



# Lumino360 Camera

## Instruction Manual



**Standard Definition Pan/Tilt/Zoom Video Conference Camera**

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## Features

Thank You for purchasing the Lumino360 Camera. Please read this Instruction Manual carefully to ensure that you use the product correctly and safely.

Features of the Lumino360 camera:

- ✓ High quality colour video camera with 18X optical zoom and 12X digital zoom, clear view of distance objects, up to 550TVL
- ✓ IR remote control of P/T/Z and other camera functions
- ✓ Diagonal tilt function
- ✓ Compact design with excellent mechanical design: low motion noise, precise positioning
- ✓ Pan:  $360^{\circ}$  continuous,  $0.5^{\circ} \sim 70^{\circ} / \text{sec}$ ; Tilt:  $-30 \sim 90^{\circ}$ ,  $0.5^{\circ} \sim 50^{\circ} / \text{sec}$
- ✓ Back Light Compensation
- ✓ RS232, RS485/422 interfaces
- ✓ Pelco D/P, VISCA protocol

## Before Using the Product

Before you install the Lumino360 camera, check that all the items below are included and that the packaging and the contents are not visibly damaged. Contact the retailer immediately if any parts are either missing or damaged.

- ✓ Lumino360 Camera
- ✓ IR Remote Controller
- ✓ S-Video Cable
- ✓ Composite Cable
- ✓ 240V-AC to 12V-DC transformer
- ✓ UK Power Cable (Figure-8 to 3-pin plug)

## Safety Instructions

The following safety instructions must be followed carefully to use the camera and respective accessories in total safety. The camera and relative accessories are called equipment in this section.

1. Before installing the camera, please read this manual carefully. Please follow instructions of installation indicated in this manual during installation. Please keep this manual for future use.
2. Before powering on the camera, please check the power voltage carefully. Do not apply excessive voltage.
3. Ensure the power cable, video cable and control cable are routed so that they are not likely to be walked on or caught on items places upon or against them.
4. Do not operate the camera beyond the specified temperature and humidity. The camera working temperature range is between 0°C and +50°C. The ambient humidity range is less than 95% .
5. Avoid violent shaking or force to the camera during transportation.
6. To prevent electric shocks, do not remove screws or covers of the camera. There are no self-serviceable parts inside. Refer to qualified service personnel for servicing.
7. If replacement parts are required, ensure these parts are correct replacements for the equipment. Unauthorised substitutions may result in fire, electric shock or other hazards. Upon completion of any service or repairs, ask the service technician to perform safety checks to determine that the equipment is in safe operating order.
8. Video cable and RS485 cable should be positioned far away from other cables.
9. Never aim the lens of the camera at the sun or other extremely bright objects. This may cause damage.
10. Unplug the equipment from the wall outlet before cleaning. Use a clean soft cloth to wipe the equipment. If the camera is very dirty,

wipe it off gently with a soft cloth moistened with a weak solution of water and a neutral kitchen detergent. Wring all liquid from the cloth before wiping the camera, then wipe off all remaining dirt with a soft, dry cloth. Use lens cleaning paper to clean the lens. Never use benzene, thinner, other volatile or corrosive liquids or pesticides as they may damage the products finish and function.

11. The following installation should be performed by qualified service personnel or system installers in accordance with all local rules.
12. Do not move the camera head manually, otherwise malfunction of the equipment may occur.
13. Do not hold the camera head when carrying the video camera.
14. Putting the camera in an inclined place may cause malfunction and may shorten the life of the camera.
15. This camera is for indoor use only. It is not designed for outdoor use.
16. Make sure the camera is not directly exposed to rain, moisture and water. Do not put a heater near the equipment.
17. Make sure the camera is far away from area where radiation, X-rays, strong electric waves, or magnetism is generated.
18. The total weight of the camera is less than 1.5kg. In order to be safe, it needs to be installed or connected on materials that are 5 times the weight of the camera.

## Views and Interfaces

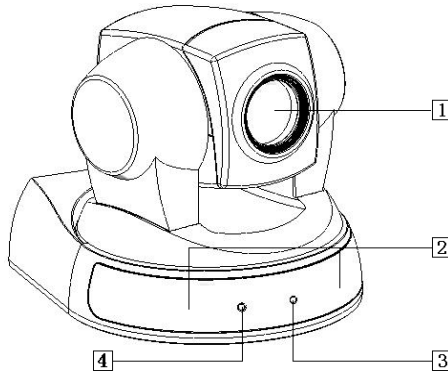


Figure 1 – Lumino360 Front View

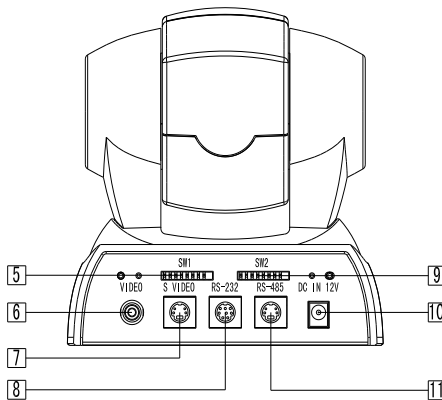


Figure 2 – Lumino360 Rear View and connection points

- |    |                              |    |   |
|----|------------------------------|----|---|
| 01 | Zoom module                  | 07 | S-Video output                                |
| 02 | Sensor for remote controller | 08 | RS-232 interface                              |
| 03 | Power light indicator        | 09 | SW2 Baud rate, protocol and image flip switch |
| 04 | Control light indicator      | 10 | DC12V input                                   |
| 05 | SW1 camera address switch    | 11 | RS-485/RS-422 interface                       |
| 06 | Video output                 |    |   |

## Remote Controller

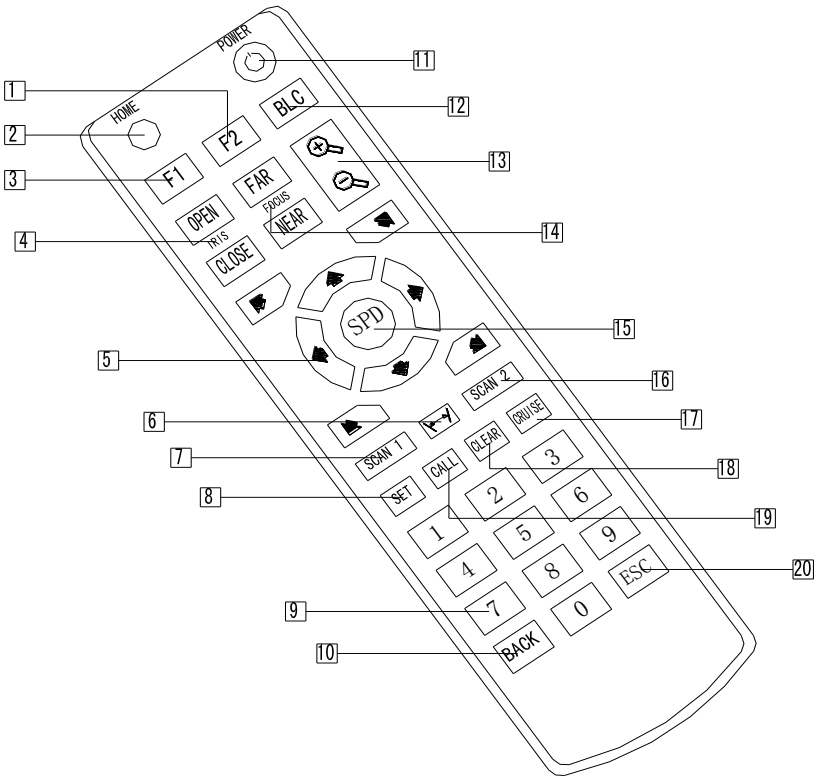


Figure 3 - Remote Controller

#	Button	Description
01	F2	Turn off the operation of relative camera (starts from address 3) Example, 3+F2
02	Home	Go to the initializing camera position

03	F1	Turn on the operation of relative camera. (starts from address 3) Example: 3 + F1 Means: All the following operations are for Camera 3.
04	Iris control	Open to open IRIS and Close to close IRIS
05	Direction control	Control camera up, down, left and right.
06	Area scan	Do an area scan between preset 30 & preset 31
07	Scan1 (360 degree scan)	Do a scan of 360 degree pan.
08	Set preset	Set/save a preset position
09	Number buttons	Number buttons
10	Back	Reserved
11	Power	Power on/off the camera
12	BLC control (On / Off)	Turn on/off BLC
13	Zoom control (Tele / Wide)	Zoom in/out the camera
14	Focus control (Far / Near)	Manual focus
15	Speed switch	Adjust the camera speed (P/T)
16	Scan2 (180 degree scan)	Do a scan of 180 degree pan
17	Cruise---auto cruise	Do auto cruise
18	Clear---reset	Clear preset(s)
19	Call preset	Call a preset
20	Esc--- cancel	Cancel an operation

Table 1 – Remote Control Functions



## Operation

### Power On

When camera is powered on, the power light indicator will flash, and the camera will pan / tilt automatically as a self-test.

### Pan/Tilt Control

Press the arrow buttons to control the direction of the camera. The control light indicator will flicker once the camera receives the control command from controller. To move the camera little by little, press the button once; To move the camera in a wide range, press and hold pan buttons.

### Change Camera Speed

The camera's pan / tilt speed can be switched between fast and slow mode. Press the speed button to toggle between modes.

### Focus Control

Normally the camera is in auto focus mode, so whenever you move the camera, it will focus to the object automatically. Press the Far or Near button to manually focus.

### Zoom Control

Press Tele and Wide button (+ and – magnify) to zoom in and out.

### Camera Reset

Press Reset button to reset the camera.

### Back Light Compensation Control

When images are highly contrasting, the video will become dark and may not give satisfactory video quality. You can improve the video quality by turning on the backlight compensation function. Press the BLC button to activate and deactivate this function.

### IRIS Control

Press Iris Open button to control image brightness. Open (IRIS) - the camera Iris will become larger and the video will become brighter. Close (IRIS) - the camera Iris will become smaller and the video will become darker.

### Preset Control

With the remote controller, you can Set, Clear and recall presets. The camera supports a maximum of 64 presets.

To Set preset: move the camera to a specific position, input preset number by using number keypad, and press Set button to save preset.

To recall preset: input the saved preset number using number keypad, press Call button, and the camera will go to the saved preset position.

To Clear preset: input the saved preset number by using number keypad, then press Clear button to clear the saved preset.

### Cruise

The camera can switch automatically among the saved preset positions. Press Cruise button to activate this function. The switching interval between presets is approximately 3 seconds.

### Camera Scan

The camera has three scan modes: Frame scan, Scan1 and Scan2.

Frame Scan: Set 2 preset positions as preset #30 and #31, then you can call preset #32 to activate the auto scan function between the 2 saved preset positions.

Scan 1: Scan with a pan of 360 degrees from current position.

Scan 2: Scan with a pan of 180 degrees from current position.

## Specification

Mounting Type	Ceiling-Mount or Desktop Installation	
Camera Specifications		
Signal Format	PAL/NTSC	
Image Sensor	1/4" SONY CCD	
Modules	Sony FCB-EX48C(P)	Sony new E series FCB-EX48E(P)
Horizontal Resolution	480TVL	550TVL
Effective Pixels	PAL: 440,000 pixel / NTSC: 380,000 pixel	
Zoom	Optical 18X/Digital 12X	
Lens	f=4.1--73.8mm, F=1.4--F3.0	
Illumination	0.1Lux	0.02Lux
Shutter Speed	1s--1/10,000s (22 steps)	1/4 to 1/10000 sec. (20 steps)
Angle of View	48 (Wide end) ~ 2.8 (Tele end)	
Synchronization	Internal Synchronization	
S/N Ratio	More than 50dB	
BLC	On/Off	
White Balance	Auto/Manual	
Video Output	1.0±0.2Vp-p, 75 Ohm, composited	
Mechanical Specifications		
Preset Number	64	
Auto Cruise	Yes	
Panning Range	Pan:0°--360° continuous, Tilt:-30--90°	
Pan / Tilt Speed	Pan:0.5°--70°/sec Tilt:0.5°--50°/sec	
Address	0 ~255	

Operation	
Video Output Interface	RCA
Control Interface	RS485/422, RS232
Baud Rate(RS485/422)	1200bps/2400bps/4800bps/9600bps/19200bps
Comm. Protocol	Pelco-D, Pelco-P
Remote Control	Yes
Work Temperature	0°C--+50°C
Storage Temperature	-20°C---+70°C
Relative Humidity	0~95% without agglomeration
Power Supply	DC12V
Power Consumption	Less than 10W
Dimension	156(L) × 137(W) × 140(H)mm
Net Weight	1kg
Body Color	Black / Sliver Gray
Accessory	Power adaptor, Remote controller, User manual

Table 2 - Specifications

## Presets

Presets	Function
0-31	General presets
32	Frame Scan (Scan Between Preset# 30 & #31)
33	Auto Cruise
34	360° Scan
35	180° Scan
36	Clear All Presets
37	BLC On
38	BLC Off

Table 3 - Preset Descriptions

## Installation

This section contains detailed instructions for installing the Lumino360 camera. These instructions assume that the installer has a good knowledge of installation techniques and is capable of adopting safe installation methods.

### Camera Installation

There are two installation methods of the camera: Desktop installation and Ceiling installation.

#### 1 - Desktop installation

Put the camera on a flat surface. In case the camera has to be placed on an inclined surface, make sure the incline angle is less than 15 degrees. It is unsafe to place the camera on the edge of a surface.



Figure 3 – Lumino360 Camera

#### 2 - Ceiling installation

Set the two switches of the camera correctly, please refer to **SETTINGS** for switch settings. Note: After changing the switch settings, re-power the camera to cause the image-flip to occur. Use the camera mounting base as a template; mark the location of the three mounting holes on the ceiling. Use

screws (M4) at the locations marked above to fasten the mounting base to the ceiling.

Install the camera onto the mounting base, and tighten the camera with a screw (M3).

Connect the power cable, video cable and control cable at the back of the camera.

### Camera connections

Figure 4 below shows the cable connection of RS485/RS422 control cable and RS232 control cable. All cables are labeled clearly. Before operating the camera, please check the cable connection carefully.

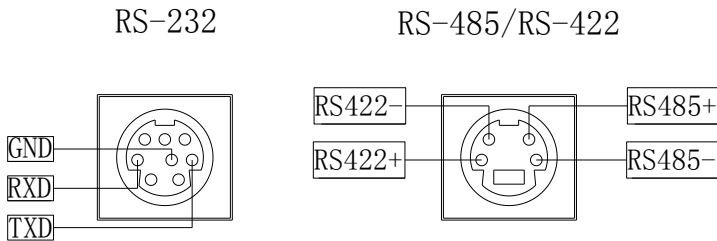


Figure 4 - RS232, RS485/422 Connections

RS485/RS422 Control Cable	RS232 Control Cable
Red cable -----RS485+/RS422+	White cable-----GND
Black cable -----RS485-/RS422-	Black cable-----RXD
	Brown cable-----TXD

Table 4 – RS232, RS485/422 Connections

## Settings

Before operating the camera, set the camera address, protocol, baud rate and image normal / mirror setting. The switches to configure these settings are located on back panel of the camera. The following figure (fig. 5) shows the switches on back panel, the ON direction is marked beside the switches.



Figure 5 - Switches

### SW1 settings

Camera Address	SW1							
	1	2	3	4	5	6	7	8
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF



15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
...	...	...	...	...	...	...	...	...
247	ON	ON	ON	OFF	ON	ON	ON	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON
254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

Table 5 - SW1 Settings

### SW2 Settings

Set camera's baud rate, protocol and image flip.

SW2					
SW Position	1	2	3	4	
Protocol	OFF	OFF	OFF	OFF	Reserved
	ON	OFF	OFF	OFF	PELCO-P
	OFF	ON	OFF	OFF	PELCO-D
	ON	ON	OFF	OFF	VISCA

	OFF	OFF	ON	OFF	Reserved		
	ON	OFF	ON	OFF	Reserved		
	OFF	ON	ON	OFF	Reserved		
SW Position					5	6	7
Baud Rate (BPS)	1200				OFF	OFF	OFF
	2400				ON	OFF	OFF
	4800				OFF	ON	OFF
	9600				ON	ON	OFF
	19200				OFF	OFF	ON
	Reserved				ON	OFF	ON
	Reserved				ON	ON	ON
SW Position					8		
Image Flip	Image not flip				OFF		
	Image flip				ON		

Table 6 - SW2 camera Protocol, Baud rate and Image Flip Setting

Example: Set the camera's baud rate 9600 bps, Pelco-P protocol and image "not flip". See SW2 setting in table below.

SW2								
SW Pos	1	2	3	4	5	6	7	8
	ON	OFF	OFF	OFF	ON	ON	OFF	OFF

Table 7 - SW2 Setting example

## Trouble Shooting

<b>Problems</b>	<b>Possible Causes</b>	<b>Solutions</b>
No action when powered on	Power supply failure	Replace power supply
	Wrong connection of the power	Check & reconnect the cables
Abnormal self-test with motor noise	Mechanical failure	Repair
	Camera inclined	Reinstall the camera
	Inadequate power supply	Replace the power supply
Normal self-test but no images	Video signal failure	Reinstall camera
	Wrong connection of the video	Check & reconnect the cables
	Camera damaged	Replace the camera
Normal self-test but out of control	Wrong connection of RS485 cable	Check and reconnect the cable
	Wrong camera ID set	Check and reset the Switches
	Wrong baud rate set	Check and reset the Switches
Vague image	Bad connection of the video	Check and reconnect the cables
	Inadequate power supply	Replace the power supply
Dome camera out of control	Self test error	Restart the camera
	Wrong connection of RS485 cable	Check and reconnect the cables
	Bad control of matrix	Check and restart the camera
Remote controller not work	Battery no power	Change battery of remote

Table 8 – Troubleshooting

## Copyright Information

Video or still images recorded using your Lumino360 cannot be used in ways that infringe copyright laws or without the consent of the owner, unless intended for personal use only.

## Exclusion of Liability

If this camera is connected to a recording device (for example a VCR), VideoCentric Ltd accepts no responsibility whatsoever for any financial losses that may be incurred as a result of the loss of recorded information or images, regardless of the internal or external cause of the loss.

## Note

The contents of this manual are subject to change without notice.

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