



FASTRAX III

SPEED DOME CAMERA

ATV
SD535DW

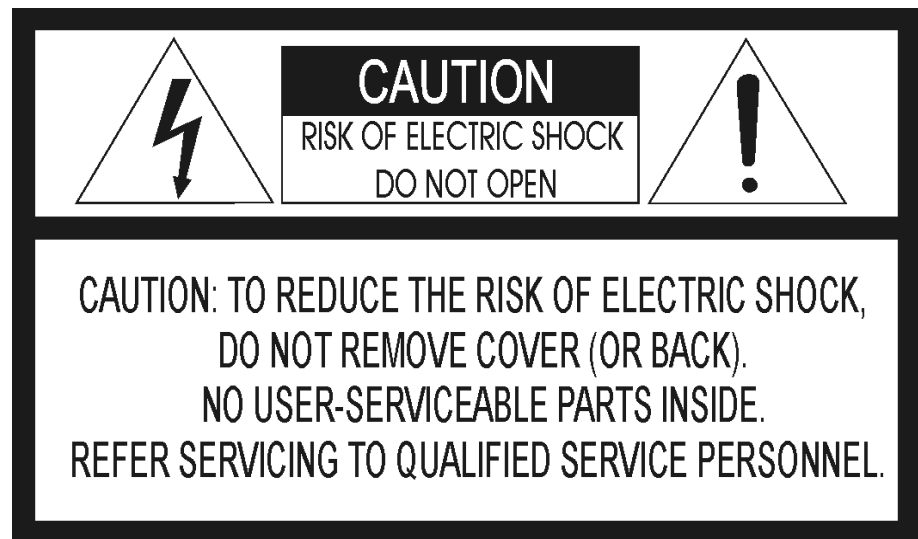
Please read this manual thoroughly before use, and keep it handy for future reference.

Warnings and Cautions

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

FCC COMPLIANCE STATEMENT

FCC INFORMATION: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

CE COMPLIANCE STATEMENT

WARNING

THIS IS A CLASS A PRODUCT. IN A DOMESTIC ENVIRONMENT THIS PRODUCT MAY CAUSE RADIO INTERFERENCE IN WHICH CASE THE USER MAY BE REQUIRED TO TAKE ADEQUATE MEASURES.

IMPORTANT SAFEGUARDS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. CAUTION - THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.
15. Use Certified/Listed Class 2 power supply transformer only.

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Chapter 1 — Introduction

1.1 Features

The Fastrax III dome camera and the keyboard controller make up the building blocks for any surveillance/security system. Using multiple Keyboard Controllers and multiple dome cameras, no place is too large for monitoring. Extensible and flexible architecture facilitates remote control functions for a variety of external switching devices such as multiplexers and DVRs.

- Built-in optical power zoom camera with True Night Shot function.
- 240 Preset positions.
- 8 Tours consist of Preset, Pattern, Auto-Scan and other Tours can be programmed with over 300 functions and Preset location. While moving, each Preset scan can be watched in smooth **Vector Scan** mode.
- 16 Auto Scans with the normal, the vector, and the **random** mode and the Endless Auto-Pan with 13 speed steps.
- 8 Patterns (up to 500second) and 8 Privacy zones.
- 16 Area Titles.
- 8 Alarm inputs / 4 Aux outs (NC & NO).
- Variable speed from 0.1°/sec to 380°/sec.
Three Variable speed (SLOW, NORMAL, TURBO)
Turbo speed is Max 380°/sec with Ctrl key pressed.
- Pan / Tilt speed is inversely proportional to the zoom ratio with the option.
- Maximum speed is 380°/sec when preset command.
- Programmable user preferences (alarm, preset, title, etc.).
- 180° Digital Flip or 90° Auto Flip depended on the model.
- Up to 999 selectable camera addresses (3999 by software setting).
- Multi-language Menu Display, Password Confirmation.
- Function Run menu using DVR without function key (Pattern, SCAN,..)
- Built-in RS-485/422 receiver driver.
- Optional Clear bubble with black liner (shelter) for concealing the camera.
- Optional Tinted Bubble, Indoor & Outdoor pendant housing with heater & blower, Indoor Flush mount, Parapet mount & Roof Top mount.

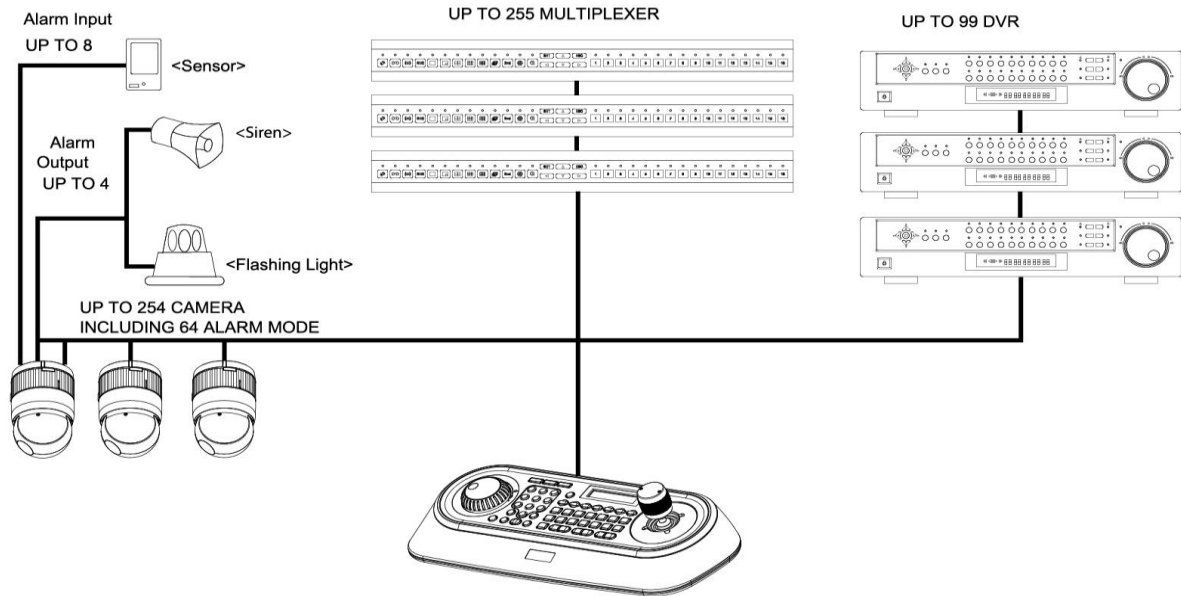


Figure 1 – Typical System Configuration

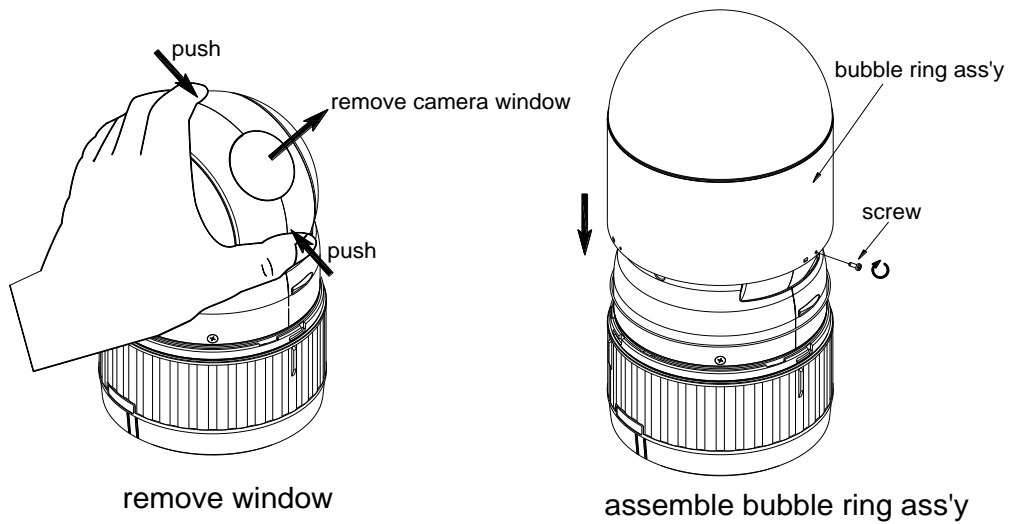


Figure 2 – Optional Assemble bubble ring ass'y

Note: It is recommended to remove camera window for improving picture quality when you use bubble ring ass'y.

Chapter 2 — Installation and Configuration

2.1 Package Contents

The package contains the following.

Fastrax III (Dome Camera)1
Bubble Ring1(Optional)
Instruction Manual (This Document)1
Assembly Screws for Attaching Fastrax III3
Plastic Anchor3
10Pin Connector1
12Pin Connector2

CAUTION: Be sure to have caution labels (E version only) on both the body and the base of the camera. Different version will not support input and output.

The dome camera is for use in surface mounting applications and the mounting surface should be capable of supporting loads up to 10lb (4.5kg).

The dome camera's base should be attached to a structural object, such as hard wood, wall stud or ceiling rafter that supports the weight of the dome camera.

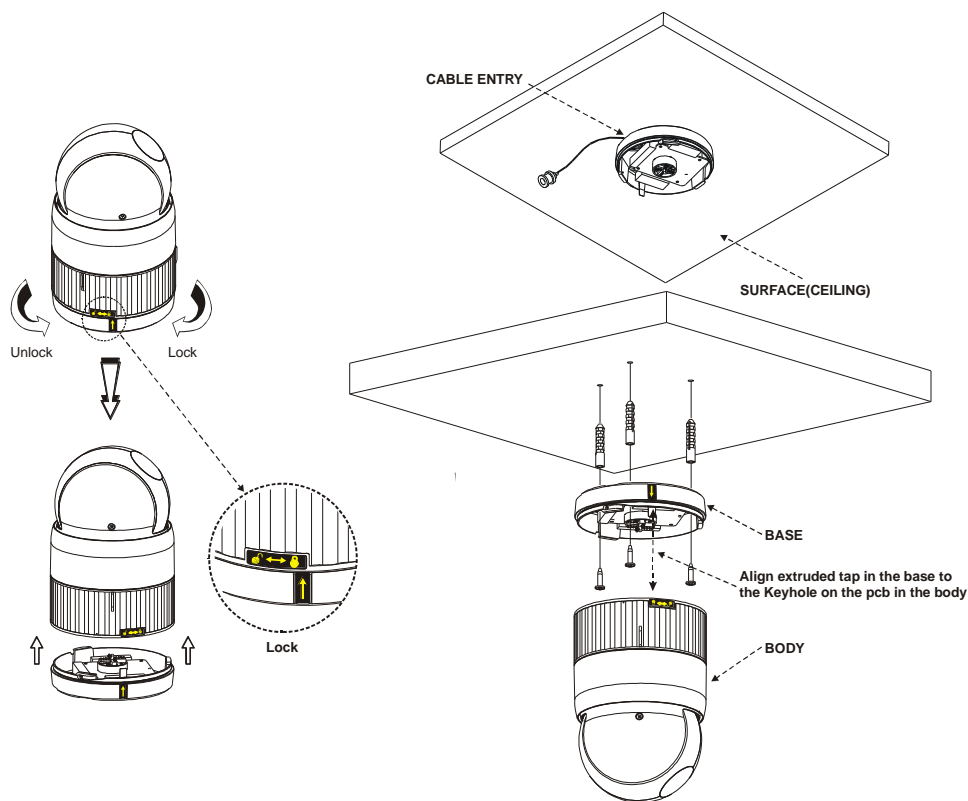


Figure 3 – Installation

2.2 Basic Configuration of Fastrax III Dome Camera System

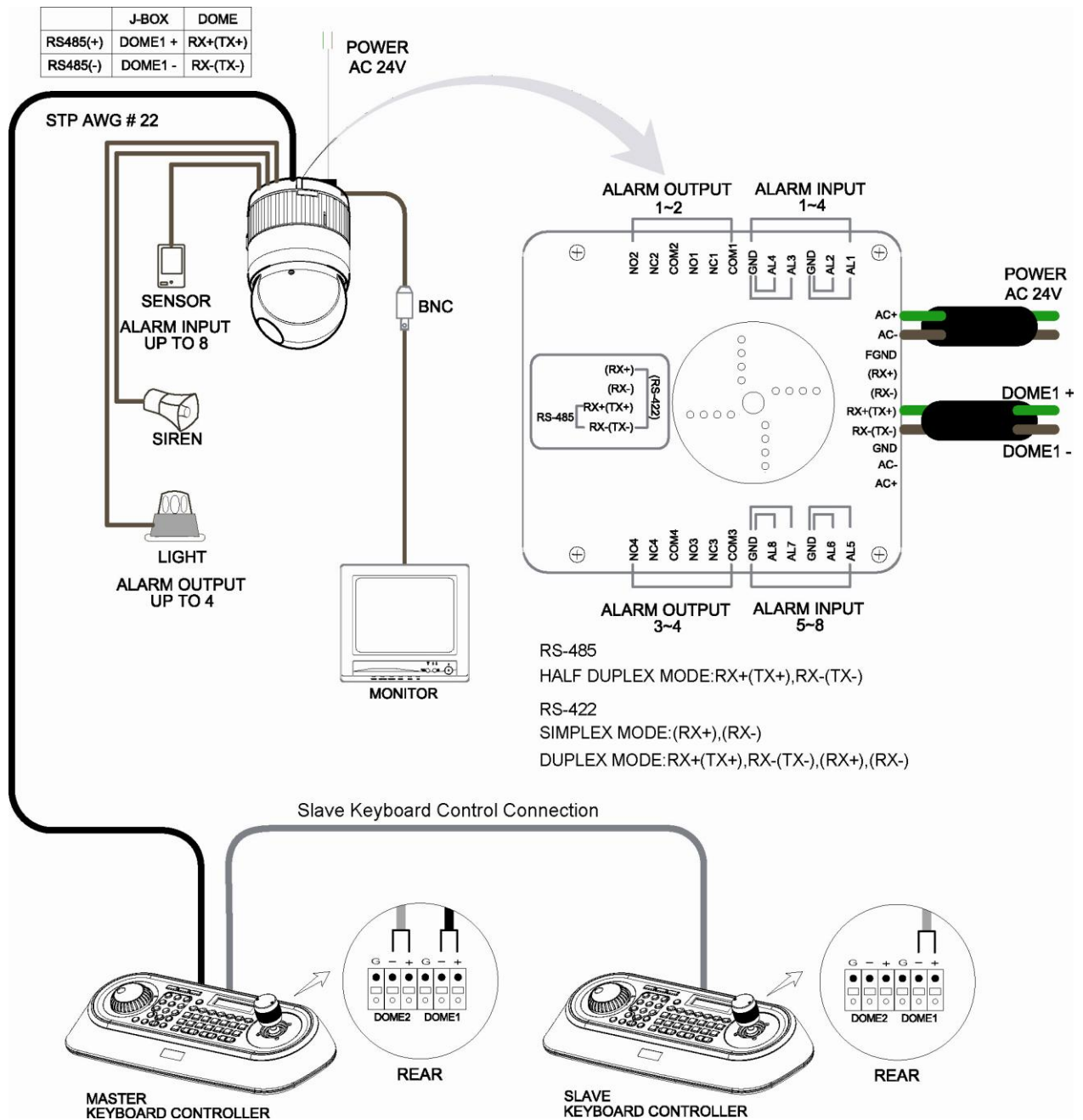


Figure 4 – Basic installation diagram

The dome camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes. The system should be installed according to Figures 4 through 9.

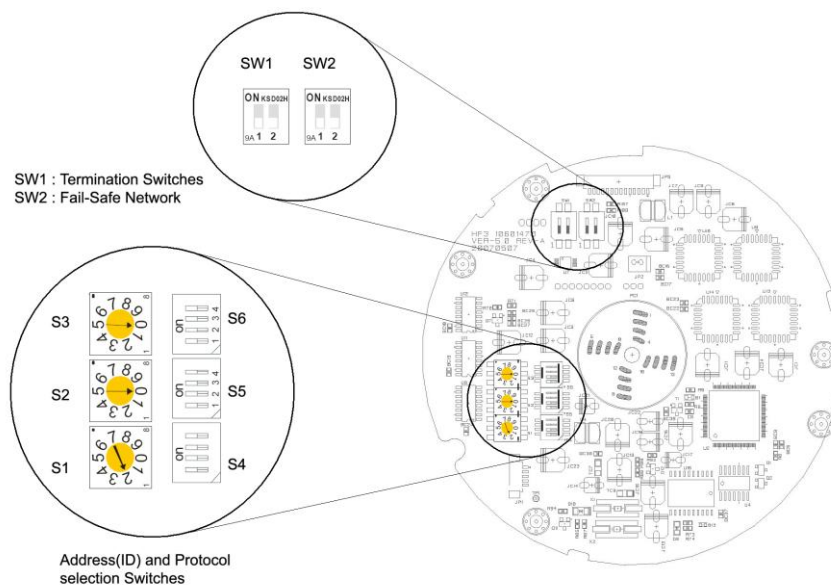


Figure 5 – Layout of Switches

2.3 Setting Dome Camera Termination

The device which is connected at end of line, whether it be a dome camera or keyboard controller, must have the cable for communication terminated by setting the appropriate DIP switch. Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 4000ft (1.2km).

<p>SW1</p>	<table> <tr> <th>SW1</th><th>1</th><th>2</th></tr> <tr> <td>Terminated</td><td>ON</td><td>ON</td></tr> <tr> <td>Not terminated</td><td>OFF</td><td>OFF</td></tr> </table>	SW1	1	2	Terminated	ON	ON	Not terminated	OFF	OFF	
SW1	1	2									
Terminated	ON	ON									
Not terminated	OFF	OFF									

Figure 6 – Setting Dome Camera Termination

2.4 Fail-safe Network

When you control the dome by the other device not own keyboard, some error may be existed in the serial communication. The reason is caused by the other device without the fail-safe network.

At this time, you solve the problem to set this DIP switch to ON of the nearest dome from the other device only.

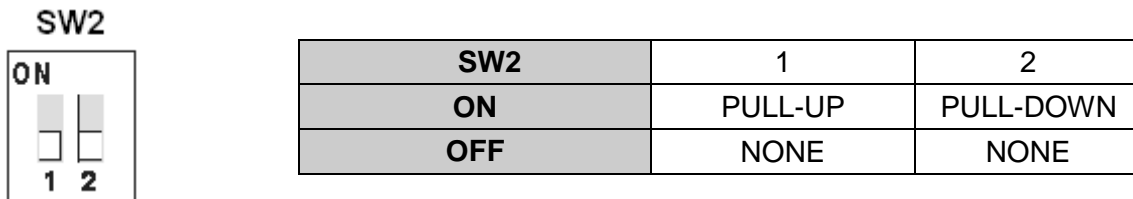


Figure 7 – Setting Dome Camera Termination

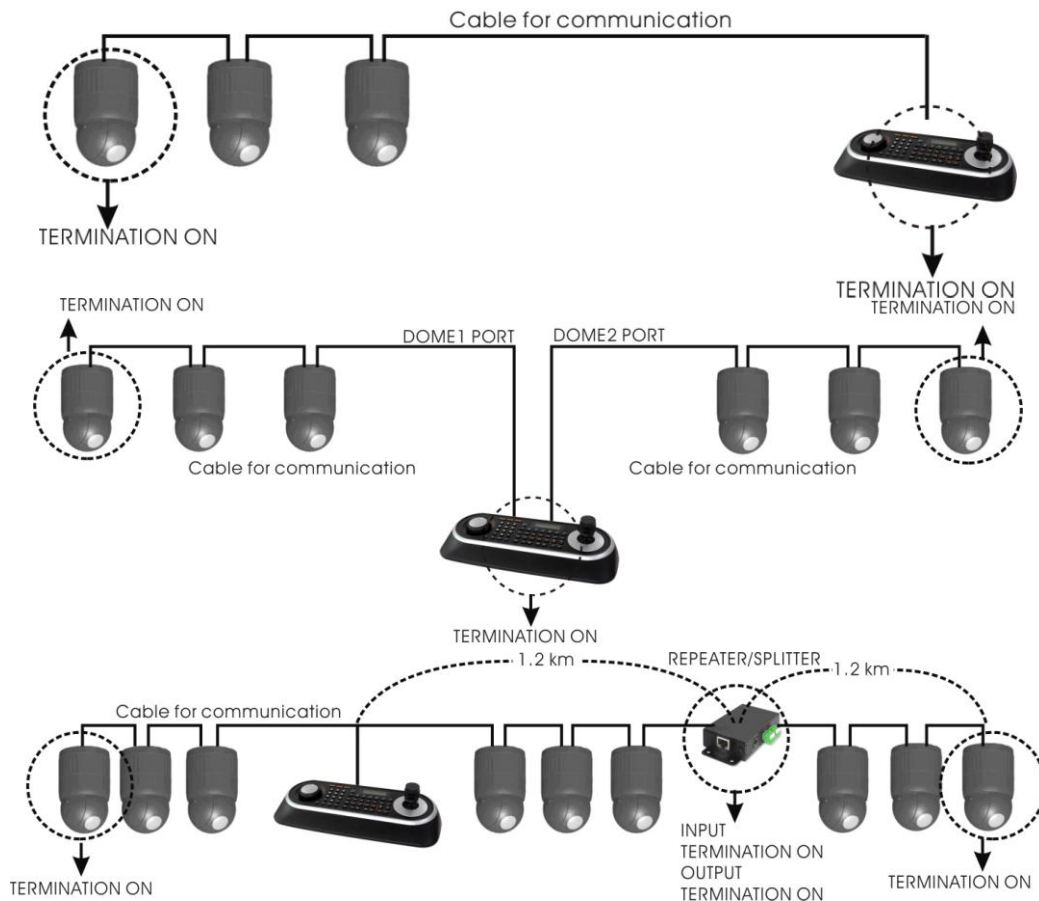


Figure 8- Termination Diagram

2.5 Setting Dome Camera Address (ID)

To prevent damage, each dome camera must have a unique address (ID). When installing multiple dome cameras using a multiplexer, it is suggested that the dome camera address match the multiplexer port number.

If you want to set the address more than 999, you should contact the service provider.

Example: Port 1 = Dome 1, Port 2 = Dome 2 ... Port 16 = Dome 16. If more than 16 dome cameras are installed using two or more multiplexers, ID of the dome camera should be ID of MUX x No. of camera IN.

(e.g. multiplexer ID= n, Camera IN= m then ID of Dome = $16 \times (n-1) + m$)

Refer to Figures 4-5 for setting the dome camera address (ID) and protocol selection.

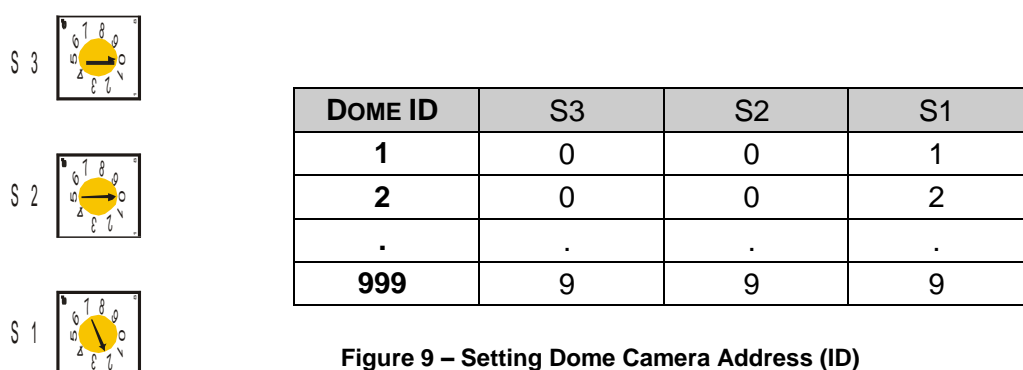


Figure 9 – Setting Dome Camera Address (ID)

2.6 Setting Dome Camera Protocol

If a dome camera is to be installed with a Fastrax keyboard controller, select the default protocol.

Consult service personnel if a dome camera is installed with device other than a keyboard controller.



S/W		On	Off	FUNCTION
D1	S4-1	Enable	Disable	Alarm
D2	S4-2	PAL	NTSC	NTSC/PAL
D3	S4-3			Reserved
D4	S4-4	RS-422	RS-485	RS-422/RS-485

D5	D6	D7	D12	PROTOCOL
S5-1	S5-2	S5-3	S6-4	
Off	Off	Off	Off	F2,F2E,Pelco-D,Pelco-P: default
Off	Off	On	Off	F2,F2E
Off	On	Off	Off	Sensormatic RS422
Off	On	On	Off	Pelco-D, Pelco-P
On	Off	Off	Off	Vicon
On	Off	On	Off	Ernitec
On	On	Off	Off	Reserved
On	On	On	Off	F2
Off	Off	Off	On	Philips(Bosch)
Off	Off	On	On	Reserved
Off	On	Off	On	Dynacolor
Off	On	On	On	Reserved

D8	D9	D10	BAUD RATE
S5-4	S6-1	S6-2	
Off	Off	Off	2400 bps
Off	Off	On	4800 bps
Off	On	Off	9600 bps (Default)
Off	On	On	19200 bps
On	Off	Off	38400 bps

D11	PARITY BIT
S6-3	
Off	None
On	Even

Figure 10 – Protocol Selection Switches

2.7 Connections

• Connecting to the RS485/ 422

The dome camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex, RS422 full duplex or simplex serial communications signals. Connect Marked Tx+, Tx- to Tx+(Rx+) and Tx-(Rx-) of the RS485 control system.

If control system is RS422, connect Rx+(Tx+), Rx+(Tx-) and Rx+, Rx- of the dome camera to Rx+, Rx- and Tx+, Tx- of the control device respectively.

• Connecting Video out connector

Connect the video out(BNC) connector to the monitor or video input.

• Connecting Alarms

AL1 to 8 (Alarm In)

You can use external devices to signal the dome camera to react on events. Mechanical or electrical switches can be wired to the AL (Alarm In) and GND (Ground) connectors.. See Chapter 3 — Program and Operation for configuring alarm input.

GND (Ground)

NOTE: All the connectors marked GND are common.

Connect the ground side of the Alarm input and/or alarm output to the GND connector.

NC(NO)1 TO 4 (Normal Close or Normal Open : Alarm Out)

The dome camera can activate external devices such as buzzers or lights. Connect the device to the NC(NO) (Alarm Out) and COM (Common) connectors. See Chapter 3 — Program and Operation for configuring alarm output.

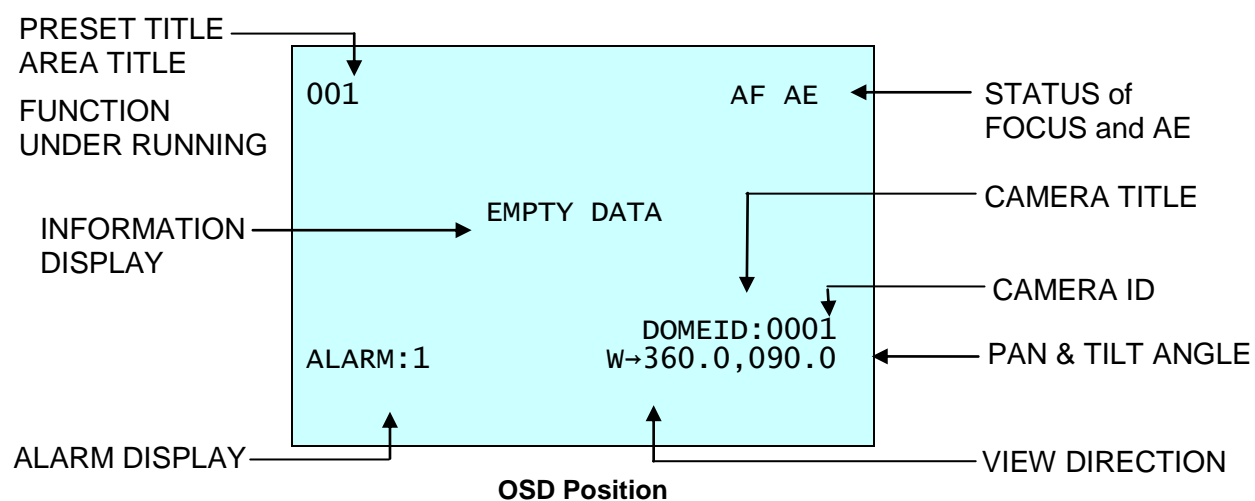
• Connecting the Power

Connect the power of AC 24V 850mA to the dome camera.

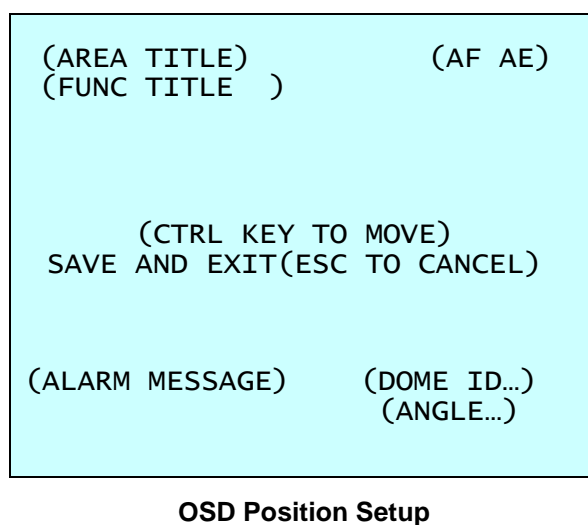
Use certified / Listed Class 2 power supply transformer only.

2.8 Getting Started

Once installed apply power to the dome camera. The dome camera will start a configuration sequence.



The dome can move the OSD position in the OSD position setup.



Chapter 3 — Program and Operation

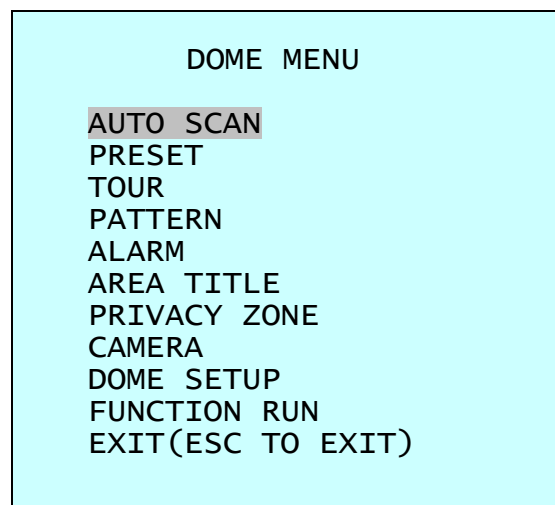
3.1 Dome Camera Selection

Before you program or operate a dome camera, you must select the dome camera by pressing the dome camera **No.** + **CAM**

Example: Pressing **1**, **0** and **CAM** key sequentially will select dome camera 10. The selected dome camera ID will be displayed on the LCD monitor of the keyboard controller.

3.2 Accessing the On-Screen Menu Utility

You can call up the On-screen menu utility on your monitor by pressing **MENU** key on the keyboard controller, the following On-screen menu utility will appear:



3.3 How to control the On-Screen Menu Utility

Function	Button
Call the On-screen menu utility	MENU
Navigate through the menu items.	Joystick up or down
Go into the sub-menu items.	Joystick left or right or IRIS Open
Change value. Enter the editing title mode.	Joystick left or right or Zoom handle twist or Tele , Wide
Change value of angle	CTRL + Joystick
Enter the changing angle mode.	IRIS Open
Exit the changing angle mode.	IRIS Close
Escape (EXIT)	ESC

3.4 Auto Scan (Shortcut: **SCAN**)

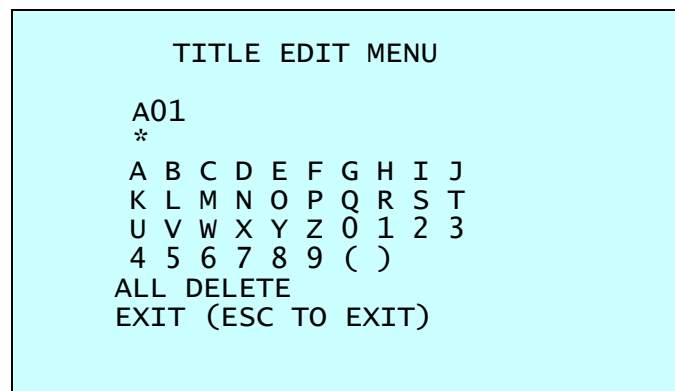
The Auto scan supports up to 17 programmed angles at user-programmable speeds. Follow these steps to program Auto Scan:

AUTO SCAN SETUP	
NUMBER	: 01
TITLE	: A01
MODE	: NORMAL
SPEED	: 5 STEP
START ANGLE	: -----
END ANGLE	: -----
SCAN DIR	: CCW
SWAP	: OFF
DWELL	: 03 SEC
SAVE AND EXIT(ESC TO CANCEL)	

NUMBER :01 -08, 10-17, **09**:AUTO PAN mode
TITLE :up to 12 characters.
MODE :NORMAL, VECTOR, RANDOM (AUTO PAN mode :NORMAL, RANDOM only)
 NORMAL: Move from start point to end point in panning only.
 VECTOR: Move from start point to end point including tilt and zoom simultaneously and linearly. In some model, the zoom is fixed at wider angle and the zoom magnification information is not displayed.
 RANDOM: Move randomly between the start point and the end point.

SPEED : 1 - 13 step, the lower number means the slower speed.
SCAN DIR : Set the scan direction, CCW(Counter Clock Wise), CW(Clock Wise)
SWAP : Swap the start point for the end point.
DWELL : Set the dwell time in the tour mode, 01 – 99 seconds

1. Press the **SCAN** key to enter the auto scan menu directly. Or press the **MENU** key to display the main menu on the monitor. Scroll to Auto Scan and push the **Joystick** to the right.
2. Select the "NUMBER" and set the desired number by pushing the **Joystick** left or right.
3. Select the "TITLE" and twist the **Joystick** to enter the title edit mode.
4. Twist the **Joystick** by changing the alphanumeric characters and move the next position. Or move down to the character table and press **CTRL** or **IRIS OPEN** at the desired character then the cursor position moves to the next position automatically. Push the **Joystick** left or right at the "ALL DELETE" field to delete all characters. Push the **Joystick** left or right at the "EXIT" field to finish title edit menu.



5. Select "MODE" and "SPEED".
6. Select "START ANGLE". Hold down the **CTRL** key while selecting the start position using the **Joystick**. Current panning position will be displayed. Release **CTRL** key to complete the selection of the start position. Or Press **IRIS Open** then the "CTRL" displays. Move the desired position and the zoom position. Press **IRIS Close** then the "CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field. To adjust at the one zoom interval, twist the **Joystick** at the zoom field.
7. Select "END ANGLE." Hold down the **CTRL** key while moving the Joystick to select the end position. The end position angle should be larger than start position. Release the **CTRL** key to complete the selection of the end position. Or Press **IRIS Open** then the "CTRL" displays. Move the desired position and the zoom position. Press **IRIS Close** then the "CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field. To adjust at the one zoom interval, twist the **Joystick** at the zoom field.
8. Set "SCAN DIR" to CCW or CW.
9. Select "SWAP". Set to ON, to exchange the start angle and the end angle.

10. Set "DWEELL TIME".

11. Select Save and Exit and push the **Joystick** to the right or press **IRIS Open**. Press **ESC** or **IRIS Close** to exit the program without saving.

Pressing the **HOME** key delete stored data at the angle field.

To set the position using the preset position:

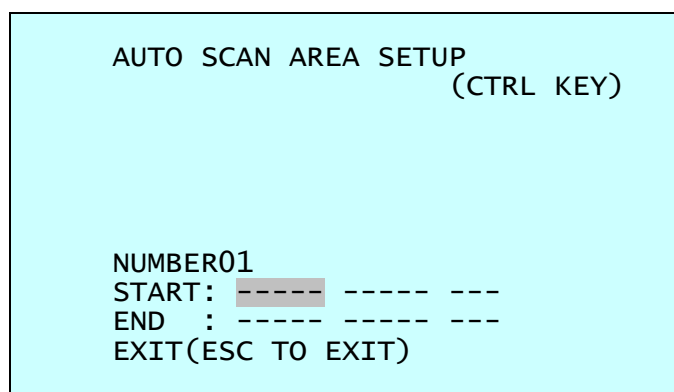
a. Before entering the Auto Scan menu, select a preset position as a starting point for Auto Scan.

Example: **2** + **PRST** and do step 1 to 4. In step 5, just press the **Ctrl** key at the start angle position, the current position will be displayed as a start position.

b. Save and exit from the menu.

c. In normal mode, call a preset to be the end point of scan. Press **3** + **PRST** then press **Scan** key to enter the Auto Scan menu. Move the cursor position to END ANGLE. Just press **CTRL** key at the end angle position. Save and exit from the menu.

Press **SCAN** key on the angle field to display with the small OSD. Then the screen will show as below.



The setting procedure is the same as above.

NOTE: 09:AUTO-PAN mode(Endless panning)

3.5 Preset (Shortcut: **PRST**)

If you need to view specific places routinely, you should program presets. A preset is a programmed video scene with automatic pan, tilt, zoom, focus, and AE settings. Once programmed, placing the number position and pressing a **PRST** button on your controller calls up that preset automatically. In addition, presets may be assigned to alarm actions or as the "home" position for the dome camera. As many as 240 presets, whose positions are saved in the dome's firmware, may be programmed.

There are three pages of preset menu. Each page has 80 presets. Pages can be scrolled by pushing the **Joystick** to the Left or Right on the first or last No. of Preset.

```

          PRESET SETUP
NUMBER   : 001
TITLE    : ---
CAMERA SET
DWELL    : --- SEC
          12345678901234567890
00 ■ **-----
02 -----
04 -----
06 -----
NEXT PAGE
SAVE AND EXIT(ESC TO CANCEL)

```

- : blank preset position
- * : position has the preset
- : Current cursor position

Follow steps below to store the Preset positions:

1. Press the **PRST** key to enter the preset menu directly. Or press the **MENU** key to display the main menu on the monitor. Scroll to preset and push the **Joystick** to the right.
2. Select the blank preset position to be stored by pushing the **Joystick** up, down, right, or left.
3. After selecting a blank position, press and hold **CTRL**, Use the **Joystick** to control the direction of the camera and lens.
4. After aiming the camera (view direction and lens control), release **CTRL**. The cursor will be on the Title then twist the **Joystick** handle or Press **Tele** or **Wide** Key to edit the preset title. Follow the procedure of the auto scan above to edit titles.
5. Select "CAMERA SET" and pushing the **Joystick** left or right. Then the preset camera setup displays.

```

          PRESET CAMERA SETUP

          FOCUS      : AUTO
          AE SETUP

          SAVE AND EXIT(ESC TO EXIT)

```

Set FOCUS: AUTO, MANUAL, ONE PUSH

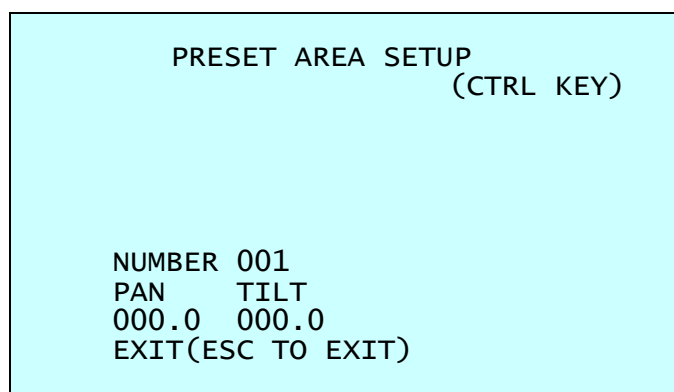
Select "AE SETUP" and pushing the **Joystick** left or right. Then the AE setup displays. Refer to the AE SETUP in the camera setup.

6. Set "DWELL TIME"(03-99second)
7. To select the next page of presets, scroll the page by pushing the **Joystick** to the Left on the first and last columns of the menu.
8. Repeat steps 2 through 7 for each additional preset position.

9. Select Save and Exit by pushing the Joystick to the right. Press ESC to exit the Preset menu without saving.

NOTE: Press the **HOME** key at programmed preset position(*) to delete a programmed preset view.

The position, which is marked with *, already has the preset view assigned. To review the stored preset, press **PRST** key on the *, The camera will show the stored preset scene.



Hold down the **CTRL** key while selecting the desired scene using the **Joystick**. Current position will be displayed. Release **CTRL** key to complete. Or Press **IRIS Open** then the “CTRL” displays. Move the desired position and the zoom position. Press **IRIS Close** then the “CTRL” disappears. Select Exit and push the **Joystick** to the right. Follow steps above to save the preset.

3.6 Shortcut of Preset Program

After selecting the desired scene, press No. (1 to 240), and press **CTRL** and **PRST** subsequently. The current view will be stored to the selected preset number if the preset number is empty. If selected preset number is not empty, “OVER WRITE” message will be displayed on the monitor and select the “OK” and push the **Joystick** to the right to overwrite.

Example: **1**, **0**, **1** + **CTRL** + **PRST** will store current view as preset No. **101**. In this case, focus will be programmed as Auto, dwell time will be set to 3 second, and the current AE mode will be programmed.

3.7 Tour (SHORTCUT: **TOUR**)

There are 8 programmable Tours. Each Tour consists of up to 42 Preset positions, Patterns, Scans or other Tours (second-level). Using second-level tours, it can be expanded to over 300 functions in a single tour.

```

          TOUR SETUP
NUMBER   : 01
TITLE    : T01
SCAN TYPE : NORMAL
SPEED    : 5 STEP
DWELL    : -- SEC
  003 A08 --- --- --- --- ---
  --- --- --- --- ---
  --- --- P01 --- --- --- ---
  --- T02 --- --- --- --- ---
  --- --- --- --- ---
  --- --- --- --- ---
SAVE AND EXIT(ESC TO CANCEL)

```

```

---          : blank position
SCAN TYPE   : NORMAL/ VECTOR
SPEED       : 1 - 13 step, the lower number means the slower speed.
DWELL       : 03-99 Sec(available in the normal mode only)
003         : Preset (1~240)
A08         : Auto Scan (1~8,10~17)
P01         : Pattern (1~8)
T02         : Tour (1~8)

```

Follow the steps below to program the Tours:

1. Press **MENU** to display the main menu on the monitor. Scroll to Tour and push the **Joystick** to the right to enter the Tour menu. Or just press the **TOUR** key on the keyboard.
2. Select the "NUMBER" and set the desired number by pushing the **Joystick** left or right.
3. Choose a blank position to be programmed by pushing the **Joystick** up, down, right, or left.
4. To add a stored preset, twist the **Joystick** then the stored preset number displays.
5. To place predefined functions other than preset, press **TOUR**, **PTRN**, or **SCAN** for Tour, Pattern or Auto Scan respectively.
6. You can also overwrite the programmed number and to remove a stored number from the Tour, press the **HOME** key on the stored number, a blank position mark (---) will be displayed.
7. Repeat Step 2 through 5 for each desired position. Each title will be displayed on top of the line.
8. To edit the title, follow the procedure of the auto scan above to edit titles
9. Select Save and Exit and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

You can expand the tour sequence by calling other programmed tours.

NOTE: The speed applies in the vector mode only.

NOTE: In the Tour mode, in conjunction with preset and Auto Scan, you can make the camera travel from a preset position to another preset position at a specific speed.

Example: Preset 001>002>003>004>005>006, Auto Scan 01 starts at preset 002, ends at preset 003, Auto Scan 02 starts at preset 005, ends at preset 006; Tour 001, 002, A01, 004, A02.

1 → 2 2~3 → 4 → 5~6, repeat
 where → : Quick move, ~ : Programmed speed

To change the dwell time of the preset in the tour:

Use the **Joystick** to move the cursor to a stored preset position. By pressing **PRST** key, the camera will move to the stored Preset view and the cursor moves to the dwell time field. After changing the dwell time, press **PRST** key and the cursor moves to the preset number.

To assign the functions other than preset in the tour when the function key is not existed:

Use the **Joystick** to move the cursor to a stored preset position. Pressing **CTRL** key or **IRIS OPEN** key will change the preset number to other function (auto scan, pattern, tour, preset) with the first programmed number. To change the number, twist the joystick or press **Tele** or **Wide** key.

3.8 Pattern (Shortcut: **PTRN**)

The Pattern feature records user control of the selected dome camera. Up to four 8 patterns can be stored and played back by pressing No.+ **PTRN** keys subsequently.

PATTERN SETUP			
		(CTRL KEY)	
NO	TITLE	SEC	PERCENT
01 :	P01	000	00.0%
02 :	P02	000	00.0%
03 :	P03	000	00.0%
04 :	P04	000	00.0%
05 :	P05	000	00.0%
06 :	P06	000	00.0%
07 :	P07	000	00.0%
08 :	P08	000	00.0%
TOTAL		0000	00.0%
SAVE AND EXIT(ESC TO CANCEL)			

Follow steps below to program the Pattern:

1. Press **MENU** to display the main menu on the monitor. Scroll to Pattern and push the **Joystick** to the right to enter the pattern menu. Or just press the **PTRN** key on the keyboard.
2. Select the desired pattern to be programmed by pushing the **Joystick** Up or Down. If the pattern is not 000, a pattern has already been recorded. Patterns can be over written.
3. Press and hold down the **CTRL** key while controlling the camera direction and zoom with the **Joystick**. The dome will be automatically recorded until you release the **CTRL** key. Or Press **IRIS Open** then the "CTRL" displays. Move the position and the zoom position. Press **IRIS Close** then the "CTRL" disappears.

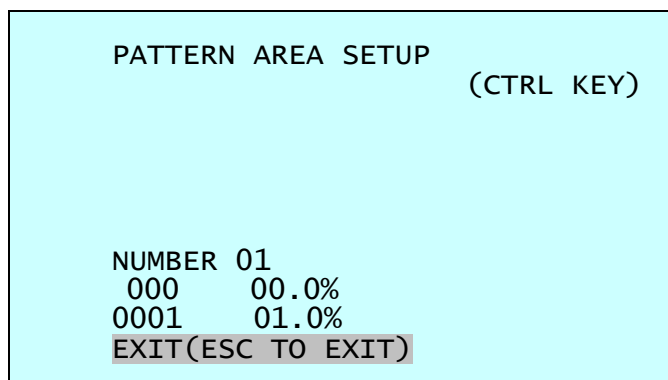
4. Select Save and Exit and push the **Joystick** to the right. Press **ESC** to exit the program without saving.

5. To edit the title, follow the procedure of the auto scan above to edit titles.

NOTE: Press the **HOME key at any programmed position to delete the pattern.**

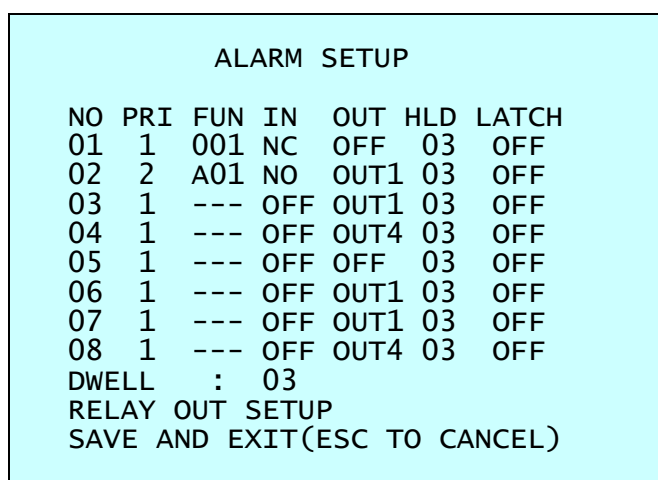
NOTE: If total recording time reaches 500 seconds, it will automatically stop for a moment.

Press **PTRN** key on the title field to display with the small OSD. Then the screen will show as below.



The setting procedure is the same as above.

3.9 Alarm



NO : Alarm input number
PRI(Priority) : The lower number has higher priority. (0-8)
FUN(function) : Stored function number to be called by alarm.
IN : NO/NC - normally open /Closed OFF - ignore
OUT : OUT1~OUT4 - Relay out 1,2,3,4, OFF - No output.
HLD(HOLD) : Alarm will be held for programmed time (03 to 99 seconds)
LATCH : ON - Shows all alarms including past alarm.
OFF - Shows activated alarms only.
DWELL : means the dwell time during multiple alarms, 03 to 99 seconds.

The RELAY OUT setup is helpful when the outdoor housing is used with the dome.
Ex.) When you connect the relay output of the dome to the heater connector of the outdoor housing, the relay output can operate during the setting time only.

```
RELAY OUT SETUP

OUT1   : ALARM
OUT2   : 1 MIN
OUT3   : ALARM
OUT4   : 5 MIN
EXIT(ESC TO EXIT)
```

ALARM: the relay output is operated during an alarm operation or by the short key of our keyboard.

1-5 MIN(minute): the relay output is operated during this setting time only by the function run of the dome menu or the short key of our keyboard.

NOTE: This **1-5 MIN** setting is not meaning by an alarm and it doesn't activate the relay by the external alarm.

NOTE: If you disable Alarm by dip switch, Alarm menu will be displayed following screen.

```
ALARM SETUP

ALARM DISABLED
CHECK THE DIP SWITCH

EXIT(ESC TO EXIT)
```

There are 9 levels of priority. The function can be selected by Preset, Auto scan, Pattern or Tour and "0" is the highest priority. Lower priority alarms won't be serviced until the higher priority alarm is completed. Equal priority alarms will be serviced repeatedly with the dwell time.

3.10 Area Title

Enter a specific name on programmed angle between START and END. For the screen below, when the camera points at an angle between 124.3° (PAN), 30.7° (TILT) to 359.5° (PAN), 45.4° (TILT), ABC will be displayed on the screen.

AREA TITLE SETUP			
NUMBER	:	01	
TITLE	:	ABC	
START ANGLE	:	124.3	30.7
END ANGLE	:	359.5	45.4
SWAP	:	OFF	
SAVE AND EXIT(ESC TO CANCEL)			

NUMBER :01 - 16
TITLE :up to 12 characters.
SWAP : Swap the start point for the end point.

1. Select the "NUMBER" and set the desired number by pushing the **Joystick** left or right.
2. To edit the title, follow the procedure of the auto scan above to edit titles.
3. Select "START ANGLE". Hold down the **CTRL** key while selecting the start position using the **Joystick**. Current panning position will be displayed. Release **CTRL** key to complete the selection of the start position. Or Press **IRIS Open** then the "CTRL" displays. Move the desired position. Press **IRIS Close** then the "CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field.
4. Select "END ANGLE." Hold down the **CTRL** key while moving the Joystick to select the end position. Release the **CTRL** key to complete the selection of the end position. Or Press **IRIS Open** then the "CTRL" displays. Move the desired position. Press **IRIS Close** then the "CTRL" disappears. To adjust at the 0.1 degree interval, twist the **Joystick** at the pan field and the tilt field.
5. Select "SWAP". Set to ON, to exchange the start angle and the end angle.
6. Select Save and Exit and push the **Joystick** to the right or press **IRIS Open**. Press **ESC** or **IRIS Close** to exit the program without saving.

Hide up to 8 unwanted scenes in a camera.

1. Place the cursor at the title field.
2. Holding down the **CTRL** key displays the privacy area menu while selecting the position using the **Joystick**. Current position will be displayed. Release **CTRL** key to complete the selection of the position.

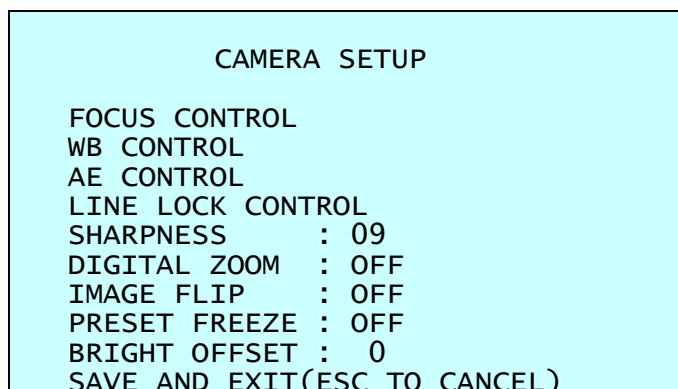
Or Press **IRIS Open** then the privacy area menu displays. Move the desired position. Press **IRIS Close** then the “CTRL” disappears and returns to the previous menu.

- Place the cursor at the title field. Twist the **Joystick** to enter the title edit mode. Follow the procedure of the auto scan above to edit titles.
- To turn the stored zone On or Off, twist the **Joystick** handle or press **Tele** or **Wide** Key.
- Set the method, "BLOCK" or "V.OFF(video off)"
- Select the Save and Exit option by pushing the **Joystick** up or down. Save and exit the program by pushing the **Joystick** to the right. Press **ESC** to exit the program without saving.

Press the **HOME** key to delete programmed privacy zone at the title field.

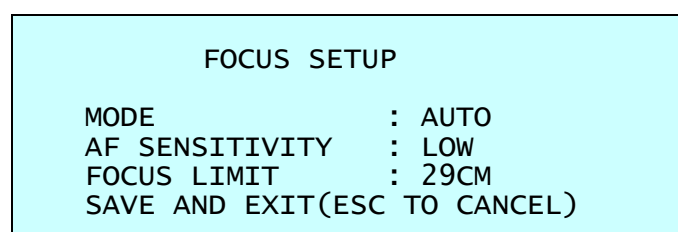
3.12 Camera Menu Type 1

NOTE: The features will vary depending on the camera module installed in your dome camera.



- SHARPNESS** The higher the value, the more edges in the picture will be enhanced (0~15)
- Digital ZOOM** OFF : Zoom range is limited to the optical.
2x : Zoom is extendable up to 2x of digital range.
4x : Zoom is extendable up to 4x of digital range.
MAX: Zoom is extendable Max digital zoom range.
- IMAGE FLIP** This function turns the video output from the camera upside down and reverses it horizontally.
This option is helpful to install in the opposite side.
- PRESET FREEZE** ON: the image is frozen during calling preset.
- BRIGHT OFFSET** (-7,...,0(default),...7) : Adjust the brightness level (AE:AUTO, SHUTTER PRIO, IRIS PRIO mode only) .
- Note:** The top level options above are automatically stored when you enter the sub-menu.

• FOCUS CONTROL



- MODE** AUTO / MANUAL / ONE PUSH
- AF SENSITIVITY** NORMAL / LOW
NORMAL: Use this option when shooting fast motion.
LOW: Offers better focus stability. In low luminance conditions, Auto Focus stops operation even when brightness changes, enabling stable images of moving objects.
- FOCUS LIMIT** This distance is approximate value and the focus operate from the setting value.

CAUTION: Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

• WB (White Balance) CONTROL

WB SETUP		
MODE	:	ATW
R GAIN	:	213
B GAIN	:	174
SAVE AND EXIT(ESC TO CANCEL)		

MODE	AUTO / INDOOR / OUTDOOR / ONE PUSH / ATW / MANUAL
MANUAL	Control of R and B gain
AUTO	Computes the white balance value output using color information from the entire screen automatically. (3000 to 7500 °K)
INDOOR	3200 K base mode.
OUTDOOR	5800 K base mode
ONE PUSH	One push white balance mode is a fixed WB mode that may be automatically readjusted at the stop after moving.
ATW	Auto tracing white balance. (2000 to 10000° K)
RGAIN	0 ~ 255
BGAIN	0 ~ 255
Use the ATW mode for normal use.	
RGAIN / BGAIN modes are controllable only in MANUAL Mode	

• AE CONTROL

AE SETUP		
MODE	:	MANUAL
SLOW SHUTTER	:	---
IRIS	:	F5.6
GAIN	:	0 DB
BRIGHT	:	AUTO
SHUTTER	:	1/60
BACK LIGHT	:	OFF
NIGHT SHOT	:	AUTO
WDR	:	OFF *
SLOW RESPONSE	:	1 *
SAVE AND EXIT(ESC TO CANCEL)		

MODE	AUTO / MANUAL / SHUTTER PRIO / IRIS PRIO / BRIGHT
AUTO	Auto Iris and Gain, Fixed Shutter speed (NTSC: 1/60 sec, PAL: 1/50 sec)
MANUAL	Variable Shutter, Iris and Gain.
SHUTTER PRIO	Variable Shutter speed, Auto Iris and Gain.
IRIS PRIO	Variable Iris, Auto Gain and Shutter speed.
BRIGHT	Variable Iris and Gain

SLOW SHUTTER	ON/OFF
IRIS	CLOSE / F28(26X,36X) / F22 / F19 / F16 / F14 / F11 / F9.6 / F8.0 / F6.8 / F5.6 / F4.8 / F4.0 / F3.4 / F2.8 / F2.4 / F2.0 / F1.6/F1.4(18X)
GAIN	0 / 2 / 4 / 6 / 28 / -3 DB
BRIGHT	0, 1,2, 3, 4 29, 30,31
SHUTTER	1/1 , 1/2 , 1/4(3), 1/8(6). .. 1/4000(3500), 1/6000, 1/10000
BACK LIGHT	Objects in front of bright backgrounds will be clearer with BLC ON.
NIGHT SHOT	AUTO,ON,OFF,GLOBAL
WDR*	ON,OFF (36x Model only)
SLOW RESPONSE*	1-32 (36x Model only)

NOTE: Values in () are for PAL Camera.

NOTE: The Back Light operates in AUTO mode only.

For example, if you change the back light to ON, the camera will change AE mode to "AUTO".

The NIGHT SHOT option removes the IR cutoff filter of the camera and makes the camera sensitive to near infrared.

AUTO Camera goes in to B&W mode at low light.

GLOBAL Controlled by the keyboard.

The operator can enable NIGHT SHOT for all dome cameras at the same time.

If the NIGHT SHOT mode is set to GLOBAL, "999" + **ENTR** will turn Off the NIGHT SHOT mode and "888" + **ENTR** will turn On the NIGHT SHOT mode.

ON: B/W mode.

OFF: Color mode.

NOTE : Selecting the Night Shot to Auto mode will change AE mode to "AUTO".

SLOW RESPONSE* (36x Model only)

The slow response function allows you to lengthen the automatic exposure response speed from 1 up to 32 times. For example, with the normal setting (about 1 second), if the headlights of a car are caught by the camera, the camera automatically adjusts the exposure so that it can shoot a high-intensity subject (in this case, the headlights). As a result, images around the headlights, that is, the rest of the subject, except the headlights, becomes relatively dark, and poorly distinguished. However, using the slow response function can still easily distinguish the portions of the image surrounding the headlights.

• LINE LOCK CONTROL

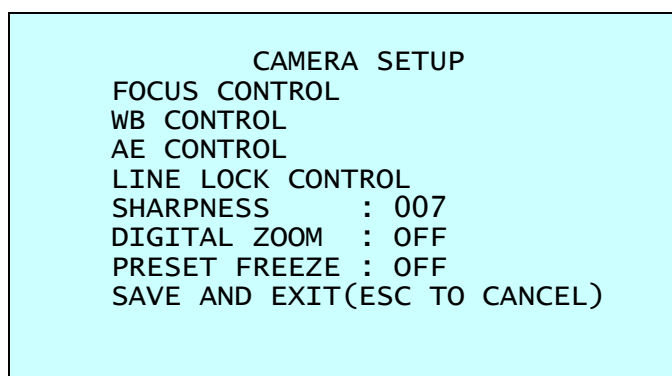
LINE LOCK SETUP	
MODE	: INTERNAL
PHASE	: 000
SAVE AND EXIT(ESC TO CANCEL)	

MODE INTERNAL / EXTERNAL

PHASE Adjusts phase of picture with other cameras in EXTERNAL mode. (0~255)

3.13 Camera Menu Type 2

NOTE: The menu features will vary depending on the camera module installed in your dome camera.



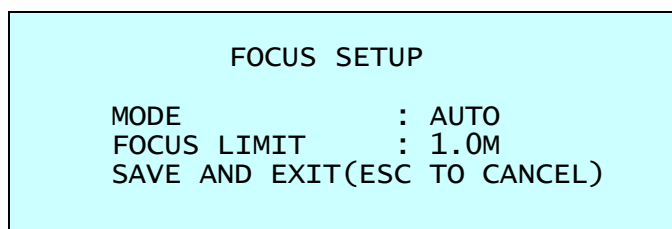
SHARPNESS The higher the value, the more edges in the picture will be enhanced. User can adjust sharpness level from 0 to 15. Level 07 is default

Digital ZOOM OFF: Zoom range is limited to the optical.
MAX: Zoom is extendable Max digital Zoom range

PRESET FREEZE ON: the image is frozen during calling preset.

Note: The top level options above are automatically stored when you enter the sub-menu.

• FOCUS CONTROL



MODE :AUTO / MANUAL/ONE PUSH

Use manual mode in normal use.

FOCUS LIMIT :This distance is approximate value and the focus operates as the setting value after moving.

CAUTION: Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

• WB (White Balance) CONTROL

WB SETUP	
MODE	:AWB
R GAIN	:071
B GAIN	:069
SAVE AND EXIT(ESC TO CANCEL)	

MODE AWB / WAWB / INDOOR / OUTDOOR / MANUAL
WAWB Wide range auto white balance mode. (2700 to 8500° K)
RGAIN 0 ~ 255
BGAIN 0 ~ 255
 Use the AWB mode for normal use.
 RGAIN / BGAIN modes are controllable only in MANUAL Mode
 Push the **Joystick** to the right or left to change.

• AE CONTROL

AE SETUP	
MODE	: MANUAL
SLOW SHUTTER	: ON
IRIS	: F5.6
GAIN	: 00 DB
BRIGHT	: AUTO
SHUTTER	: 1/60
WDR	: OFF
BACKLIGHT	: OFF
NIGHT SHOT	: ON
DNR	: OFF
SAVE AND EXIT(ESC TO CANCEL)	

MODE AUTO / SHUTTER PRIO / IRIS PRIO / MANUAL
SLOW SHUTTER ON / OFF
IRIS F1.6 / F2.0 / F2.8 / F4.0 / F5.6 / F8.0 / F11 / F16 / F22 / F32/CLOSE
GAIN 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22,24,26,28,30 DB
BRIGHT User can adjust brightness level (0~ +90). Level 30 is default.
SHUTTER 1/1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000
 (1/1, 1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000) for PAL
WDR ON, OFF
BACK LIGHT Objects in front of bright backgrounds will be clearer with BLC ON.
NIGHT SHOT AUTO, ON, OFF, GLOBAL

NOTE: The Back Light operates in AUTO mode only.

For example, if you change the back light to ON, the camera will change AE mode to "AUTO".

The NIGHT SHOT option removes the IR cutoff filter of the camera and makes the camera sensitive to near infrared.

AUTO Camera goes in to B&W mode at low light.

GLOBAL Controlled by the keyboard.

The operator can enable NIGHT SHOT for all dome cameras at the same time.

If the NIGHT SHOT mode is set to GLOBAL, "999" + **ENTR** will turn Off the NIGHT SHOT mode and "888" + **ENTR** will turn On the NIGHT SHOT mode.

ON: B/W mode.

OFF: Color mode.

NOTE : Selecting the Night Shot to Auto mode will change AE mode to "AUTO".

DNR

ON / OFF

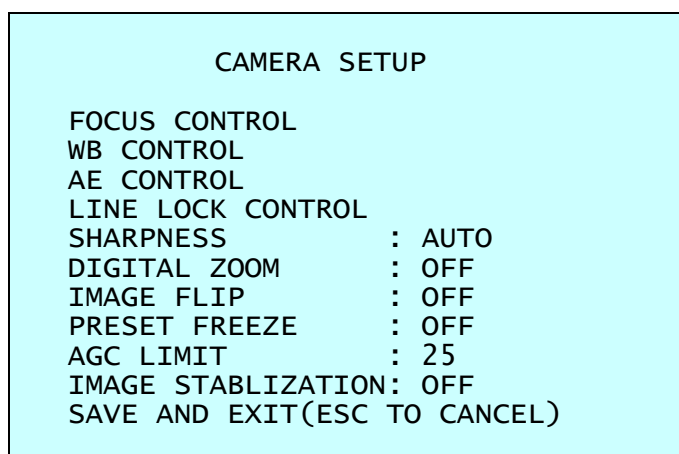
• LINE LOCK CONTROL

LINE LOCK SETUP	
MODE :	INTERNAL
PHASE :	000
SAVE AND EXIT(ESC TO CANCEL)	

MODE INTERNAL / EXTERNAL

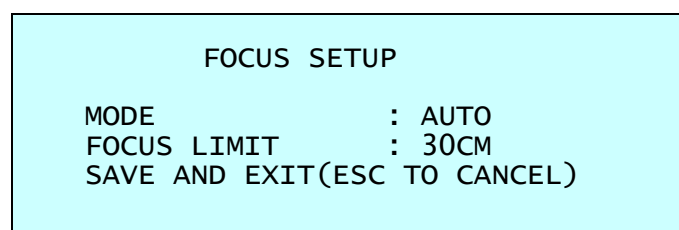
PHASE Adjusts phase of picture with other cameras in EXTERNAL mode. (0~255)

3.14 Camera Menu Type 3



- SHARPNESS** The higher the value, the more edges in the picture will be enhanced (AUTO/0~31)
- Digital ZOOM** OFF : Zoom range is limited to the optical.
2x : Zoom is extendable up to 2x of digital range.
4x : Zoom is extendable up to 4x of digital range.
MAX: Zoom is extendable Max digital zoom range.
- IMAGE FLIP** This function turns the video output from the camera upside down and reverses it horizontally.
This option is helpful to install in the opposite side.
- PRESET FREEZE** ON: the image is frozen during calling preset.
- AGC LIMIT** Set the maximum AGC gain tuning value (00-40, default : 25).
- IMAGE STABILIZATION** ON: To increase the stability of an image from frame-to-frame jitter with shaking.
- Note: When the image stabilization function is operating, DSS will be disabled and WDR will be turned OFF.**

• FOCUS CONTROL



- MODE** AUTO / MANUAL / ONE PUSH / CONSTANT MANUAL
Use manual mode in normal use.
- FOCUS LIMIT** Set the minimum focus length under 10x zoom ratio.
(1CM / 10CM / 30CM / 1M / 1.5M: This distance is approximate value.)

CAUTION: Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

• WB (White Balance) CONTROL

WB SETUP	
MODE	: AUTO
R GAIN	: 120
B GAIN	: 100
SAVE AND EXIT(ESC TO CANCEL)	

MODE AUTO / MANUAL

MANUAL Control of R and B gain
AUTO Computes the white balance value output using color information from the entire screen automatically. (2800 to 8000 °K)

RGAIN 0 ~ 255

BGAIN 0 ~ 255

RGAIN / BGAIN modes are controllable only in MANUAL Mode

• AE CONTROL

AE SETUP	
MODE	: AE (DAWN)
DSS LIMIT	: 1/2
IRIS	: AUTO
GAIN	: AUTO
SHUTTER	: 1/60
IRIS OFFSET	: 106
IRIS PEAK	: 016
BLC	: OFF
BLC LEVEL	: 030
NIGHT SHOT	: OFF
WDR	: OFF
SAVE AND EXIT(ESC TO CANCEL)	

MODE AE / AE(DSS) / AE(DAWN) / AE(DARK) / IRIS PRIO / SHUTTER PRIO / AGC PRIO

AE Automatic Exposure. (available motion detection)
Refer to the motion setup type 2.

AE (DSS) Automatic Exposure with the DSS

AE(DAWN) Under the low light condition when night shot mode is AUTO, IR Cut filter is automatically turned on and off.

AE (DARK) IR Cut filter is automatically turned on and off more dark condition than AE (DAWN)

DSS LIMIT Digital Slow Shutter Limit

1/2(1.5), 1/4(3), 1/8(6), 1/15(12), 1/30(25), OFF

IRIS F1.4 / F2 / F2.8 / F4 / F5.6 / F8 / F11 / F16 / F22 / F32

GAIN 0 / 6 / 12 / 18 / 24 / 30 DB

SHUTTER 1/2(1.5), 1/4(3), 1/8(6). ... 1/4000, 1/10000, 1/30000

IRIS OFFSET Set the overall brightness of a picture. (000-255, default :106)

Increase the value to brighten the scene. Decrease the level to darken the scene. This is helpful when the scene is too bright or too dark.

IRIS PEAK

Set the effect of focusing peak, or how video peaks affect the overall picture brightness. (000-127, default :016)

When the scene have bright lights such as spotlight or headlight, if you set Iris peak level high, the image get dark because of the effect of focusing peaks. Overall picture darkens.

If you set Iris peak level low, the image has no effect of focusing peak and the image of spot lights get white. Overall picture remains but spot light become very bright.

When you set Iris offset level low in an image with spotlights, a soft image may occurs because of the image of on and around the spotlights get saturated.

BACK LIGHT

Objects in front of bright backgrounds will be clearer with BLC ON.

Note: When ON, WDR will be disabled.

BACK LIGHT LEVEL

0 ~ 255

NIGHT SHOT

AUTO,ON,OFF,GLOBAL

WDR

ON, WDR1, WDR2

NOTE: Values in () are for PAL Camera.

The NIGHT SHOT option removes the IR cutoff filter of the camera and makes the camera sensitive to near infrared.

AUTO

Camera goes in to B&W mode at low light.

GLOBAL

Controlled by the keyboard.

The operator can enable NIGHT SHOT for all dome cameras at the same time.

If the NIGHT SHOT mode is set to GLOBAL, "999" + **ENTR** will turn Off the NIGHT SHOT mode and "888" + **ENTR** will turn On the NIGHT SHOT mode.

ON : B/W mode.

OFF: Color mode.

NOTE : The Night Shot function is controllable only AE, AE(DSS), and Priority (Shutter/Iris/AGC) mode.

AE mode	DSS	IR Remove	WDR
AE	X	O [Manual]	O
AE (DSS)	O [auto]	O [Manual]	O
AE(DAWN)	O [auto]	O [auto] : <i>Hi sensitivity</i>	O
AE (DARK)	O [auto]	O [auto] : <i>Mid sensitivity</i>	O
Shutter priority	O [Manual]	O [Manual]	X
IRIS priority	X	O [Manual]	X
AGC priority	X	O [Manual]	X

X : not available, O: available

• LINE LOCK CONTROL

LINE LOCK SETUP	
MODE	: INTERNAL
PHASE	: 000
SAVE AND EXIT(ESC TO CANCEL)	

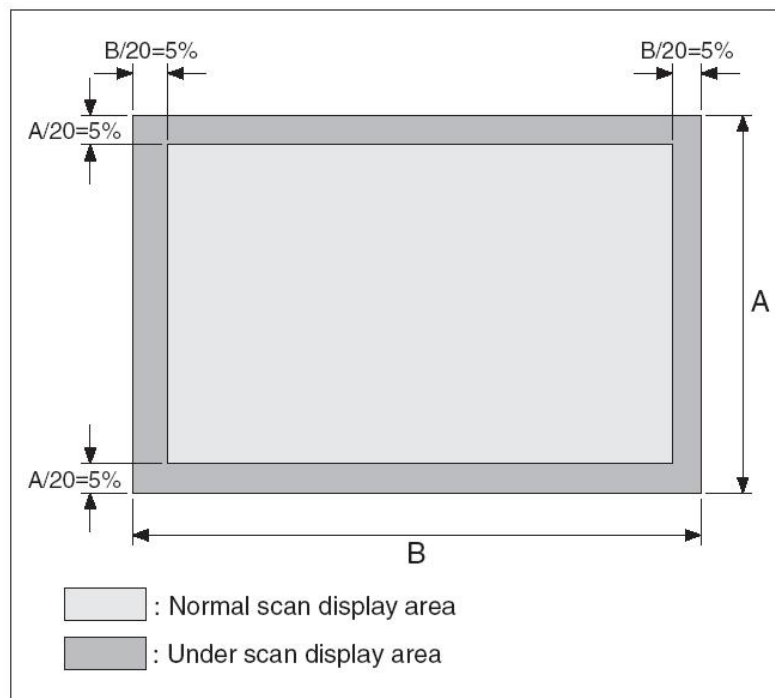
MODE INTERNAL / EXTERNAL

PHASE Adjusts phase of picture with other cameras in EXTERNAL mode.(0~255)

3.15 Camera - 26X MODEL

Eclipse of the Lens:

The eclipse phenomenon occurs with this model. This is because a sufficient amount of aperture is not available due to the CCD size and the lens structure of this model. However, it has been verified that the eclipse will not be visible in the case of a more than 90% effective image. For your reference, see the following diagram.



3.16 Dome Setup

CONFIGURATION MENU

LANGUAGE : ENGLISH
HOME FUNCTION SETUP
OSD DISPLAY
VIEW ANGLE SETUP
INITIALIZE DATA
ORIGIN OFFSET
DOME RESET
SYSTEM MENU
SYSTEM INFORMATION
SAVE AND EXIT(ESC TO CANCEL)

• LANGUAGE SETUP

LANGUAGE : Select the language you want.

• HOME FUNCTION SETUP

HOME FUNCTION SETUP

HOME FUNCTION : NONE
FUNCTION NUMBER : ---
WATING TIME : 120 SEC
FUNCTION ENABLE : OFF
SAVE AND EXIT(ESC TO CANCEL)

HOME FUNCTION : None/ Tour/ Pattern / Auto Scan / Preset
FUNCTION NUMBER : - - -
WAITING TIME : 10~240 Seconds
FUNCTION ENABLE : ON/ OFF

The Home function can be set so that the camera automatically goes to Preset, Tour, Pattern, Auto Scan after the keyboard controller has been idle for a amount of time. For example, if the controller is idle for 120 seconds, the camera goes to preset 1.

Follow these steps to program the Home position:

1. Select Home Function by pushing the **Joystick** to the right or to the left to scroll through the None, Tour, Pattern, Auto Scan or Preset functions.
2. Select Function Number and push the **Joystick** to the right or to the left. The recorded function number will scroll.
3. Select WATING Time and push the **Joystick** to the right or to the left to select from 10 to 240 seconds.
4. Select Function Enable and turn to ON or OFF by pushing the **Joystick** to the right or to the left.

• OSD DISPLAY

OSD DISPLAY SETUP	
CAMERA TITLE	: DOMEID
VIEW DIRECTION	: OFF
DOME OSD	: ON
AREA TITLE	: OFF
PRESET TITLE	: CONSTANT
FOCUS EXPOSURE	: ON
OSD POSITION SETUP	
SAVE AND EXIT(ESC TO CANCEL)	

CAMERA TITLE : up to 6 characters.

VIEW DIRECTION : ON / OFF

“ON” sets current direction as N(north) and the coordinate angle to 000. “OFF” hides the directional title. Every 90 degrees of clockwise rotation will change the title to E(East), S(South), W(West). If using the ON/OFF option frequently, it is recommended that you set “North” as a Preset. Recall the “North” Preset before enabling the directional title.

DOME OSD : ON / OFF

All display or title will disappear when DOME OSD DISPLAY sets OFF

AREA TITLE : ON / OFF

If this option is enabled, the area title displays when the camera moves.

Note: The DOME OSD DISPLAY must be enabled.

PRESET TITLE : CONSTANT / OFF / 3, 30, 60,120,180 second.

Set the preset title display time in the preset mode. This is not available in the tour mode.

FOCUSE EXPOSURE : ON / OFF

ON: FOCUS and EXPOSURE displays. (AF AE)

OSD POSITION SETUP

Select the OSD option with **Joystick** up and down and press **CTRL** and adjust the position by **Joystick**. Don't adjust more than two OSD options to the same position.

(AREA TITLE)	(AF AE)
(FUNC TITLE)	
(CTRL KEY TO MOVE)	
SAVE AND EXIT(ESC TO CANCEL)	
(ALARM MESSAGE)	DOMEID...XXXX XXX.X XXX.X

• VIEW ANGLE SETUP

VIEW ANGLE SETUP	
PANNING RANGE	
FLIP	: 90°
TILT OVER ANGLE	: ON
SAVE AND EXIT(ESC TO CANCEL)	

FLIP: OFF,90°,100°,110°,120°,AUTO(18X,26X,36X MODEL) : ON,OFF(22X MODEL)

OFF: the dome camera moves until 90° vertically.

90°, 100°, 110°, 120°: allows the image to flip digitally when the camera moves over the setting angle vertically.

AUTO: When the camera reaches the floor directly above the moving object, it will stop. At that time, release the **Joystick** handle instantly and pull it down again to run the auto-flip function. When you use the panning range, we recommend using the flip mode to AUTO.

TILT OVER ANGLE:

This option is used to set the limit of the horizontal view angle so that the trim ring or ceiling does not obstruct the horizontal image when zooming out (wide angle).

ON: In some installations it is desirable for the dome camera to be able to see above the horizon. When this option is chosen, the dome will tilt up over the horizon (About -10 degrees). When the lens is zoomed out, you can see the ceiling line. But when the lens is zoomed in, the viewing angle is narrower, and the ceiling line disappears.

Without Bubble: The tilt range of the camera is limited to see the horizon so the picture shows part of the ceiling line.

With Bubble: The tilt range of the camera is limited to see below the horizon (10 degrees).

Over Angle is not sufficient enough to avoid ceiling obstructions, please adjust Origin Offset of tilt angle as described below.

PANNING RANGE

When the dome camera is installed near a wall, panning range can be limited by user.

PANNING RANGE SETUP
(CTRL KEY)

RIGHT LIMIT : 000.0
LEFT LIMIT : 000.0
ENABLE : OFF
SWAP : OFF
AUTO PAN : OFF
SAVE AND EXIT(ESC TO CANCEL)

1. Place the dome camera under 90 degree vertically.
2. Set the right limit by pushing the **Joystick** to the right.
3. Set the left limit by pushing the **Joystick** to the left.
4. Set ENABLE to ON to use

To exchange the right and the left limit, set SWAP to ON.

To apply limits on the auto pan (endless panning), set AUTO PAN to ON.

NOTE: When you use the panning range, we recommend using the flip mode to AUTO. When the flip mode is 90°, 100°, 110° or 120° and you moves over 90° vertically, the panning range operates in opposite side.

• INITIALIZE DATA

INITIALIZE DATA

FACTORY DEFAULT
ERASE PROGRAMMED DATA
PRESET FOCUS DEFAULT
EXIT (ESC TO CANCEL)

FACTORY DEFAULT

Select the Factory Default to initialize the Data.

FACTORY DEFAULT

ARE YOU SURE ?

CANCEL
OK

ERASE PROGRAMMED DATA

Erase all stored data from the Flash-ROM of the selected dome camera. You will be asked to enter ON or OFF. If you desire to erase all data then select the Erase Run, otherwise press the **ESC** key to exit without erasing. The erased data includes all stored data (auto scan, presets, and tours....) except origin offset.

The offset value is still valid after all data is erased. The offset value can be zero with default set of Offset origin menu.

ERASE PROGRAMMED DATA	
AUTO SCAN	: ON
PRESET	: ON
TOUR	: ON
PATTERN	: ON
ALARM	: ON
AREA TITLE	: ON
PRIVACY ZONE	: ON
CAMERA	: ON
DOMESTIC SETUP	: ON
ERASE	
SAVE AND EXIT(ESC TO CANCEL)	

PRESET FOCUS DEFAULT

This menu set the default mode of the focus when you save the preset.

PRESET FOCUS DEFAULT	
FOCUS	: AUTO
SAVE AND EXIT(ESC TO CANCEL)	

FOCUS : AUTO/MANUAL/ONE PUSH

• ORIGIN OFFSET

OFFSET SETUP
(CTRL KEY)

PAN OFFSET : 000.0
TILT OFFSET : 000.0
ENABLE : OFF
SAVE AND EXIT(ESC TO CANCEL)

This feature is useful to align a new dome camera exactly the same as the previously installed dome camera.

Dome camera's origin set and all data initialize option do not override offset values. Only the default set option in this menu will set the offset value to zero. This can be used to avoid ceiling obstructions.

• DOME RESET

DOME RESET

ARE YOU SURE ?

CANCEL
OK

This feature is used to re-calibrate the orientation of a selected dome camera. Origin offset value is not affected by this function. (Offset is still valid after origin set)

• SYSTEM MENU

SYSTEM MENU

MOTOR SETUP
PASSWORD EDIT
ORIGIN CHECK
PROGRAM UPGRADE
PASSWORD ENABLE : OFF
MENU TIME OUT : OFF
BLINK CURSOR : ON
DOME ANSWER : ON
SAVE AND EXIT(ESC TO CANCEL)

PASSWORD ENABLE : ON (requires the password to enter menu) / OFF
MENU TIME OUT : ON(5mintues) / OFF(always menu display)
BLINK CURSOR ; ON / OFF(no blinking cursor)
DOME ANSWER ; ON / OFF(no acknowledge command from the dome)
This option is helpful to escape the collision of the command using some DVR.

MOTOR SETUP

Motor Setup menu provides the pan and tilt speed of a camera. User can set the desired speed with twist the **Joystick** left or right. During operation, pressing **153** + **ON** will change the speed to the SLOW mode and pressing **153** + **OFF** will change the speed to the Normal mode.

Holding and pressing **CTRL** and moving the joystick will operate with the TURBO speed mode.

MOTOR SETUP	
PROPOTIONAL P/T	: ON
P/T MODE	: NORMAL
SLOW PAN MAXIMUM	: 40°/SEC
SLOW TILT MAXIMUM	: 40°/SEC
NORMAL PAN MAXIMUM	: 90°/SEC
NORMAL TILT MAXIMUM	: 90°/SEC
TURBO PAN MAXIMUM	: 360°/SEC
TURBO TILT MAXIMUM	: 100°/SEC
SAVE AND EXIT(ESC TO CANCEL)	

PROPOTIONAL P/T	: ON / OFF
P/T MODE	: SLOW / NORMAL/TURBO
SLOW PAN MAXIMUM	: 19 ° - 90 ° /second
SLOW TILT MAXIMUM	: 19 ° - 90 ° / second
NORMAL PAN MAXIMUM	: 40 ° - 360 ° /second
NORMAL TILT MAXIMUM	: 40 ° - 200 ° /second
TURBO PAN MAXIMUM	: 200 ° - 380 ° /second
TURBO TILT MAXIMUM	: 90 ° - 300 ° /second

ORIGIN CHECK

When you find the wrong position of the dome during operation, execute this origin check and the dome camera will arrange the right position after the origin check operation.

Pressing **151** + **ON** will execute the origin check.

ORIGIN CHECK	
ARE YOU SURE ?	
CANCEL	OK

PASSWORD EDIT

PASSWORD EDIT SETUP
(CTRL KEY)

INPUT PASSWORD
PASSWORD :

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z 0 1 2 3
4 5 6 7 8 9 ()

SAVE AND EXIT (ESC TO EXIT)

You can change the password with 6-digit character in this menu.

The default password is **555555**.

When the password enable is on, the input password window displays to enter the menu. At this time, move the cursor to the desired character by the joystick and press **CTRL** or **IRIS OPEN**.

PROGRAM UPGRADE

PROGRAM UPGRADE

ARE YOU SURE ?

CANCEL
OK

When you upgrade the firmware of the dome by the serial communication, you should use this menu. After upgrading, the dome will reboot.

• SYSTEM INFORMATION

SYSTEM INFORMATION

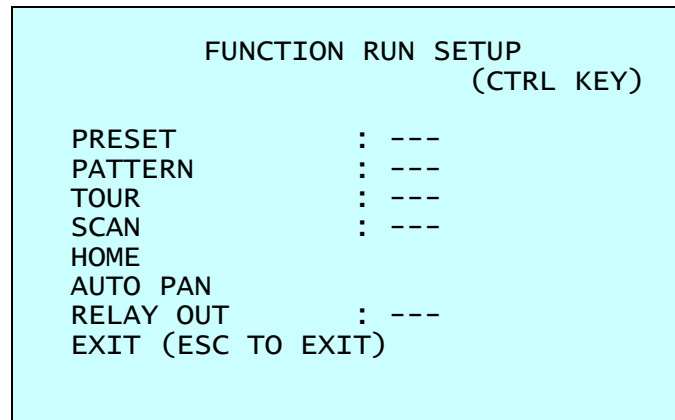
CAMERA TYPE : 480C
H/W VERSION : V5.00
ROM VERSION : V5.00
PROTOCOL : xxxx
BUADRATE : 9600

EXIT(ESC TO EXIT)

The system information provides essential information about the dome camera if service is required. When you view this screen, you can determine the camera type, ROM version. The information on this screen cannot be modified.

3.17 Function Run

This Function Run menu allows you to execute the function when you use a keyboard or a DVR without the function keys (Preset, Pattern, Tour and scan).



1. Select the desired Function by pushing **Joystick** Up or Down.
2. Select the number by twist the **Joystick** in PRESET,PATTERN,TOUR, and SCAN.
3. Press **CTRL** or **IRIS Open** to execute.

Note: To execute the function, you should store the function (PRESET, PATTERN, TOUR, and SCAN) first.

- HOME

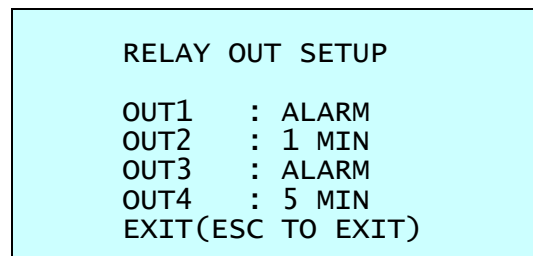
Select the HOME option and press **CTRL** or **IRIS Open** key. Then dome camera executes the home function when the home function is enabled in the home function setup.

- AUTO PAN

You can execute the endless auto pan which is to turn one direction continuously. Select the Auto Pan option and press **CTRL** or **IRIS Open** key.

- RELAY OUT

This function can operate only when the relay output setup has the time in the alarm menu.
Ex)



You can select OUT2 or OUT4 and press **CTRL** or **IRIS Open** then that relay operates during the setting time only.

3.18 Motion Setup (36x model only)

The motion detection function is available in the preset mode only. After you set the motion in any preset, when you call the preset with the motion, the motion detection operates. In the preset setup, you can set the motion setup as below.

```

          PRESET SETUP
NUMBER   : 001
TITLE    : ---
CAMERA SET
DWELL    : --- SEC
          12345678901234567890
00 ■**-----
02 -----
04 -----
06 -----
NEXT PAGE
SAVE AND EXIT(ESC TO CANCEL)

```

```

          PRESET CAMERA SETUP

FOCUS           : AUTO
MOTION          : OFF
MOTION SETUP
AE SETUP
SAVE AND EXIT(ESC TO EXIT)

```

To enable the motion on the preset, set MOTION to **ON**.
To enter the motion setup, push the joystick to right on the motion setup.

```

          MOTION SETUP
SENSITIVITY    : 12
POSITION       : ALL
DELAY          : 00SEC
OUTPUT         : OFF
HOLD TIME      : 03SEC
EXIT(ESC TO EXIT)

```

SENSITIVITY : 1-15
POSITION : ALL,CENTER(the center box displays): motion detection area.
DELAY : 00-05SEC : The delay time is used to make adjustments for scenes that have sudden changes such as lights and shadows created by headlights of nearby traffic. The motion action occurs only when the motion keeps continuously during the delay time,
OUTPUT : OFF,OUT1,OUT2,OUT3,OUT4: relay output
HOLD TIME : 03-99SEC: The hold time starts to count after the motion detects.

When a motion occurs, the dome activates the relay output, displays the message of "MOTION" on the screen, and sends the command of "ALARM 8" to the keyboard.

3.19 Motion Setup type 2 (35x model only)

The motion detection function is available in the preset mode only. After you set the motion in any preset, when you call the preset with the motion, the motion detection operates. In the preset setup, you can set the motion setup as below.

```

      PRESET SETUP
NUMBER   : 001
TITLE    : ---
CAMERA SET
DWELL    : --- SEC
          12345678901234567890
00 ■**-----
02 -----
04 -----
06 -----
NEXT PAGE
SAVE AND EXIT(ESC TO CANCEL)

```

```

      PRESET CAMERA SETUP

FOCUS           : AUTO
MOTION          : OFF
MOTION SETUP
AE SETUP
SAVE AND EXIT(ESC TO EXIT)

```

To enable the motion on the preset, set MOTION to **ON**.

To enter the motion setup, push the joystick to right on the motion setup.

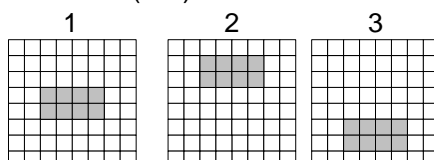
```

      MOTION SETUP
SENSITIVITY     : 05
POSITION        : 01
DELAY           : 00SEC
OUTPUT          : OFF
HOLD TIME       : 03SEC
EXIT(ESC TO EXIT)

```

SENSITIVITY : 1-5

POSITION : motion detection area.(1-3)



DELAY : 00-05SEC : The delay time is used to make adjustments for scenes that have sudden changes such as lights and shadows created by headlights of nearby traffic. The motion action occurs only when the motion keeps continuously during the delay time,

OUTPUT : OFF,OUT1,OUT2,OUT3,OUT4: relay output

HOLD TIME : 03-99SEC: The hold time starts to count after the motion detects.

When a motion occurs, the dome activates the relay output, displays the message of "MOTION" on the screen, and sends the command of "ALARM 8" to the keyboard.

NOTE: When you set the motion to **ON**, the camera switches to the manual focus and the AE mode in the AE setup and the image stabilization, WDR, and the auto night shot function will be disabled

Appendix A — Specifications

18x/22x/26x Optical Zoom Fastrax Dome System

MODEL	18X	26X	22X
Camera Menu Type	1	1	2
MODULE			
CCD Type	1/4" Type Ex-view CCD	1/4" Type Ex-view CCD	1/4" Type Super HAD CCD
Optical / Digital Zoom	18X/12X	26X/12X	22X/11X
Resolution (NTSC/PAL)	480/470TVL	480/470TVL	480/470TVL
Focal length	4.1mm~73.8mm	3.5mm~91mm	3.9mm~85.8mm
Angle of view	4.1mm-48°(H) 73.8mm-2.8°(H)	3.5mm-54.2°(H) 91mm-2.2°(H)	3.9mm-49.5°(H) 85.8mm-2.4°(H)
F-Number	F1.4-F3.0	F1.6-F3.8	F1.6-F3.6
Min. Illumination			
-Normal	0.7 Lux	1.0 Lux	1 Lux
-Low Shutter	0.1 Lux	0.07 Lux	0.02 Lux
-ICR on	-	0.15 Lux	0.1 Lux
-ICR on & Low Shutter	0.01 Lux	0.01 Lux	0.002 Lux
WDR	NO	NO	YES
ICR on	YES	YES	YES
DOME			
Tilt angle	-10° ~ 190° (Digital Flip)		-10° ~ 90° (Auto Flip)
Image Flip	YES		NO
Panning angle	360 continuous rotation		
Alarm (Optional)	8 inputs (NC/NO), 4 relay outputs		
Auto Scan	1 auto pan & 16 auto scan capability		
Preset	240 presets with individual camera AE setup		
Pattern	8 patterns (recording up to 500 sec)		
Tour	8 tours (consist of 42 functions/1tour)		
Max Speed	380° /sec		
Area Title	it can be divided 16 areas with 12 characters of title		
Privacy Zone	8 privacy zone masking (2 methods selectable : Block / video off)		

* Specifications are subject to change without notice *

35x/36x Optical Zoom Fastrax Dome System

MODEL	35X	36X
Camera Menu Type	3	1
MODULE		
CCD Type	1/4" Type Super HAD CCD	1/4" Type Ex-view CCD
Optical / Digital Zoom	35X / 12X	36X / 12X
Resolution (NTSC/PAL)	540TVL	540TVL
Focal length	3.4mm~119mm	3.4mm~122.4mm
Angle of view	3.4mm-55.8°(H) 119mm-1.7°(H)	3.4mm-57.8°(H) 122.4mm-1.7°(H)
F-Number	F1.4-F4.2	F1.6-F4.5
Min. Illumination		
-Normal	1.0 Lux	1.4 Lux
-Low Shutter	0.1 Lux	0.1 Lux
-ICR on & Low Shutter	0.01 Lux	0.01 Lux
ICR on (Day & Night)	YES	YES
WDR	YES	YES
Motion Detection(in PRESET)	YES	YES
Image Stabilizer	YES	NO
DOME		
Tilt angle	-10° ~ 190° (Digital Flip)	
Image Flip	YES	
Panning angle	360 continuous rotation	
Alarm (Optional)	8 inputs (NC/NO), 4 relay outputs	
Auto Scan	1 auto pan & 16 auto scan capability	
Preset	240 presets with individual camera AE setup	
Pattern	8 patterns (recording up to 500 sec)	
Tour	8 tours (consist of 42 functions/1tour)	
Max Speed	380° /sec	
Area Title	it can be divided 16 areas with 12 characters of title	
Privacy Zone	8 privacy zone masking (2 methods selectable : Block / video off)	

* Specifications are subject to change without notice *

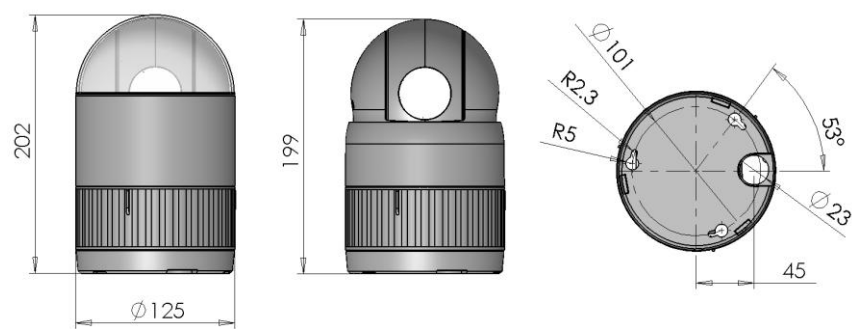


Figure 11 – Dimension

Appendix B — Troubleshooting

If problems occur, verify the installation of the camera with the instructions in this manual and with other operating equipment. Isolate the problem to the specific piece of equipment in the system and refer to the equipment manual for further information.

Problem	Possible Solution
No video.	Verify that power is connected to all pieces of equipment in the system. Verify that the power switches are in the ON position. Check the video connections
Poor video quality.	Check that the BNC connectors are inserted properly. Check the voltage level of the dome camera. Check that 8-pin cable is connected to the Keyboard. 8-pin cable for Keyboard is proprietary. Cable for video is shielded.
Dome cameras lose their positions.	Reset the cameras using the Dome configuration menus. Check that the dome cameras are inserted properly in the base. Check the voltage level of the dome camera.
Camera number does not match the multiplexer number.	Check the camera ID and insert the BNC cable into the proper input of the multiplexer.
Picture is torn when switching	Check Line Lock setting and adjust phase of L/L

Appendix C — Glossary

Alarm Actions

The assigned responses for the dome camera when inputs change from normal to abnormal states. The dome may run a Preset, Pattern, or have no assigned action for each of the four dome inputs. The dome may also send alarm states to the host controller for processing. See also Input and Normal Input State.

Areas

Programmed start and end points of the dome's field of view around its pan axis. Each area is a part of a circular viewing area that extends around the dome. The areas can be different sizes. Up to 16 areas can be programmed for the dome.

Automatic Gain Control (AGC)

Allows for the amplification of the video signal in scenes with minimal ambient light. Many low-light scenes result in picture noise. As gain is increased, the picture noise is also amplified. When AGC is enabled, the value of the gain setting is based on feedback from the camera. When AGC is disabled, the camera uses the value set for the manual gain setting. The trade-off between picture level and noise may be adjusted when AGC is disabled.

On-screen Menu

The text overlay menu system used for setting dome features. The utility is accessed using a keystroke combination. The utility provides settings for camera functions, zoom, alarms, text display, and password protection.

Flip

Allows the dome to automatically turn 180 degrees when the camera tilts to its lower limit and stays in that position for a brief delay. When the dome flips (rotates), the camera starts moving upward as long as the tilt control is kept in the down position. Once the control is released, the tilt control returns to its normal operational mode. The flip feature is useful when you need to track someone who walks directly beneath the dome and continues on the other side.

Home Position

The default position to which the dome camera returns after an assigned period of inactivity passes. The default position may be a Preset, Tour, Pattern, or No Action.

Input Alarm

A connection point on the dome camera that enables the system to monitor Input Devices. There are four inputs available for the dome camera.

Input Devices

External devices that provide information about the condition of system components that connect to the inputs on the dome camera. Typical input devices include door contacts, motion detectors and smoke detectors.

IR Mode

A feature of the camera that permits manual or automatic switching between color and IR (black-and-white) operation. When IR mode is active, clearer images may be obtained under low-light conditions.

Line Lock

Allows you to phase lock the video with the AC power line. When line lock is enabled, it prevents vertical video rolling when switching multiple cameras to a single monitor. If text appears slightly tinted on color monitors, disabling the line lock may prevent this problem.

Name Information

Relates to the display the dome name, the area where the dome is pointing, the name of the preset or pattern that is running, and alarm names. The display of each type of name setting can be enabled or disabled. When the display of camera or area title(name) is enabled, the information appears on the screen continuously. Preset, tour and pattern titles(names) appear only while they are active.

Normal Input State

Describes the expected state of a device connected to one of eight dome camera's inputs. The normal state may be open or closed. When a device is not in its normal input state, an alarm is issued.

North Position

User-definable setting that may correspond to magnetic north or some well-known landmark. Used to approximate the camera dome's pointing direction when Direction Indicators are enabled.

Slow Shutter

Setting used to improve the quality of video obtained in extreme low-light situations. When the Low Shutter setting is enabled, low-light information is collected over multiple fields based on the Shutter Limit setting. As a result, video may appear blurred or choppy in extreme low-light situations. This setting does not effect camera operation in normal lighting situations.

Pattern

A series of pan, tilt, zoom and focus movements from a single programmable dome. Up to 8 patterns may be programmed for the dome camera.

Preset

Programmed video scene, based on a specific pan, tilt, zoom, and focus settings. Up to 240 presets may be programmed for the dome camera.

Privacy Zones

Masked areas of the dome camera's viewing area. These masks prevent operators of the surveillance system from viewing these designated zones. The Privacy Zones move in relation to the dome camera's pan/tilt position. In addition, the apparent size of the Privacy Zone adjusts automatically as the lens zooms in or out. Up to eight Privacy Zones may be established for a dome camera.

Shutter Limit

Setting used to define the maximum exposure time for the Open Shutter setting. The values for the setting range from 1/2 to 1/60. The default setting is 1/4.

Vector Scan

Move from start point to end point including tilt and zoom simultaneously and linearly.

White balance

Adjustments in the color hue(red and blue) gains for a camera so that true white appears white in the image. It is normally compensated for by the automatic gain control. In some lighting conditions, you may need to manually adjust the red and blue settings for optimal viewing. When Automatic White Balance is enabled, the camera measures the image and automatically adjusts the red and blue settings to balance white. When Automatic White Balance is disabled, the camera uses the values set for the red and blue settings to balance white.

Appendix D — Short Cut Key

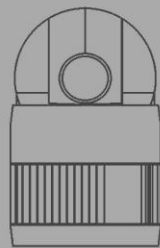
Short Cut Key	Function		
PRST	Pop up preset setup menu.		
TOUR	Pop up Tour setup menu.		
PTRN	Pop up Pattern setup menu.		
SCAN	Pop up Auto Scan setup menu.		
NO.+ PGM +PRST	Store the current view at the selected number.		
Short Cut Key	Function	Short Cut Key	Function
1 + ON	Turn On Relay 1.	1 + OFF	Turn Off Relay.
2 + ON	Turn On Relay 2.	2 + OFF	Turn Off Relay.
3 + ON	Turn On Relay 3.	3 + OFF	Turn Off Relay.
4 + ON	Turn On Relay 4.	4 + OFF	Turn Off Relay.
7 + ON	Change FOCUS to AUTO	7 + OFF	Change FOCUS to manual
8 + ON	Change AE to AUTO	8 + OFF	Change AE to manual
9 + ON	Change Night Shot to AUTO		
10 + ON	Night Shot on (go to the manual mode)	10 + OFF	Night Shot off (go to the manual mode)
11 + ON	BLC on (AE auto mode)	11 + OFF	BLC off (AE auto mode)
12 + ON	Digital Zoom on (According to digital zoom setting)	12 + OFF	Digital Zoom off
13 + ON	Dome OSD on	13 + OFF	Dome OSD off
14 + ON	Dome Area Title Display on	14 + OFF	Dome Area Title Display off
15 + ON	View Direction on	15 + OFF	View Direction off
100 + ON	Shutter speed auto		
101 + ON	Shutter speed 1/4(PAL 1/3)sec		
102 + ON	Shutter speed 1/2 sec		
103 + ON	Shutter speed 1 sec		
104 + ON	WDR ON	104 + OFF	WDR off
105 + ON	Image Stabilizer ON	105 + OFF	Image Stabilizer off
150 + ON	Image Flip ON	150 + OFF	Image Flip off
151 + ON	Origin Check		
152 + ON	Place the camera in the 0° area horizontally.		

* Some function may not operate according to the model.

Short Cut Key	Function	Short Cut Key	Function
153 + ON	Go to the slow speed mode	153 + OFF	Go to the normal speed mode
154 + ON	Display System Information		
155 + ON	Flip the camera in the 180° area horizontally.		
250 + PRESET	Set the dome ID up to 3999		
888 + ENTER	Night Shot on (in the global mode only)		
999 + ENTER	Night Shot off (in the global mode only)		

* Some function may not operate according to the model.

MEMO



Fastrax III
Speed Dome Camera