

# PTZ VANDAL RESISTANT COLOR DOME CAMERA

MINITRAX Dome Camera



**Surface mount**



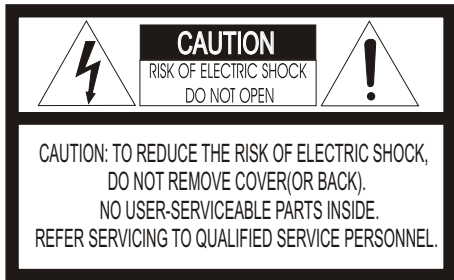
**Keyboard Controller  
(not supplied)**

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

## ■ WARNINGS AND CAUTIONS:

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.

## PRECAUTIONS

### Safety -----

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes. may block the ventilation holes.

Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

### Installation -----

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

### Cleaning -----

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

## ■ 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 are 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.

# ■ TABLE OF CONTENTS

## Chapter 1. INTRODUCTION

1.1 Features .....	1
1.2 Operation Requirements .....	2

## Chapter 2. INSTALLATION AND CONFIGURATION

2.1 Package Contents .....	3
2.2 Base Installation .....	3
2.3 Heater kit Installation (option) .....	6
2.4 Basic Configuration PTZ Dome Camera System .....	7
2.5 Setting Dome Camera Termination .....	8
2.6 Setting Protocol of Dome Camera .....	9
2.7 Setting Address (ID) of Dome Camera .....	10
2.8 Connecting Wiring .....	11

## Chapter 3. PROGRAM AND OPERATION

3.1 Main Menu .....	12
3.2 Preset Menu .....	13
3.3 Tour Menu .....	15
3.4 Auto Scan Menu .....	16
3.5 Alarm Menu .....	17
3.6 Camera Setup Menu .....	18
3.7 Dome Setup Menu .....	23

## Chapter 4. TROUBLESHOOTING AND MAINTENANCE

4.1 Troubleshooting .....	26
4.2 Preventive Maintenance .....	27

## Chapter 5. SPECIFICATIONS

5.1 General Specifications .....	28
5.2 Dimensions .....	30

APPENDIX. PELCO PROTOCOL FUNCTION TEST .....	30
--	----

# Chapter 1.

## Introduction

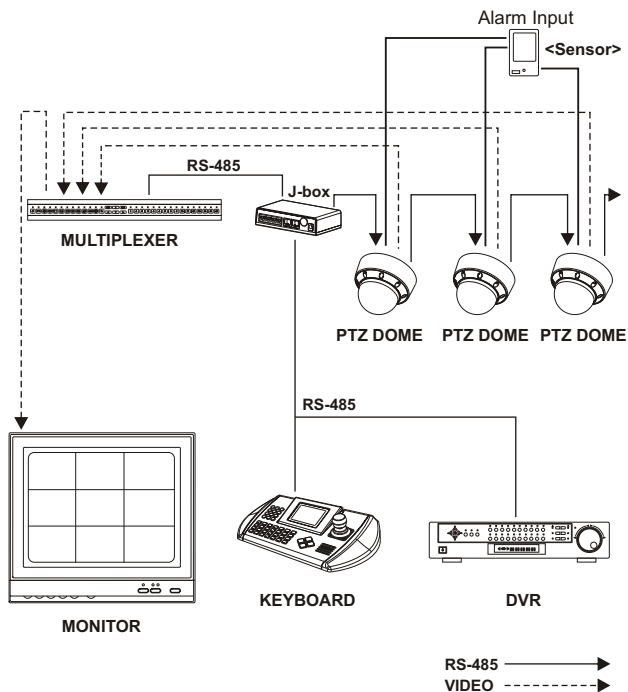
### 1.1 Features

---

The PTZ Dome keyboard controller and the PTZ Dome camera 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.

- 60 Preset positions.
- 4 Tours consist of Preset
- 4 Auto Scans
- Home Function: camera automatically goes to preset, tour, auto scan after the controller has been idle for an amount of time.
- 1 Alarm input (OFF / NC / NO) and 2 Alarm states (momentary, timeout).
- Programmable user preferences (alarm, preset, title, etc.).
- Up to 63 selectable camera addresses.
- Built-in RS-485 receiver driver.
- Clear bubble with black liner (shelter) for concealing the camera.
- Optional tinted bubble, wall mount.
- 24VAC or 12VDC
- If use 12VDC power adapter, use Certified/Listed Class 2 power supply transformer only
- Use Certified/Listed Class 2 power transformer only.

## 1.2 Operation Requirements



Typical System Configuration

# Chapter 2.

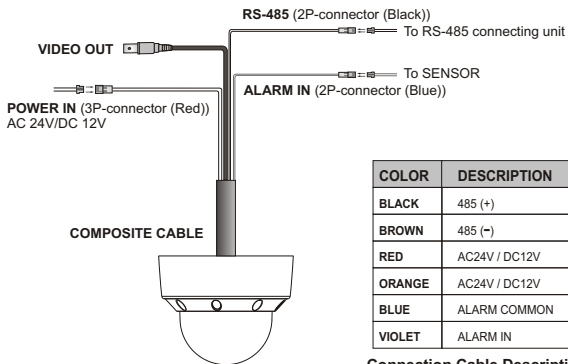
## Installation and Configuration

### 2.1 Package Contents

The package contains the following.

PTZ Dome (Dome camera) .....	1
Instruction manual (This document) .....	1
RS-485, ALARM IN, POWER IN connector .....	1
Accessory kit for installing PTZ Dome .....	1
Template sheet .....	1
Safety wire .....	1

### 2.2 Base Installation



Connection Cable Description

**Note:** When wiring, note the following:

- For the RS-485, ALARM IN cable, insulate the bare conductor part not to be exposed after wiring.
- For the video cable, keep the BNC connector (metal part) away from any other metal material.

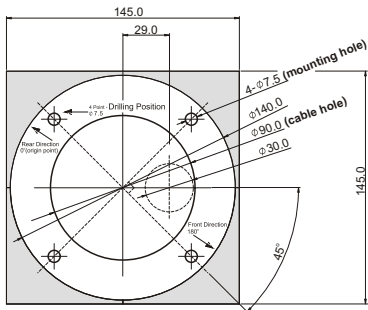


## 2.2 Base Installation, continued

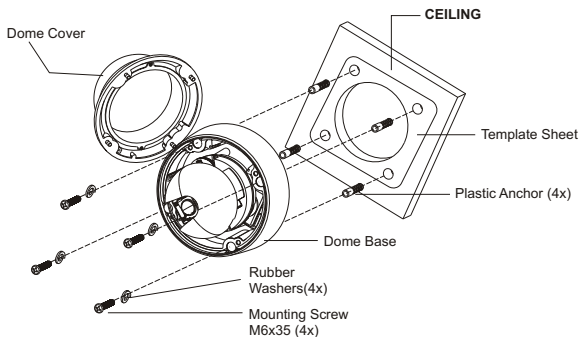
### [Installation]

1. Make mounting holes and cable hole in the place (ceiling) to which this dome camera is installed using the supplied template sheet.

**Warning:** The total mass of the main unit is approx 1.3kg. Check whether the ceiling to which the Dome Camera is installed is strong enough to hold the unit mass. If not, the Dome Camera could fall, causing injury.



TEMPLATE SHEET

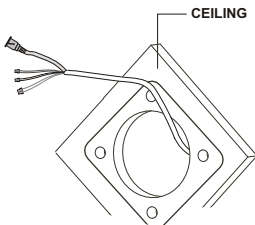
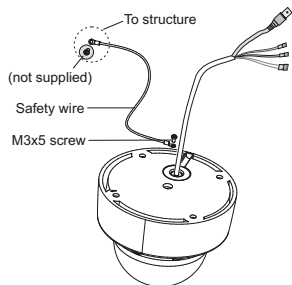


## 2.2 Base Installation, continued

2. Extract each wire through the cable hole and wire the supplied power, RS-485 and alarm-in connector .
3. Attach the safety wire for securing the dome camera to ceiling or structure not to fall.
4. Unlock 4 torx screws on the dome cover and lock the dome base firmly with supplied 4 fixing screws.

**Warning:** Fasten the fixing screws of the dome camera firmly, or the dome camera could fall, causing injury.

5. Lock the housing cover with 4 torx screws.

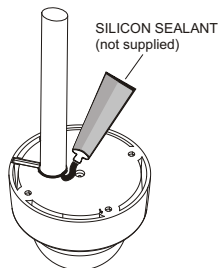
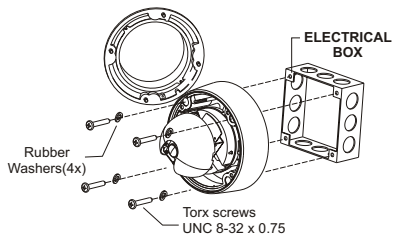


### • WHEN USING PIPE OR PLUG

If you want to use a pipe or plug, you should remove the hole grommet outside and seal using sealant (not supplied) not to be intruded water.

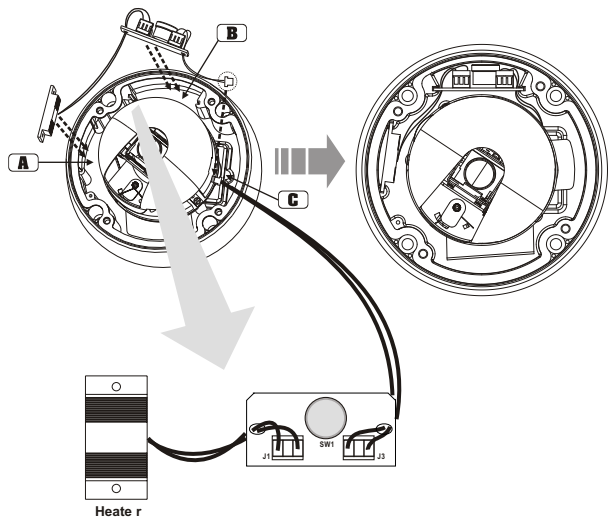
### • WHEN MOUNTING HOUSING TO THE ELECTRICAL BOX

The housing can also be mounted on a 4s or 2s electrical box.



## 2.3 Heater kit Installation (option)

1. Place the Heater element in slot "A". Please ensure that the cables are facing upwards and the heater is pointing towards the Dome.
2. Place the PCB in slot "B". Please ensure that the PCB is facing away from the Dome with the connection blocks at the top.
3. Place the plug in the Socket "C" (J701) which is found on the main PTZ board.



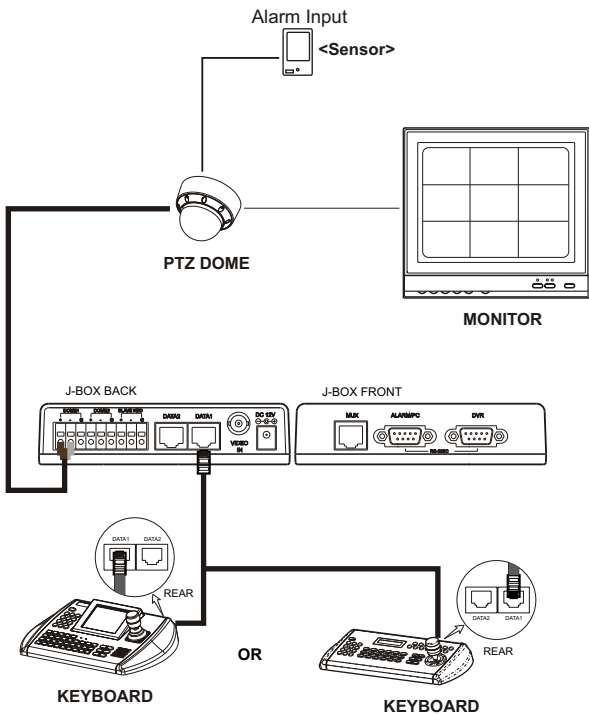
### • HEATER (IF APPLICABLE)

<b>Power Supply</b>	24VAC / 12VDC
<b>Power Consumption</b>	20W / 10W (heater on)
<b>Heater ON</b>	at 41°F (5°C)
<b>Heater OFF</b>	at 59°F (15°C)

### • POWER

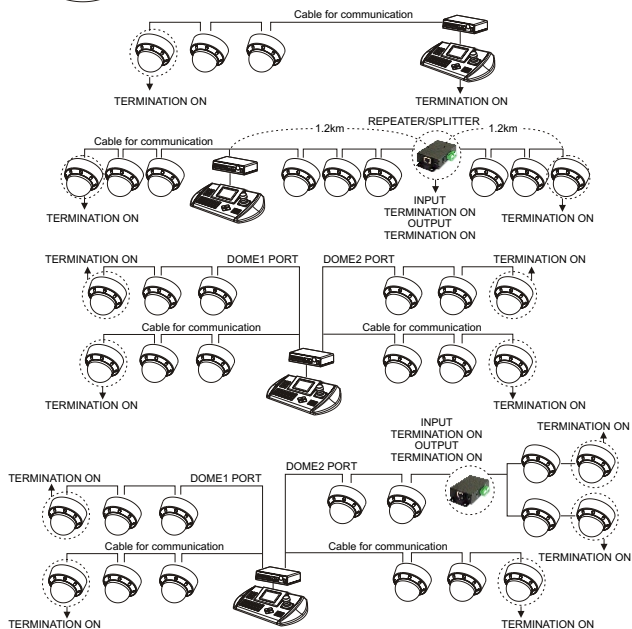
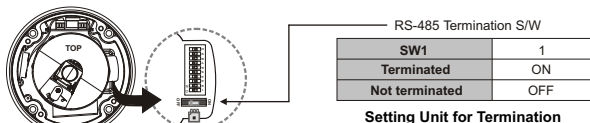
Use Certified/Listed Class 2 power supply transformer only.

## 2.4 Basic Configuration PTZ Dome Camera System



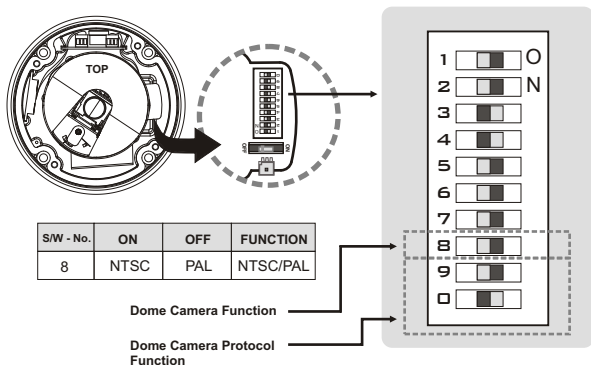
## 2.5 Setting Dome Camera Termination

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 1.2km.



## 2.6 Setting Protocol of Dome Camera

If a dome camera is to be installed with a PTZ Dome keyboard controller, select F2 protocol. Consult service personnel if a dome camera is installed with device other than a keyboard controller.



### Dome Camera Function Selection Switches

No. 9	No. 10	Protocol
ON	OFF	Fastrax-II
OFF	OFF	Pelco - D

Figure 1 - Dome Camera Protocol Selection Switches

## 2.7 Setting Address (ID) of Dome Camera

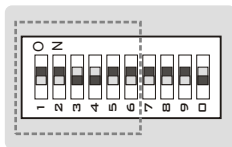
To prevent wrong operation and malfunction, each dome camera must have a unique address (ID).

When installing multiple dome cameras using a multiplexer, it is suggested that the dome camera address match the multiplexer port number.

**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 =16x(n-1)+m )

Refer to Figures 1-2 for setting the dome camera address (ID) and protocol selection.



### ID SETTING

ID Address	SW1	SW2	SW3	SW4	SW5	SW6	ID Address	SW1	SW2	SW3	SW4	SW5	SW6
1	ON	OFF	OFF	OFF	OFF	OFF	33	ON	OFF	OFF	OFF	OFF	ON
2	OFF	ON	OFF	OFF	OFF	OFF	34	OFF	ON	OFF	OFF	OFF	ON
3	ON	ON	OFF	OFF	OFF	OFF	35	ON	ON	OFF	OFF	OFF	ON
4	OFF	OFF	ON	OFF	OFF	OFF	36	OFF	OFF	ON	OFF	OFF	ON
5	ON	OFF	ON	OFF	OFF	OFF	37	ON	OFF	ON	OFF	OFF	ON
6	OFF	ON	ON	OFF	OFF	OFF	38	OFF	ON	ON	OFF	OFF	ON
7	ON	ON	ON	OFF	OFF	OFF	39	ON	ON	ON	OFF	OFF	ON
8	OFF	OFF	OFF	ON	OFF	OFF	40	OFF	OFF	OFF	ON	OFF	ON
9	ON	OFF	OFF	ON	OFF	OFF	41	ON	OFF	OFF	ON	OFF	ON
10	OFF	ON	OFF	ON	OFF	OFF	42	OFF	ON	OFF	ON	OFF	ON
11	ON	ON	OFF	ON	OFF	OFF	43	ON	ON	OFF	ON	OFF	ON
12	OFF	OFF	ON	ON	OFF	OFF	44	OFF	OFF	ON	ON	OFF	ON
13	ON	OFF	ON	ON	OFF	OFF	45	ON	OFF	ON	ON	OFF	ON
14	OFF	ON	ON	ON	OFF	OFF	46	OFF	ON	ON	ON	OFF	ON
15	ON	ON	ON	ON	OFF	OFF	47	ON	ON	ON	ON	OFF	ON
16	OFF	OFF	OFF	OFF	ON	OFF	48	OFF	OFF	OFF	OFF	ON	ON
17	ON	OFF	OFF	OFF	ON	OFF	49	ON	OFF	OFF	OFF	ON	ON
18	OFF	ON	OFF	OFF	ON	OFF	50	OFF	ON	OFF	OFF	ON	ON
19	ON	ON	OFF	OFF	ON	OFF	51	ON	ON	OFF	OFF	ON	ON
20	OFF	OFF	ON	OFF	ON	OFF	52	OFF	OFF	ON	OFF	ON	ON
21	ON	OFF	ON	OFF	ON	OFF	53	ON	OFF	ON	OFF	ON	ON
22	OFF	ON	ON	OFF	ON	OFF	54	OFF	ON	ON	OFF	ON	ON
23	ON	ON	ON	OFF	ON	OFF	55	ON	ON	ON	OFF	ON	ON
24	OFF	OFF	OFF	ON	ON	OFF	56	OFF	OFF	OFF	ON	ON	ON
25	ON	OFF	OFF	ON	ON	OFF	57	ON	OFF	OFF	ON	ON	ON
26	OFF	ON	OFF	ON	ON	OFF	58	OFF	ON	OFF	ON	ON	ON
27	ON	ON	OFF	ON	ON	OFF	59	ON	ON	OFF	ON	ON	ON
28	OFF	OFF	ON	ON	ON	OFF	60	OFF	ON	ON	ON	ON	ON
29	ON	OFF	ON	ON	ON	OFF	61	ON	OFF	ON	ON	ON	ON
30	OFF	ON	ON	ON	ON	OFF	62	OFF	ON	ON	ON	ON	ON
31	ON	ON	ON	ON	ON	OFF	63	ON	ON	ON	ON	ON	ON
32	OFF	OFF	OFF	OFF	OFF	ON							

Figure 2 - Setting Address(ID) of Dome Camera

## 2.8 Connecting Wiring

---

### 2.8-1 Connecting to the RS-485

The dome camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS-485 half-duplex. Connect Marked Rx+, Rx- to Tx+ and Tx- of the RS-485 control system.

### 2.8-2 Connecting Video out connector (if RS-485 connecting)

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

### 2.8-3 Connecting Alarms

- You can use external devices to trigger the dome camera to go to the preset position set in the alarm menu when an alarm occurs.
- **Alarm In / ALARM COMMON**

Mechanical or electrical switches can be wired to the ALARM IN and ALARM COMMON. The alarm input has a series resistor ( 1k ohm) and the pull-up resistor (22k ohm) on 5VDC. The alarm common is the ground level. The threshold voltage is 4.3V and should be stable for at least 0.5 seconds to be detected.

See Chapter 3 Program and Operation for configuring alarm input.



#### **CAUTION**

Be careful when routing the cable from the camera to the alarm device. Try not to put unnecessary strain on the cable or connectors. The cable can be damaged if pulled by the connectors. Do not place the cable next to fluorescent lights; interference may result. Do not use staples to support the cable, as you may damage the cable. If the provided camera cable is not long enough, do not substitute a telephone cable. Using a telephone cable could damage the camera and/or alarm device. Alarm cable may be added to the alarm device cable if it is not long enough. All connections should be properly connected and insulated to prevent electrical shock and fire hazards.



# Chapter 3.

## Program and Operation

### Notice

Below symbols mean some action of joystick controller.

▲ / ▼ : move joystick up and down direction.

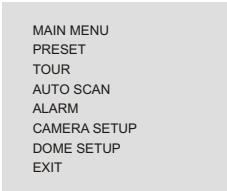
◀ / ▶ : move joystick left and right direction.

⦿ : twist joystick.

**KEY** : push defined key.

## 3.1 Main Menu

---



MAIN MENU  
PRESET  
TOUR  
AUTO SCAN  
ALARM  
CAMERA SETUP  
DOME SETUP  
EXIT

▲ / ▼ : move cursor up and down.

▶ : select.

◀ / **ESC** : move joystick left and right direction.

The **MAIN MENU** displays the available all functions of dome. You should press **MENU** key to display the **MAIN MENU**.

## 3.2 Preset Menu

---

```
PRESET MENU
NUMBER: 01
TITLE: -----
0/1234567890  1/1234567890
-----
2/1234567890  3/1234567890
-----
4/1234567890  5/1234567890
-----
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select or change values.
- 📷 : move dome camera to saved preset point at **NUMBER:xx**, or character at
- ◀/[ESC] : exit current menu without data saving.

If you need to view specific places routinely, you should program presets. A preset is a programmed video scene with memorized pan, tilt and zoom settings. Once programmed, selecting the preset number in your Keyboard or DVR automatically calls up the preset. In addition, presets may be assigned to the home function. The dome is capable of as many as 60 presets when using an external keyboard.

### 3.2-1 Set Presets using the MENU

1. Select the **NUMBER: 01** using the Joystick.
2. Press **[CTRL]** button to move the position of the dome then the message "CONTROL" displays on the screen.
3. Move the dome to the desired position using Joystick and set the zoom level using the zoom in or zoom out buttons.
4. Release **[CTRL]** button then the message of "CONTROL" disappears on the screen.
5. Select the **SAVE AND EXIT** to save the preset. Then the '=' mark changes to the '\*' mark. To exit without saving, select the **EXIT**.

To insert title, move cursor to **TITLE:** and set proper title by Joystick.

**Note:** the '=' mark means a blank preset and the '\*' mark means a pre-defined preset position.

## 3.2 Preset Menu, continued

---

### 3.2-2 Set Shortcut Preset

Press preset number key and press **PGM** and press **PRST** key. For example, if you want to save to number **1** preset point, press **1** key and press **PGM** key and press **PRST** key.

**NOTE:** You should save the preset number next to the last saved preset number. If you save the preset to the random number not the number next to the last saved preset number, that preset will not be saved.

### 3.2-3 Run Preset

Press preset number key and press **PRST** key. For example, if you want to go to number **3** preset point. Press **3** key and press **PRST** key. If you are in menu mode, twist the Joystick at the desired Preset Number. But the cursor has to be placed at the **NUMBER**..

## 3.3 Tour Menu

---

```
TOUR MENU
TOUR : 1
TITLE: -----
DWELL TIME: 05 SEC
-----
-- -- -- -- --
DELETE DATA
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select or change values.
- ⊙ : change the character at **TITLE** : or charge preset number on the -- mark.
- ◀/[ESC]: exit current menu without data saving.

### 3.3-1 Set Tours

Move cursor to **TOUR** : and set tour number by Joystick.

Move cursor to **TITLE** : and set proper title by Joystick.

Set dwell time at **DWELL TIME** :

Move cursor to -- and select proper preset number by Zoom In / Out.

Each point can be inserted progressively.

### 3.3-2 Run Tour

Press Tour number and press **TOUR** button. For example, you want to run tour course 2, press **2** and press **TOUR** button.

## 3.4 Auto Scan Menu

---

```
AUTO SCAN MENU
SCAN: 1
TITLE: -----
START POINT: 000.00
TILT AND ZOOM: 000.00
END POINT: 000.00
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select or change values.
- ⊙ : change the character at **TITLE**.
- ◀/ESC : exit current menu without data saving.

### 3.4-1 Set Auto Scans

Move cursor to **TITLE**: and set proper title by Zoom In / Out and Joystick. Move cursor to **START POINT**: Move camera to desired starting Pan point of auto scan range and set start point by pressing **CTRL**. (This will initiate scan control.) Do not release **CTRL** button until the setting is not completed.

Move cursor to **TILT AND ZOOM**: Move camera to desired Tilt point and Zoom position by pressing **CTRL** button. Do not release **CTRL** button until the setting is not completed.

Move cursor to **END POINT**: Move camera to desired ending Pan point of auto scan range and set end point by pressing **CTRL**. Do not release **CTRL** button until the setting is not completed.

Select **SAVE AND EXIT** to save the Auto Scan. Select **EXIT** if you want to exit without saving.

### 3.4-2 Run Auto Scan

Press number and press **SCAN** button. For example, you want to run auto scan course 4, press **4** and press **SCAN** button. If you are in menu mode, this is invalid.

## 3.5 Alarm Menu

---

ALARM MENU  
INPUT: OFF  
OPTION: MOMENTARY  
PRESET: 01  
DWELL TIME: ----  
SAVE AND EXIT  
EXIT

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : select.
- ⊙ : change options or values.
- ◀/[ESC] : exit current menu without data saving.

### 3.5-1 Set Alarm

- **INPUT : NC/NO/OFF**

You can select alarm input types here. **NC** means Normal Closed, **NO** means Normal Open. If you select input types as **OFF**, the alarm input is disregarded.

- **OPTION : TIME OUT/MOMENTARY**

- TIME OUT :**

- The alarm is automatically reset after the alarm duration Time has completed.

- MOMENTARY :**

- When alarm is triggered, the dome will maintain Alarm activation until it is reset manually.

- **PRESET : xx**

The selected preset number is called when the alarm is activated. The camera remains at the preset position during 'dwell time'. After dwell time, dome camera returns to previous function.

- **DWELL TIME : 5~99 SEC**

This menu is to set up the dwell time of alarm from 5sec up to 99sec. Dome returns to previous operation after alarm dwell time.

### 3.5-2 Release Alarm

If you want to release alarm, press **ALRM** button. This key is released alarm that any alarm option.

## 3.6 Camera Setup Menu

---

```
CAMERA SETUP MENU
FOCUS CONTROL
WB CONTROL
AE CONTROL
L/L CONTROL
PICTURE
INITIALIZE CAMERA
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select.
- ESC** : exit current menu without data saving.

### 3.6-1 Focus Control Menu

```
FOCUS CONTROL MENU
MODE: AUTO
DISTANCE: 0.1M
DIGITAL ZOOM: OFF
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select.
- ESC** : exit current menu.

#### 3.6.1-1 Set Focus Options

- **MODE : AUTO/MANUAL**

You can select focusing mode, auto or manual.

- **DISTANCE : 0.1/1.0/1.5/2.5/6.0M**

Camera doesn't focus nearer than this range.

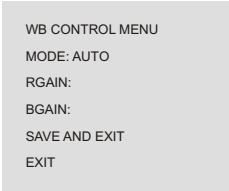
- **DIGITAL ZOOM : ON/OFF**

When this is set to **OFF**, camera zoom uses only optical zoom mode.

## 3.6 Camera Setup Menu, continued

---

### 3.6-2 Control Menu



```
WB CONTROL MENU
MODE: AUTO
RGAIN:
BGAIN:
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select.
- ESC** : exit current menu.

#### 3.6.2-1 Set White Balance Options

- **MODE : AUTO/INDOOR/OUTDOOR/MANUAL**

If the camera is in the indoor condition, use INDOOR mode.  
And when in the outdoor condition, the OUTDOOR mode.

- **RGAIN : 0~255**

Adjustment for red color gain. This can be set only in manual mode.

- **BGAIN : 0~255**

Adjustment for blue color gain. This can be set only in manual mode.



## 3.6 Camera Setup Menu, continued

---

### 3.6-3 AE Control Menu

```
AE CONTROL MENU
MODE: AUTO
IRIS:
GAIN:
SHUTTER:
BRIGHT: 30
BACK LIGHT: OFF
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select.
- ESC** : exit current menu.

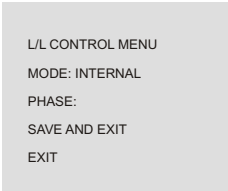
#### 3.6.3-1 Set Auto Exposure Options

- **MODE: AUTO/SHUTTER PRI/IRIS PRI/MANUAL/FLICKERLESS**
  - AUTO** means all function are activated automatically.
  - SHUTTER PRI**(ority) :means that you can set only shutter value and others are controlled automatically.
  - IRIS PRI**: You can set only iris value and others are automatic in mode.
  - MANUAL**: The camera is run manually in mode.
  - FLICKERLESS**: This function is used for removing flicker, when camera signal format does not coincide with power source frequency being used.
- **IRIS: F1.8/2/2.4/2.8/3.4/4/5.6/6.8/8/9.6/11/14/16/19/22/CLOSE**  
You can control lens's F number in this menu.
- **GAIN: 0~30**  
The value is changeable from 0 to 30.
- **SHUTTER: NORMAL/100/120/250/500/1000/2000/5000/10000**  
You can set shutter speed in this menu.
- **BRIGHT: 0~90**  
The brightness value is changeable from 0 to 90.
- **BACK LIGHT: ON/OFF**  
Back light compensation function is active when ON is set.

## 3.6 Camera Setup Menu, continued

---

### 3.6-4 L/L Control Menu



```
L/L CONTROL MENU
MODE: INTERNAL
PHASE:
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select.
- ESC** : exit current menu.

#### 3.6.4-1 Set Line Lock Control Options

- **MODE: INTERNAL/EXTERNAL**

You can select line lock source whether internal or external.

- **PHASE: 0~620(PAL) / 0~519(NTSC)**

If you selected external line lock source, you can control phase delay.

## 3.6 Camera Setup Menu, continued

---

### 3.6-5 Picture Menu



```
PICTURE MENU
MIRROR: OFF
SHARPNESS: 08
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ◀ / ▶ : move cursor left and right or select.
- [ESC]** : exit current menu.

#### 3.6.5-1 Set Miscellaneous Functions

- **MIRROR: ON/OFF**

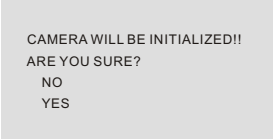
Video image can be reversed along vertical line.

- **SHARPNESS: 0~15**

Image's sharpness control value is changeable from 0 to 15.

#### 3.6-6 Initialize Camera

If you run this menu, camera's all setting options are initialized as default setting.

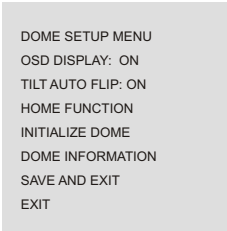


```
CAMERA WILL BE INITIALIZED!!
ARE YOU SURE?
NO
YES
```

- ▲ / ▼ : move cursor up and down.
- ▶ : select.
- ◀ / **[ESC]** : exit current menu without Initialization.

## 3.7 Dome Setup Menu

---

A screenshot of a menu titled "DOME SETUP MENU" with the following options listed vertically: "OSD DISPLAY: ON", "TILT AUTO FLIP: ON", "HOME FUNCTION", "INITIALIZE DOME", "DOME INFORMATION", "SAVE AND EXIT", and "EXIT".

DOME SETUP MENU  
OSD DISPLAY: ON  
TILT AUTO FLIP: ON  
HOME FUNCTION  
INITIALIZE DOME  
DOME INFORMATION  
SAVE AND EXIT  
EXIT

- ▲ / ▼ : move cursor up and down.
- ▶ : select.
- ⊙ : change options or values.
- ◀ / [ESC] : exit current menu.

### 3.7-1 OSD Display Option

The **OFF** option will not display any text on screen.

The **ON** option displays pan/tilt position information, title, etc.

### 3.7-2 Tilt Auto Flip

Allows the dome camera to automatically turn 180 degrees when the camera tilts to its lowest position.

When the camera reaches the floor 90 degree tilt down, it will stop.

Release the Joystick handle instantly and then pull down to run the flip function. The tracking speed will be the same as previous.

## 3.7 Dome Setup Menu, continued

---

### 3.7-3 Home Function Menu

```
HOME FUNCTION MENU
MODE : OFF
FUNCTION TYPE :
FUNCTION NUMBER :
DWELL TIME :
SAVE AND EXIT
EXIT
```

- ▲ / ▼ : move cursor up and down.
- ▶ : select.
- ⊙ : change options or values.
- ◀ / [ESC] : exit current menu.

- **Mode** : ON/OFF
- **Function type** : Preset / Tour / Auto scan
- **Function number** : xx
- **Dwell time** : 5 ~ 600sec.

The Home Function can be set so that the camera automatically goes to a preset, a tour or auto scan after the Keyboard control has been idle for some amount of time.

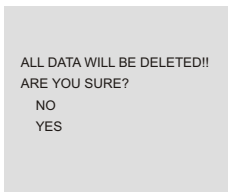
For example, if the Mode is **ON**, Function Type is Preset, Function Number is 5, Dwell Time is 10 seconds, the Joystick Controller is idle for 10 seconds, the camera goes to preset 5.

## 3.7 Dome Setup Menu, continued

---

### 3.7-4 Initialize Dome

If you select this menu, the caution message will be appeared like below. Dome initializing is available for dome data (preset, auto scan, tour). The camera setting is not initialized.



- ▲ / ▼ : move cursor up and down.
- ▶ : select.
- ◀ / **[ESC]**: exit current menu without initialization.

### 3.7-5 Dome Information



- ▲ / ▼ : move cursor up and down.
- ▶ : select.
- ◀ / **[ESC]**: exit current menu.

This menu just displays dome's software version information.

# Chapter 4.

## Troubleshooting and Maintenance

### 4.1 Troubleshooting

---

If you experience difficulties operating your camera, refer to the following. If the guidelines do not enable you to solve the problem, contact an authorized technician.

<b>PROBLEM</b>	<b>CHECK</b>
<b>Nothing appears on the screen.</b>	<ul style="list-style-type: none"><li>• Check all cable connections and the power of the interface unit.</li></ul>
<b>The image on the screen is dim.</b>	<ul style="list-style-type: none"><li>• Is the lens dirty? If so, clean the lens with a soft, clean cloth.</li></ul>
<b>The camera is not working properly and the surface of the camera case is hot.</b>	<ul style="list-style-type: none"><li>• Is the camera connected to the proper power?</li></ul>
<b>The contrast on the screen is too weak.</b>	<ul style="list-style-type: none"><li>• Adjust the contrast feature of the monitor.</li><li>• Is the camera exposed to strong light? If so, change the camera position.</li></ul>
<b>The image on the screen is flickers.</b>	<ul style="list-style-type: none"><li>• Does the camera face directly into the sun or fluorescent lighting? If so, reposition camera. Check for flickerless setting of the camera.</li></ul>

## 4.2 Preventive Maintenance

---

Following the preventive maintenance schedule allows detection and correction of minor faults before they become serious and cause equipment failure.

Periodically perform the following:

1. Inspect all connecting cables for deterioration or other damage.
2. Wipe housing with a clean damp cloth.  
Clean P.C.(LEXAN) dome/windows with an approved P.C.(LEXAN) Cleaner.\*
3. Verify that all the mounting hardware is secure.

\* (Novus LEXAN cleaner-plastic polish)



# Chapter 5. Specifications

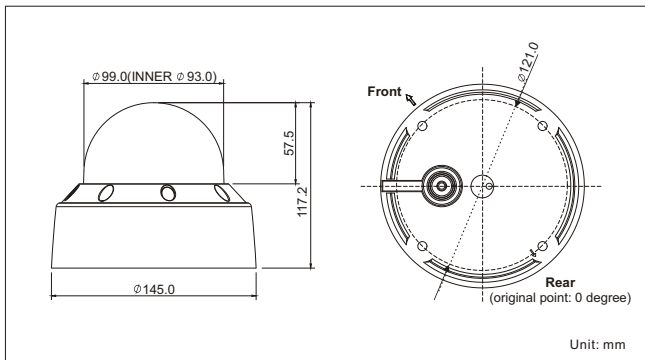
## 5.1 General Specifications

MODEL		NTSC type	PAL type
Scanning System		2:1 Interace	
Scanning Frequency (H/V)		15.734 KHz / 59.94 Hz	15.625 KHz / 50Hz
Image sensor		1/4" Sony Super-HAD Color CCD	
Effective Pixels No.		768(H) x 494(V)	752(H) x 582(V)
Resolution		430 TV lines	
Minimum Illumination		1.5 Lux	
Video Output Level		1.0Vp-p 75 ohms, composite	
S/N Ratio		48dB	
Lens		3.15mm ~ 31.5mm	
Effective View Angle		Approx. 48° (WIDE end) to 6.5° (TELE end)	
Sync System		Internal / External (Line Lock Auto Switching)	
Camera Control		RS-485 (Baud rate 9600bps.)	
FUNCTION	Focus Mode	Auto / Manual	
	Auto Exposure	Auto / Shutter PRI / Iris PRI / Manual	
	White Balance	Auto / Indoor / Outdoor / Manual	
	Iris Control	Auto / Manual (F1.8~F32)	
	Gain Control	AGC On / Off (30dB max.)	
	Shutter Speed	Normal~1/10,000	
	Back Light	On / Off	
	Sharpness	0 ~ 15 steps	
	Brightness	0 ~ 90 steps	
	Title	Title Display	
	Display	On / Off	

## 5.1 General Specifications, continued

MODEL		NTSC type	PAL type
F U N C T I O N	Picture	Mirror, Sharpness	
	Panning	0° ~ 359°	
	Tilting	0° ~ 90°	
	Panning Speed	Max. 120 /sec	
	Tilting Speed	Max. 120 /sec	
	Scanning Speed	7°/sec	
	Preset	60 Position	
	Tour	Course (1~4 x 16 Preset)	
	Auto Scanning	Course (4)	
	Alarm	NC / NO / OFF	
	Alarm State	Momentary / Timeout	
	Dome ID	63 ID	
Environmental Condition			
- Operation Temperature		-10°C ~ 40°C	
- Operation Humidity		0% ~ 96%	
- Storage Temperature		-20°C ~ 60°C	
Power Requirement		24VAC / 12VDC (Dual Power)	
Power Consumption		10W	
Dimensions (Diameter x Height)		∅145.0mm x 117.2mm (Bubble diameter ∅99.0mm)	
Weight		1.3kg	
Housing		Water & Weather proof housing is heavy duty die-cast aluminum	
Weatherproof IP66		Indoor / Outdoor, Wall or Ceiling	
Option		Wall or Ceiling mount bracket	

## 5.2 Dimensions



## APPENDIX. PELCO PROTOCOL FUNCTION TEST

FUNCTION	KEY	Preset No.	How To.	EXAMPLE
PRESET	PRESET	1-60	No. + Preset	1 + Preset
PRESET Shortcut saving	NOTE1	1-60	NOTE1	NOTE1
SCAN	PRESET	61-64	No. + Preset	61 + Preset
TOUR	PRESET	71-74	No. + Preset	71 + Preset
ALARM RESET	PRESET	90	No. + Preset	90 + Preset
DOME MENU	PRESET	95	No. + Preset	95 + Preset
ESC KEY	PRESET	96	No. + Preset	96 + Preset
CTRL_KEY(In Menu)	PRESET	95	No. + Preset	95 + Preset

### NOTE1

To program, position camera, enter desired preset number (1-60), and hold down PRESET for two seconds.

In CM6700 and CM6800 modes, a label appears on the monitor. Select SET and press ACK or tap the joystick to the right and release.

**PTZ VANDAL RESISTANT  
COLOR DOME CAMERA**

PRINTED IN KOREA

50302087D