VD terminal.
2. Do not input signals except the above mentioned combination
3. Noise may appear if AGC and EXT SYNC function at the same time
4. Input impedance of EXT HD/SYNC terminal and EXT VD terminal are selectable by JP5 and 6 as follows:

JP5	EXT HD/SYNC terminal
Open	4.7KΩ
Short	75Ω

Use a Chip Resistor with size 2.0x12.5mm.

JP6	EXT VD/LL terminal
Open	4.7KΩ
Short	75Ω

Use a Chip Resistor with size 2.0x12.5mm.





4. I/O Connector type (by naked Board Form)

	Connector on the board	Connector for Harness	Maker
CN1 (for Power, Video and Ext. sync)	BM10B-SRSS-TB	Housing: SHR-10V-S-B/SHR-10V-S Contact: SSH-003T-P0.2	JST
CN3 (for remote control)	BM02B-SRSS-TB	Housing: SHR-02V-S-B/SHR-02V-S Contact: SSH-003T-P0.2	JST
CN2 (for DC Iris)	BM04B-SRSS-TB	Housing: SHR-04V-S-B/SHR-04V-S Contact: SSH-003T-P0.2	JST

5. Pin Assignment of Connectors (by naked Board Form)

CN1	Signal	Description
10	Y OUT	Luminance signal output
9	C OUT	Chroma signal output
8	IRISOUT	Signal output for Auto Iris lens (video iris)
7	EXT HD/SYNC	External sync HD/SYNC input
6	GND	GND
5	EXT VD/LL	External sync VD/LL input
4	GND	GND
3	VIDEO OUT	Video signal output
2	GND	GND for power
1	Power	Power input

CN3	Signal	Description
2	GND	GND for remote control
1	REMOTE	Remote control signal I/O

This is used for DC (galvano) Iris lens.

CN2	Signal	Description
4	DRIVE+	DRIVE+ output for DC IRIS
3	DRIVE-	DRIVE- output for DC IRIS
2	DUMP-	DUMP- output for DC IRIS
1	DUMP+	DUMP+ output for DC IRIS

6. Simultaneous operation of E.IRIS and Auto Iris

It is possible to use E.IRIS and Auto Iris (DC Iris) function at a same time.

8. Factory setting

Remote control address: 000 Data: 000 Jumper Land: Valid

JP1	JP2	JP3	JP4	JP5	JP6
OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
AGC ON Max +39dB (A: +24dB, D: +15dB)	E. IRIS ON	ATW BLC OFF	E. ZOOM STOP	EXT_HD/SYNC input impedance 4.7K	EXT_VD input impedance 4.7K