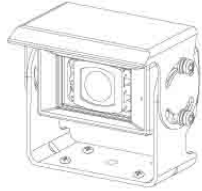


ECC-390 ECC-390H ECC-M390

Owner's Manual














- 1 COMPOSITION**
- 2 INSTALLATION**
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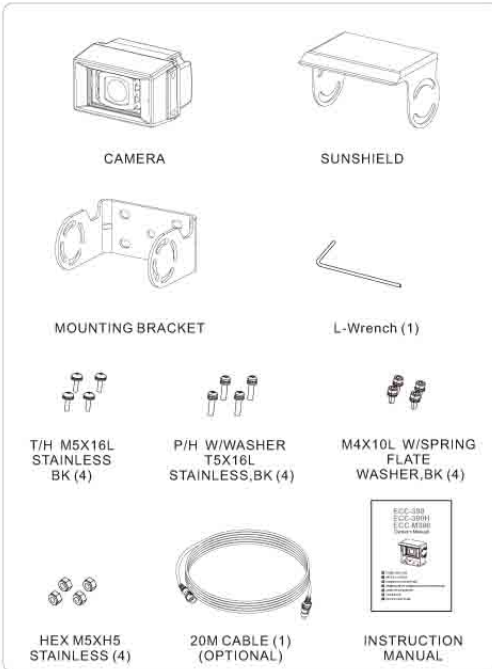
CAUTION BEFORE USAGE

-  1. PLEASE USE PRODUCTS AFTER READING MANUAL CAREFULLY FOR SAFE USAGE.
-  2. ASK EXPERIENCED TECHNICIAN FOR PRODUCTS INSTALLATION.
-  3. DO NOT OPEN OR MODIFY THE PRODUCTS. IT CAUSES PRODUCTS PROBLEM, AN ELECTRIC SHOCK & FIRE. ALSO, IT CAUSES WATERPROOF PROBLEM IN CASE OF WATERPROOF PRODUCTS. ASK YOUR DEALER FOR A/S IF YOU NEED REPAIRING.
-  4. DO NOT DROP OR GIVE EXTERNAL SHOCK TO THE PRODUCTS. IT CAUSES PRODUCT'S DISPLAY, FEATURE, MALFUNCTION OR COMPONENTS PROBLEM.
-  5. USE REGULATED VOLTAGE. MANUFACTURER DISCLAIM ALL THE RESPONSIBILITY FOR OVER VOLTAGE.
-  6. CONNECT MAIN POWER AFTER INSTALLATION.
-  7. USE SUPPLIED ACCESSORY & COMPONENTS. OTHERWISE, MANUFACTURER DISCLAIM ALL THE RESPONSIBILITY.
-  8. THE PRODUCTS IS DESIGNED FOR NORMAL CONDITION USAGE. PLEASE ASK OR DISCUSS WITH YOUR DEALER IF YOU USE THE PRODUCTS IN SPECIAL CONDITION. OTHERWISE, IT CAUSES PRODUCTS PROBLEMS IN ABNORMAL CONDITION USAGE.

SAFETY & CAUTION DURING THE USAGE

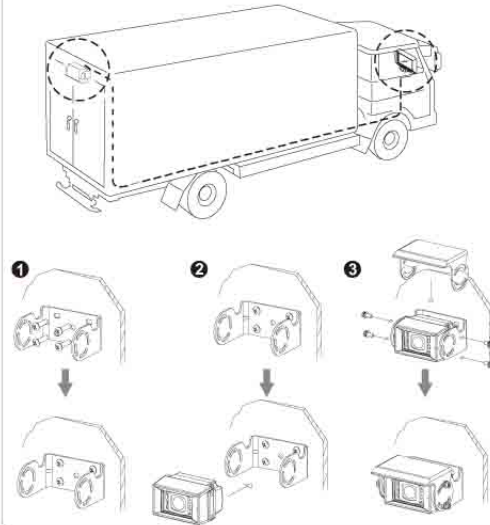
-  1. CHECK THE STATUS OF FIXED BRACKET BEFORE DRIVING. IT CAUSES PRODUCTS PROBLEM WHILE DRIVING. MANUFACTURER DISCLAIM ALL THE RESPONSIBILITY FOR USER'S FAULT.
-  2. DO NOT USE THE PRODUCTS IMMEDIATELY AFTER LEAVING IT ALONE FOR LONG PERIOD IN SUMMER OR WINTER.
-  3. DO NOT USE AND ASK YOUR DEALER IMMEDIATELY IN CASE OF BURNING SMELL OR OVER HEATING AT PRODUCTS.
-  4. DO NOT CUT THE CABLE, CUTTING CABLE CAUSES PRODUCT'S MALFUNCTION OR WATERPROOF FUNCTION DEFECTS. OTHERWISE, MANUFACTURER DISCLAIM ALL THE RESPONSIBILITY.
-  5. MAKE SURE TO CONNECT POWER CABLE & CAMERA CABLE IN RIGHT DIRECTION. IT CAUSES A DAMAGE TO THE PRODUCTS IN CASE OF THE WRONG WIRE CONNECTION.
-  6. TIGHTEN CONNECTORS IN CASE OF CONNECTING EXTENSION CABLE. OTHERWISE, IT CAUSES CONNECTION PROBLEM OR WATERPROOF FUNCTION DEFECT ON PRODUCTS.
-  7. DO NOT WRAP THE PRODUCTS WHILE OPERATING. IT CAUSES PRODUCTS PROBLEM OR FIRE
-  8. AVOID THE PRODUCTS IN ELECTROSTATIC CONDITION. IT CAUSES WRONG OPERATION.
-  9. DO NOT PILE UP HEAVY STUFF ON PRODUCTS. IT CAUSES PRODUCTS PROBLEM OR DAMAGE.
-  10. ASK YOUR DEALER AFTER DISCONNECTING POWER CABLE IN CASE OF FINDING ANY DEBRIS INSIDE OF PRODUCTS. IT CAUSES PRODUCTS PROBLEM OR AN ELECTRIC SHOCK.
-  11. DO NOT USE STRONG SOLVENTS SUCH AS THINNER OR BENZINE AS THEY MIGHT DAMAGE THE FINISH OF PRODUCTS OR PRODUCTS PROBLEM.

1 COMPOSITION



2 INSTALLATION

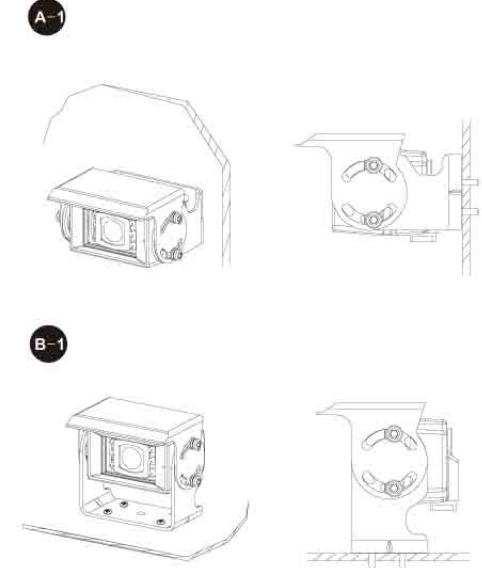
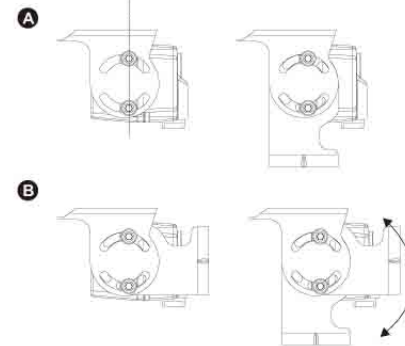
INSTALL CAMERA FIRMLY AT THE ADEQUATE POSITION OF VEHICLE AFTER CHECKING CAMERA'S FIELD OF VIEW. CAMERAS CAN BE INSTALLED AT SUITABLE POSITION OF VEHICLE'S REAR SIDE ACCORDING TO USER'S CONVENIENCE. ASK YOUR DEALER OR EXPERIENCED TECHNICIAN HOW TO INSTALL CAMERA & MONITOR DUE TO DIFFERENT TYPE OF VEHICLE.



- 2-1. FIX THE SUPPLIED MOUNTING BRACKET TO THE VEHICLE.
- 2-2. ADJUST ANGLE OF THE CAMERA.
- 2-3. ADJUST ANGLE OF SUNSHIELD AND FIX IT TO CAMERA. FASTEN THE SCREW FIRMLY AFTER ADJUSTING CAMERA & SUNSHIELD.

* ADJUST SUNSHIELD ANGLE TO AVOID LENS FIELD OF VIEW & SUN LIGHT.
* FASTEN THE SCREW FIRMLY TO AVOID PRODUCT'S DAMAGE OR OPERATION.

HOW TO ADJUST CAMERA SUNSHIELD & ANGLE

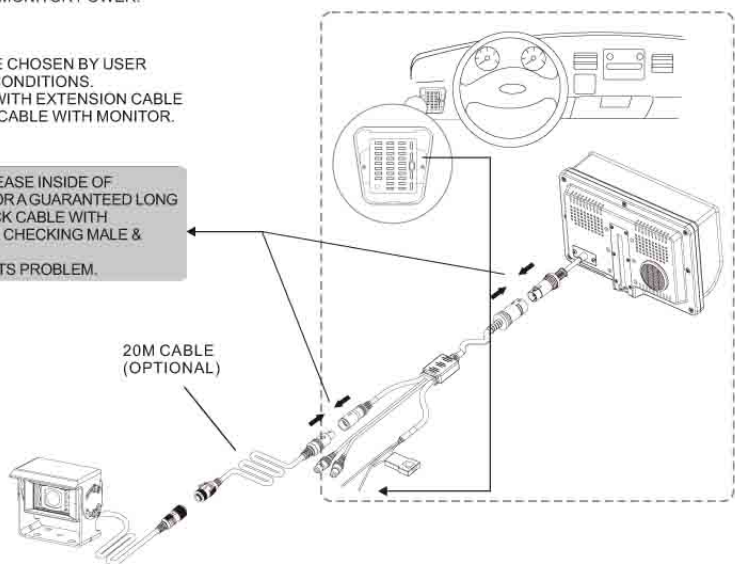


3 CONNECTION WIRING

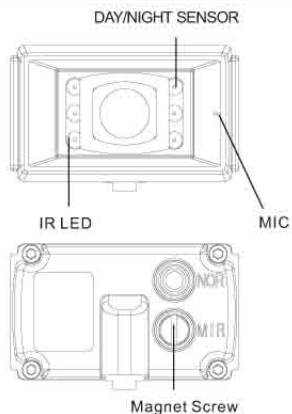
CONNECT CAMERA & MONITOR AFTER CHECKING SPECIFICATION OF MONITOR & EXTENSION CABLE. CONNECT POWER & GROUND WIRE OF MONITOR TO FUSE BOX OF VEHICLE WHEN YOU CONNECT MONITOR POWER.

* POWER CONNECTION SHOULD BE CHOSEN BY USER ACCORDING TO POWER SUPPLY CONDITIONS. CONNECT CAMERA BACK CABLE WITH EXTENSION CABLE AND THEN CONNECT EXTENSION CABLE WITH MONITOR.

USE ACID FREE VASELINE OR GREASE INSIDE OF CONNECTOR BEFORE FIXATION FOR A GUARANTEED LONG LIFETIME. CONNECT CAMERA BACK CABLE WITH EXTENSION CABLE FIRMLY AFTER CHECKING MALE & FEMALE CONNECTOR. OTHERWISE, IT CAUSES PRODUCTS PROBLEM.



6 FEATURES



- ECC390-1/3" CCD High Quality Image Sensor (SONY SUPER HAD)
- ECC390H-1/3" CCD High Quality Image Sensor (SONY SUPER HAD II)
- ECC-M390-1/4" CMOS Sensor
- Extra-wide Field of View
- Ultra Performance in Low Light With IR LED
- Normal/Mirror Image Switching(Patent Listed)
- Built in Microphone
- Vandal Resistant
- Automatic Heating Function
- Automatic Electronic Iris
- Wide Operating Temperature Range
- IP69K
- Optical Axis Correction

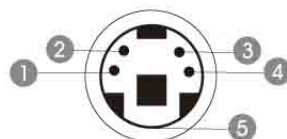


HOW TO CHANGE MIRROR & NORMAL IMAGE
CHANGE MAGNET SCREW POSITION, MIR OR NOR USING DRIVER.

4 CAMERA INPUT CONNECTOR PIN DESCRIPTION



4P IP CONNECTER



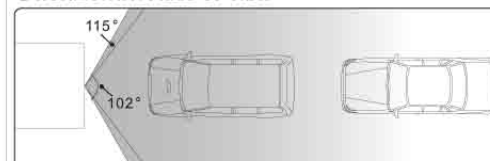
Pin No.	Description
1	Video Output
2	NC
3	Audio Output
4	Power DC 12V
5	Ground

5 LENS SPECIFICATION

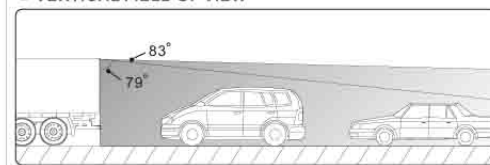
ECC-390/ECC-390H
 DIAGONAL ANGLE : 150 DEGREE
 HORIZONTAL ANGLE : 115 DEGREE
 VERTICAL ANGLE : 83 DEGREE

ECC-M390
 DIAGONAL ANGLE : 130 DEGREE
 HORIZONTAL ANGLE : 102 DEGREE
 VERTICAL ANGLE : 99 DEGREE

HORIZONTAL FIELD OF VIEW

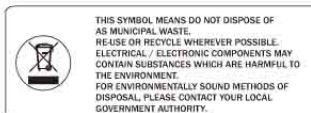


VERTICAL FIELD OF VIEW



7 SPECIFICATIONS

Model No.	ECC-390/ECC-390H/ECC-M390
Image	ECC-390/ECC-390H Interline transfer type CCD ECC-M390 Interline transfer type CMOS
Picture Element	ECC-390 NTSC: 270,000 pixels PAL: 320,000 pixels ECC-390H NTSC: 410,000 pixels PAL: 470,000 pixels
Image Size	ECC-M390 NTSC/PAL: 300,000 pixels ECC-390/ECC-390H 1/3 Inch ECC-M390 1/4 Inch
Lens	ECC-390/ECC-390H Diagonal Angle : 150 degree ECC-M390 Diagonal Angle : 130 degree
Synchronization	Internal
Horizontal Resolution	NTSC: More than 330TV lines PAL: More than 380TV lines
Min. Illumination	0 Lux W/ IR LED
Signal To Noise Ratio	Better than 50dB (at AGC off)
Power Supply	DC 12V
Power Consumption	Max. 3.0W
Vibration	7G
Impact	100G
IP Factor	IP 69K
Operation Temp.	-30℃~80℃ (-22°F~176°F)
Case Material	Window: Flat Glass Body: Aluminum
Weight	Approx. 210g
Dimensions	69(W) X 41(H) X 51(D)mm
Supplied Accessories	Sunshield Mounting Bracket Screw Kits 20M Cable (Optional) Instruction Manual



* Design and specifications are subject to change without notice.
* Patent registered.