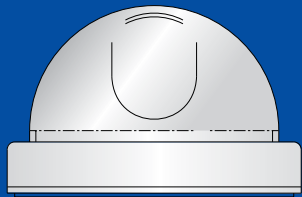




Digital Day & Night
COLOR DOME CAMERA

USER MANUAL

DCC-500D



	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER(OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER WERVICING TO QUALIFIED SERVICE PERSONNEL.		

	The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against	

harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards : Do NOT use power sources other than that specified.
Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes

Contents

1. Features	4
2. Components	6
3. Names and functions of parts	8
4. Camera operation	
1) LENS (selection)	10
2) SHUTTER (condition and speed control)	10
3) WHITE BALANCE control	11
4) BACKLIGHT (Backlight Compensation)	12
5) AGC (Auto gain compensation)	14
6) DNR (Digital Noise Reduction)	14
7) SENS-UP	15
8) SPECIAL	17
9) EXIT	24
5. Troubleshooting	25
6. Specifications	27

1. Features



Horizontal Resolution 530 TVLines

Clear image quality has been achieved by employing a SONY CCD with 410,000(effective) pixels, which provides a horizontal resolution of 530 TV lines.



DAY & NIGHT

This camera has a function that automatically selects the mode that is appropriate for daytime or night-time conditions. The COLOR mode operates in daytime conditions to provide optimum colors, and BW mode operates in nighttime conditions to enhance the definition of the image.



Electronic IRIS

The electronic IRIS function enables continuous automatic control of the shutter between 1/60~1/120,000 seconds.



PRIVACY Function

The PRIVACY function conceals the areas you do not wish to appear on the screen.



High Sensitivity

The built-in high sensitivity SONY COLOR CCD enables a clear image even in 0.3Lux(0.1Lux B/W) or as low as 0.002Lux with SENS-UP.



DNR (Digital Noise Reduction)

The amount of low illuminance noise has been significantly reduced, and the signal-to-noise ratio (S/N ratio) as well as horizontal resolution have been improved, resulting in a clear and sharp image display even in the dark.



Controlled by OSD Menu

The camera can be controlled by selecting text displayed on the monitor screen.



Additional Functions

SENS-UP, MOTION DETECTION, MIRROR, SHARPNESS and SYNC (INT/LL) functions are also available.

2. Precaution

Do not install the camera in extreme temperature conditions.

Only use the camera under conditions where temperatures are between -10 °C and 50 °C. Be especially careful to provide ventilation when operating under high temperatures.

Do not install the camera under unstable lighting conditions.

Severe lighting change or flicker can cause the camera to work improperly.

Do not drop the camera or subject it to physical shocks.

It can cause malfunctions to occur.

Do not install or use the camera in an environment where the humidity is high

Only use the camera under conditions where temperatures are between -10 °C and 50 °C. Be especially careful to provide ventilation when operating under high temperatures.

Do not touch the front lens of the camera.

It is one of the most important parts of the camera. Be careful not to be stained by fingerprint.

Never keep the camera face to strong light directly.

It can damage the CCD.

Do not expose the camera to rain or spill beverage on it.

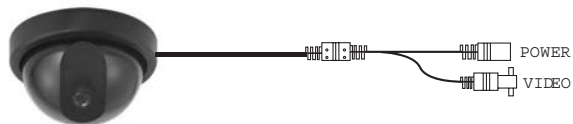
If it gets wet, wipe it dry immediately.
Liquids can contain minerals that corrode the electronic components.

Do not expose the camera to radioactivity.

if it is exposed to radioactivity, For heated CCD, it will be out of order.

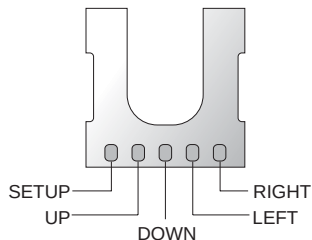
3. Names and Functions of Parts

1) Names of Parts



- **SETUP button** : Used for the menu display. This button can be used to confirm settings after changing the value of the selected function or current conditions.
- **UP & DOWN buttons** : Used for selecting items by moving the cursor up or down on the menu screen.
- **LEFT & RIGHT buttons** : Used when changing item values, by moving the cursor to the left or right on the menu screen.

2) OSD PCB



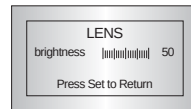
4. Camera operation

1) LENS

This function is used to adjust the brightness of the screen.

SETUP	
▶ LENS	MNUAL
SHUTTER	ESC
WHITE BAL	ATM
BACKLIGHT	OFF
AGC	LOW
DNR	LOW
SENS-UP	OFF
SPECIAL	
EXIT	

- Please select the type of the manual lens.



• The lens brightness can be adjusted in ESC mode, when you select the manual mode

2) SHUTTER

Auto or manual control can be selected.

- When the **SETUP** menu is on the screen, please position the arrow to point to 'SHUTTER' by using the UP and DOWN buttons.
- Please select the **ESC** shutter mode by pressing the LEFT or

SETUP	
▶ SHUTTER	ESC
WHITE BAL	ATM
BACKLIGHT	OFF
AGC	LOW
DNR	LOW
SENS-UP	OFF
SPECIAL	
EXIT	

RIGHT button.

- **FLK** : Please select 'FLK' mode when flickering occurs on the screen, due to an imbalance between illumination and frequency. (NTSC Model : 1/100, PAL Model : 1/120)

- **ESC** : Auto control of the shutter speed can be achieved. When ESC mode is on, the speed is controlled automatically according to the brightness of the screen.

- **MANUAL** : The shutter speed can be controlled manually.

3) WHITE BALANCE

The screen color can be adjusted by using the WHITE BALANCE function.

SETUP	
▶ WHITE BAL	ATM
BACKLIGHT	OFF
AGC	LOW
DNR	LOW
SENS-UP	OFF
SPECIAL	
EXIT	

- Please position the arrow to point to 'WHITE BAL' on the SETUP menu by using the UP and DOWN buttons

- Please select the mode you wish to operate by pressing the LEFT or RIGHT button.

- Please select one of the 3 modes below.

- **ATW(Auto Tracking White Balance)** : This mode can be used within the color temperature range 1,800 °K ~ 10,500 °K (eg, fluorescent light, outdoor, sodium vapor lamp or inside tunnels)
- **AWC(Auto White Balance Control)** : Please press the SETUP button while the camera is directed at a piece of white paper to obtain the optimum state under current illumination. If the environment including the light source is changed you have to adjust the white balance again.
- **MANUAL** : The manual adjustment mode enables finer adjustment.

Please select ATW or AWC first. Please change to manual adjustment mode and press the SETUP button. Please set the appropriate color temperature, and then increase or decrease the red and blue color values while monitoring the color changes on the object.

4) BACKLIGHT

When there is a strong backlight behind the object, clear images of the background as well as the object can still be obtained by using the backlight function.

SETUP		
LENS		MANUAL
SHUTTER		ESC
WHITE BAL		ATM
► BACKLIGHT		OFF
AGC		LOW
DNR		LOW
SENS-UP		OFF
SPECIAL		
EXIT		

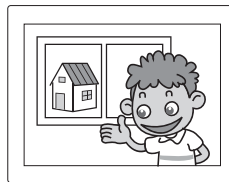
- Please position the arrow to point to 'BACKLIGHT' on the SETUP menu by using the UP and DOWN buttons.
- Please select the mode you wish to operate by pressing the LEFT or RIGHT button.

HIGH : The gain increases from 0dB up to 42dB.

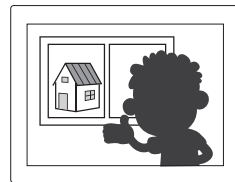
MIDDLE : The gain increases from 0dB up to 30dB.

LOW : The gain increases from 0dB up to 18dB.

OFF : BACKLIGHT function does not operate.



BACKLIGHT ON



BACKLIGHT OFF

5) AGC (AUTO GAIN CONTROL)

SETUP	
LENS	MNUAL
SHUTTER	ESC
WHITE BAL	ATM
BACKLIGHT	OFF
► AGC	LOW
DNR	LOW
SENS-UP	OFF
SPECIAL	
EXIT	

- Please position the arrow to point to 'AGC' on the SETUP menu by using the UP and DOWN buttons.

- Please select the mode you wish to operate by pressing the LEFT or RIGHT button. As the level of gain increases, the screen gets brighter and the level of noise also increases.

HIGH : The gain increases or decreases within the range of 6dB ~ 42dB.

MIDDLE : The gain increases or decreases within the range of 6dB ~ 30dB.

LOW : The gain increases or decreases within the range of 6dB ~ 18dB.

OFF : The gain is fixed at 6dB.

6) DNR

The background noise in the low light level decreases automatically as the level of gain changes.

SETUP	
LENS	MNUAL
SHUTTER	ESC
WHITE BAL	ATM
BACKLIGHT	OFF
AGC	LOW
► DNR	LOW
SENS-UP	OFF
SPECIAL	
EXIT	

- Please position the arrow to point to 'DNR' on the SETUP menu by using the UP and DOWN buttons.

- Please select the mode you wish to operate by pressing the LEFT or RIGHT button.

OFF : There is no reduction in noise level.

LOW : There is a small reduction in noise level with almost no ghost image.

MIDDLE : The most effective mode. There is a sufficient reduction in noise levels without causing much ghost imaging.

HIGH : The level of noise is reduced greatly, however there is an increase in ghost imaging.

7) SENS UP

SENS UP helps maintain a bright, clear screen image by automatically detecting changes in the level of light in low light level conditions

- Please position the arrow to point to 'SENS UP' on the SETUP menu by using the UP and DOWN buttons.

- Please select the mode you wish to operate by pressing the

SETUP

LENS	MNUAL
SHUTTER	ESC
WHITE BAL	ATM
BACKLIGHT	OFF
AGC	LOW
DNR	LOW
► SENS-UP	OFF
SPECIAL	
EXIT	

LEFT or RIGHT button.

- Please press the SETUP button when all the settings are complete.
- The maximum storage magnification in low light level movement situations can be adjusted by pressing the SETUP button in 'AUTO' mode.(X2~X128)

- As the magnification increases, the screen gets brighter; however the after image also increases
- If storage magnification is increased while SENS UP is operating, it may cause noise, and spots may appear; however this is normal.

AUTO : Low light level auto mode

OFF : The function does not operate

Note

When SHUTTER is in the manual mode, SENS UP does not operate.

When AGC is turned off, SENS UP does not operate.

8) SPECIAL

SETUP

LENS	MNUAL
SHUTTER	ESC
WHITE BAL	ATM
BACKLIGHT	OFF
AGC	LOW
DNR	LOW
SENS-UP	OFF
► SPECIAL	
EXIT	

- Please position the arrow to point to 'SPECIAL' on the SETUP menu by using the UP and DOWN buttons.
- Please select the mode you wish to operate by pressing the UP or DOWN button

① **CAMERA ID** : If the ID is input, the camera ID appears on the monitor.

SETUP

► CAMERA ID	OFF
COLOR	ON
SYNC	INT
MOTION DET	OFF
PRIVACY	OFF
MIRROR	OFF
SHARPNESS	ON
RESET	
RETURN	

- Please position the arrow to point to 'CAMERA ID' by using the UP or DOWN button.
- Please select 'ON' by pressing the LEFT or RIGHT button.

- Please press the SETUP button.

Camera ID

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
-	.	0	1	2	3	4	5	6	7	8	9	
←	→	CLR	POS	END								

- Up to 15 letters can be used for the ID.

- Please move the cursor to the letter you wish to choose by using the UP and DOWN button.

Camera ID

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
-	.	0	1	2	3	4	5	6	7	8	9	
←	→	CLR	POS	END								

- Select an ID from A,B~Y,Z, a,b~y,z, 0,1~8,9 by using the UP, DOWN, LEFT and RIGHT buttons.
- Please lock in the letters by using the SETUP button.
- When the letter is locked in, the cursor moves to the next space.

- Please repeat the above to input the ID.

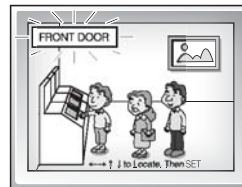
- When a name has been chosen, please select a position for the name display.

- Please move the cursor onto 'POS' and then press the SETUP button.

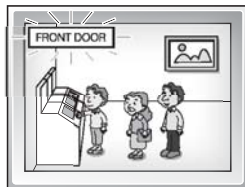
Camera ID

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
-	.	0	1	2	3	4	5	6	7	8	9	
←	→	CLR	POS	END								

- The name will appear at the top left corner.



- Please find the position you wish to display the name by using the 4 directional buttons, and then press the SETUP button.



- Please select 'END' and then press the SETUP button to complete ID input.

② COLOR

SPECIAL	
CAMERA ID	OFF
▶ COLOR	ON
SYNC	INT
MOTION DET	OFF
PRIVACY	OFF
MIRROR	OFF
SHARPNESS	ON
RESET	ON
RETURN	

- AUTO : This camera has a function which automatically changes to the appropriate mode for daytime or night-time. The COLOR mode is operated for daytime, and it converts to BW mode for night-time.
- ON : The color mode is selected by default, and the modes do not change automatically.

- When the AGC is turned off, COLOR does not operate.
- When an infrared light is used, there may be a problem with focusing.

③ SYNC

This model are only available INTERNAL.

④ MOTION DETECTION

SPECIAL	
CAMERA ID	OFF
COLOR	ON
SYNC	INT
▶ MOTION DET	OFF
PRIVACY	OFF
MIRROR	OFF
SHARPNESS	ON
RESET	ON
RETURN	

This product has a feature that allows you to observe movements of objects in 4 different areas on the screen, and the words 'MOTION DETECTED ' appear on the screen when movement is detected; hence a single individual can conduct supervision efficiently. The camera detects

an object's movement by sensing disparity of outline, and level of brightness and color.

- Please press the SETUP button.
- OFF : MOTION DETECTION mode is cancelled.
- ON : Any motion in the selected areas is observed.
- Please select the area you wish to observe from the 4 areas in

AREA SEL mode.

- Please select ON mode for the chosen area.
- Please adjust the size of the area to be observed by using the UP, DOWN, LEFT or RIGHT button.
- Please adjust the level of observation by using SENSITIVITY mode.

- Please press the SETUP button to save the changes and complete the setting.

⑤ PRIVACY

SPECIAL	
CAMERA ID	OFF
COLOR	ON
SYNC	INT
MOTION DET	OFF
▶ PRIVACY	OFF
MIRROR	OFF
SHARPNESS	ON
RESET	
RETURN	

This mode conceals the areas you do not wish to appear on the screen.

- OFF : Cancels the PRIVACY mode.
- ON : Operates the PRIVACY mode.

PRIVACY		
▶ AREA SEL	AREA4	
AREA STATE	OFF	
TOP	[]	31
DOWN	[]	60
LEFT	[]	47
RIGHT	[]	95
SENSITIVITY	[]	80
NTSC		480/60i

- Please press the SETUP button.
- Please select the area you do not wish to appear from the 4 areas in AREA SEL mode.
- Please select ON mode for the chosen area.
- Please adjust the size of the area to be concealed by using the UP, DOWN, LEFT Or RIGHT button.

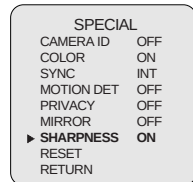
⑥ MIRROR

SPECIAL	
CAMERA ID	OFF
COLOR	ON
SYNC	INT
MOTION DET	OFF
PRIVACY	OFF
▶ MIRROR	OFF
SHARPNESS	ON
RESET	
RETURN	

- ON : Sets a horizontal image inversion.
- OFF : Cancels the inversion.



⑦ SHARPNESS



The outline of the video image becomes cleaner and more distinctive as the level of SHARPNESS increases. If the level goes up excessively, however, it may affect the video image and generate noise.



- The available range of level is 0 ~ 31.

⑧ **RESET** : Returns to the level which was set by the manufacturer for shipment.

⑨ **RETURN** : Saves the SPECIAL menu and returns to the SETUP menu.

9) EXIT

Saves all the setting menus and then exits.

5. Troubleshooting

If there are problems in operation, please refer to the items below. If the problem persists, please contact the agent you purchased this product from.

Problems	Troubleshooting
Nothing appears on the screen.	- Please check the power connection. - Please check the video signal line connection. - Please check and make sure that the auto lens switch is set to DC (VIDEO) when using a VIDEO(DC) lens.
The video image is not clear.	- Please check if the lens is clean. Please clean the lens with a clean cloth or brush. - Please adjust the contrast feature of the monitor. - Please readjust the back focus of the camera.
The screen is dark.	- Please adjust the contrast feature of the monitor. - If you have an intermediate device, set the 75 / Hi-z properly, and check the terminals. - Please check if an auto iris lens is being used and adjust the brightness level.
There is a problem with the camera operation.	Please check if an appropriate power source to the camera complies with the manufacturer's standard requirement, or if the voltage keeps changing.

Problems	Troubleshooting
The MOTION DETECTION function is not working.	• Please check if 'MOTION DETECTION' mode is turned on. • Please check if the MD LEVEL is too low. • Please check the setting of the MD AREA.
Colors are not quite right.	• Please check the 'WHITE BAL' setting
The screen is flickering.	• Please check if the camera is facing directly the sunlight or fluorescent light. • Please check if an auto iris lens is being used. • Please check the connection of the lens connector cable.
COLOR mode is not working.	• Please check if the AGC menu is set to the OFF position.
SENS-UP function is not working.	• Please check if the AGC menu is set to the OFF position. • Please check if the SHUTTER menu is set to MANUAL mode.

6. Specifications

SIGNAL SYSTEM	NTSC	PAL
TOTAL / EFFECTIVE PIXEL	410K / 380K Pixels	470K / 440K Pixels
IMAGE SENSOR	1/3" SONY COLOR super HAD CCD	
HORIZONTAL RESOLUTION	530 TV Line	
MINIMUM ILLUMINATION	0.3 Lux / F 1.2, 0.002Lux with Sensitive Up	
DAY & NIGHT	ON / AUTO	
OSD	Available	
LENS	3.7mm	
DNR	OFF/LOW/MIDDLE/HIGH	
SENS-UP	OFF / AUTO	
MOTION DETECTION	ON / OFF	
LUMINANCE S/N RATIO	More than 50dB (AGC Off)	
SYNC. SYSTEM	Internal	
WHITE BALANCE	ATW / AWC / Manual	
BLC CONTROL	OFF/LOW/MIDDLE/HIGH	
MIRROR	OFF / ON	
VIDEO OUTPUT	Composite output 75ohm terminated 1.0 Vpp, Y/C separate output	
SHUTTER SPEED	Auto/Manual(1/60~1/120,000)	Auto/Manual(1/50~1/100,000)
PRIVACY MASKING ZONE	OFF/ON (4 ZONES)	
OPERATING TEMPERATURE	- 10℃ to 50℃ / 30~90% RH	
SUPPLIED VOLTAGE	DC 12V, 50/60 Hz	
POWER CONSUMPTION	MAX. 300mA	
DIMENSIONS	Φ100 x 84(H)	
WEIGHT	About 400g	



DISTRIBUTED BY