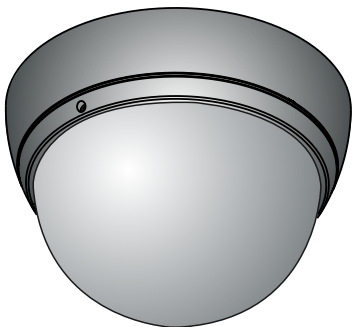


540TV Lines Super High Resolution Color Camera

3-AXIS PLASTIC DOME CAMERA

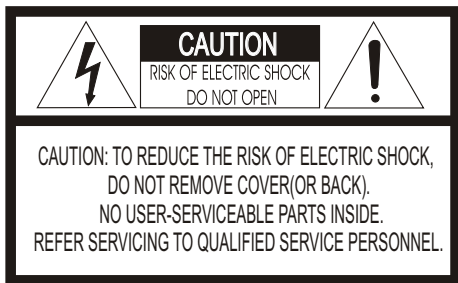


Please read this manual thoroughly before use, and keep it handy for future reference.

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.

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 AND RETAIN INSTRUCTIONS

Read the instruction manual before operating the equipment. Retain the manual for future reference.

2. CLEANING

Turn the unit off and unplug from the power outlet before cleaning. Use a damp cloth for cleaning. Do not use harsh cleansers or aerosol cleaners.

3. ATTACHMENTS

Do not use attachments unless recommended by manufacturer as they may affect the functionality of the unit and result in the risk of fire, electric shock or injury.

4. MOISTURE

Do not use equipment near water or other liquids.

5. ACCESSORIES

Equipment should be installed in a safe, stable location. Any wall or shelf mounting accessory equipment should be installed using the manufacturer's Instructions. Care should be used when moving heavy equipment. Quick stops, excessive force, and uneven surfaces may cause the equipment to fall causing serious injury to persons and objects.

6. VENTILATION

Openings in the equipment, if any, are provided for ventilation to ensure reliable operation of the unit and to protect it from overheating. These openings must not be blocked or covered

7. POWER SOURCES

The equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied at the installation location, contact your dealer. For equipment designed to operate from battery power, refer to the operating instructions.

8. GROUNDING OR POLARIZATION

Equipment that is powered through a polarized plug (a plug with one blade wider than the other) will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. Do not defeat the safety purpose of the polarized plug.

Alternate Warning: If the equipment is powered through a three-way grounding-type plug, a plug having a third (grounding) pin, the plug will only fit into a grounding-type power outlet. This is a safety feature. Do not defeat the safety purpose of the grounding-type plug. If your outlet does not have the grounding plug receptacle, contact your local electrician.

9. CORD AND CABLE PROTECTION

Route power cords and cables in a manner to protect them from damage by being walked on or pinched by items places upon or against them.

10. LIGHTNING

For protection of the equipment during a lightning storm or when it is left unattended and unused for long periods of time, unplug the unit from the wall outlet. Disconnect any antennas or cable systems

that may be connected to the equipment. This will prevent damage to the equipment due to Lightning or power-line surges.

11. OVERLOADING

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

12. SERVICING

Do not attempt to service the video monitor or equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

13. DAMAGE REQUIRING SERVICE

Unplug the equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- A. When the power supply cord or the plug has been damaged.
- B. If liquid has spilled or objects have fallen into the Unit.
- C. If the equipment has been exposed to water or other liquids.
- D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage to the unit.
- E. If the equipment has been dropped or the casing Damaged.
- F. When the equipment exhibits a distinct change in performance.

14. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

15. SAFETY CHECK

Upon completion of any service or repairs to the equipment, ask the service technician to perform safety checks to verify that the equipment is in proper operating condition.

16. FIELD INSTALLATION

The installation of equipment should be made by a qualified service person and should conform to all local codes.

17. 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.

17-1 Class 2 power source only.

17-2 Do NOT use power source other than that specified.

TABLE OF CONTENTS

INTRODUCTION	1
CAMERA CONNECTION	2
BASIC CAMERA INSTALLATION	3
INSTALLING & ADJUSTING CAMERA MODULE	4
BASE INSTALLATION	5
FUNCTION SWITCH	7
LENS ADJUSTMENT	8
DC AUTO IRIS LENS	8
DC AUTO IRIS ADJUSTMENT	8
TROUBLESHOOTING AND MAINTENANCE	9
SPECIFICATIONS	10
EXTERNAL DIMENSION	11

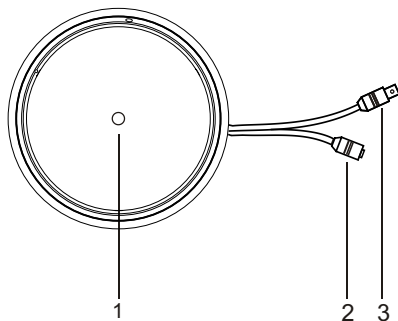
INTRODUCTION

The camera provides high-quality images using SONY CCD technology especially designed for closed-circuit television (CCTV) and security surveillance applications.


Features:

- High resolution and high performance 1/3" SONY Super HAD CCD Technology
- Excellent picture quality
- 540 lines(Color) of resolution
- 0.25 lux(Color) @ F 1.2 Sensitivity
- Auto electronic shutter [1/60(1/50) ~ 1/100,000] and manual electronic shutter modes
- Auto trace white balance modes
- BLC (Back Light Compensation)
- Day&Night (Auto / Color Fix)
- AGC (Auto Gain Control)
- Video out (BNC)
- 4-9mm D&N Auto Iris lens , 2.6-6mm D&N Auto Iris lens
- Operates in 12VDC
- Use Certified / Listed Class 2 power supply only.
- Camera Mount : camera mount directly to the wall or ceiling

CAMERA CONNECTIONS



1. Lens : Allows a wide area monitoring.

2. Power : 12V DC input 

power source from a DC 12V $\pm 10\%$

Use Certified/Listed Class 2 power supply transformer only.

*If use DC 12V power adaptor, use the power consumption 3W over.

3. Video : BNC connector used to connect the camera to a monitor, switcher, etc.



REMINDER:

Never aim the camera directly into the sun.

BASIC CAMERA INSTALLATION

Unpack and identify the following parts from the product carton:

A. Camera

B. Mounting screw

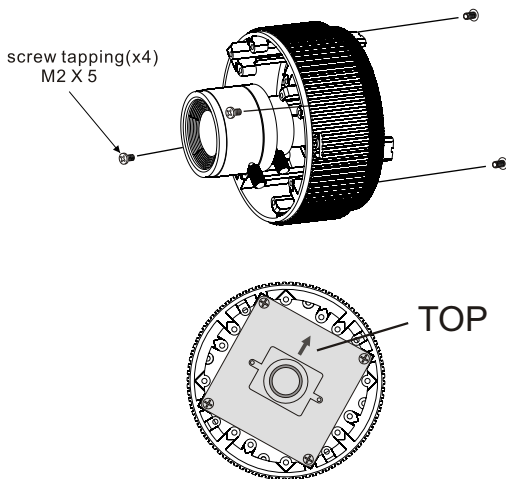
C. Instruction manual

D. Anchor



Note : Make sure the power is turned off when connecting the power adaptor cable.

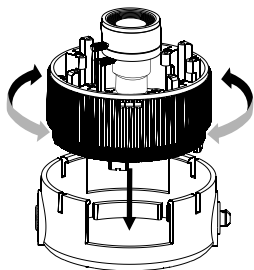
To mount the board camera on the camera mount bracket, place the four board camera supports on the four slot holes near the front and the rear of the camera mount bracket.



Note : Arrow mark indicates the top of the camera image.

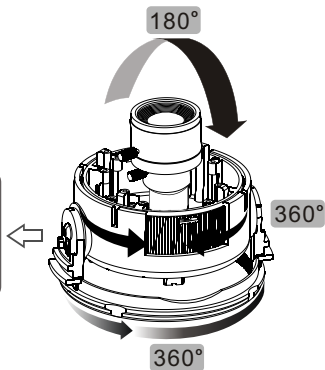
INSTALLING & ADJUSTING CAMERA MODULE

Use the following drawings to install the camera module to the housing.

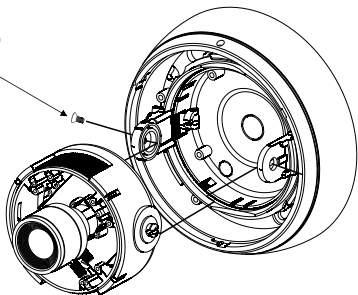


3-Axis Camera Construction

Camera lens can be moved horizontally or vertically and freely swiveled any angle.



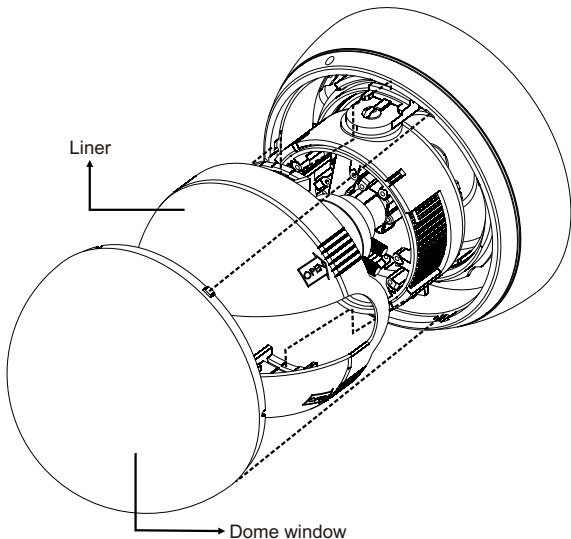
Screw Taptite(FC)
M3x6



BASE INSTALLATION

1

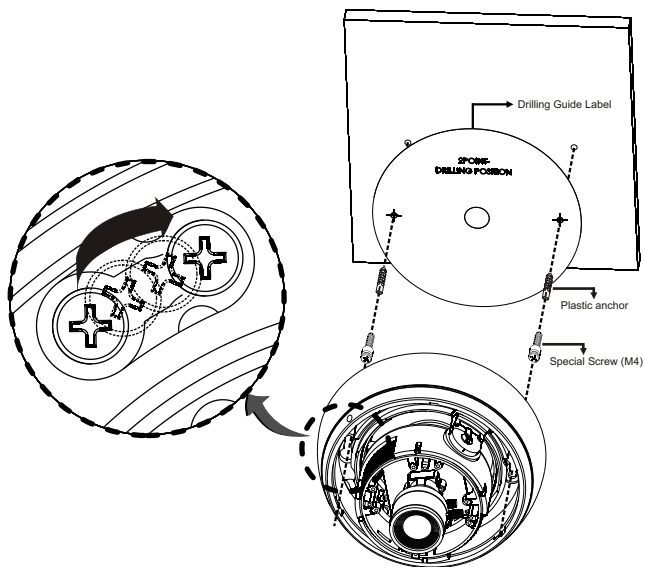
Make mounting holes and cable hole in the place (ceiling) to which this dome camera is installed using the Drilling guide label.



2

To remove dome cover, turn the dome cover counterclockwise until locators reach end of travel and pull off.
Push the liner in the direction of the arrow (three 'OPEN' marks) and pull it out.

BASE INSTALLATION, continued



3

Fasten Mounting screws(2X) and align the dome camera with it like above picture.

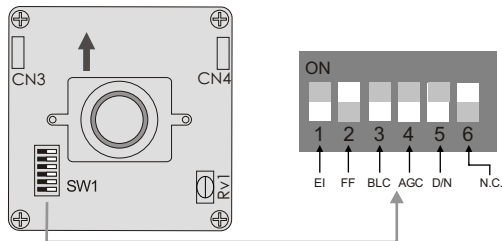
Turn the dome camera to left direction about 16 degree.

4

The assembly of the dome window cover and liner is in reverse order of disassembly

Finally, lock dome window cover with locking screw(M2X4) from the accessory kit.

FUNCTION SWITCH



<Figure.A>

1. E/I (on/off)

When set to the ON position, the electronic iris switch automatically varies the camera's shutter to mimic auto-iris control, allowing fixed or manual iris lenses to be used in a wider range. When this switch is set to ON, turn the F/F switch OFF.

2. FF (on/off)

This function is used for removing flicker, when camera signal format does not coincide with power source frequency being used.

3. BLC (on/off)

This on/off switch controls backlight compensation. When set to ON, the camera will automatically try to maintain proper exposure in the specific area even if the lighting level changes.

4. AGC (off/on)

The auto gain control switch allows the video signals to maintain a constant level. This switch is useful when using the camera at low-light levels and when lighting levels change over time. For best low light conditions, this switch should set to ON.

5. D/N (Auto/Color)

Use this switch to set the camera Day/Night mode Auto(ON) or Color(OFF)

Auto : D/N mode converse automatically (AGC must set to ON)

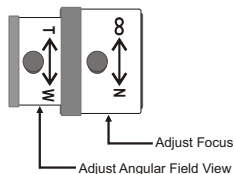
Color : Only Color

6. N.C (no function)

LENS ADJUSTMENT (OPTIONAL VARIFOCAL LENS)

Field of view: Adjust setting from Tele (T) to Wide (W) field of View.

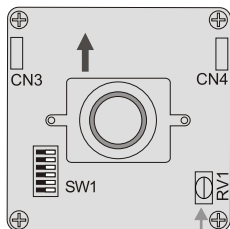
Focus: Adjust lens focus from near (N) to infinity (∞).



DC AUTO IRIS LENS

	4-9mm	2.6-6mm
Image Size	1/3" CCD	1/3" CCD
Focal Length	4.0-9.0mm $\pm 5\%$	2.6-6.0mm $\pm 5\%$
Aperture Ratio	1 : 1.6 $\pm 5\%$	1 : 1.6 $\pm 5\%$
Angular Field of View	DIAGONAL 4mm : 92.4° 9mm : 39.2°	DIAGONAL 2.6mm : 134.6° 6mm : 59.2°

DC AUTO IRIS ADJUSTMENT



IRIS LEVEL

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.

PROBLEM	CHECK
Nothing appears on the screen.	<ul style="list-style-type: none">• Is the cable connected between the camera and monitor?• Is there power to the monitor?
The image on the screen is dim.	<ul style="list-style-type: none">• Is the lens dirty? If so, clean the lens with a soft, clean cloth.
The contrast on the screen is too weak.	<ul style="list-style-type: none">• Adjust the contrast feature of the monitor.• Is the camera exposed to strong light? If so, change the camera position.
The image on the screen flickers.	<ul style="list-style-type: none">• Does the camera face directly into the sun or fluorescent lighting? If so, reposition camera.

PREVENTIVE MAINTENANCE

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

Every three months, perform the following:

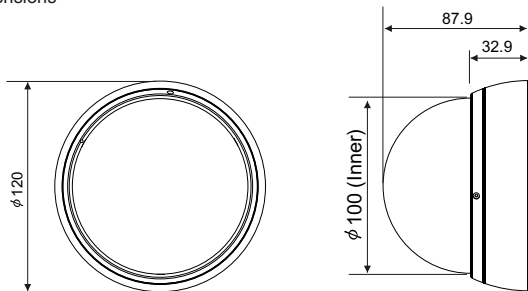
1. Inspect all connecting cables for deterioration or other damage.
2. Clean components with a clean damp cloth.
3. Verify that all the mounting hardware is secure.

SPECIFICATIONS

MODEL		NTSC	PAL
Power	Power source	DC 12V±10%	
	Power consumption	2.0 Watts	
General	Image sensor	1/3" SONY Super HAD CCD	
	Total pixels	811(H) x 508(V)	795(H) x 596(V)
	Scanning system	2:1 interlace	
	Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
	Sync. system	Internal	
	Electronic shutter	1/60 ~ 1/100,000 sec.	1/50 ~ 1/100,000 sec.
	Resolution	540 TV lines	
	Min. illumination	Color (0.25 Lux) @ F1.2, 50 IRE	
	Video output	1.0 Vp-p (75 ohm, composite)	
	S/N ratio	More than 50dB (AGC OFF)	
	Camera Control	Dip Switch	
	FUNCTION	E/I	ON/OFF
		Flickerless	ON/OFF
		BLC	ON/OFF
		AGC	ON/OFF
		Day/Night	Auto / Color Fix
		White Balance	ATW Fixed
Connector & etc.	Power input	DC Jack	
	Video output	BNC connector	
	Lens mount	Fixed mount	
	Lens	4-9mm , 2.6-6mm Vari-focal DC auto iris ICR	
	Operating temperature	-10°C ~ +40°C	
	Operating humidity	0 ~ 96% (non-condensing)	
	External dimension	ø120.0 x 87.9 mm (Bubble Diameter ø100)	
	Weight	270g	

EXTERNAL DIMENSION

Dimensions



Unit: mm

Maximum Camera and Lens Size	2.6L x 1.65W x 1.65H in. (6.5L x 4.2W x 4.2H cm)
Window Size	0.1 in. (2.5mm thick), impact-resistant P.C (LEXAN) 3.93 in. (10.0cm) diameter
Cable Entry	Two 0.3"(0.8cm) and one 0.5"(1.3cm) opening holes.
Weight - Unit: Shipping:	0.61 lb. (0.28 kg) 0.82 lb. (0.37 kg)

540TV Lines
Super High Resolution Color Camera