

OpenEye[®]

Outdoor Speed Dome Camera

User Manual



Camera

CM-511

Accessories

CA-510G

CA-510W

CA-510C

CA-510P25

CA-510P50

CA-510PML

CA-510PMS

CA-510PA25

CA-510PA50

CM-511 Outdoor Speed Dome Camera
User Manual

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Important Safeguards

1. Read Instructions

Read all of the safety and operating instructions before using the product.

2. Retain Instructions

Save these instructions for future reference.

3. Attachments / Accessories

Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.

4. Installation

Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer, or sold with the product. To insure proper mounting, follow the manufacturer's instructions and use only mounting accessories recommended by manufacturer.

5. Power source

This product should be operated only from the type of power source indicated on the marking label.

Precautions

Operating

- Before using, make sure power supply and others are properly connected.
- While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.

Handling

- Do not disassemble or tamper with parts inside the camera.
- Do not drop or subject the camera to shock and vibration as this can damage camera.
- Do not block the cooling holes on the bracket. This camera has a cooling fan inside the housing. Blocking the cooling holes will cause heat to build up and cause malfunction.
- Care must be taken when you clean the clear dome cover. Scratches and dust will ruin the image quality of your camera. Do not use strong or abrasive detergents when cleaning the camera body. Use a dry cloth to clean the camera when it is dirty. In case the dirt is hard to remove, use a mild detergent and wipe the camera gently.

❑ Installation and Storage

- Do not install the camera in areas of extreme temperatures in excess of the allowable range. (-50°C ~50°C / -58°F ~ 122°F)
 - Avoid installing in humid or dusty places. The relative humidity must be below 90%.
 - Avoid installing in places where radiation is present.
 - Avoid installing in places where there are strong magnetic fields and electric signals.
 - Avoid installing in places where the camera would be subject to strong vibrations.
- ❑ Never face the camera toward the sun. Do not aim at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise the camera may be smeared and damaged.

Regulation

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



This symbol on the product or on its packaging indicates that this product shall not be treated as household waste in accordance with Directive 2002/96/EC. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By proper waste handling of this product you ensure that it has no negative consequences for the environment and human health, which could otherwise be caused if this product is thrown into the garbage bin. The recycling of materials will help to conserve natural resources.

For more details information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

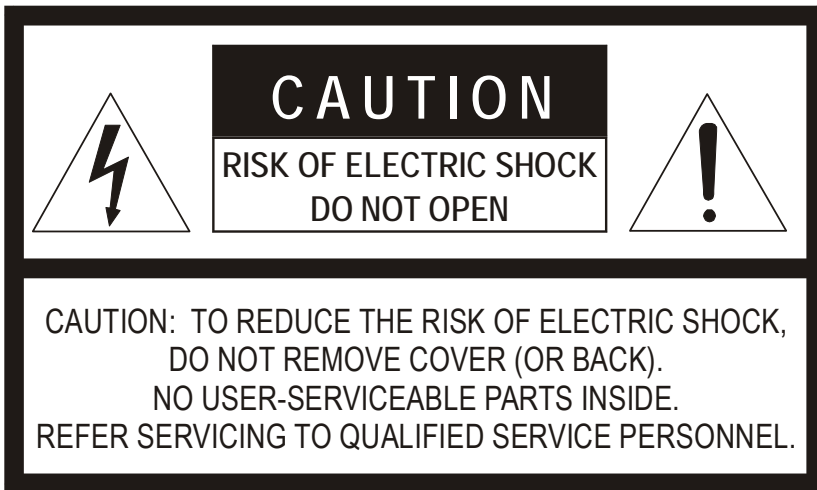


Compliance is evidenced by written declaration from our suppliers, assuring that any potential trace contamination levels of restricted substances are below the maximum level set by EU Directive 2002/95/EC, or are exempted due to their application.

Warning

DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE.
DO NOT OPEN THE CABINET.
REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

Caution



Standard Warranty

OpenEye warrants all new products to be free from defects in workmanship and material under normal use for a period of two years after the date of purchase. Any defective product that falls under this warranty will, at OpenEye's discretion, be repaired or replaced at no additional charge. OpenEye may elect to replace defective products with new or factory reconditioned products of equal or greater value. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Exceptions to this are listed below:

- Three Years on all Digital Recorders
- Three years on all fixed cameras

All products shall be covered by a one year advance replacement warranty*.

OpenEye will warrant all otherwise out of warranty replacement parts and repairs for 90 days from the date of OpenEye shipment.

The above warranty is the sole warranty made by OpenEye and is in lieu of all other warranties by OpenEye express and implied, including without limitation the warranties of merchantability and fitness for a particular purpose. Under no circumstances will OpenEye be liable for any consequential, incidental, special or exemplary damages arising out of or connected with the sale, delivery, use or performance of the product, even if OpenEye is apprised of the likelihood of such damages occurring. In no event shall OpenEye liability exceed the purchase price of the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.

** Requires corresponding security deposit. Advanced Replacement limited to components only outside of the USA and Canada.*

For the most up to date information visit www.openeye.net

NOTES:

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INTRODUCTION

OVERVIEW

With a weather resistant feature, the Integrated High Speed Dome Camera is applicable to outdoor installations. The dome camera supports all-in-one cabling for easy installation and can be integrated with CCTV products, such as DVRs, Control Keyboards, and CCTV accessories for a total surveillance solution. In addition, a large set of built-in protocols provides connectivity to other surveillance systems. The built-in protocols include OPTIX 3, Pelco, VCL, Philips, AD-422, etc.

PRODUCT FEATURES

Precise and Accurate Dome Performance

- Auto Calibration
- Preset accuracy of 0.225°
- Preset speed up to 400°/sec.
- Proportional Pan & Tilt Speed
- Preset Position / Tour / Auto Scan / Pattern

Dynamic Dome Applications

- Multi-language OSD
- Schedule function
- Multiple built-in Protocols
- Up to 16 masking zones
- 8 alarm inputs, 1 alarm output
- Flexible outdoor mountings
- Compact lightweight design for easy installation
- Weather resistant housing

Superior Camera Image Quality

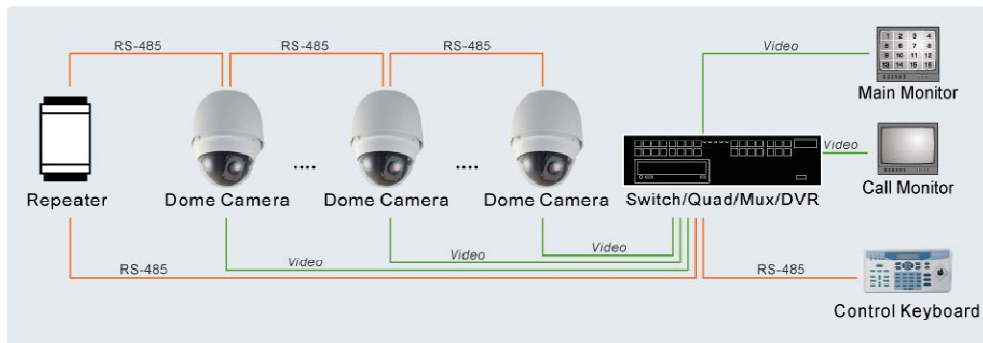
- Minimum illumination 0.01 Lux (B/W)
- Digital Slow Shutter
- Electronic Shutter
- Auto White Balance
- Backlight Compensation
- Auto Exposure
- Image Inverse
- Automatic Removable IR Cut Filter

GENERAL OPERATION REQUIREMENTS

A minimum of one control device is required for operation, such as a control keyboard, or a DVR. The integrated high speed dome camera contains a built-in receiver that decodes commands from a control device.

Connect dome cameras to other devices, as shown in the diagram below, to complete a video surveillance system.

SYSTEM CONFIGURATION

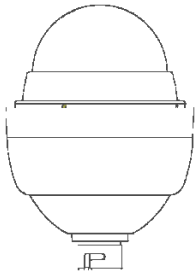

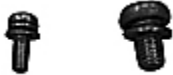
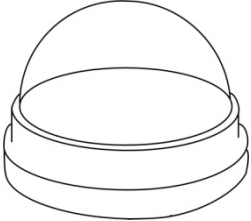

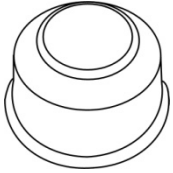
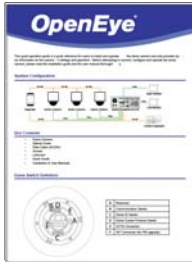
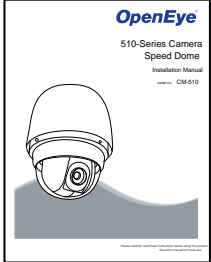
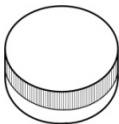


Note To extend the network distance up to 1.2 km (4000 feet) and to protect the connected devices, OpenEye recommends placing a repeater at the mid-point. However, a repeater may be needed with network distances less than 1.2 km if the cables used are not CAT 5, 24-gauge cables. Refer to the repeater's manual for detailed information.

GETTING STARTED

CAMERA CONTENTS

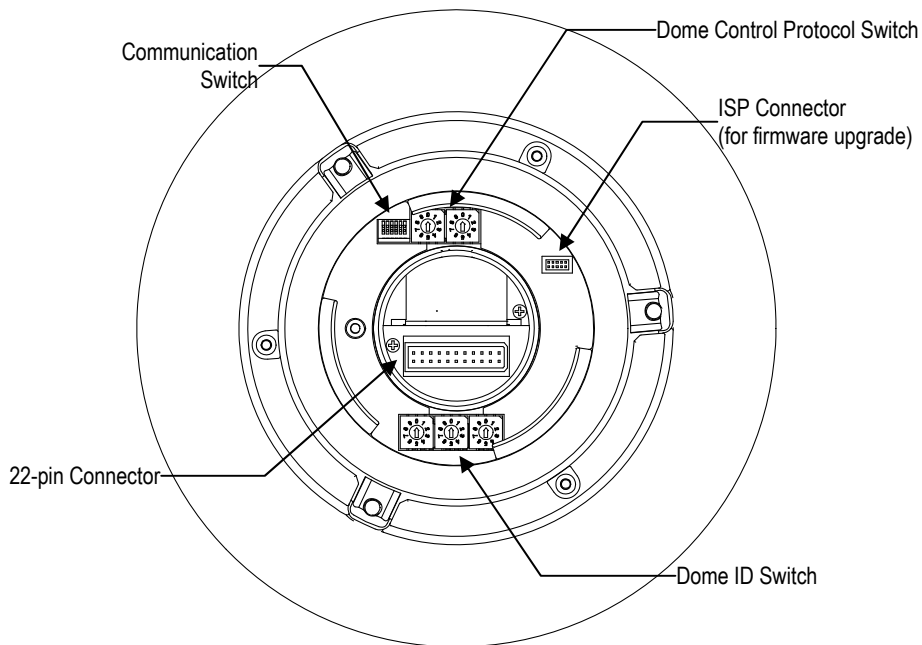
Before proceeding, please check that the box contains the items listed here. If any item is missing or has defects, DO NOT install or operate the product and contact your dealer for assistance.

 <p>Dome Body</p>	 <p>All-in-one Data Cable for power supply, video and telemetry</p>	 <p>Screws</p>
 <p>Optical Cover</p>	 <p>Security Torx Tool</p>	 <p>Waterproof Gasket</p>
 <p>Quick Start Guide</p>	 <p>Installation and User Manuals</p>	 <p>Lubricant</p>

CAMERA SETTINGS

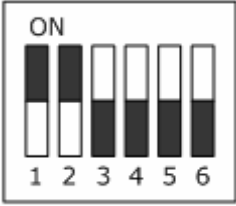
SWITCH /CONNECTOR DEFINITION

The dome ID and communication switch settings must be set before connecting the dome camera to other CCTV devices. These switches are located on the bottom of the dome camera.





COMMUNICATION SWITCH SETTING

The table below shows the function of each switch with the Communication Switch.

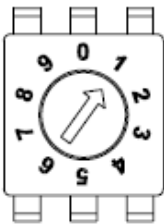
Communication Switch	SW1	RS-485 Setting
	SW2	
	SW3	Termination
	SW4	Line Lock
	SW5	System Initialization
	SW6	Reserved

RS-485 is the interface that the dome camera uses to communicate with its control device; for this reason, the RS-485 setup of the dome and the control device must be the same. The RS-485 default setting is half-duplex (see the diagram right). Do not change the default setting without a qualified specialist or supplier's notice. As for the SW 3 and SW 4, they are used for termination and Line Lock adjustment respectively. The SW 5 is mainly used when users want to restore the camera to the factory default status. Additionally, after a firmware upgrade is carried out, users must reset the SW 5.

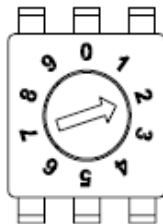
RS-485 Setting	
Half-duplex	Full -duplex
	

DOMES ID SETTING

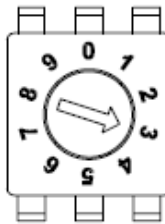
Use the switch to change your speed dome ID by turning the arrow to the desired number. For instance, if the dome ID is 123, the ID switch should be set as below.



Centesimal Digit



Decimal Digit



Single Digit

Note No two domes should have the same ID, or communication conflict may occur

Note The number 0 should be at the top, as shown, when setting the camera ID.

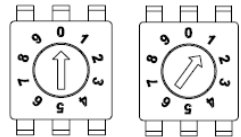
DOME CONTROL PROTOCOL SETTING

Define the protocol you are going to use based on the devices of your surveillance system. Generally, use one protocol even if the devices are provided by different manufacturers. Use the switch to set your dome control protocol and the baud rate. Refer to the table below and turn the arrow to choose a protocol for your speed dome.

Switch No.	Protocol	Baud Rate
00	VCL	9600
01	Pelco D	2400
02	Pelco P	4800
04	Chiper	9600
05	Philips	9600
07	OPTIX 3	9600
08	AD422	4800
09	DM P	9600
11	Pelco D	4800
12	Pelco D	9600
13	Pelco P	2400
14	Pelco P	9600
15	JVC	9600
21	Katatel-485	9600
22	Katatel-422	4800

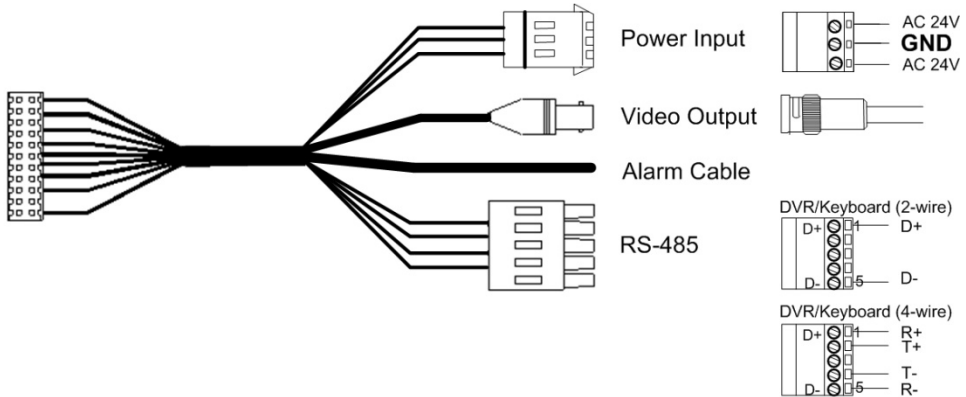
Example To set the protocol Pelco D, with switch no. 1 and baud rate 2400, the protocol switch should be set as at right.

Note The number 0 should be at the top, as shown, when setting the camera ID.



Decimal Digit Single Digit

ALL-IN-ONE DATA CABLE

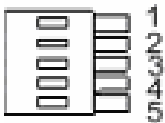


Note Be careful not to pull the cables improperly during installation. OpenEye suggests that you fasten the cables after installation is complete.

Note When wiring the power cable, make sure the Ground wire is inserted into the mid-pin of the terminal block.

RS-485 Connector Definition

The dome camera uses the RS-485 interface to communicate with a connected control device. Connect a control keyboard to the speed dome using the terminal block. OpenEye recommends using CAT 5 cables for RS-485 communication with a maximum length of 4000 feet (1219 meters) for 24-gauge wire. If the total cable length exceeds 4000 feet, use a repeater to maintain the signals. Refer to the table below for pin definition and wiring.



Pin	Corresponding Pins (22-Pin Connector)	Definition
1	7,10	T+, R+ (D+)
2~4	Reserved	
5	8,9	T-, R- (D-)

22-Pin Connector Definition

Using the 22-pin connector, installers can connect the power, video, and RS-485 cables in one place. The alarm pins are serviceable for connecting alarm input and output devices such as sensors, sirens, or flashing lights to the surveillance system. For the definition of each pin, refer to the list below.



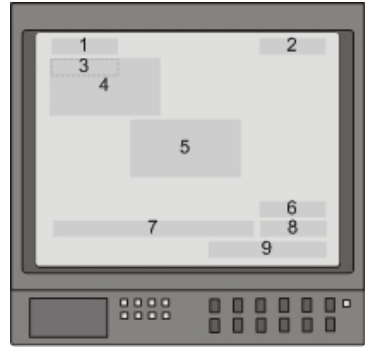
Pin	Definition	Cable
1	AC 24-1/DC (+)	20AWG/18AWG
2	ALM NC	
3	AC 24-2/DC (-)	20AWG/18AWG
4	ALM NO	
5	FG	20AWG/18AWG
6	ALM COM	
7	T+	24AWG
8	R-	
9	T-	
10	R+	
11	ISOG	
12	ALM-1	
13	ALM-3	
14	ALM-2	
15	ALM-4	
16	ALM-5	
17	ALM-6	
18	ALM-7	
19	ALM-8	
20	ALM GND	
21	VGND	20AWG
22	Video	

Note For alarm connections, refer to the Cable Wiring and Connection section.

OPERATION & CONFIGURATION

OSD FORMAT

The information displayed on the screen is described in terms of OSD, position and function description in the table below.



Position	Function	OSD Display	Description
1	Motion	MOTION	Alarm Detect Message
2	Alarm	ALARM 1	Alarm Message
3	Focus Modes & Backlight	A	Auto Focus Mode
		M	Manual Focus Mode
		X	Backlight Compensation OFF
		B	Backlight Compensation ON
4	Booting Message	XX (Dome Type) ID:001 (Default) DSCP/9600 (Default) Initializing	Shows Dome Type, ID Address, Protocol and Baud Rate
5	Error Message	PAN ERROR TILT ERROR CAM MODULE ERROR	Shows system initializing error message
6	Zoom Ratio	X1	Present Zoom Ratio (Optical Zoom/Digital Zoom)
7	Title	<ul style="list-style-type: none"> Maximum 20 characters for each title 16 sets of titles are available 	
8	Camera ID	001	Show the camera ID
9	Time	XXXX/XX/XX XX:XX	Year/Month/Day Hour:Minute

OSD MENU TREE

The OSD setup menu structure of the 511 dome camera is listed below. The star symbol indicates the factory default. For detailed function descriptions, see Configuration Menu.ON

Item	Layer 1	Layer 2	Layer 3	Default	
LANGUAGE	<ENGLISH>, <JAPANESE>, <PORTUGUESE>, <SPANISH>, <FRENCH>, <GERMAN>, <ITALIAN>, <POLISH>, <RUSSIAN>, <TRADITIONAL CHINESE>, <SIMPLIFIED CHINESE>, <TURKISH>			ENGLISH	
DEFAULT CAMERA	<ON>, <OFF>			ON	
BACKLIGHT	<ON>		BLC LEVEL <00> ~ <30>	OFF	
	<OFF>				
FOCUS	AUTO		AF MODE <NORMAL>, <Z. TRIG.>, <PT TRIG.>	NORMAL	
	MANUAL				
AE MODE	EXPOSURE COMP.	<OFF>, EXPOSURE VALUE: <-10.5dB> ~ <10.5dB>		OFF	
	AE MODE	AUTO	BRIGHT VALUE; SHUTTER SPEED; IRIS VALUE; GAIN VALUE: AUTO	☆	
		SHUTTER	SHUTTER SPEED: <1/60> ~ <1/10000> SEC.		
		IRIS	IRIS VALUE <F1.6>		
		MANUAL	BRIGHT VALUE: AUTO		
	SHUTTER SPEED: <1/60> ~ <1/10000> SEC.				
	GAIN VALUE <-3> dB ~ <28>dB				
	EXIT+SAVE	YES			
WBC MODE	AUTO (Auto White Balance)			☆	
	INDOOR				
	OUTDOOR				
	MANUAL	R GAIN <000> ~ <127> B GAIN <000> ~ <127>			

Item	Layer 1	Layer 2	Layer 3	Default
IMAGE CTRL	ZOOM SPEED	<1> ~ <8>		8
	DIGITAL ZOOM	<OFF>, <2x> ~ <12x>		OFF
	SLOW SHUTTER	<ON>, <OFF>		OFF
	D.N.R.	2D N.R. <ON>, <OFF> 3D N.R. <ON>, <OFF>		OFF
	IMAGE INVERSE	<ON>, <OFF>		OFF
	FREEZE	<ON>, <OFF>		OFF
	APERTURE	<01> ~ <16>		07
	EXIT	YES		
TELEMETRY CTRL	FLIP	<OFF>, <M.E.>, <IMAGE>		OFF
	ANGLE ADJUSTER	MIN ANGLE <-10 ~ +10 DEG> MAX ANGLE <080 ~ 100 DEG>		0 90
	SPEED BY ZOOM	<ON>, <OFF>		OFF
	AUTO CALIBRATE	<ON>, <OFF>		OFF
	PASSWORD	<ON>, <OFF>		
	OSD AUTO CLOSE	<OFF>, <5> ~ <30> SEC.		
	SYSTEM RESET	SYSTEM RESET <YES> DEFAULT SYSTEM <YES>		
	EXIT	YES		
ID DISPLAY	<ON>, <OFF>			ON
TITLE DISPLAY	<ON>, <OFF>			OFF
TITLE SETTING	<01> ~ <16>			1
PRESET	PRESET SET	<001> ~ <256>		001
	PRESET RUN	<001> ~ <256>		001
	EXIT	YES		
TOUR	TOUR LINE	<1> ~ <8>		1
	TOUR POINT	<01> ~ <64>		1
	PRESET POS.	<001> ~ <255>, <END>		END
	SPEED	<01> ~ <15>		1
	DWELL TIME	<000> ~ <127> SEC.		0
	RUN TOUR	ENTER		
	EXIT	YES		

Item	Layer 1	Layer 2	Layer 3	Default
AUTOSCAN	AUTOSCAN LINE	<1> ~ <4>		1
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		RIGHT
	SPEED	<01> ~ <04>		1
	RUN AUTOSCAN	ENTER		
	EXIT	YES		
PATTERN	PATTERN LINE	<1> ~ <8>		1
	RECORD START	ENTER		
	RECORD END	ENTER		
	RUN PATTERN	ENTER		
	EXIT	YES		
HOME SETTING	HOME FUNCTION	<ON>, <OFF>		OFF
	SELECT MODE	<PRESET>, <TOUR>, <AUTOSCAN>, <PATTERN>		PRESET
	PRESET POINT	<001> ~ <256>		1
	TOUR LINE	<1> ~ <8>		1
	AUTOSCAN LINE	<1> ~ <4>		1
	PATTERN LINE	<1> ~ <8>		1
	RETURN TIME	<1> ~ <128> MIN.		1
GO	ENTER			
EXIT	YES			
IR FUNCTION	<AUTO>	THRESHOLD <MID>, <HI>, <LOW>		AUTO
	<MANUAL>	IR MANUAL: <ON>, <OFF>		
ALARM SETTING	ALARM PIN	<1> ~ <8>		1
	ALARM SWITCH	<ON>, <OFF>		OFF
	ALARM TYPE	<NO> (Normal Open), <NC> (Normal Close)		NC
	ALARM ACTION	<PRESET>, <TOUR>, <AUTOSCAN>, <PATTERN>		PRESET
	PRESET POINT	<001> ~ <256>		1
	TOUR LINE	<1> ~ <8>		1
	AUTOSCAN LINE	<1> ~ <4>		1
	PATTERN LINE	<1> ~ <8>		1
DWELL TIME	<001> ~ <127> Sec., <ALWAYS>		ALWAYS	
EXIT	YES			
ALARM DETECT	<NONE>			NONE

Item	Layer 1	Layer 2	Layer 3	Default	
WDR FUNCTION	<ON>, <OFF>			ON	
PRIVACY MASK	PRIVACY SWITCH	<ON>, <OFF>		OFF	
	TRANSPARENCY	<ON>, <OFF>		OFF	
	COLOR	<BLACK>, <WHITE>, <RED>, <GREEN>, <BLUE>, <CYAN>, <YELLOW>, <MAGENTA>		BLACK	
	SET MASK	<01> ~ <16>	H CENTER: L/R V CENTER: D/U H SIZE <000> ~ <080> V SIZE <000> ~ <080> EXIT + SAVE		
	CLEAR MASK	<01> ~ <16>			
	EXIT	YES			
TIME SETTING	TIME DISPLAY	<ON>, <OFF>		OFF	
	SET YEAR	<00> ~ <99>			
	SET MONTH	<01> ~ <12>			
	SET DAY	<00> ~ <31>			
	SET HOUR	<00> ~ <23>			
	SET MINUTE	<00> ~ <59>			
	EXIT+SAVE				
SCHEDULE	SWITCH	<ON>, <OFF>		OFF	
	POINT	<01> ~ <32>		1	
	HOUR	<00> ~ <23>		0	
	MINUTE	<00> ~ <59>		0	
	MODE	NONE		NO FUNCTION	☆
		PRESET		PRESET POINT <001> ~ <256>	
		TOUR		TOUR LINE <1> ~ <8>	
		AUTOSCAN		AUTOSCAN LINE <1> ~ <4>	
		PATTERN		PATTERN LINE <1> ~ <8>	
		IR FUNCTION		IR FUNCTION <AUTO>, <ON>, <OFF>	
SCHEDULE RESET	YES				
EXIT	YES				
EXIT OSD	YES				

CONFIGURATION MENU

The detailed functions and parameter settings of your high speed dome can be set through the OSD (On Screen Display) menu with a control device, such as a control keyboard. The items in the OSD menu are described in the following sections. For further detailed setup procedures, please refer to the user manual of your installed control devices.

MAIN PAGE 1	
LANGUAGE	ENGLISH
DEFAULT CAMERA	ON
BACKLIGHT	OFF
FOCUS	AUTO
AE MODE	ENTER
WBC MODE	AUTO
IMAGE CTRL	ENTER
TELEMETRY CTRL	ENTER

ENTERING THE OSD MENU

To enter the OSD menu of the selected camera:

Press <CAMERA MENU> key on the control keyboard and hold for 3 seconds to enter the OSD menu.

SELECTING A SETUP ITEM ON THE OSD MENU

To select the setup item:

Use direction keys on keyboard to move the OSD cursor in the OSD menu.

SETTING UP AN OSD ITEM

Use direction keys on keyboard to move the OSD cursor in the OSD menu.

For items with →, press right/left direction keys on the control keyboard to select.

For items with ↓, press the <CAMERA MENU> key on the control keyboard to enter the sub menu.

For items with → ↓, users can use the right/left direction keys to select functions, and then press the <CAMERA MENU> key on the control keyboard to enter the sub menu.

Note In the Camera OSD menu, the <CAMERA MENU> key functions as “ENTER” and “EXIT.”

LANGUAGE

The camera supports multi-language OSD function; the available languages include English, Japanese, Portuguese, Spanish, French, German, Italian, Polish, Russian, Traditional Chinese, Simplified Chinese, and Turkish. The default language is <ENGLISH>.

Changing the Display Language

To change the OSD language:

1. Press <CAMERA MENU> key on the control keyboard and hold for 3 seconds to enter the OSD menu.
2. Use the direction keys on the keyboard to select LANGUAGE on the MAIN PAGE 1 screen.
3. Press the <CAMERA MENU> key to change to the desired language.

Tip As you press the <CAMERA MENU> key, the OSD will automatically change to the language you selected.

DEFAULT CAMERA SETTINGS

The LOAD DEFAULTS is used to restore some camera settings to the default settings, including Backlight, Focus, AE, WBC, Aperture, Zoom Speed and Digital Zoom. Once any one of the items is modified, the setting will become <OFF> automatically. Select <ON> for this item to return the camera settings to the default parameters.

BACKLIGHT

The Backlight compensation function prevents the center object from being too dark in surroundings where excessive light is behind the object. The Backlight Compensation Level ranges from 00 to 30.

After completing setup of backlight, go back to the MAIN PAGE 1 and continue to set the focus values.

FOCUS

The focus of the dome camera can be operated in two modes: Auto Focus mode and Manual Focus mode.

Auto

The optimum focus is achieved by the internal digital circuit. Auto Focus options include:

NORMAL - The camera will automatically adjust the focus of the picture.

Z. TRIG. (Zoom Trigger) – Auto focus is activated by the Zoom command.

PT. TRIG. (Pan/Tilt Trigger) – Auto focus is activated when the camera Pans, Tilts, or Zooms.

Manual

In this focus mode, users can adjust the focus speed using a manual external controller

After completing setup of focus, go back to the MAIN PAGE 1 and continue to set the AE mode.

AE MODE

The exposure is the amount of light received by the image sensor and is determined by how wide you open the lens diaphragm (iris adjustment), how long you keep the sensor exposed (shutter speed), and other exposure parameters. With this item, users can define how the Auto Exposure (AE) function works.

Exposure Comp. (Exposure Compensation)

The exposure value ranges from -10.5dB ~ 10.5dB. Select <OFF> to disable the function.

Auto

In this mode, the camera's Shutter, IRIS and AGC control function work automatically to compensate the light exposure of image sensor for consistent video output level.

Shutter

With this option, the priority of SHUTTER is higher than IRIS and AGC; IRIS and AGC circuit will function automatically in cooperating with SHUTTER to get consistent exposure. The range of shutter speed is: 1/10000 ~ 1/60.

Iris

With this option, the priority of IRIS is higher than SHUTTER and AGC; SHUTTER and AGC circuit will function automatically in cooperating with IRIS to get consistent exposure.

Manual

Manually adjust the Shutter speed or Gain Value.

WBC (WHITE BALANCE CONTROL) MODE

The unit for measuring the color temperature ratio is in Kelvin (K). You can select one of the White Balance Control modes according to the condition. The following table shows the color temperature of some light sources.

Light Sources	Color Temperature in K
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
17-watt Bulb	2,820
Candle Flame	1,200 to 1,500

Auto

In this mode, White Balance works within its color temperature range and calculates the best-fitting White Balance.

Indoor

Sets the color temperature to 3200K.

Outdoor

Sets the color temperature to 5800K

Manual

In this mode, users can change the White Balance value manually; adjustable R gain and B gain range from 00 to 127.

After WBC relevant parameter setups are completed, exit the WBC MODE menu and go back to the MAIN PAGE 1 to continue to set other functions under the Image Ctrl menu.

IMAGE CTRL

IMAGE CTRL	
ZOOM SPEED	8
DIGITAL ZOOM	OFF
SLOW SHUTTER	OFF
D.N.R.	OFF
IMAGE INVERSE	OFF
FREEZE	OFF
APERATURE	AUTO
EXIT	YES

Zoom Speed

This item is used to set the zoom speed of the dome camera.

Digital Zoom

With this item, users can enable or disable the 12x Digital Zoom. The Digital Zoom will be activated after the full Optical Zoom level is reached. Digital zoom ratio is adjustable from <2x> to <12x>. The default setting is <OFF>.

Note The difference between optical and digital zoom is that optical zoom uses the lens within the camera to draw the image closer via zoom in or out to achieve the desired effect. Optical zoom remains the same quality and full resolution of the zoomed image. On the other hand, Digital zoom takes a portion of an image and expands the partial image to the full size of the original image; therefore, the image quality will be reduced.

Slow Shutter

The shutter speed determines how long the image sensor is exposed to light. To see clear images in a dark environment, enable this function. The Slow Shutter function will automatically adjust the shutter speed based on the light conditions of the environment.

D.N.R.

With 2D / 3D Digital Noise Reduction (D.N.R.), the processor analyzes pixel by pixel and frame by frame to eliminate environmental noise signal so that the highest quality image can be produced even in low light conditions. 3D D.N.R is more effective at removing digital noise than 2D D.N.R.

Image Inverse

Users can select <ON> to make the displayed image inverted vertically and horizontally. Occasions to employ the function include conferences, demonstration, testing, etc. When this function is enabled, the preset masks will be set off automatically (see *Privacy Mask*). The default setting is <OFF>.

IMAGE INVERSE (OFF)



IMAGE INVERSE (ON)



Freeze

Freeze function allows you to freeze the image while the camera is moving between preset positions such as in PRESET and SEQUENCE modes. For example, when the Dome Camera is programmed to move from point A to point B, if the Freeze function is activated, you will see point A, followed by point B, without displaying the moving path.

Aperture

Under this setup menu, users can adjust enhancement of the edges of objects in the picture. The parameters of H aperture and V aperture are adjustable, ranging from <00> to <16>.

Exit

Exit the IMAGE CTRL menu and go back to the **MAIN PAGE 1** to set other functions under the TELEMETRYCTRL menu.

TELEMETRY CTRL

TELEMETRY CTRL

FLIP	OFF
ANGLE ADJUSTER	ENTER
SPEED BY ZOOM	OFF
AUTO CALI.	OFF
PASSWORD	OFF
OSD AUTO CLOSE	OFF
SYSTEM RESET	YES
EXIT	YES

Flip

Users can track an object continuously when it passes through under the dome camera with setting Flip to IMAGE (digital flip) or M.E. (mechanical flip).

Image

IMAGE represents digital IMAGE FLIP, which enables users to keep tracking objects seamlessly; under the mode, almost no delay occurs in comparing with that under the M.E. mode.

Note The Privacy Mask function will be automatically disabled if the Image Flip function is enabled, and the screen will show "MASK WILL BE SET OFF."

M.E. (Mechanical Flip)

M.E. is a standard mechanical operation. As the dome tilts to the maximum angle, it will pan 180°, and then continue tilting to keep tracking objects.

Off

Select this item to disable the flip function.

Note To make the dome tilt between a specific range, such as -10° to +100° or -10° ~ +190°, go to ANGLE ADJUSTER (see next section) to set the angle range of tilt. Otherwise, the dome will tilt 90° as the default setting.

Angle Adjuster

The item is for adjusting the angle of view. The Range of the view angle varies in different FLIP modes: the angle ranges from -10° to +100° in the M.E. FLIP and FLIP OFF modes, and from -10° ~ +190° in the IMAGE FLIP mode.

Speed by Zoom

If the item is set to <ON>, the pan/tilt speed will be automatically adjusted by internal algorithm when zooming. The larger zoom ratio leads to the lower rotating speed.

Auto Cali. (Auto Calibration)

There are one horizontal point and one vertical infrared rays check points in each dome. During installation or maintenance, the dome camera's position may be moved. Therefore, the relative distance between the original set point and the check point will be changed. If the Auto Calibration function is enabled, the dome will automatically detect the matter and reset the horizontal point back to the original position.

System Reset

System Reset - Select this item for system restart. The system will not return to default settings.

Default System - Select this item to return to default settings.

Exit

Exit the TELEMETRY CTRL MENU and go back to the **MAIN PAGE 1**. Then go to the **MAIN PAGE 2** to carry on setting other functions.

ID DISPLAY

MAIN PAGE 2	
ID DISPLAY	ON
TITLE DISPLAY	OFF
TITLE SETTING	01
PRESET	ENTER
SEQUENCE	ENTER
AUTO SCAN	ENTER
CRUISE	ENTER
HOMESETTING	ENTER

Press the direction key down to change the MAIN MENU page from 1 to 2, and then the menu item <ID DISPLAY> will be shown on the top. Users are allowed to choose whether the dome ID will be displayed on screen for identifying the domes. For more information, please refer to *Dome ID Setting*.

On - Display the ID address of the selected dome on the right bottom of the screen.

Off - Hide the ID address of the selected dome.

TITLE DISPLAY

Users are allowed to name a view area, where the title will be displayed on screen for easy recognition.

On

Select <ON> to display the title set for a view area on screen while the camera shooting the view area.

Off

When TITLE DISPLAY is set <OFF>, no title will be displayed on screen -- even titles that have been set previously.

TITLE SETTING

Up to 16 zone titles can be set with maximum 20 characters for each title. Each view area's title can be named with a privacy mask ID number for future recognition.

Note The available area for setting a privacy mask is restricted within tilt angle 45°.

Setting a Camera Title

To set a camera title:

1. Use the keyboard to adjust the dome to a view area where you want to set a title for it.
2. Press <CAMERA MENU> key on the control keyboard and hold for 3 seconds to enter the OSD menu.
3. Press the down direction key to go to the MAIN PAGE 2 and select <TITLE SETTING>.
4. Select a number to represent the view area.
5. Press the CAMERA MENU key (ENTER) to go into the editing page.

TITLE SETTING: 01												
0	1	2	3	4	56	7	8	9				EXIT
A	B	C	D	E	F	G	H	I	J			SAVE
K	L	M	N	O	P	Q	R	S	T			LEFT
U	V	W	X	Y	Z	:	/	.	,			RIGHT
[]	+	?	-								DELETE
TITLE:												
ABC												

6. Choose a character with direction keys and then press the <CAMERA MENU> key (ENTER) to input.
For example: <A> <CAMERA MENU>, <CAMERA MENU>, <C> <CAMERA MENU>
TITLE: ABC

7. To delete input characters, move the cursor to <LEFT> or <RIGHT> and press <CAMERA MENU> to select a character in the entry field. Then move the cursor to <DELETE> and press <CAMERA MENU> to delete the selected character.
8. When the setting is completed, move the cursor to <SAVE> and press <ENTER> to save.

After completing tile setting, go back to the **MAIN PAGE 2** to continue the setup of preset points.

PRESET

A total of 256 preset points can be set. Follow the steps below when in the preset setting menu.

Tip You can set preset points through the keyboard. Refer to the control keyboard user manual for more information.

Setting Preset Points

1. Press the right/left key on the keyboard to select a number (1 represents preset point 1, 2 represents preset point 2, etc.)
2. Press the <CAMERA MENU> key (ENTER) on the keyboard, and then rotate the dome camera to a targeted shooting area/point.
3. Press the <CAMERA MENU> key again to save the defined preset point.
4. Once you have completed setup of a preset point, you can move the cursor to the next item to run the preset point.

Running a Preset

Select the preset point that you want to execute. After pressing “ENTER”, the camera will turn to the appointed point.

Exit the Preset Menu

Exit the PRESET menu and go back to the **MAIN PAGE 2** to continue setup of Tour.

TOUR

The function executes pre-positioning of the pan, tilt, zoom and focus features in a certain Tour for a camera. Before setting this function, you must define at least two preset points.

	TOUR	
TOUR LINE		1
TOUR POINT		01
PRESET POS.		001
SPEED		01
DWELL TIME		001
RUN TOUR		ENTER
EXIT		YES

Tour Line

There are eight sets of Tour lines built in the dome camera. Use the LEFT/RIGHT direction keys to select a line first and then set its Tour points.

Tour Point

Up to 64 points can be specified for each Tour line. The Tour points represent order of the preset points that the dome will automatically run. The following setup items, PRESET POSITION, SPEED and DWELL TIME, will influence how the camera runs through each Tour point.

Preset Position

Users can assign a specific preset position to the selected Tour point with this item.

Speed

Users can set the speed of one Tour point to the next one, and the range of setup speed is from <1> to <15>. Within the range, PAN speed varies from 10 ~ 400(degree/sec.), and TILT speed varies from 8 ~ 400(degree/sec.).

Dwell Time

The DWELL TIME is the duration time that the dome will stay at a Tour point, and the range is from <0> to <127> seconds. The dome will go to the next Tour point when the DWELL TIME expires. If the setting is <0>, the dome will stay at this Tour point until users manually move the dome.

Run Tour

Users can command the dome camera to run the selected Tour line manually.

Exit

Select the item to exit the TOUR menu; go back to the MAIN PAGE 2 to carry on setup of Auto Scan.

Note You can execute the Tour function using the keyboard controller. Refer to the keyboard user manual for more information.

AUTOSCAN

Auto Scan refers to the motion of scanning an area horizontally so that the dome camera can catch a horizontal view. The parameters are listed as follows.

AUTOSCAN	
AUTOSCANLINE	1
START POINT	TO FIND
END POINT	TO FIND
DIRECTION	RIGHT
SPEED	01
RUN AUTOSCAN	ENTER
EXIT	YES

AutoScan Line

There are four sets of Auto Scan lines built into the dome camera. Users can choose a line to execute using LEFT/RIGHT direction keys. In addition, users are able to command the dome camera to do endless panning by setting the start point the same as the end point.

Start Point

To set the start position of the AUTOSCAN path:

1. Move the cursor to <START POINT> and press <ENTER> while the item, <TO FIND>, is flashing. The item will then turn <TO SAVE> automatically.
2. Move the dome to a desired position and press <ENTER> to save the position as the start point; the cursor will move to <END POINT> automatically. Ensure setting the end point to complete Auto Scan setting.

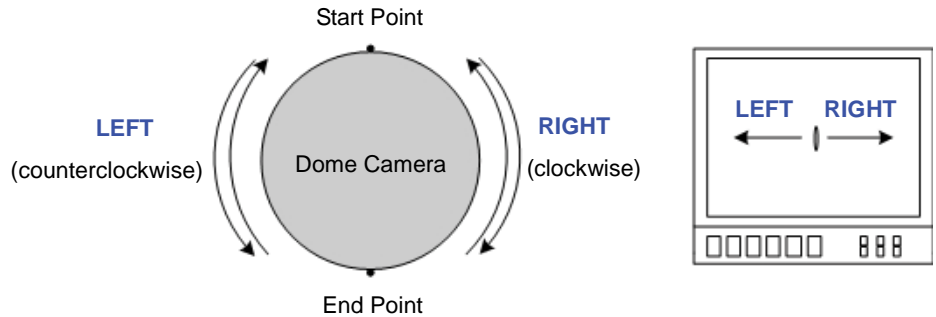
Note The tilt and zoom values of the start point will be recorded and fixed for the selected Auto Scan line.

End Point

Users are able to set the end point after the start point is defined. Pan the dome to another position and press <ENTER> to save the position as the end point.

Direction

The item is for setting the AUTOSCAN direction of the dome camera. The dome will start to pan clockwise from the start point to the end point if your selection is <RIGHT>, and then return to the start point. The dome will start to pan counter-clockwise from the start point to the end point if your selection is <LEFT>. Refer to the diagram below.



Speed

The item is for defining the dome camera rotation speed while running Auto Scan. The speed is adjustable from 1 to 4 (10 ~ 45 degree/sec.).

Run Auto Scan

After all settings related to Auto Scan are completed, select this item to execute the Auto Scan function.

Exit

Exit the AUTOSCAN setup menu; go back to the MAIN PAGE 2 to carry on setup of Pattern.

Note You can execute the Auto Scan function using the keyboard controller. Refer to the keyboard user manual for more information.

PATTERN

PATTERN is a route formed with manual operation, through adjusting the pan, tilt position, which can be stored and recalled to execute repeatedly.

PATTERN	
PATTERN LINE	1
RECORD START	ENTER
RECORD END	ENTER
RUN PATTERN	ENTER
EXIT	YES

Pattern Line

You can create up to eight Pattern paths with the dome camera. Using the LEFT/RIGHT to select an available line (1~8) and then follow the steps below to start recording the pattern path.

Record Start

To record the PATTERN path:

1. Rotate the dome camera to a desired view area (for some protocols, users may need to do it before entering the OSD), and press <ENTER> to build the Pattern path using the joystick on the control device. The percentage of the memory buffer will be displayed on the screen.
2. Pan, and tilt the dome camera to form a path.

Note Beware of the memory size when building a Pattern path. Once the buffer percentage reaches 100%, recording of the path will stop.

Record End

The cursor will be moved to RECORD END while building the Pattern line; when the setting is completed, press <ENTER> to save the path.

Run Pattern

After Pattern setting is completed, select this item to execute the Pattern function.

Exit

Exit the PATTERN setup menu; go back to the MAIN PAGE 2 to carry on setup of home setting.

Note You can execute the Pattern function using the keyboard controller. Refer to the keyboard user manual for more information.

HOME SETTING

Users are able to set an operation mode to ensure constant monitoring. If the dome idles for a period of time, the preset function will be activated automatically; this is the HOME function. The HOME function allows constant and accurate monitoring so that to avoid the dome idling or missing events

HOME SETTING	
HOME FUNCTION	OFF
SELECT MODE	PRESET
PRESET POINT	001
RETURN TIME	001 MIN
GO	ENTER
EXIT	YES

Home Function

The item is used to enable or disable the HOME function. Use the left/right direction keys of the control keyboard to change the setting.

Select Mode

Select one of the modes that the dome should execute when the HOME function is enabled and the RETURN TIME expires. The options include <AUTOSCAN>, <TOUR>, <PATTERN> and <PRESET>. Use the left/right direction keys of the control keyboard to change the setting, and the items below will change in cooperating with your selection.

Preset Point

Select a preset point where the dome should go after the Return Time function, which will be mentioned later, is activated. The preset point(s) should be set prior either in the PRESET setup menu or through the keyboard.

TOUR LINE - Select a Tour line that the dome camera should execute after the Return Time function is activated. The Tour line(s) should be defined prior either in the TOUR setup menu or through the keyboard.

AUTOSCAN LINE - Select an Auto Scan line that the dome camera should execute after the Return Time function is activated. The Auto Scan line(s) should be defined prior either in the AUTOSCAN setup menu or through the keyboard.

PATTERN LINE - Select a Pattern line that the dome camera should execute after the Return Time function is activated. The Pattern lines should be defined prior either in the PATTERN setup menu or through the keyboard.

Return Time

The dome starts to count down RETURN TIME when the dome idles, and then execute the SELECT MODE function when the return time is up. The RETURN TIME ranges from <1> to <128> minutes.

Go

If HOME function is enabled, users are allowed to execute HOME function by selecting this item.

Exit

Exit the HOME SETTING menu. Then go to the MAIN PAGE 3 to carry on other setup.

IR FUNCTION (REMOVABLE IR CUT)

MAIN PAGE 3

IR FUNCTION	AUTO
ALARM SETTING	ENTER
ALARM DETECT	NONE
WDR FUNCTION	NONE
PRIVACY MASK	ENTER
TIME SETTING	ENTER
SCHEDULE	ENTER
EXIT OSD	OFF

With the IR cut filter, the dome can still catch clear image at night time or in the very dark light condition. During day time, the IR cut filter will be on to block the infrared light for clear image; during night time, the IR cut filter will be removed to catch infrared light, and the displayed images will become black and white.

Auto

The Internal circuit will automatically decide the occasion to remove the IR cut filter according to the image brightness level.

On

Select the item to remove the IR cut filter.

IR FUNCTION	
THRESHOLD	LOW
EXIT	YES

THRESHOLD

The dome will remove the filter immediately when the threshold value is reached. The threshold options are <LOW>, <MID> and <HI>. <LOW> threshold indicates a higher sensitivity and can improve reliability of lens.

EXIT

Exit the IR function menu and go back to the MAIN PAGE 3 to carry on setup of alarm setting.

ALARM SETTING

The integrated high speed dome provides eight alarm inputs and one alarm output (NO or NC) to connect alarm devices. With this function, the dome can cooperate with alarm system to catch events' images. For wiring, please refer to the installation manual and/or qualified service personnel. Adjustable alarm parameters are listed below.

ALARM SETTING	
ALARM PIN	1
ALARM SWITCH	OFF
ALARM TYPE	N.C.
ALARM ACTION	PRESET
PRESET POINT	001
DWELL TIME	ALWAY
EXIT	YES

Alarm Pin

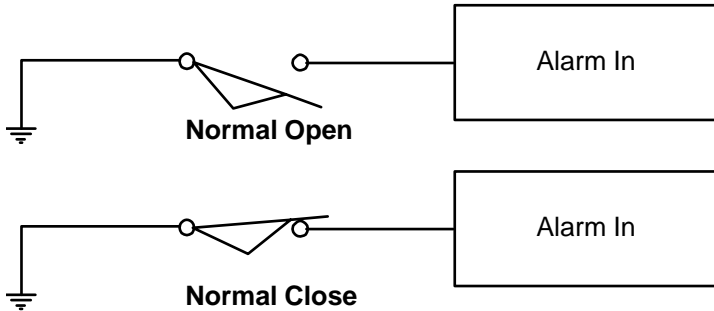
The dome provides 8 alarm inputs and 1 output (NO / NC). Select an alarm connector which you want to set its alarm-related parameters with this item, and then set its alarm-related parameters in the Alarm Setting menu. For alarm pin definitions, please refer to *Alarm Pin Definition* or the installation manual.

Alarm Switch

The item is used to enable or disable the selected alarm pin function. Use the left/right direction keys on the control keyboard to change the setting.

Alarm Type

There are two kinds of alarm types: Normal Open and Normal Close, which are illustrated as below. Select an alarm type that corresponds with the alarm application.



Alarm Action

The alarm actions include PRESET, TOUR, AUTOSCAN and PATTERN functions. Select one of these modes so that certain action will be executed when an alarm is triggered. Use the right direction key of the control keyboard to select a particular action mode, and the items listed below will change in accordance with your selected alarm action.

Preset Point

Select a preset point where the dome should go when an alarm pin is triggered. The preset point(s) should be set prior either in the PRESET setup menu or through the keyboard.

TOUR LINE - Select a Tour line that the dome camera should execute when an alarm pin is triggered. The Tour line(s) should be defined prior either in the TOUR setup menu or through the keyboard.

AUTOSCAN LINE - Select an Auto Scan line that the dome camera should execute when an alarm pin is triggered. The Auto Scan line(s) should be defined prior either in the AUTOSCAN setup menu or through the keyboard.

PATTERN LINE - Select a Pattern line that the dome camera should execute when an alarm pin is triggered. The Pattern lines should be defined prior either in the PATTERN setup menu or through the keyboard.

Dwell Time

The DWELL TIME is duration of executing an alarm action. If select the PRESET mode, when alarm takes place, the dome will go to the selected preset position and stay there for a user-defined period of time (1~127 seconds / ALWAYS). If select other modes (TOUR/AUTOSCAN/ PATTERN), the dome will keep executing the selected mode (DWELL TIME: ALWAYS) until alarm condition is released or users rotate the dome.

Note The dwell time is only adjustable when selecting Preset as the alarm action.

Exit

Exit the ALARM SETTING menu and go back to the MAIN PAGE 3 to carry on setup of WDR function

WIDE DYNAMIC RANGE (WDR)

The Wide Dynamic Range (WDR) function is especially effective in solving indoor and outdoor lighting and contrast issues to better enhance image quality. WDR enables the camera to catch detailed data from a darker indoor scene

ON

Enable the WDR function. The camera will automatically adjust the picture.

OFF

Disable the WDR function.

MAIN PAGE 3

IR FUNCTION	AUTO
ALARM SETTING	ENTER
ALARM DETECT	NONE
WDR FUNCTION	ON
PRIVACY MASK	ENTER
TIME SETTING	ENTER
SCHEDULE	ENTER
EXIT OSD	OFF

PRIVACY MASK

The Privacy Mask function aims to avoid any intrusive monitoring. Users can adjust the camera view position using the joystick, and adjust the mask size and area via the direction keys on the control keyboard. The dome camera will memorize the center of the selected view as an original point, so the joystick will be locked as users enter the SET MASK menu (mentioned later). Refer to the following description for setting privacy masks.

Note The Image Flip function and the Image Inverse function will be disabled automatically while the Privacy Mask function is enabled.

Privacy Switch

The item is used to enable or disable the masking function. Set this item to <ON> before configuring mask zones.

Transparency

The privacy masks can be set to be transparent. Select <ON> to make privacy masks transparent.

Color

The color of a privacy mask can be selected through this item. The available colors are <BLACK>, <WHITE>, <RED>, <GREEN>, <BLUE>, <CYAN>, <YELLOW>, and <MAGENTA>.

PRIVACY

PRIVACY SWITCH	OFF
TRANSPARENCY	OFF
COLOR	BLACK
SET MASK	01
CLEAR MASK	01
EXIT	YES

Set Mask

After pressing <ENTER> to enter the sub-menu of SET MASK, the dome will memorize the present position as a privacy mask position; up to 16 masks can be set. The camera restricts the mask zones to be set too close with each other.

Note The available area for setting a privacy mask is restricted within tilt angle 45°, and two mask zones are allowed to set in a view area.

MASK01 MENU	
H CENTER	L/R
V CENTER	D/U
H SIZE	000
V SIZE	000
EXIT	YES

H CENTER - The original center of a mask zone is the center of a screen. Users can move the center of a mask zone to another position through adjust this value by pressing the LEFT/RIGHT keys on the keyboard.

V CENTER - The original center of mask zone is the center of screen. User can move the center of mask zone to another position through adjust this value by pressing the LEFT/RIGHT keys on the keyboard.

H SIZE (000-080) - Users can adjust the horizontal size of a privacy mask through this item. Setting the H and V size to 0 can also delete the selected mask.

V SIZE (000-060) - User can adjust the vertical size of a privacy mask through this item. Setting the H and V size to 0 can also delete the selected mask.

Note A mask's size should be limited within the screen, whatever the optical zoom is.

Clear Mask

Users can delete a preset mask zone:

1. Select the mask zone that will be erased (e.g. 01).
2. Press <ENTER> to confirm the selection. Consequently, the screen will display the instructions to reset after the mask is cleared.
3. Select <RESET> under the CLEAR MASK item and press <ENTER> to proceed with resetting.

Exit

Exit the PRIVACY MASK menu and go back to the MAIN PAGE 3 to continue setting up time related options.

TIME SETTING

The time setting function is used to set the TIME related parameters of the integrated high speed dome. Each item in the menu is listed as follows.

TIME SETTING	
TIME DISPLAY	OFF
SET YEAR	00
SET MONTH	01
SET DAY	00
SET HOUR	00
SET MINUTE	00
EXIT+SAVE	YES

Time Display - Select <ON> to display time information on screen or <OFF> not to display.

Year / Month / Day - The items are for setting up the system date.

Hour / Minute - The items are for setting up the system time.

Exit + Save - Exit the TIME SETTING menu and go back to the MAIN PAGE 3 to carry on setup of schedule.

SCHEDULE

The schedule function enables users to program a preset point or function (Tour/Auto Scan/Pattern) automatically to perform in a specific period of time.

SCHEDULE		
SWITCH		OFF
POINT		00
HOUR		00
MINUTE		00
MODE		PRESET
SCHEDULE RESET		YES
EXIT		YES

Switch

Select <ON> to enable or <OFF> to disable the schedule function.

Point

Users are allowed to arrange 32 sets of schedule points, i.e. each set of schedule points can be assigned one kind of schedule mode.

Hour / Minute

This is used to set up the time to execute each schedule point.

Mode

This is used to set up the schedule function of the selected schedule point; the options are listed as follows.

NONE - No action will be executed for the schedule if the item is selected.

PRESET - Users can select the PRESET mode as an action carried out in a schedule point.

TOUR - Users can select the TOUR mode as an action carried out in a schedule point.

AUTOSCAN - Users can select the AUTOSCAN mode as an action carried out in a schedule point.

PATTERN - Users can select the PATTERN mode as an action carried out in a schedule point.

IR FUNC. (IR Function) - If select the IR function mode, the AUTO IR FUNCTION will be activated for a schedule point.

Schedule Reset

Select <YES> to reset the entire schedule.

Exit

Exit the SCHEDULE menu and go back to the MAIN PAGE 3.

EXIT OSD

To exit the OSD setup menu:

Select EXIT on the bottom of **MAIN PAGE 3**

- or -

Press the ESC key on the control keyboard.

HOT KEY COMMANDS

Function	Hot Key	(DSCP KB)
Enter OSD Menu/OSD Enter	77 + PRESET	Go preset 77
	95 + Hold down PRESET for 2 sec	Set preset 95
OSD Enter (when OSD is On)	IRIS OPEN	Brightness +
Run Sequence #1	70 + PRESET	Go preset 70
Run Sequence #2	71 + PRESET	Go preset 71
Run Sequence #3	72 + PRESET	Go preset 72
Run Sequence #4	73 + PRESET	Go preset 73
Run Sequence #5	74 + PRESET	Go preset 74
Run Sequence #6	75 + PRESET	Go preset 75
Run Sequence #7	76 + PRESET	Go preset 76
Run Sequence #8	77 + PRESET	Go preset 77
Run Autopan #1	79 + PRESET	Go preset 79
Run Autopan #1	80 + PRESET	Go preset 80
Run Autopan #1	81 + PRESET	Go preset 81
Run Autopan #1	82 + PRESET	Go preset 82
Reset	83 + PRESET	Go preset 83
Set Pattern Start	Hold down PATTERN for 2 sec	
Set Pattern End	Press ENTER	
Run Pattern	Press PATTERN	

SPECIFICATIONS

CAMERA SPECIFICATIONS

Model	CM-511 Outdoor Speed Dome
Image Sensor	1/4" EXview CCD
Imaging DSP	Sony Effio
IP Rating	IP66
Type / Format	NTSC
Wide Dynamic Range	Yes
Minimum Illumination	0.01 Lux (B/W) / 0.1 Lux (Color), 50 IRE @ F1.6
Day / Night	Yes (True Day Night)
Horizontal TVL	540 TVL
Service Monitor Jack	No
S/N Ratio	>50dB (AGC Off)
Focal Length	F1.6, f 3.4 ~ 122.4 mm
Iris Control	Auto / Manual
Synchronization	Internal / Line Lock
Video Output	1.0 Vpp / 75Ω, BNC
White Balance	Auto / Manual
Auto White Balance Range	2000 K - 10000 K
Backlight Compensation	On / Off
Auto Gain Control	Auto / Manual
Operating Temperature	-49°F~ 122°F (-45°C ~ 50°C)
Heater	Yes
Power Consumption	65W (Max)
Rated Amperage	2.71A
Input Voltage	24vAC ± 10%
Weight	5.7 lbs (2.6 kg)
Dimensions	Ø7.4" (190mm) x H: 11.9" (302.5mm)
Housing / Dome Cover	White / Clear

PTZ SPECIFICATIONS

Built-in Protocol	Optix III, Pelco D & P, VCL
Optical Zoom	36x
Pan/Tilt Range	360° Endless / -10° ~ 190°
Presets	256
Preset Accuracy	± 0.225°
Preset Speed	5° ~ 400°/sec.
Pattern	8
Tour (Group)	8
Auto Scan	4
Privacy Mask	16
Zone Title	16
Home Function	Preset, Pattern, Tour, Autoscan
Auto Flip	Digital / Mechanical / Off
Digital Slow Shutter	On / Off
Focus Mode	Auto / Manual
Alarm Input	8
Alarm Output	1

OSD MENU NOTES

The following OSD menu tables are provided for you to record the dome settings.

Item	Layer 1	Layer 2	Layer 3
LANGUAGE	<ENGLISH>, <JAPANESE>, <PORTUGUESE>, <SPANISH>, <FRENCH>, <GERMAN>, <ITALIAN>, <POLISH>, <RUSSIAN>, <TRADITIONAL CHINESE>, <SIMPLIFIED CHINESE>, <TURKISH>		
DEFAULT CAMERA	<ON>, <OFF>		
BACKLIGHT	<ON>	BLC LEVEL <00> ~ <30>	
	<OFF>		
FOCUS	AUTO	AF MODE <NORMAL>, <Z. TRIG.>, <PT TRIG.>	
	MANUAL		
AE MODE	EXPOSURE COMP.	<OFF>, EXPOSURE VALUE: <-10.5dB> ~ <10.5dB>	
	AE MODE	AUTO	BRIGHT VALUE; SHUTTER SPEED; IRIS VALUE; GAIN VALUE: AUTO
		SHUTTER	SHUTTER SPEED: <1/60> ~ <1/10000> SEC.
		IRIS	IRIS VALUE <F1.6>
	MANUAL	BRIGHT VALUE: AUTO	
		SHUTTER SPEED: <1/60> ~ <1/10000> SEC.	
	GAIN VALUE <-3> dB ~ <28>dB		
	EXIT+SAVE	YES	
WBC MODE	AUTO (Auto White Balance)		
	INDOOR		
	OUTDOOR		
	MANUAL	R GAIN <000> ~ <127> B GAIN <000> ~ <127>	

Item	Layer 1	Layer 2	Layer 3
IMAGE CTRL	ZOOM SPEED	<8>	
	DIGITAL ZOOM	<OFF>, <2x> ~ <12x>	
	SLOW SHUTTER	<ON>, <OFF>	
	D.N.R.	2D N.R. <ON>, <OFF> 3D N.R. <ON>, <OFF>	
	IMAGE INVERSE	<ON>, <OFF>	
	FREEZE	<ON>, <OFF>	
	APERTURE	<01> ~ <16>	
	EXIT	YES	
TELEMETRY CTRL	FLIP	<OFF>, <M.E.>, <IMAGE>	
	ANGLE ADJUSTER	MIN ANGLE <-10 ~ +10 DEG> MAX ANGLE <080 ~ 100 DEG>	
	SPEED BY ZOOM	<ON>, <OFF>	
	AUTO CALIBRATE	<ON>, <OFF>	
	PASSWORD	<ON>, <OFF>	
	OSD AUTO CLOSE	<OFF>, <5> ~ <30> SEC.	
	SYSTEM RESET	SYSTEM RESET <YES> DEFAULT SYSTEM <YES>	
	EXIT	YES	
ID DISPLAY	<ON>, <OFF>		
TITLE DISPLAY	<ON>, <OFF>		
TITLE SETTING	<01> ~ <16>		
PRESET	PRESET SET	<001>~<256>	
	PRESET RUN	<001>~<256>	
	EXIT	YES	
TOUR	TOUR LINE	<1> ~ <8>	
	TOUR POINT	<01> ~ <64>	
	PRESET POS.	<001> ~ <255>, <END>	
	SPEED	<01> ~ <15>	
	DWELL TIME	<000> ~ <127> SEC.	
	RUN TOUR	ENTER	
	EXIT	YES	

Item	Layer 1	Layer 2	Layer 3
AUTOSCAN	AUTOSCAN LINE	<1> ~ <4>	
	START POINT	<TO FIND>, <TO SAVE>	
	END POINT	<TO FIND>, <TO SAVE>	
	DIRECTION	<RIGHT>, <LEFT>	
	SPEED	<01> ~ <04>	
	RUN AUTOSCAN	ENTER	
	EXIT	YES	
PATTERN	PATTERN LINE	<1> ~ <8>	
	RECORD START	ENTER	
	RECORD END	ENTER	
	RUN PATTERN	ENTER	
	EXIT	YES	
HOME SETTING	HOME FUNCTION	<ON>, <OFF>	
	SELECT MODE	<PRESET>, <TOUR>, <AUTOSCAN>, <PATTERN>	
	PRESET POINT	<001> ~ <256>	
	TOUR LINE	<1> ~ <8>	
	AUTOSCAN LINE	<1> ~ <4>	
	PATTERN LINE	<1> ~ <8>	
	RETURN TIME	<1> ~ <128> MIN.	
	GO	ENTER	
	EXIT	YES	
IR FUNCTION	<AUTO>	THRESHOLD <MID>, <HI>, <LOW>	
	<MANUAL>	IR MANUAL: <ON>, <OFF>	
ALARM SETTING	ALARM PIN	<1> ~ <8>	
	ALARM SWITCH	<ON>, <OFF>	
	ALARM TYPE	<NO> (Normal Open), <NC> (Normal Close)	
	ALARM ACTION	<PRESET>, <TOUR>, <AUTOSCAN>, <PATTERN>	
	PRESET POINT	<001> ~ <256>	
	TOUR LINE	<1> ~ <8>	
	AUTOSCAN LINE	<1> ~ <4>	
	PATTERN LINE	<1> ~ <8>	
	DWELL TIME	<001> ~ <127> Sec., <ALWAYS>	
	EXIT	YES	
ALARM DETECT	<NONE>		

Item	Layer 1	Layer 2	Layer 3		
WDR FUNCTION	<ON>, <OFF>				
PRIVACY MASK	PRIVACY SWITCH	<ON>, <OFF>			
	TRANSPARENCY	<ON>, <OFF>			
	COLOR	<BLACK>, <WHITE>, <RED>, <GREEN>, <BLUE>, <CYAN>, <YELLOW>, <MAGENTA>			
	SET MASK	<01> ~ <16>	H CENTER: L/R V CENTER: D/U H SIZE <000> ~ <080> V SIZE <000> ~ <080> EXIT + SAVE		
	CLEAR MASK	<01> ~ <16>			
	EXIT	YES			
TIME SETTING	TIME DISPLAY	<ON>, <OFF>			
	SET YEAR	<00> ~ <99>			
	SET MONTH	<01> ~ <12>			
	SET DAY	<00> ~ <31>			
	SET HOUR	<00> ~ <23>			
	SET MINUTE	<00> ~ <59>			
	EXIT+SAVE				
SCHEDULE	SWITCH	<ON>, <OFF>			
	POINT	<01> ~ <32>			
	HOUR	<00> ~ <23>			
	MINUTE	<00> ~ <59>			
	MODE	NONE		NO FUNCTION	
		PRESET		PRESET POINT <001> ~ <256>	
		TOUR		TOUR LINE <1> ~ <8>	
		AUTOSCAN		AUTOSCAN LINE <1> ~ <4>	
		PATTERN		PATTERN LINE <1> ~ <8>	
		IR FUNCTION		IR FUNCTION <AUTO>, <ON>, <OFF>	
SCHEDULE RESET	YES				
EXIT	YES				
EXIT OSD	YES				

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