Integrated High Speed Dome Camera

Indoor Dome

User's Manual

Version 2.6

Preface

The information given in this manual was current when published. The company reserves the right to revise and improve its products. All specifications are subject to change without notice.

Notice

To work with the Integrated High Speed Dome Cameras, any installer or technician must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components
- A basic knowledge of electrical wiring and low-voltage electrical hookups
- Have read this manual completely

Copyright

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Important Information

Before proceeding, please read and observe all instructions and warnings in this manual. Retain this manual with the original bill of sale for future reference and, if necessary, warranty service. When unpacking your unit, check for missing or damaged items. If any item is missing, or if damage is evident, DO NOT INSTALL OR OPERATE THIS PRODUCT. Contact your dealer for assistance.

Regulation

$C\epsilon$	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.

Cautions

- **Handle the camera carefully**

  Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handing or storage.

- **Installing electricity wiring carefully**

  Ask qualified personnel of electrical wiring for the installation. Please note that input electricity to the unit is at tolerance of DC12V/AC24V ± 10%.

  The camera is capable of surge protection; ensure AC power model unit grounded appropriately against damage of heavy current or electric shock. Refer to the camera's installation guide for more information.

AC model data cable	AC power input: 3-pin terminal block
	Green (GND)
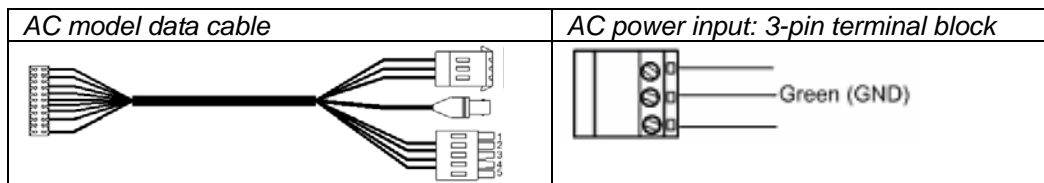
- **Do not disassemble the camera**

  To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Ask a qualified service person for servicing.

- **Do not block cooling holes on the bracket**

  This camera has a cooling fan inside. Blocking the cooling holes leads to build up of heat the camera and may cause malfunction.

- **Do not operate the camera beyond the specified temperature, humidity or power source ratings**

  Use the camera under conditions where temperature is between 0°C ~ 40°C (32°F ~ 104°F), and humidity is below 90%.

- **Do not expose the camera to rain or moisture, or try to operated it in wet areas**

  This product is designed for indoor use or locations where it is protected from rain and moisture. Turn the power off immediately if the camera is wet and ask a qualified service person for servicing. Moisture can damage the camera and also create the danger of electric shock.

- **Do not use strong or abrasive detergents when cleaning the camera body**

  Use a dry cloth to clean the camera when dirty. In case the dirt is hard to remove, use a mild detergent and wipe gently.

- **Never face the camera towards the sun**

  Do not aim the camera 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 or damaged.

Table of Contents

1. Overview

The dome camera is a new subcompact integrated high speed dome camera designed to deliver superb performance and durability with an intelligent and stylish housing that is suitable in any security and surveillance installation. The latest dome camera possesses the additional functions of Image Inverse and FW upgrade via ISP and multi-language (up to 10 languages) OSD operation. The dome camera also supports one cabling for easy installation and can be integrated with CCTV products, such as Digital Video Recorders (DVRs), Control Keyboards and CCTV accessories for a total surveillance solution.

The Integrated High Speed Dome Camera provides five models of new generation advanced DSP color camera:

- L Model: 35x optical zoom multiply 12x digital magnifier
- U Model: 26x optical zoom multiply 12x digital magnifier
- K Model: 23x optical zoom multiply 12x digital magnifier
- R Model: 22x optical zoom multiply 12x digital magnifier
- F Model: 18x optical zoom multiply 12x digital magnifier
- C Model: 18x optical zoom multiply 12x digital magnifier

The dome delivers up to 420x zoom ratio (L model) to capture clear image in the distance. Continuous Auto Focus, Back Light Compensation, Auto Exposure and Digital Slow Shutter functions are provided for clear and high quality image. Removable IR cut filter ensures 24 hours operation, while Privacy Masks are specially designed to avoid any intrusive monitoring at specific region; all of the salient functions can be incorporated to meet your needs. The Home function allows users to specify a preset position as the 'home position' or home functions (Sequence/Auto-pan/Cruise). Under the mode, dome cameras can come back to the preset home position or functions when the camera has been idle for a user-defined period of time. Additionally, the unique Schedule function enables users to program a preset point or function (Sequence/Auto-pan/Cruise) so that these actions can be automatically performed in certain period of time.

The dome provides variable pan/tilt speeds ranging from a fast patrol of 400° per second to a slow ramble of 5° per second with 0.225° pan accuracy for fast and accurate tracking ability. The 360° endless rotation and -10°~190° tilt travel make tracking the object passing directly beneath the dome. Maximum 256 preset points can be programmed for precise location of target areas, and users can also define 8 sequence, 4 auto-pan and 1 cruise routes for the camera to operate automatically. In addition, RS-485 communication port is available for remote control purposes.

The Integrated High Speed Dome Camera provides 8 alarm inputs and 1 alarm relay output, and the smart alarm management mechanism can be programmed through the OSD setup menu; certain function (Preset/Sequence/Auto-Pan/ Cruise) can be activated when an alarm is triggered.

Large set of built-in protocols provide connectivity to other surveillance systems. The built-in protocols include DynaColor, Pelco, VCL, Philips, AD-422, etc, which allow the Integrated High Speed Dome Camera series to be integrated with other suppliers' surveillance systems.

Dependability and ultra high reliability are key factors in the speed dome's design cycle. Every speed dome is assembled with meticulous care and thorough testing at our ISO 9001 compliant factory. High performance, reliability and reasonably pricing make this speed dome to be an ideal solution to users' tough surveillance requirement.

1.1   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/Sequence /Auto-Pan /Cruise

Dynamic Dome Applications
- Multi-language OSD
- Schedule function
- Multiple built-in Protocols
- Up to 24 masking zones (Optional)
- 8 alarm inputs, 1 alarm output
- Motion Detection (Optional)
- Flexible indoor/outdoor mountings
- Compact lightweight design for easy installation
- Weather resistant housing
- All-in-one type

Superior Camera Image Quality
- Minimum illumination 0.01 Lux (B/W)
- Digital Slow Shutter

- Electronic Shutter
- Wide Dynamic Range (Optional)
- Auto White Balance
- Backlight Compensation
- Auto Exposure
- Image Inverse (Optional)
- Electronic Image Stabilizer (Optional)
- Removable IR Cut Filter (Optional)

1.2   Product Application

Connect the dome camera to other devices as shown in the diagram to complete a video surveillance solution.
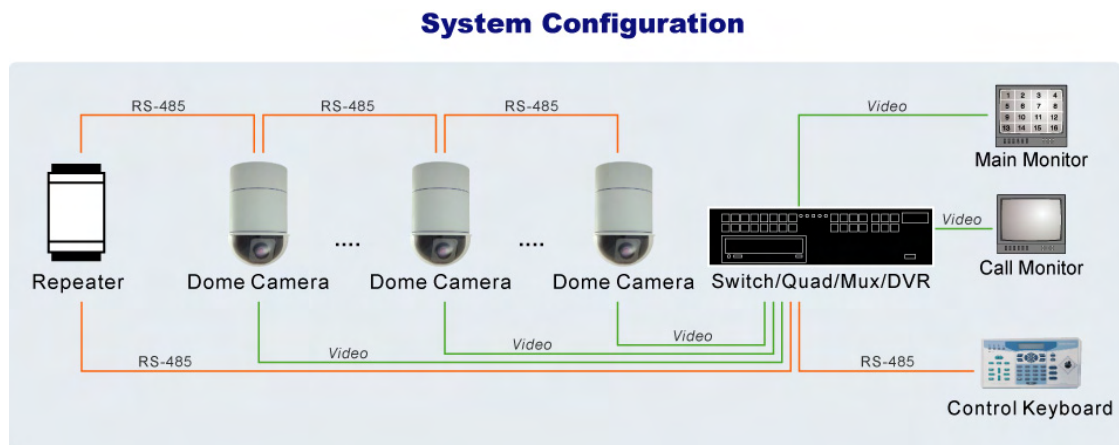
NOTE: To extend the network distance up to 1.2 km (4000 feet) and to protect the connected devices, it is highly recommended to place a repeater at the mid-point. However, a repeater may be needed in the network distance less than 1.2 km if the used cables are not the CAT 5, 24-gauge cables (see 2.7 RS-485 Connector Definition). Refer to the repeater's manual for detailed information.

2. Connecting the High Speed Dome

Please refer to the following sections to connect, set and operate the dome camera. In order to control the integrated high speed dome, basically a control keyboard or other control device is required.

2.1 Package Contents

Before proceeding, please check 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.

Dome Body	Hard Ceiling Mount and Decoration Ring	Fixing Plate
5.4" Optical Cover	50-cm data cable for Power Supply, Video and RS-485 (24V AC model)	50-cm Data Cable for Power Supply, Video and RS-485 (12V DC model)
Quick Guide	CD: Operation Manuals	Power Adaptor & Power Cord (DC model Only)
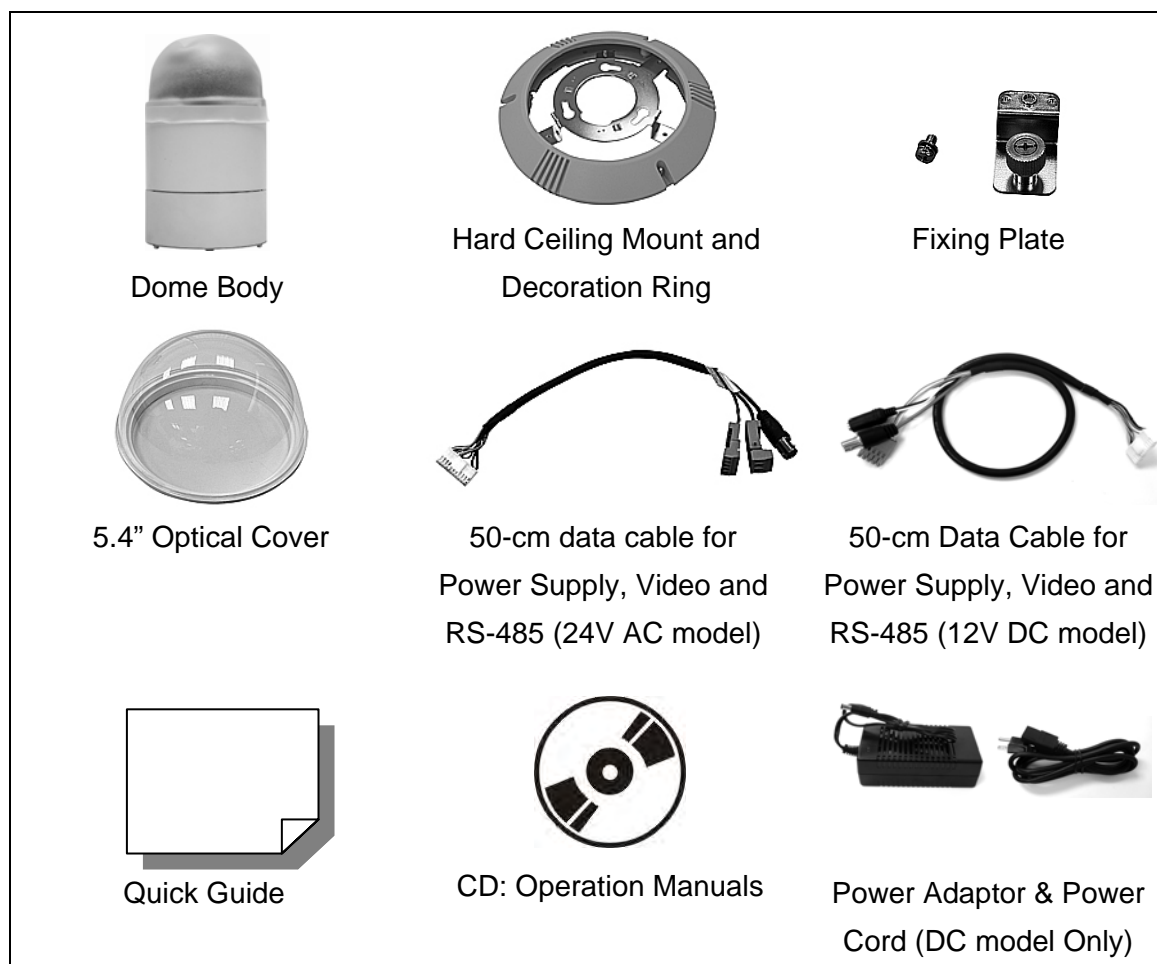
2.2 Switch Definition

First of all, configuring the dome ID and communication protocol is required before connecting the dome camera to other devices. The switches used for configuring these settings are located on the bottom of the dome camera.
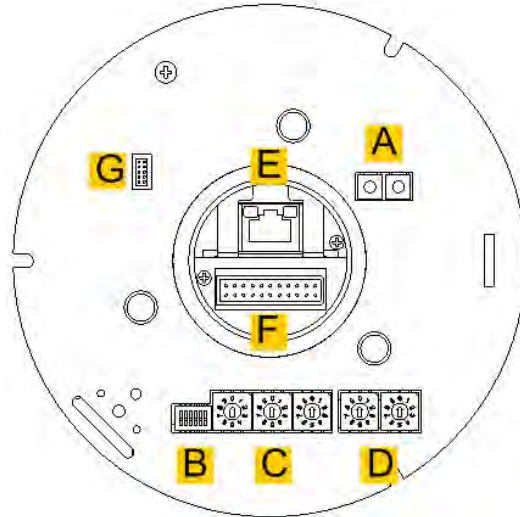
A	Reserved
B	Communication Switch
C	Dome ID Switch
D	Dome Control Protocol Switch
E	RJ-45 Connector (for IP dome only)
F	22-Pin Connector
G	ISP Connector (for FW upgrade)

2.3 Communication Switch Setting

The table below shows the function of each pin within the Communication Switch.

Communication Switch		
	SW 1	RS-485 Setting
	SW 2	
	SW 3	Termination
	SW 4	Line Lock
	SW 5	System Initialization
	SW 6	Reserved

RS-485 is the interface that communicates the dome camera and 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 follows). Please do not change the default setting without 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; moreover, once firmware upgrade is carried out, users also need to reset the SW 5 afterward.

RS-485 Setting	
Half-duplex	Full-duplex
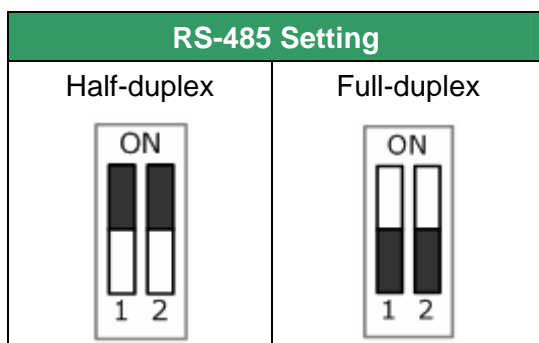
2.4   Dome ID Setting

Please change the dome ID if there is more than one dome on the same installation site. Use the switch to change your speed dome ID by turning the arrow to the desired number respectively. For instance, if the dome ID is 123, the ID switch should be set as below.

NOTE: No two domes should be given the same ID, or communication conflict may occur.
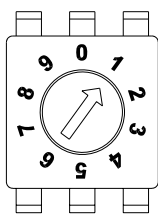
Centesimal Digit   Decimal Digit   Single Digit
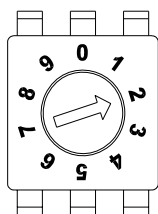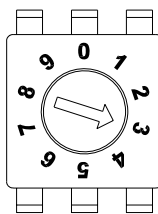
NOTE: The number "0" should locate upwards as shown in the diagram above for correct switch definition.

2.5   Dome Control Protocol Setting

Protocol is a specific set of rules, procedures used for data communications. Basing on the devices of your surveillance system and define the protocol you are going to use. Generally, use one protocol even the devices are provided from different manufacturers. Use the switch to set your dome control protocol and the baud rate. Refer to below table 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	DSCP	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	Kalatel-485	9600
22	Kalatel-422	4800

Select protocol: Pelco D, with switch no. 01 and baud rate 2400, for instance, the protocol switch should be set as below.
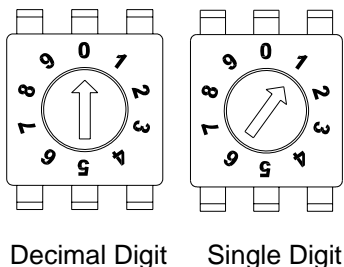
Decimal Digit   Single Digit

NOTE: The number "0" should locate upwards as shown in the diagram above for correct switch definition.

2.6 22-Pin Connector Definition

A 50-cm data cable (shown as the figure below) is shipped with the integrated high speed dome for a quick installation for demo or testing usage. Two kinds of data cables, DC 12V and AC 24V, for different power sources are illustrated below. Additionaly, the section will also provide the definition of each pin within the 22-pin connector on the data cable. For more information about RS-485 connector, see 2.7 RS-485 Connector Definition.

DC 12V Data Cable

Power Input	DC12 Female Jack
Video Output	BNC Connector
RS485 Connector	2 wires
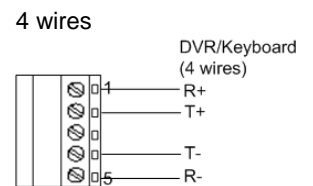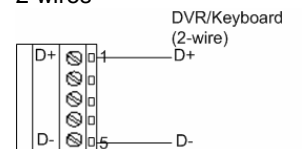
AC 24V Data Cable
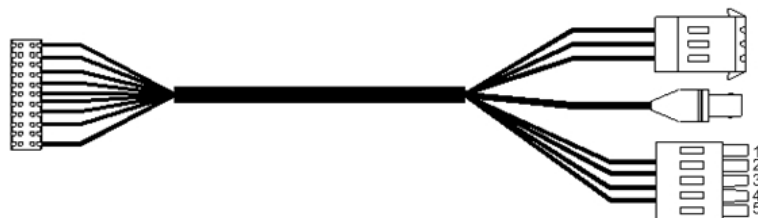
Power Input	3-Pin Terminal Block
Video Output	BNC connector
RS485 Connector	2 wires
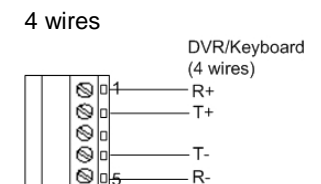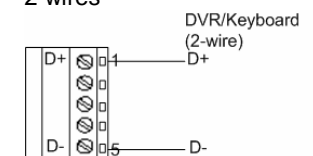
NOTE: When wiring the power cable, make sure the G/Y wire (Ground) inserted into the mid-pin of the terminal block.

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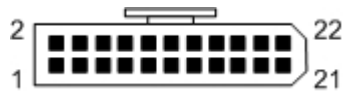
The 22-pin connector definition is listed as below.

Pin	Definition	Cable
1	AC 24-1/DC (＋)	20AWG
2	ALM NC	
3	AC 24-2/DC (－)	20AWG
4	ALM NO	
5	FG	20AWG
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	24AWG
22	Video	

2.7   RS-485 Connector Definition

RS-485 is the interface that communicates the dome camera and its control device. Please connect the control keyboard to the speed dome through the terminal block. The recommended cables for RS-485 communication are **CAT 5** cables; maximum cable length for over 24-gauge wire is 4000 feet (1219 meters). If the total cable length exceeds 4000 feet, using a repeater to maintain the signals is recommended. Please refer to the figure and table below for pin defination and wiring.

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

3 Operation and Configuration

3.1 Display Format

The information shown on the screen are described in terms of OSD display, position and function description in the table below.
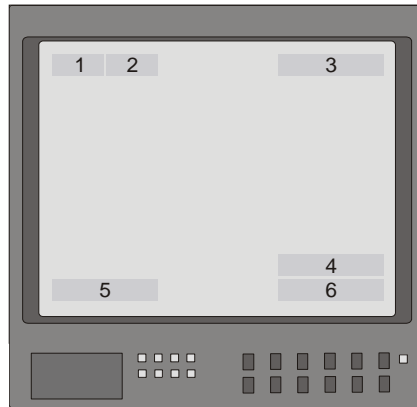
Position	Function	OSD Display	Description
1	Focus Modes	A	Auto Focus Mode
		M	Manual Focus Mode
2	Backlight	X	Back Light Compensation OFF
		B	Back Light Compensation ON
3	Alarm	ALARM	Alarm Message
4	Zoom Ratio	×1	Present Zoom Ratio (Optical Zoom/Digital Zoom)
5	Title	• Maximum 20 characters for each title. • 16 sets of title are available.	
6	Camera ID	Show the camera ID	

3.2 OSD Menu Tree

The OSD setup menu structures of C/F/U and L/R/K models are listed separately in the following section. The star symbol indicates the factory default.

For detailed function description, please see 3.3 Configuration Menu.

3.2.1 C/F/U Model

Item	Layer 1	Layer 2	Layer 3	Default
LANGUAGE	<ENGLISH>, <FRENCH>, <GERMAN>, <ITALIAN>, <JAPANESE>, <POLISH>, <PORTUGUESE>, <RUSSIAN>, <SPANISH>			ENGLISH
DEFAULT CAMERA	<ON>, <OFF>			ON
BACKLIGHT	<ON>, <OFF>			OFF
FOCUS	AUTO	AF MODE <NORMAL>, <INTERVAL>, <ZOOM TRIG>		NORMAL
	MANUAL	FOCUS SPEED <01>~<08>		
AE MODE	EXPODURE COMP.	<OFF>, EXPOSURE VALUE: <-10.5dB> ~ <10.5dB>		OFF
	AE MODE	AUTO		
		BRIGHT	BRIGHT VALUE <00> ~ <31>	
		SHUTTER	SHUTTER SPEED <1> ~ <1/10000> SEC.	
		IRIS	IRIS VALUE <CLOSE>, <F1.6> ~ <F28>	
		MANUAL	BRIGHT VALUE: AUTO	
			SHUTTER SPEED <1/10000> ~ <1>	
			IRIS VALUE <F1.6> ~ <F28>	
			GAIN VALUE <-3>dB ~ <28>dB	
	EXIT	YES		
WBC MODE	AUTO (Auto White Balance)			☆
	INDOOR			
	OUTDOOR			
	ATW (Auto-tracing WBC)			
	MANUAL	R GAIN <000> ~ <127>		
		B GAIN <000> ~ <127>		
SETUP MENU 1	ZOOM SPEED	<1> ~ <8>		8
	DIGITAL ZOOM	<ON>, <OFF>		ON
	SLOW SHUTTER (F/U Model only)	<ON>, <OFF>		OFF
	IMAGE INVERSE (F/U Model only)	<ON>, <OFF>		OFF
	APERTURE	<01> ~ <16>		11
	EXIT	YES		
SETUP MENU 2	FLIP	C Model: <OFF>, <M.E.> F/U Model: <OFF>, <M.E.>, <IMAGE>		OFF
	ANGLE ADJUSTER	MIN ANGLE <-10 ~ +10 DEG>		0
		MAX ANGLE <080 ~ 100 DEG>		90
	SPEED BY ZOOM	<ON>, <OFF>		OFF
	AUTO CALI.	<ON>, <OFF>		OFF
	SYSTEM RESET	YES		
	EXIT	YES		

Item	Layer 1	Layer 2	Layer 3	Default
ID DISPLAY	<ON>, <OFF>			ON
TITLE DISPLAY	<ON>, <OFF>			OFF
TITLE SETTING	<01> ~ <16>			01
PRESET	PRESET SET	<001>~<256>		ENTER
	PRESET RUN	<001>~<256>		ENTER
	EXIT	YES		ENTER
SEQUENCE	SEQUENCE LINE	<1> ~ <8>		1
	SEQUENCE POINT	<01> ~ <32>		01
	PRESET POS.	<001> ~ <255>, <END>		001
	SPEED	<01> ~ <15>		01
	DWELL TIME	<000> ~ <127> SEC.		000
	RUN SEQUENCE	ENTER		
	EXIT	YES		
AUTOPAN	AUTOPAN LINE	<1> ~ <4>		1
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		RIGHT
	SPEED	<01> ~ <04>		01
	RUN AUTOPAN	ENTER		
	EXIT	YES		
CRUISE	RECORD START	ENTER		
	RECORD END	ENTER		
	RUN CRUISE	ENTER		
	EXIT	YES		
HOME SETTING	HOME FUNCTION	<ON>, <OFF>		OFF
	SELECT MODE	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		PRESET
	PRESET POINT	<001> ~ <256>		001
	SEQUENCE LINE	<1> ~ <8>		1
	AUTOPAN LINE	<1> ~ <4>		1
	CRUISE LINE	<1>		1
	RETURN TIME	<1> ~ <128> MIN.		1
	GO	ENTER		
	EXIT	YES		
IR FUNCTION (F/U Model only)	<AUTO>			AUTO
	<MANUAL>	IR MANUAL: <ON>, <OFF>		
ALARM SETTNG	ALARM PIN	<1> ~ <8>		1
	ALARM SWITCH	<ON>, <OFF>		OFF
	ALARM TYPE	<NO> (Normal Open), <NC> (Normal Close)		N.C.
	ALARM ACTION	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		PRESET
	PRESET POINT	<001> ~ <256>		001
	SEQUENCE LINE	<1> ~ <8>		1
	AUTOPAN LINE	<1> ~ <4>		1
	CRUISE LINE	1		1
	DWELL TIME	<001> ~ <127> Sec., <ALWAYS>		ALWAYS
	EXIT	YES		
ALARM DETECT	DETECT SWITCH	<ON>, <OFF>		OFF
	DETECT MODE	<INT FOCUS>, <FIX FOCUS>, <INT AE>, <FIX AE>		INT FOCUS
	EXIT	YES		
PRIVACY MASK	PRIVACY SWITCH	<ON>, <OFF>		OFF
	TRANSPARENCY	<ON>, <OFF>		OFF
	COLOR	<BLACK>, <LI. GRAY>, < GRAY>, <WHITE>, <RED>, <GREEN>, <BLUE>, <CYAN>, <YELLOW>, <MAGENTA>		BLACK
	SET MASK	<01> ~ <24>	H CENTER: L/R	
			V CENTER: D/U	
			H SIZE <000> ~ <080>	
			V SIZE <000> ~ <060>	
			EXIT + SAVE	

Item	Layer 1	Layer 2	Layer 3	Default
	CLEAR MASK	<01> ~ <24>, <RESET>		
	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>		01
	HOUR	<00> ~ <23>		00
	MINUTE	<00> ~ <59>		00
	MODE	NONE	NO FUNCTION	☆
		PRESET	PRESET POINT <001> ~ <256>	
		SEQUENCE	SEQUENCE LINE <1> ~ <8>	
		AUTOPAN	AUTOPAN LINE <1> ~ <4>	
		CRUISE	CRUISE LINE <1>	
		IR FUNC.	IR FUNCTION AUTO	
	SCHEDULE RESET	YES		
	EXIT	YES		
EXIT OSD	YES			

3.2.2   L/R/K Model

Item	Layer 1	Layer 2	Layer 3	Default
LANGUAGE	<ENGLISH>, <FRENCH>, <GERMAN>, <ITALIAN>, <JAPANESE>, <POLISH>, <PORTUGUESE>, <RUSSIAN>, <SPANISH>			ENGLISH
DEFAULT CAMERA	<ON>, <OFF>			ON
BACKLIGHT	<ON>	BLC LEVEL <00> ~ <30>		OFF
	<OFF>			
FOCUS	AUTO	TUNING VALUE <1.5M> (L model only) ,<1M>, <30CM>, <10CM>, <1CM>		10CM
	MANUAL	FOCUS SPEED <0> ~ <3>		
AE MODE	AUTO	IRIS OFFSET <00> ~ <15>		
	SHUTTER	SHUTTER SPEED L/K Model:<1/30000> ~ <1/2> R Model:<1/30000> ~ <1/50> (PAL); <1/30000> ~ <1/60> (NTSC)		
	IRIS	<00> ~ <09>		
	AGC	<00> ~ <05>		
WBC MODE	AUTO (Auto White Balance)			☆
	MANUAL	R GAIN <00> ~ <99> B GAIN <00> ~ <99>		
SETUP MENU 1	ZOOM SPEED	<FAST>, <SLOW>		FAST
	DIGITAL ZOOM	<OFF>, <02> ~ <12>		OFF
	SLOW SHUTTER (L/K Model)	<1/2> ~ <1/60> (NTSC)		1/30
		<1/1.5> ~ <1/50> (PAL)		1/25
	IMAGE INVERSE (L/K Model)	<ON>, <OFF>		OFF
	APERTURE	<AUTO>		☆
		<MANUAL>	H APERTURE <00> ~ <31> V APERTURE	

Item	Layer 1	Layer 2	Layer 3	Default
			<00> ~ <31>	
	STABILIZER (L model only)	<OFF>, <10Hz>, <5Hz>		
	EXIT	YES		
SETUP MENU 2	FLIP	<OFF>, <M.E.>, <IMAGE>(L/K Model)		OFF
	ANGLE ADJUSTER	MIN ANGLE <-10 ~ +10 DEG>		0
		MAX ANGLE <080 ~ 100 DEG>		90
	SPEED BY ZOOM	<ON>, <OFF>		OFF
	AUTO CALI.	<ON>, <OFF>		OFF
	SYSTEM RESET	YES		
	EXIT	YES		
ID DISPLAY	<ON>, <OFF>			ON
TITLE DISPLAY	<ON>, <OFF>			OFF
TITLE SETTING	<01> ~ <16>			01
PRESET	PRESET SET	<001>~<256>		ENTER
	PRESET RUN	<001>~<256>		ENTER
	EXIT	YES		ENTER
SEQUENCE	SEQUENCE LINE	<1> ~ <8>		1
	SEQUENCE POINT	<01> ~ <32>		01
	PRESET POS.	<001> ~ <255>, <END>		001
	SPEED	<01> ~ <15>		01
	DWELL TIME	<000> ~ <127> SEC.		000
	RUN SEQUENCE	ENTER		
	EXIT	YES		
AUTOPAN	AUTOPAN LINE	<1> ~ <4>		1
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		RIGHT
	SPEED	<01> ~ <04>		01
	RUN AUTOPAN	ENTER		
	EXIT	YES		
CRUISE	RECORD START	ENTER		
	RECORD END	ENTER		
	RUN CRUISE	ENTER		
	EXIT	YES		
HOME SETTING	HOME FUNCTION	<ON>, <OFF>		OFF
	SELECT MODE	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		PRESET
	PRESET POINT	<001> ~ <256>		001
	SEQUENCE LINE	<1> ~ <8>		1
	AUTOPAN LINE	<1> ~ <4>		1
	CRUISE LINE	<1>		1
	RETURN TIME	<1> ~ <128> MIN.		1
	GO	ENTER		
	EXIT	YES		
IR FUNCTION (L/K Model)	<AUTO>, <ON>, <OFF>	THREADHOLD <MID>, <HI>, <LOW> IR COLOR <B/W>, <COLOR> EXIT <YES>		AUTO
ALARM SETTNG	ALARM PIN	<1> ~ <8>		1
	ALARM SWITCH	<ON>, <OFF>		OFF
	ALARM TYPE	<NO> (Normal Open), <NC> (Normal Close)		N.C.
	ALARM ACTION	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		PRESET
	PRESET POINT	<001> ~ <256>		001
	SEQUENCE LINE	<1> ~ <8>		1
	AUTOPAN LINE	<1> ~ <4>		1
	CRUISE LINE	1		1
	DWELL TIME	<001> ~ <127> Sec., <ALWAYS>		ALWAYS
	EXIT	YES		
WDR FUNCTION	<ON>	RATIO LEVEL <000> ~ <128>		

Item	Layer 1	Layer 2	Layer 3	Default
(L/K Model only)		SHUTTER SPEED <000> ~ <128> IRIS OFFSET <000> ~ <128> EXIT <YES>		
	<AUTO>			
	<OFF>			☆
PRIVACY MASK (L/K Model only)	PRIVACY SWITCH	<ON>, <OFF>		OFF
	MASK SHADE	<GRAY>, <WHITE>, <BLACK>		BLACK
	SET MASK	<01> ~ <08>	H CENTER <000> ~ <255>	
			V CENTER <000> ~ <255>	
			H SIZE <000> ~ <127>	
			V SIZE <000> ~ <127>	
			EXIT + SAVE	
	CLEAR MASK	<01> ~ <08>, <RESET>		01
	MASK DISPLAY	<FIRST>, <LAST>		FIRST
	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>		01
	HOUR	<00> ~ <23>		00
	MINUTE	<00> ~ <59>		00
	MODE	NONE	NO FUNCTION	☆
		PRESET	PRESET POINT <001> ~ <256>	
		SEQUENCE	SEQUENCE LINE <1> ~ <8>	
		AUTOPAN	AUTOPAN LINE <1> ~ <4>	
		CRUISE	CRUISE LINE <1>	
		IR FUNC.	IR FUNCTION AUTO	
	SCHEDULE RESET	YES		
	EXIT	YES		
EXIT OSD	YES			

3.3   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 each model's OSD menu (C, F, U, L, R and K models) are described in the following sections.

To enter the OSD menu of the selected camera, press the <CAMERA MENU> key on the control keyboard and hold it for 3 seconds to enter the OSD menu.

To select the setup item, use direction keys on a keyboard to move the OSD cursor in the OSD menu.

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

For further detailed setup procedures, please refer to the user's manual of your installed control devices.

⚠ **NOTE:** In the Camera OSD menu, the <CAMERA MENU> key functions as "ENTER" and "EXIT."

3.3.1   LANGUAGE

The camera supports multi-language OSD operation; the available languages include English, French, German, Italian, Japanese, Polish, Portuguese, Russian and Spanish. You can straight set a wanted language on the **MAIN PAGE 1**, as shown below. As you select a language with the arrow keys, the OSD will automatically change to the language you selected. The default language is <ENGLISH>.

```
            MAIN PAGE 1
LANGUAGE              ENGLISH
DEFAULT CAMERA        ON
BACKLIGHT            OFF
FOCUS                AUTO
AE MODE              ENTER
WBC MODE             AUTO
SETUP MENU 1         ENTER
SETUP MENU 2         ENTER
```

3.3.2   DEFAULT CAMERA

The DEFAULT CAMERA option is used to restore some camera settings back to default setting. The settings that are affected include 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 recall the mentioned camera parameters.

3.3.3   BACKLIGHT

The Backlight compensation function prevents the center object from being too dark in surroundings where excessive light is behind the object.

C/F/U Model:

Select <ON> to activate the function; the center object will be brightened in contrast to the edge of the picture (where a backlight would be most likely located).

After completing setup of backlight, go back to the **Main Page 1** and continue to set the focus relevant values.

```
            MAIN PAGE 1
LANGUAGE              ENGLISH
DEFAULT CAMERA        ON
BACKLIGHT            OFF
FOCUS                AUTO
AE MODE              ENTER
WBC MODE             AUTO
SETUP MENU 1         ENTER
SETUP MENU 2         ENTER
```

L/R/K Model:

The Backlight Compensation Level ranges from 00 to 30.

```
BLC LEVEL               00
```

> ⚠️ **NOTE:** If this function is enabled, the WDR function (for L and K models) will be disabled automatically. For details, refer to section <u>3.3.20 WDR Setting</u>.

After completing setup of backlight, go back to the **Main Page 1** and continue to set the focus values.

```
              MAIN PAGE 1
LANGUAGE              ENGLISH
DEFAULT CAMERA       ON
BACKLIGHT            OFF
FOCUS               AUTO
AE MODE             AUTO
WBC MODE            AUTO
SETUP MENU 1        ENTER
SETUP MENU 2        ENTER
```

3.3.4   FOCUS

The focus of the dome camera can be operated in two modes: Auto Focus mode and Manual Focus mode. Various setting for different models are described as follows.

C/F/U Model:

- **AUTO**

The optimum focus is achieved by the internal digital circuit. There are 3 modes for users to select for different conditions.

Normal AF (Auto Focus) Mode: The dome will automatically adjust the focus of the picture.

Zoom Trigger Mode: When users press the TELE or the WIDE keys on a control keyboard or other control devices to change the zoom, the dome will automatically adjust its focus after a period of time (the initial preset value is five seconds) until the commands of TELE/WIDE is terminated.

Interval AF Mode: The mode is used for AF movements carried out at particular intervals. If users pan/tilt the dome, the dome will focus automatically after a period of time; the initial value is five seconds.

- **MANUAL**

In this focus mode, users can adjust the focus speed, ranging from 01 ~ 08.

```
FOCUS SPEED            01
```

After completing setup of focus, go back to the **Main Page 1** and continue to set the AE mode.

```
            MAIN PAGE 1
LANGUAGE              ENGLISH
DEFAULT CAMERA       ON
BACKLIGHT            OFF
FOCUS               AUTO
AE MODE             ENTER
WBC MODE            AUTO
SETUP MENU 1        ENTER
SETUP MENU 2        ENTER
```

L/R/K Model:

- **AUTO**

The optimum focus is achieved by the internal digital circuit. Users can adjust the minimum auto focus range for some special conditions; the options include <1.5 m> (L model only), <1 m>, <30 cm>, <10 cm> and <1 cm>.

```
TURNING VALUE         10CM
```

- **MANUAL**

In this focus mode, users can adjust the focus speed, ranging from 0 ~ 3.

```
FOCUS SPEED           0
```

After completing setup of focus, go back to the **Main Page 1** and continue to set the AE mode.

```
            MAIN PAGE 1
LANGUAGE              ENGLISH
DEFAULT CAMERA       ON
BACKLIGHT            OFF
FOCUS               AUTO
AE MODE             AUTO
WBC MODE            AUTO
SETUP MENU 1        ENTER
SETUP MENU 2        ENTER
```

3.3.5 AE MODE

The exposure is the amount of light received by the image sensor and is determined by the width of lens diaphragm opening (iris adjustment), the

amount of exposure by the sensor (shutter speed) and other exposure parameters. With this item, users can define how the Auto Exposure (AE) function works.

C/F/U Model:

- **EXPOSURE COMPENSATION**

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

- **AE MODE**

  AUTO

  In this mode, the camera's Brightness, Shutter Speed, IRIS and AGC (Auto Gain Control) control circuits work together automatically to get consistent video output level.

  BRIGHT

  The brightness control function adjusts IRIS and AGC using an internal algorithm. Brightness is controlled by gain when the light condition is dark and by iris when the light condition is bright. The bright value ranges from 00 ~ 31.

  SHUTTER

  With this option, SHUTTER speed takes main control of exposure, and both IRIS and AGC will function automatically in cooperation with shutter speed to achieve consistent exposure output. The shutter speed ranges from 1/10000 ~ 1.

  IRIS

  With this option, the IRIS function adjusts exposure in higher property. SHUTTER speed and AGC circuit will function automatically in cooperating with IRIS to get consistent exposure output. The opening of a lens controls the amount of light reaching to the surface of the selected device. By increasing the F-stop number (F1.6, F2, F2.4, etc.), less light is permitted to pass; options range from F1.6 ~ F28.

  MANUAL

  In the mode, users can adjust shutter speed (1/10000 ~ 1), iris value (F1.6 ~ F28) and gain value (-3dB ~ 28dB).

- **EXIT**

  Exit the AE MODE menu and go back to the **Main Page 1** to continue to set the WBC mode.

```
            MAIN PAGE 1
LANGUAGE            ENGLISH
DEFAULT CAMERA      ON
BACKLIGHT          OFF
FOCUS              AUTO
AE MODE            ENTER
WBC MODE           AUTO
SETUP MENU 1       ENTER
SETUP MENU 2       ENTER
```

L/R/K Model:

- **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. IRIS OFFSET is used to set the level of IRIS variation (00 ~ 15).

- **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 for L and K models is: 1/30000 ~ 1/2 and for R model: 1/30000 ~ 1/50 (PAL) or 1/60 (NTSC).

- **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. The range of Iris level is between 00 and 09.

- **AGC**

  With this option, the priority of AGC is higher than SHUTTER and IRIS; SHUTTER and IRIS circuit will function automatically in cooperating with AGC to get consistent exposure. The range of AGC level is between 00 and 05.

After completing various parameter setups, please exit the AE MODE menu and go back to the **Main Page 1** to continue to set the WBC mode.

```
                MAIN PAGE 1
LANGUAGE              ENGLISH
DEFAULT CAMERA       ON
BACKLIGHT            OFF
FOCUS               AUTO
AE MODE             AUTO
WBC MODE            AUTO
SETUP MENU 1        ENTER
SETUP MENU 2        ENTER
```

3.3.6 WBC MODE

A digital camera needs to find reference color temperature, which is a way of measuring the quality of a light source, for calculating all the other colors. The unit for measuring this ratio is in degree 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
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

C/F/U Model:

- **AUTO**
  In this mode, white balance works within its color temperature range. This mode computes the white balance value output using color information from the entire screen. It outputs the proper value using the color temperature radiating from a black subject based on a range of values from 3000K to 7500K.

- **INDOOR**
  3200 K Base mode.

- **OUTDOOR**
  5800 K Base mode.

- **ATW** (Auto Tracing White Balance)
  The dome takes out the signals in a screen in the range from 2000 K to 10000 K.

- **MANUAL**

  In this mode, users can change the White Balance value manually; R gain and B gain are adjustable and range from 000 to 127.

  ```
  ┌─────────────────────────────────┐
  │           WBC MENU              │
  │   R GAIN              050       │
  │   B GAIN              050       │
  │                                 │
  └─────────────────────────────────┘
  ```

After WBC relevant parameter setups are completed, please exit the WBC MODE menu and go back to the **Main Page 1** to continue to set other functions under the setup menu 1.

```
┌─────────────────────────────────┐
│           MAIN PAGE 1           │
│   LANGUAGE            ENGLISH    │
│   DEFAULT CAMERA      ON         │
│   BACKLIGHT           OFF        │
│   FOCUS               AUTO       │
│   AE MODE             ENTER      │
│   WBC MODE            AUTO       │
│   SETUP MENU 1        ENTER      │
│   SETUP MENU 2        ENTER      │
└─────────────────────────────────┘
```

L/R/K Model:

- **AUTO**

  In this mode, white balance works within its color temperature range and calculates the best-fit white balance.

- **MANUAL**

  In this mode, users can change the White Balance value manually; adjustable R gain and B gain range from 00 to 99.

  ```
  ┌─────────────────────────────────┐
  │           WBC MENU              │
  │   R GAIN               50       │
  │   B GAIN               50       │
  │                                 │
  └─────────────────────────────────┘
  ```

After WBC relevant parameter setups are completed, please exit the WBC MODE menu and go back to the **Main Page 1** to continue to set other functions under the setup menu 1.

```
┌─────────────────────────────────┐
│           MAIN PAGE 1           │
│   LANGUAGE            ENGLISH    │
│   DEFAULT CAMERA      ON         │
│   BACKLIGHT           OFF        │
│   FOCUS               AUTO       │
│   AE MODE             AUTO       │
│   WBC MODE            AUTO       │
│   SETUP MENU 1        ENTER      │
│   SETUP MENU 2        ENTER      │
└─────────────────────────────────┘
```

3.3.7   SETUP MENU 1

C Model:

```
            SETUP MENU 1
ZOOM SPEED           8
DIGITAL ZOOM         ON
SLOW SHUTTER         NONE
IMAGE INVERSE        NONE
APERTURE             11
EXIT                 YES
```

F/U Model:

```
            SETUP MENU 1
ZOOM SPEED           8
DIGITAL ZOOM         ON
SLOW SHUTTER         OFF
IMAGE INVERSE        OFF
APERTURE             11
EXIT                 YES
```

L Model:

```
            SETUP MENU 1
ZOOM SPEED           FAST
DIGITAL ZOOM         OFF
SLOW SHUTTER         OFF
IMAGE INVERSE        OFF
APERTURE             AUTO
STABILIZER           OFF
EXIT                 YES
```

R Model:

```
            SETUP MENU 1
ZOOM SPEED           FAST
DIGITAL ZOOM         OFF
SLOW SHUTTER         NONE
IMAGE INVERSE        NONE
APERTURE             AUTO
EXIT                 YES
```

K Model:

```
            SETUP MENU 1
ZOOM SPEED           FAST
DIGITAL ZOOM         OFF
SLOW SHUTTER         OFF
IMAGE INVERSE        OFF
APERTURE             AUTO
EXIT                 YES
```

- **ZOOM SPEED**

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

   C/F/U Model:

   For these models, the zoom speed value ranges from <1> (slow) to <8> (fast). The default value is <8>.

   L/R/K Model:

   For the three models, the options are <FAST> (default) and <SLOW>.

- **DIGITAL ZOOM**

   With this item, users can enable or disable the 12× Digital Zoom. The Digital Zoom will be activated after the full Optical Zoom level is reached.

   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.

C/F/U Model:

For these models, maximum 12× digital zoom function is allowed to be enabled. The default setting is <ON>.

L/R/K Model:

For the three models, Digital zoom ratio is adjustable from <02> to <12>. The default setting is <OFF>.

- ## SLOW SHUTTER

  The shutter speed determines how long the image sensor is exposed to light. To see clear image in a dark environment, please enable this function and select a slower shutter speed.

  F/U Model:

  As enable the digital slow shutter function, the dome will automatically adjust the shutter speed basing on the light condition of installation environment. It enables users to see objects in a dark environment under 0.2 lux.

  L/K Model:

  The shutter speed is adjustable in L and K models. With the slowest shutter speed, users can see objects in a dark environment under 0.2 lux or see smooth video image with a higher shutter speed. The options are from <1/2> to <1/60> for NTSC and <1/1.5> to <1/50> for PAL.

- ## IMAGE INVERSE (F/U/L/K Model)

  Users can select <ON> to make the displayed image inversed vertically and horizontally (see the figures shown below). Occasions to employ the function include conferences, demonstration, testing, etc. For L and K models, when this function is enabled, the preset mask(s) will be set off automatically (see 3.3.21 Privacy Mask). The default setting is <OFF>.

  Application: Users can see the displayed images, as shown below, when a dome is placed on the desk top in a conference, for instance.

IMAGE INVERSE (OFF)   IMAGE INVERSE (ON)

- **APERTURE**

  Under this setup menu, users can adjust enhancement of the edges of objects in the picture.

  C/F/U Model:

  There are 16 levels of adjustment; the options are <01> ~ <16>; <01> represents "no enhancement". When shooting text, this function could make it sharp.

  L/R/K Model:

  Users can select either the <AUTO> mode or <MANUAL> mode. Under the <MANUAL> mode, the parameters of H aperture and V aperture are adjustable, ranging from 00 to 31.

  ```
             APERTURE MENU
    H APERTURE              00
    V APERTURE              00
  ```

- **STABILIZER (L Model Only)**

  With the Image Stabilizer Function, the speed dome camera can capture images that would otherwise be blurred due to the vibration. The built-in electronic compensation filters out the vibrations of up to 80% movement at 10Hz, as caused by wind and other environmental conditions. Its various detection mode ensures total detection for all types of environment. If the function is activated, users could select the frequency range of either 10Hz or 5 Hz.

- **EXIT**

  Exit the SETUP MENU 1 and go back to the **MAIN PAGE 1** to set other functions under the setup menu 1.

C/F/U Model: **L/R/K Model:**

```
       MAIN PAGE 1                          MAIN PAGE 1
LANGUAGE          ENGLISH          LANGUAGE          ENGLISH
DEFAULT CAMERA    ON               DEFAULT CAMERA    ON
BACKLIGHT         OFF              BACKLIGHT         OFF
FOCUS            AUTO             FOCUS            AUTO
AE MODE          ENTER             AE MODE          AUTO
WBC MODE         AUTO             WBC MODE         AUTO
SETUP MENU 1     ENTER             SETUP MENU 1     ENTER
SETUP MENU 2     ENTER             SETUP MENU 2     ENTER
```

3.3.8 SETUP MENU 2

C/F/U/L/R/K Model:

```
       SETUP MENU 2
FLIP                ENTER
ANGLE ADJUSTER      ENTER
SPEED BY ZOOM       OFF
AUTO CALI.          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).

```
       FLIP SETTING
FLIP                OFF
EXIT                YES
```

    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°, please 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.

  ```
          ANGLE ADJUSTER
  ADJUST MIN ANGLE        -10DEG
  ADJUST MAX ANGLE        100DEG
  EXIT + SAVE             YES
  ```

- **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 point 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 enable the Auto Calibration function, the dome will automatically detect the matter and reset the horizontal point back to the original position.

- **SYSTEM RESET**

  Select this item for remote resetting.

- **EXIT**

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

```
                  MAIN PAGE 2
ID DISPLAY              ON
TITLE DISPLAY           OFF
TITLE SETTING           01
PRESET                  ENTER
SEQUENCE                ENTER
AUTOPAN                 ENTER
CRUISE                  ENTER
HOME SETTING            ENTER
```

3.3.9   ID DISPLAY

Press the direction key down to turn 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 2.4 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.

3.3.10   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 have been set in advance.

3.3.11   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:** For L and K models, the available area for setting a privacy mask is restricted within tilt angle 45°.

Follow the steps to set a camera title.

STEP 1: Operate the dome to a view area where you want to set a title for it.

STEP 2: Turn on the OSD and go to the **MAIN PAGE 2** to select <TITLE SETTING>.

STEP 3: Select a number to represent the view area.

STEP 4: Press the <**CAMERA MENU**> key (ENTER) on the keyboard to go into the editing page.

```
         TITLE SETTING: 01

 0  1  2  3  4  5  6  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
```

STEP 5: Choose a character with direction keys and then press the <**CAMERA MENU**> key (ENTER) to input. For example: <**A**> <**CAMERA MENU**>, <**B**> <**CAMERA MENU**>, <**C**> <**CAMERA MENU**>
TITLE: ABC

STEP 6: 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.

STEP 7: When the setting is completed, move the cursor to <SAVE> and press <**CAMERA MENU**> to save.

After completing title setting, go back to the **MAIN PAGE 2** to carry on setup of preset points.

```
         MAIN PAGE 2
 ID DISPLAY           ON
 TITLE DISPLAY        OFF
 TITLE SETTING        01
 PRESET               ENTER
 SEQUENCE             ENTER
 AUTOPAN              ENTER
 CRUISE               ENTER
 HOME SETTING         ENTER
```

3.3.12 PRESET

- **PRESET SET**

    Totally 256 preset points can be set. Follow the steps below when in the preset setting menu.

    STEP 1: Press the right/left key on the keyboard to select a number (1 represents preset point 1, 2 represents preset point 2, etc.)

    STEP 2: Press the <**CAMERA MENU**> key (ENTER) on the keyboard, and then rotate the dome camera to a targeted shooting area/point.

    STEP 3: Press the <**CAMERA MENU**> key again to save the defined preset point.

    Once completing setup of a preset point, users could move the cursor to the next item to run the preset point.

- **PRESET RUN**

    Press the <**CAMERA MENU**> key (ENTER), and the camera will go to the appointed point. To run other defined preset point, simply move the cursor back to the last item, select the preset point that you want to execute, and move the cursor down to PRESET RUN again.

- **EXIT**

    Exit the PRESET menu and go back to the **MAIN PAGE 2** to carry on setup of sequence.

    ```
                    MAIN PAGE 2
        ID DISPLAY              ON
        TITLE DISPLAY          OFF
        TITLE SETTING          01
        PRESET                 ENTER
        SEQUENCE               ENTER
        AUTOPAN                ENTER
        CRUISE                 ENTER
        HOME SETTING           ENTER
    ```

    ⚠ Users could set preset points through a keyboard. Please refer to the control keyboard's quick guide for further information.

3.3.13 SEQUENCE

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

```
              SEQUENCE
SEQUENCE LINE          1
SEQUENCE POINT         01
PRESET POSITION        001
SPEED                  01
DWELL TIME             001
RUN SEQUENCE           ENTER
EXIT                   YES
```

- **SEQUENCE LINE**

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

- **SEQUENCE POINT**

  Up to 32 points can be specified for each sequence line. The sequence points represent order of the preset points that the dome will automatically run. The following setup items, including PRESET POSITION, SPEED and DWELL TIME, will influence how the camera runs through each sequence point.

- **PRESET POSITION**

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

- **SPEED**

  Users can set the speed of one sequence 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 sequence point, and the range is from <0> to <127> seconds. The dome will go to the next sequence point when the DWELL TIME expires. If the setting is <0>, the dome will stay at this sequence point until users manually move the dome.

- **RUN SEQUENCE**

  Users can command the dome camera to run the selected sequence line manually. Press the <**CAMERA MENU**> key (ENTER) to execute a sequence line.

- **EXIT**

    Select the item to exit the SEQUENCE menu; go back to the **MAIN PAGE 2** to carry on setup of auto-pan.

    ```
    MAIN PAGE 2
    ID DISPLAY              ON
    TITLE DISPLAY           OFF
    TITLE SETTING           01
    PRESET                  ENTER
    SEQUENCE                ENTER
    AUTOPAN                 ENTER
    CRUISE                  ENTER
    HOME SETTING            ENTER
    ```

    ⚠ Users could execute the sequence function through a keyboard. Please refer to the control keyboard's quick guide for further information.

3.3.14 AUTOPAN

Auto-pan means motion of scanning an area horizontally so that the dome camera can catch horizontal view. The parameters are listed as follows.

```
AUTOPAN
AUTOPAN LINE       1
START POINT        TO FIND
END POINT          TO FIND
DIRECTION          RIGHT
SPEED              01
RUN AUTOPAN        ENTER
EXIT               YES
```

- **AUTOPAN LINE**

    There are four sets of auto-pan line built in a 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**

    Follow the description below to set the start position of the AUTOPAN path.
    1. Move the cursor to <START POINT> and press <ENTER> while the item, <TO FIND>, is flashing. Then the item will 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-pan

setting.

⚠ **NOTE:** The tilt and zoom values of the start point will be recorded and fixed for the selected auto-pan 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 AUTOPAN 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 anti-clockwise from the start point to the end point if your selection is <LEFT>. Refer to the diagram below.
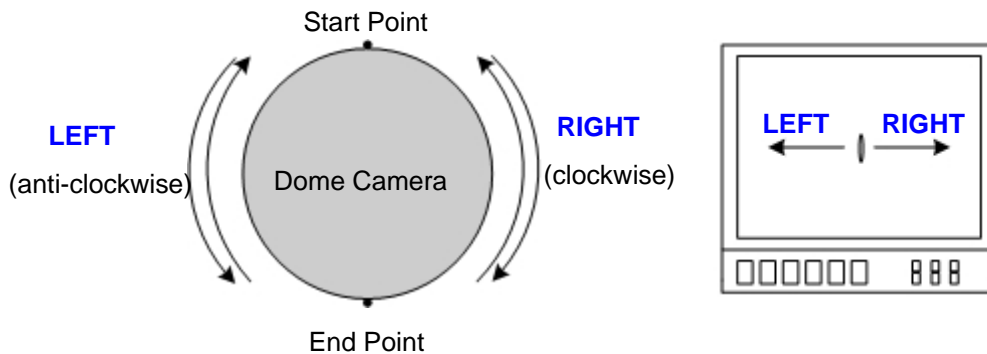
- **SPEED**

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

- **RUN AUTOPAN**

  After all setting related to auto-pan are completed, select this item to execute the Auto-pan function. Press the <**CAMERA MENU**> key (ENTER) to run an auto-pan path.

- **EXIT**

  Exit the AUTOPAN setup menu; go back to the **MAIN PAGE 2** to carry on setup of cruise.

```
           MAIN PAGE 2
ID DISPLAY              ON
TITLE DISPLAY           OFF
TITLE SETTING           01
PRESET                  ENTER
SEQUENCE                ENTER
AUTOPAN                 ENTER
CRUISE                  ENTER
HOME SETTING            ENTER
```

Users could execute the auto-pan function through a keyboard. Please refer to the control keyboard's quick guide for further information.

3.3.15 CRUISE

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

```
            CRUISE
RECORD START           ENTER
RECORD END             ENTER
RUN CRUISE             ENTER
EXIT                   YES
```

- **RECORD START**

  Follow the description below to record the CRUISE 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 cruise path using the joystick on the control device. The percentage of the memory buffer will be displayed on the screen.

  2. Pan, tilt and zoom the dome camera to form a path.

  NOTE: Beware of the memory size when building a cruise 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 cruise line; when the setting is completed, press <ENTER> to save the path.

- **RUN CRUISE**

  After cruise setting is completed, press the <**CAMERA MENU**> key (ENTER) to run the defined cruise.

- **EXIT**

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

```
            MAIN PAGE 2
ID DISPLAY              ON
TITLE DISPLAY           OFF
TITLE SETTING           01
PRESET                  ENTER
SEQUENCE                ENTER
AUTOPAN                 ENTER
CRUISE                  ENTER
HOME SETTING            ENTER
```

⚠ Users could execute the cruise function through a keyboard. Please refer to the control keyboard's quick guide for further information.

3.3.16 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 to avoid the dome idling or missing events.

```
          HOME SETTING
HOME FUNCTION         OFF
SELECT MODE           PRESET
PRESET POINT          001
RETURN TIME           001MIN.
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 <AUTOPAN>, <SEQUENCE>, <CRUISE> 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.

  SEQUENCE LINE

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

  AUTOPAN LINE

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

  CRUISE LINE

  Select a cruise line that the dome camera should execute after the Return Time function is activated. The cruise line should be defined prior either in the CRUISE 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 setups.

  ⚠ **NOTE**: If use C/R model, please skip the following section and go to **3.3.18 ALARM SETTING** to continue setup of alarm related setting.

C Model:

```
          MAIN PAGE 3
IR FUNCTION          NONE
ALARM SETTING        ENTER
ALARM DETECT         ENTER
PRIVACY MASK         ENTER
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

F/U Model:

```
          MAIN PAGE 3
IR FUNCTION          AUTO
ALARM SETTING        ENTER
ALARM DETECT         ENTER
PRIVACY MASK         ENTER
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

R Model:

```
          MAIN PAGE 3
IR FUNCTION          NONE
ALARM SETTING        ENTER
WDR FUNCTION         NONE
PRIVACY MASK         NONE
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

L/K Model:

```
          MAIN PAGE 3
IR FUNCTION          AUTO
ALARM SETTING        ENTER
WDR FUNCTION         OFF
PRIVACY MASK         ENTER
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

3.3.17 IR FUNCTION (Removable IR Cut)

With the IR cut filter, the dome can still catch clear image at night time or in low light conditions. 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. Moreover, in L and K models, users are able to view color images when the IR function is activated. Refer to the description below to operate the IR function.

F/U Model:

- **AUTO**
  The Internal circuit will automatically decide the occasion to remove the IR cut filter according to the value of light condition calculated by the internal light algorithm.

- **MANUAL**

  IR MANUAL ON
  Select the item to remove the IR cut filter.
  IR MANUAL OFF
  Select the item to disable the IR function.

L/K Model:

- **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
IR COLOR           COLOR
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.

IR COLOR

When the IR function is enabled, the video output can be programmed as color or B/W (black and white).

Exit

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

```
          MAIN PAGE 3
IR FUNCTION          AUTO
ALARM SETTING        ENTER
WDR FUNCTION         OFF
PRIVACY MASK         ENTER
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

- **OFF**

   Select the item to disable IR function.

3.3.18 ALARM SETTING

The integrated high speed dome provides eight alarm inputs and one alarm output (N.O. or N.C) 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 guide 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           ALWAYS
EXIT                 YES
```

- **ALARM PIN**

  The dome provides 8 alarm inputs and 1 output (N.O. or N.C.). 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 2.7 Alarm Pin Definition or the installation guide.

- **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.

Normal Open

Normal Close
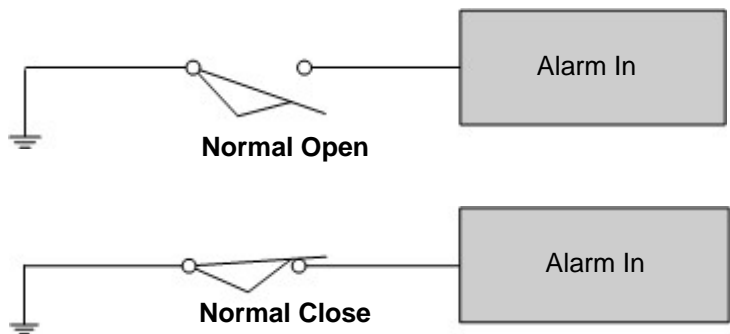
- **ALARM ACTION**

  The alarm actions include PRESET, SEQUENCE, AUTOPAN and CRUISE 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.

SEQUENCE LINE

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

AUTOPAN LINE

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

CRUISE LINE

Select a cruise line that the dome camera should execute when an alarm pin is triggered. The cruise line should be defined prior either in the CRUISE 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 (1~127seconds/Always). If select other modes (SEQUENCE/AUTOPAN/ CRUISE), 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 alarm detect (C/F/U model only).

C Model: **F/U Model:**

MAIN PAGE 3	
IR FUNCTION	NONE
ALARM SETTING	ENTER
ALARM DETECT	ENTER
PRIVACY MASK	ENTER
TIME SETTING	ENTER
SCHEDULE	ENTER
EXIT OSD	YES

MAIN PAGE 3	
IR FUNCTION	AUTO
ALARM SETTING	ENTER
ALARM DETECT	ENTER
PRIVACY MASK	ENTER
TIME SETTING	ENTER
SCHEDULE	ENTER
EXIT OSD	YES

If use L and K models, after exiting the ALARM SETTING menu, go back to the **MAIN PAGE 3** to carry on setup of WDR function. Thus please skip the

next section and go to **3.3.20 WDR FUNCTION** to continue setup of WDR function.

L/K Model:

```
            MAIN PAGE 3
IR FUNCTION              AUTO
ALARM SETTING            ENTER
WDR FUNCTION             OFF
PRIVACY MASK             ENTER
TIME SETTING             ENTER
SCHEDULE                 ENTER
EXIT OSD                 YES
```

If use the R model, please skip the next three sections and go to **3.3.22 TIME SETTING**.

R Model:

```
            MAIN PAGE 3
IR FUNCTION              NONE
ALARM SETTING            ENTER
WDR FUNCTION             NONE
PRIVACY MASK             NONE
TIME SETTING             ENTER
SCHEDULE                 ENTER
EXIT OSD                 YES
```

3.3.19 ALARM DETECT (C/F/U Model)

When the alarm detect function is activated, the camera will detect movement within a monitoring area and then send an alarm signal automatically. Before activating this function, alarm connection setups must be completed in advance.

```
        ALARM DETECT
DETECT SWITCH        OFF
DETECT MODE          INT FOCUS
EXIT                 YES
```

- **DETECT SWITCH**
  The item is used to enable or disable the ALARM DETECT function.

- **DETECT MODE**
  Four alarm detect modes are provided for different application.
  INT FOCUS (Internal Focus)
  The alarm will be triggered if the internal focus changes; if the focus returns

to the original position, the alarm will stop.

FIX FOCUS

If focus movement is detected, the alarm will be triggered, and the alarm stops when focus returns to the original position. If the detected focus movement keeps changing for more than four seconds, the new focus position will be memorized as the reference, and the alarm will stop.

> **NOTE:** The INT FOCUS and FIX FOCUS detect modes will be activated only with the Auto Focus mode.

INT AE (Internal AE)

When Auto Exposure (AE) movement is detected, the alarm will be triggered; if the Exposure Level returns to the original level, the alarm will stop.

FIX AE

The alarm will be triggered if the Exposure value changes; if the adjusted AE value retains for four seconds, the value will be saved as the reference, and the alarm will stop.

- **EXIT**

  Exit the ALARM DETECT menu and go back to the **MAIN PAGE 3** to carry on setup of privacy mask (see **3.3.21 PRIVACY MASK**).

C Model: **F/U Model:**

```
        MAIN PAGE 3                              MAIN PAGE 3
IR FUNCTION          NONE              IR FUNCTION          AUTO
ALARM SETTING        ENTER             ALARM SETTING        ENTER
ALARM DETECT         ENTER             ALARM DETECT         ENTER
PRIVACY MASK         ENTER             PRIVACY MASK         ENTER
TIME SETTING         ENTER             TIME SETTING         ENTER
SCHEDULE             ENTER             SCHEDULE             ENTER
EXIT OSD             YES               EXIT OSD             YES
```

3.3.20 WDR FUNCTION (L/K Model)

The Wide Dynamic Range (WDR) function is especially effective in solving indoor and outdoor contrast issues to enhance better image quality and video display. It enables the dome to catch detailed data from the dark part (Indoor) without any saturation from the bright part (Outdoor).

NOTE: The Backlight function will be turned off automatically when the WDR function is enabled because the WDR function has better effects than Backlight Compensation.

- **AUTO**

  In this mode, the dome camera will operate the WDR function automatically.

- **ON**

  Under the item, users can define three parameters' value: RATIO LEVEL (000 ~ 128), SHUTTER SPEED (000 ~ 128) and IRIS OFFSET (000 ~ 128), as shown in the following column.

```
              WDR MODE
RATIO LEVEL              000
SHUTTER SPEED            000
IRIS OFFSET              000
EXIT                    YES
```

- **OFF**

  Exit the WDR FUNCTION menu and go back to the **MAIN PAGE 3** to carry on setup of privacy mask.

```
              MAIN PAGE 3
IR FUNCTION             AUTO
ALARM SETTING           ENTER
WDR FUNCTION            OFF
PRIVACY MASK            ENTER
TIME SETTING            ENTER
SCHEDULE                ENTER
EXIT OSD                YES
```

3.3.21 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 (for all models) and the Image Inverse function (for L and K models) will be disabled automatically while the Privacy Mask function is enabled.

C/F/U Model:

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

- **PRIVACY SWITCH**

  Users can enable or disable the Privacy Mask function through this item. Set this item to <ON> before configuring mask zones.

- **TRANSPARENCY**

  The color of privacy mask can be set as transparent. Select <ON> to display transparent masks.

- **COLOR**

  The color of privacy mask can be set through this item. The available colors are black, gray, light gray (LI. GRAY), white, red, green, blue, cyan, yellow and magenta.

- **SET MASK**

  Use the control device to move the dome camera to the area where you want to set a mask. Press <ENTER> to enter the SET MASK menu. The dome will memorize the present position as a privacy mask position. Up to 24 masks can be set.

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

H CENTER

The original horizontal center of a mask zone is the center of a screen; it is able to move a mask zone to the other position by adjusting the horizontal value with the LEFT/RIGHT keys on the keyboard. The camera will pan right or left according to user's control.

V CENTER

The original vertical center of a mask zone is the center of a screen; it is able to move a mask zone to the other position by adjusting the vertical

value with the LEFT/RIGHT keys on the keyboard. The camera will tilt up or down according to user's control.

H SIZE (00~80)

Users can adjust the horizontal size of a privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

V SIZE (00~60)

Users can adjust the vertical size of a privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

- **CLEAR MASK**

  Users can delete a preset mask zone with this item. Please follow the steps listed below.

  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 carry on setup of time related setting.

C Model: **F/U Model:**

```
        MAIN PAGE 3
IR FUNCTION          NONE
ALARM SETTING        ENTER
ALARM DETECT         ENTER
PRIVACY MASK         ENTER
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

```
        MAIN PAGE 3
IR FUNCTION          AUTO
ALARM SETTING        ENTER
ALARM DETECT         ENTER
PRIVACY MASK         ENTER
TIME SETTING         ENTER
SCHEDULE             ENTER
EXIT OSD             YES
```

L/K Model:

```
        PRIVACY
PRIVACY SWITCH       OFF
SHADE                BLACK
SET MASK             01
CLEAR MASK           01
MASK DISPLAY         FIRST
EXIT                 YES
```

- **PRIVACY SWITCH**

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

- **SHADE**

  The color of a privacy mask can be selected through this item. The available colors are black, gray and white.

- **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 8 masks can be set. The model restricts the mask zones to be set too close with each other.

  ⚠ **NOTE:** For L and K models, 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              000
  V CENTER              000
  H SIZE                000
  V SIZE                000
  EXIT+SAVE             YES
  ```

  H CENTER (000~255)

  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 (000~255)

  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 (000~127)

  Users can adjust the horizontal size of a privacy mask through this item. Set the H and V size to 0 can also delete the selected mask.

  V SIZE (000~127)

  User can adjust the vertical size of a privacy mask through this item. Set 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 with this item. Please follow the steps listed below.

       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.

- **MASK DISPLAY**

  This item is used to set the time to display a privacy mask.

  FIRST

  If select this mode, the camera will detect the mask zone at the next preset position and display the mask in advance, and then pan the dome to the preset point.

  LAST

  If select this mode, the camera will move to the preset point first, and then display the mask zone.

- **EXIT**

  Exit the PRIVACY MASK menu and go back to the **MAIN PAGE 3** to carry on setup of time related setting.

  <u>**L/K Model:**</u>

```
            MAIN PAGE 3
IR FUNCTION            AUTO
ALARM SETTING          ENTER
WDR FUNCTION           OFF
PRIVACY MASK           ENTER
TIME SETTING           ENTER
SCHEDULE               ENTER
EXIT OSD               YES
```

3.3.22 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.

C Model:

```
            MAIN PAGE 3
IR FUNCTION             NONE
ALARM SETTING           ENTER
ALARM DETECT            ENTER
PRIVACY MASK            ENTER
TIME SETTING            ENTER
SCHEDULE                ENTER
EXIT OSD                YES
```

F/U Model:

```
            MAIN PAGE 3
IR FUNCTION             AUTO
ALARM SETTING           ENTER
ALARM DETECT            ENTER
PRIVACY MASK            ENTER
TIME SETTING            ENTER
SCHEDULE                ENTER
EXIT OSD                YES
```

R Model:

```
            MAIN PAGE 3
IR FUNCTION             NONE
ALARM SETTING           ENTER
WDR FUNCTION            NONE
PRIVACY MASK            NONE
TIME SETTING            ENTER
SCHEDULE                ENTER
EXIT OSD                YES
```

L/K Model:

```
            MAIN PAGE 3
IR FUNCTION             AUTO
ALARM SETTING           ENTER
WDR FUNCTION            OFF
PRIVACY MASK            ENTER
TIME SETTING            ENTER
SCHEDULE                ENTER
EXIT OSD                YES
```

3.3.23 SCHEDULE

The schedule function enables users to program a preset point or function (Sequence/Auto-pan/Cruise) automatically to perform in a specific period of time.

```
              SCHEDULE
SWITCH               OFF
POINT                00
HOUR                 00
MINUTE               00
MODE                 PRESET
PRESET POINT         001
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 point, i.e. each set of schedule point can be assigned one kind of schedule modes.

- **HOUR / MINUTE**

  The items are for setting up the time to execute each schedule point.

- **MODE**

  This is for setting the schedule function of the selected schedule point; the options are listed as follows.

  NONE

  No action will be executed for the schedule if select the item.

  PRESET

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

  SEQUENCE

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

  AUTOPAN

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

  CRUISE

  Users can select the CRUISE 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**

  Users can reset the whole schedule with the item.

- **EXIT**

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

3.3.24 EXIT OSD

To exit the OSD setup menu, users can either select this item on the bottom of **MAIN PAGE 3** or press the ESC key on the control keyboard.

Appendix A: Technical Specification

Items		R Model	C Model	F Model	K Model	U Model	L Model
CAMERA							
CCD Sensor		1/4" CCD	1/4" Super HAD	1/4" EXview	1/4" CCD	1/4" Exview	1/4" CCD
Progressive Scan		-	-	-	Yes	-	Yes
Optical Zoom		22x	18x	18x	23x	26x	35x
Digital Zoom		1x~12x variable					
Effective Pixels	NTSC	380k					
	PAL	440k					
Horizontal Resolution	NTSC	480 TVL					540 TVL
	PAL	480 TVL					540 TVL
Scanning System		NTSC / PAL					
Synchronization		Internal / Line Lock					
Video Output		1.0 Vp-p / 75 Ω, BNC					
S/N Ratio		> 50 dB (AGC Off)					
Minimum Illumination		1 lux	1 lux	0.1 lux; 0.01 lux(B/W)	0.1 lux; 0.01 lux(B/W)	0.07 lux; 0.01 lux(B/W)	0.05 lux; 0.01 lux (B/W)
Focal Length		4~88 mm	4.1~73.8 mm	4.1~73.8 mm	3.6~82.8 mm	3.5~91 mm	3.4~119 mm
Focus Mode		Auto / Manual					
White Balance		Auto / Manual					
Iris Control		Auto / Manual					
Electronic Shutter	NTSC	1/60~1/30k sec.	1/60~1/10k sec.	1/1~1/10k sec.	1/2~1/30k sec.	1/1~1/10k sec.	1/2~1/30k sec.
	PAL	1/50~1/30k sec	1/50~1/10k sec	1/1~1/10k sec	1/1.5~1/30k sec	1/1~1/10k sec	1/1.5~1/30k sec
AGC control		Auto / Manual					
Back Light Compensation		On / Off					
OPERATION							
Built-in Protocol		DynaColor, Pelco D&P, VCL, Philips, AD-422, JVC, Kalatel, etc.					
Multi-Language OSD		English, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish					
Pan Travel		360° endless					
Tilt Travel		-10°~100°		-10°~190°			
Manual Speed		1°~90°/s					
Presets		256					
Preset Accuracy	Pan	0.225°					
	Tilt	0.225°					
Preset Speed	Pan	5°~400°/s					
	Tilt	5°~400°/s					
Cruise		1					
Sequence		8					
Auto Pan		4					
Privacy Mask		-	24	24	8	24	8
Proportional Pan & Tilt		On/Off (Pan and tilt speed proportional to zoom ratio)					
Resume after Power loss		Yes					
Zone Title		16					
Home Function		Preset, Sequence, Auto pan, Cruise					
Auto Flip		Mechanical/Off		Digital/Mechanical/Off			

Items	R Model	C Model	F Model	K Model	U Model	L Model
Digital Slow Shutter	-	-	On/Off	On/Off	On/Off	On/Off
Electronic Image Stabilizer	-	-	-	-	-	On/Off
Motion Detection	-	On/Off	On/Off	-	On/Off	On/Off
Wide Dynamic Range	-	-	-	On/Off	-	On/Off
Day/Night: IR Cut Filter	-	-	On/Off	On/Off	On/Off	On/Off
Alarm Input	8					
Alarm Output	1					
Alarm Reaction	Preset, Sequence, Auto pan, Cruise					
GENERAL						
Environment	Indoor					
Controller Interface	RS-485					
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)					
Dimension	⌀131 x 226mm (5.2 x 8.9 Inches)					
Weight	1.6 kg (3.5 lbs)					
Power Source	DC12V/AC24V ± 10%					
Power Consumption	20 W					
Regulatory	CE, FCC, RoHS					

All Specifications are subject to change without notice.

OSD Menu Notes

The following OSD menu tables are provided for users to record various dome setting.

<C/F/U Model>

Item	Layer 1	Layer 2	Layer 3	Notes
LANGUAGE	<ENGLISH>, <FRENCH>, <GERMAN>, <ITALIAN>, <JAPANESE>, <POLISH>, <PORTUGUESE>, <RUSSIAN>, <SPANISH>			
DEFAULT CAMERA	<ON>, <OFF>			
BACKLIGHT	<ON>, <OFF>			
FOCUS	AUTO	AF MODE <NORMAL>, <INTERVAL>, <ZOOM TRIG>		
	MANUAL	FOCUS SPEED <01>~<08>		
AE MODE	EXPODURE COMP.	<OFF>, EXPOSURE VALUE: <-10.5dB> ~ <10.5dB>		
	AE MODE	AUTO		
		BRIGHT	BRIGHT VALUE <00> ~ <31>	
		SHUTTER	SHUTTER SPEED <1> ~ <1/10000> SEC.	
		IRIS	IRIS VALUE <CLOSE>, <F1.6> ~ <F28>	
		MANUAL	BRIGHT VALUE: AUTO	
			SHUTTER SPEED <1/10000> ~ <1>	
			IRIS VALUE <F1.6> ~ <F28>	
			GAIN VALUE <-3>dB ~ <28>dB	
	EXIT	YES		
WBC MODE	AUTO (Auto White Balance)			
	INDOOR			
	OUTDOOR			
	ATW (Auto-tracing WBC)			
	MANUAL	R GAIN <000> ~ <127>		
		B GAIN <000> ~ <127>		
SETUP MENU 1	ZOOM SPEED	<1> ~ <8>		
	DIGITAL ZOOM	<ON>, <OFF>		
	SLOW SHUTTER (F/U Model only)	<ON>, <OFF>		
	IMAGE INVERSE (F/U Model only)	<ON>, <OFF>		
	APERTURE	<01> ~ <16>		
	EXIT	YES		
SETUP MENU 2	FLIP	C Model: <OFF>, <M.E.> F/U Model: <OFF>, <M.E.>, <IMAGE>		
	ANGLE ADJUSTER	MIN ANGLE <-10 ~ +10 DEG>		
		MAX ANGLE <080 ~ 100 DEG>		
	SPEED BY ZOOM	<ON>, <OFF>		
	AUTO CALI.	<ON>, <OFF>		
	SYSTEM RESET	YES		
	EXIT	YES		
ID DISPLAY	<ON>, <OFF>			
TITLE DISPLAY	<ON>, <OFF>			
TITLE SETTING	<01> ~ <16>			
PRESET	PRESET SET	<001> ~ <256>		
	PRESET RUN	<001> ~ <256>		

Item	Layer 1	Layer 2	Layer 3	Notes
	EXIT	YES		
SEQUENCE	SEQUENCE LINE	<1> ~ <8>		
	SEQUENCE POINT	<01> ~ <32>		
	PRESET POS.	<001> ~ <255>, <END>		
	SPEED	<01> ~ <15>		
	DWELL TIME	<000> ~ <127> SEC.		
	RUN SEQUENCE	ENTER		
	EXIT	YES		
AUTOPAN	AUTOPAN LINE	<1> ~ <4>		
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		
	SPEED	<01> ~ <04>		
	RUN AUTOPAN	ENTER		
	EXIT	YES		
CRUISE	RECORD START	ENTER		
	RECORD END	ENTER		
	RUN CRUISE	ENTER		
	EXIT	YES		
HOME SETTING	HOME FUNCTION	<ON>, <OFF>		
	SELECT MODE	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		
	PRESET POINT SEQUENCE LINE AUTOPAN LINE CRUISE LINE	<001> ~ <256> <1> ~ <8> <1> ~ <4> <1>		
	RETURN TIME	<1> ~ <128> MIN.		
	GO	ENTER		
	EXIT	YES		
IR FUNCTION (F/U Model only)	<AUTO>			
	<MANUAL>	IR MANUAL: <ON>, <OFF>		
ALARM SETTNG	ALARM PIN	<1> ~ <8>		
	ALARM SWITCH	<ON>, <OFF>		
	ALARM TYPE	<NO> (Normal Open), <NC> (Normal Close)		
	ALARM ACTION	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		
	PRESET POINT SEQUENCE LINE AUTOPAN LINE CRUISE LINE	<001> ~ <256> <1> ~ <8> <1> ~ <4> 1		
	DWELL TIME	<001> ~ <127> Sec., <ALWAYS>		
	EXIT	YES		
ALARM DETECT	DETECT SWITCH	<ON>, <OFF>		
	DETECT MODE	<INT FOCUS>, <FIX FOCUS>, <INT AE>, <FIX AE>		
	EXIT	YES		
PRIVACY MASK	PRIVACY SWITCH	<ON>, <OFF>		
	TRANSPARENCY	<ON>, <OFF>		
	COLOR	<BLACK>, <LI. GRAY>, < GRAY>, <WHITE>, <RED>, <GREEN>, <BLUE>, <CYAN>, <YELLOW>, <MAGENTA>		
	SET MASK	<01> ~ <24>	H CENTER: L/R	
			V CENTER: D/U	
			H SIZE <000> ~ <080>	
			V SIZE <000> ~ <060>	
			EXIT + SAVE	
	CLEAR MASK	<01> ~ <24>, <RESET>		
	EXIT	YES		
TIME SETTING	TIME DISPLAY	<ON>, <OFF>		
	SET YEAR	<00> ~ <99>		

Item	Layer 1	Layer 2	Layer 3	Notes
	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>	
		SEQUENCE	SEQUENCE LINE <1> ~ <8>	
		AUTOPAN	AUTOPAN LINE <1> ~ <4>	
		CRUISE	CRUISE LINE <1>	
		IR FUNC.	IR FUNCTION AUTO	
	SCHEDULE RESET	YES		
	EXIT	YES		
EXIT OSD	YES			

<L/R/K Model>

Item	Layer 1	Layer 2	Layer 3	Notes
LANGUAGE	<ENGLISH>, <FRENCH>, <GERMAN>, <ITALIAN>, <JAPANESE>, <POLISH>, <PORTUGUESE>, <RUSSIAN>, <SPANISH>			
DEFAULT CAMERA	<ON>, <OFF>			
BACKLIGHT	<ON>	BLC LEVEL <00> ~ <30>		
	<OFF>			
FOCUS	AUTO	TUNING VALUE <1.5M> (L model only) ,<1M>, <30CM>, <10CM>, <1CM>		
	MANUAL	FOCUS SPEED <0> ~ <3>		
AE MODE	AUTO	IRIS OFFSET <00> ~ <15>		
	SHUTTER	SHUTTER SPEED L/K Model:<1/30000> ~ <1/2> R Model:<1/30000> ~ <1/50> (PAL); <1/30000> ~ <1/60> (NTSC)		
	IRIS	<00> ~ <09>		
	AGC	<00> ~ <05>		
WBC MODE	AUTO (Auto White Balance)			
	MANUAL	R GAIN <00> ~ <99> B GAIN <00> ~ <99>		
SETUP MENU 1	ZOOM SPEED	<FAST>, <SLOW>		
	DIGITAL ZOOM	<OFF>, <02> ~ <12>		
	SLOW SHUTTER (L/K Model only)	<1/2> ~ <1/60> (NTSC) <1/1.5> ~ <1/50> (PAL)		
	IMAGE INVERSE (L/K Model only)	<ON>, <OFF>		
	APERTURE	<AUTO>		
		<MANUAL>	H APERTURE <00> ~ <31> V APERTURE <00> ~ <31>	
	STABILIZER	<OFF>, <10Hz>, <5Hz>		
	EXIT	YES		
SETUP MENU 2	FLIP	<OFF>, <M.E.>, <IMAGE>(L/K Model)		
	ANGLE ADJUSTER	MIN ANGLE <-10 ~ +10 DEG> MAX ANGLE <080 ~ 100 DEG>		
	SPEED BY ZOOM	<ON>, <OFF>		
	AUTO CALI.	<ON>, <OFF>		
	SYSTEM RESET	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		
SEQUENCE	SEQUENCE LINE	<1> ~ <8>		
	SEQUENCE POINT	<01> ~ <32>		
	PRESET POS.	<001> ~ <255>, <END>		
	SPEED	<01> ~ <15>		
	DWELL TIME	<000> ~ <127> SEC.		
	RUN SEQUENCE	ENTER		
	EXIT	YES		
AUTOPAN	AUTOPAN LINE	<1> ~ <4>		
	START POINT	<TO FIND>, <TO SAVE>		
	END POINT	<TO FIND>, <TO SAVE>		
	DIRECTION	<RIGHT>, <LEFT>		
	SPEED	<01> ~ <04>		
	RUN AUTOPAN	ENTER		
	EXIT	YES		

Item	Layer 1	Layer 2	Layer 3	Notes
CRUISE	RECORD START	ENTER		
	RECORD END	ENTER		
	RUN CRUISE	ENTER		
	EXIT	YES		
HOME SETTING	HOME FUNCTION	<ON>, <OFF>		
	SELECT MODE	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		
	PRESET POINT	<001> ~ <256>		
	SEQUENCE LINE	<1> ~ <8>		
	AUTOPAN LINE	<1> ~ <4>		
	CRUISE LINE	<1>		
	RETURN TIME	<1> ~ <128> MIN.		
	GO	ENTER		
	EXIT	YES		
IR FUNCTION (L/K Model only)	<AUTO>, <ON>, <OFF>	THREADHOLD <MID>, <HI>, <LOW> IR COLOR <B/W>, <COLOR> EXIT <YES>		
ALARM SETTNG	ALARM PIN	<1> ~ <8>		
	ALARM SWITCH	<ON>, <OFF>		
	ALARM TYPE	<NO> (Normal Open), <NC> (Normal Close)		
	ALARM ACTION	<PRESET>, <SEQUENCE>, <AUTOPAN>, <CRUISE>		
	PRESET POINT	<001> ~ <256>		
	SEQUENCE LINE	<1> ~ <8>		
	AUTOPAN LINE	<1> ~ <4>		
	CRUISE LINE	1		
	DWELL TIME	<001> ~ <127> Sec., <ALWAYS>		
	EXIT	YES		
WDR FUNCTION (L/K Model only)	<ON>	RATIO LEVEL <000> ~ <128> SHUTTER SPEED <000> ~ <128> IRIS OFFSET <000> ~ <128> EXIT <YES>		
	<OFF>			
	<AUTO>			
PRIVACY MASK (L/K Model only)	PRIVACY SWITCH	<ON>, <OFF>		
	MASK SHADE	<GRAY>, <WHITE>, <BLACK>		
	SET MASK	<01> ~ <08>	H CENTER <000> ~ <255>	
			V CENTER <000> ~ <255>	
			H SIZE <000> ~ <127>	
			V SIZE <000> ~ <127>	
			EXIT + SAVE	
	CLEAR MASK	<01> ~ <08>, <RESET>		
	MASK DISPLAY	<FIRST>, <LAST>		
	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>	
		SEQUENCE	SEQUENCE LINE	

Item	Layer 1	Layer 2	Layer 3	Notes
			<1> ~ <8>	
		AUTOPAN	AUTOPAN LINE <1> ~ <4>	
		CRUISE	CRUISE LINE <1>	
		IR FUNC.	IR FUNCTION AUTO	
	SCHEDULE RESET	YES		
	EXIT	YES		
EXIT OSD	YES			