520TV Lines
Super High Resolution Color Camera

Model: RBULRJCAM (Bullet)
RDOMRJCAM (Dome)

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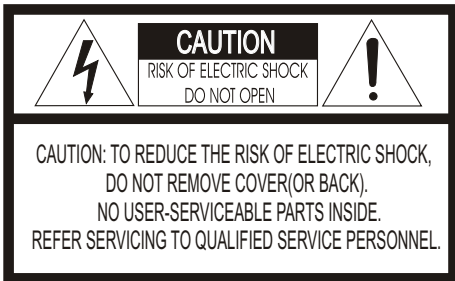
LIMITATION OF LIABILITY

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:

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        ⚡                CAUTION              !
                  RISK OF ELECTRIC SHOCK
                       DO NOT OPEN

    CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
                DO NOT REMOVE COVER(OR BACK).
              NO USER-SERVICEABLE PARTS INSIDE.
        REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
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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 oulet 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 benzine 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 thy 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.
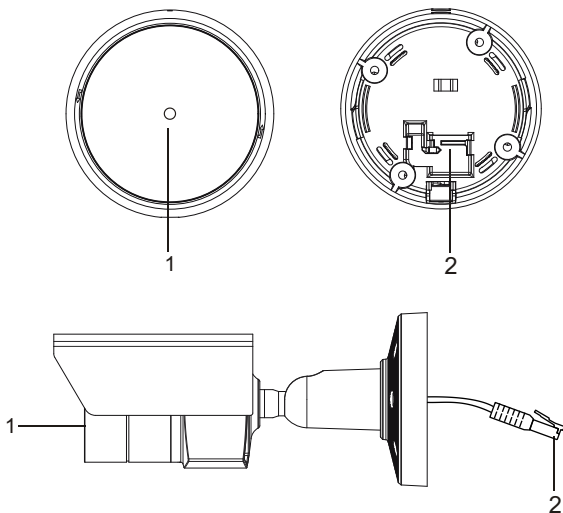
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INTRODUCTION

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

Features:

- High resolution and high performance 1/3" Sharp CCD Technology
- Excellent picture quality
- 520 lines(Color) of resolution
- 1.0 lux(Color) @ F1.2 Sensitivity (Dome)
- 1.0 lux(Color) , 0 lux (BW at IR ON) @ F1.2 Sensitivity (Bullet)
- Auto electronic shutter [1/60(1/50) ~ 1/100,000]
- Auto trace white balance mode
- BLC (Back Light Compensation)
- AGC (Auto Gain Control)
- Video Out (RJ12)
- 3.6mm Fixed Lens
- Operates in 12VDC (from DVR)
- Camera Mount : camera mount directly to the wall or ceiling

CAMERA CONNECTIONS

1. Lens : 3.6mm Fixed Lens for wide area monitoring.

2. Power Input / Video Output / Audio Output : 6pin Modular Connector.
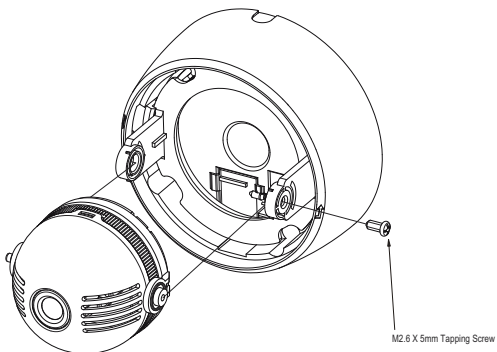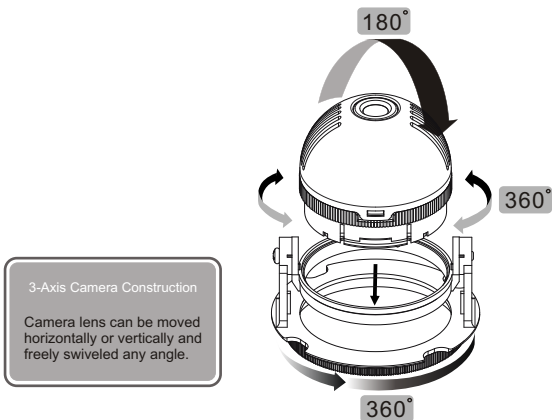Power source from DVR.

REMINDER:
Never aim the camera directly into the sun.

INSTALLING & ADJUSTING CAMERA MODULE
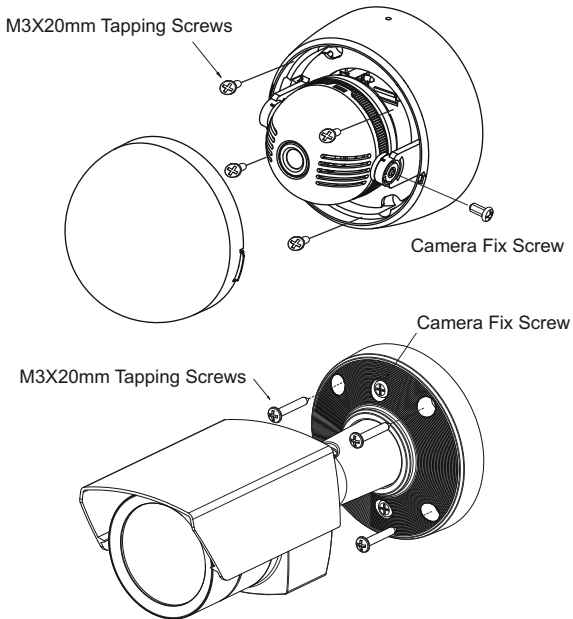
Use the following drawings to install the camera module to the housing.

180°

360°

3-Axis Camera Construction

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

360°

M2.6 X 5mm Tapping Screw

BASE INSTALLATION

M3X20mm Tapping Screws

Camera Fix Screw

Camera Fix Screw

M3X20mm Tapping Screws

❶ Fasten Camera Fix screw(1X) and align the dome camera with it like above picture.

Fasten Camera Fix Screws (2X) and align the bullet camera with it like above picture.

❷ Finally, lock dome window with locking screw(M3X20mm) in a accessory kit.

⚠ Maximum recommended load is 1.5kg.(Bullet Camera)

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.	• Is the cable connected between the camera and monitor? • Is there power to the monitor?
The image on the screen is dim.	• Is the lens dirty? If so, clean the lens with a soft, clean cloth.
The contrast on the screen is too weak.	• 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.	• 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.
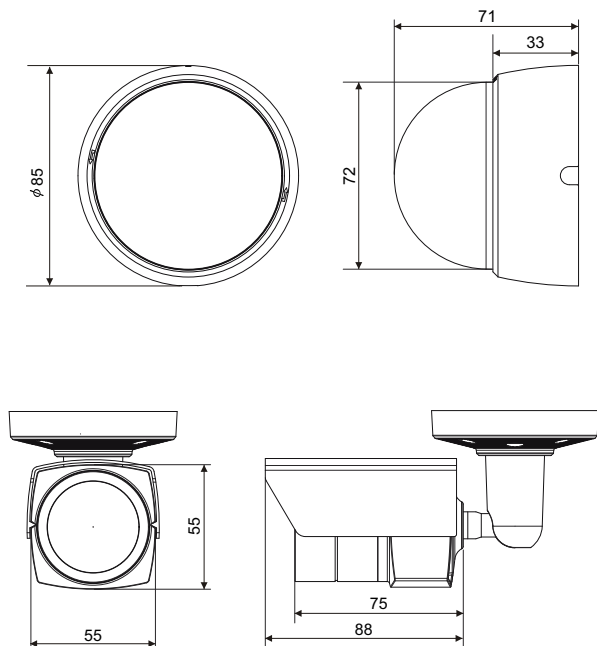
Every three months, perform the following:

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		RBULRJCAM	RDOMRJCAM
Power	Power source	DC 12V ± 0%	DC 12V ± 0%
	Power consumption	Max 3.0 Watts (IR LED ON)	Max 1.5 Watts
General	Image sensor	1/3" Color CCD	1/3" Color CCD
	Total Pixels	811(H) x 507(V)	811(H) x 507(V)
	Scanning system	2:1 interlace	2:1 interlace
	Scanning frequency	15.734KHz(H) x 59.94Hz(V)	15.734KHz(H) x 59.94Hz(V)
	Sync. system	Internal	Internal
	Electronic shutter	1/60 ~ 1/100,000 sec.	1/60 ~ 1/100,000 sec.
	Resolution	520 TV lines	520 TV lines
	Min. illumination	1.0 lux(Color), 0 lux(BW at IR ON) @ F1.2, 50 IRE	1.0 lux(Color) @ F1.2, 50 IRE
	IR LED / SENSOR	IR LED 12EA(850nm/30degree), Sensor 1EA	–
	LED Lighting Distance	Max 8m(Indoor)	–
	Video Output	1.0 Vp-p (75 ohm, composite)	1.0 Vp-p (75 ohm, composite)
	S/N Ratio	more than 50dB(AGC off)	more than 50dB(AGC off)
	Function — Auto Exposure	ON	ON
	Function — White Balance	AUTO	AUTO
	Function — Gain Control	AUTO	AUTO
	Function — Gamma	0.45	0.45
	Function — BLC	ON	ON
	Function — Day & Night	AUTO	–
Connector & etc.	Power input	RJ12	RJ12
	Video output	RJ12	RJ12
	Audio output	RJ12	RJ12
	Lens mount	Fixed mount	Fixed mount
	Lens	f3.6mm Fixed mount	f3.6mm Fixed mount
	Operating Temperature	14˚C ~ 122˚C (-10˚C~ +50˚C)	32˚C ~ 104˚C (0˚C~ +40˚C)
	Operating humidity	0 ~ 96% (non-condencing)	0 ~ 96% (non-condencing)
	External dimension	55.0(W) x 55.0(H) x 76.5(D) mm	Ø85.0(W) x 71.0(H)mm (Bubble Diameter Ø72.0)
	Weight	360 g	95 g

EXTERNAL DIMENSION

Dimensions

ϕ85

71

33

72

55

55

75

88

Unit: mm

OPTIONAL ACCESSORIES

The following accessories are available to add to your existing system

CAMERA
ADAPTOR CABLES

<PRJBNCCOUP>

CAMERA
ADAPTOR

<PRVPWRSUP>

CAMERA
EXTENSION CABLES

<R60RJ12C, R100RJ12C,
R200RJ12C, R300RJ12C>

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