MTB-7300

WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN

To reduce the risk of electric shock do not remove cover(or back)
No user serviceable parts inside. Refer servicing to qualified service personnel.

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 appliance.

Design and specification are subject to change without notice.

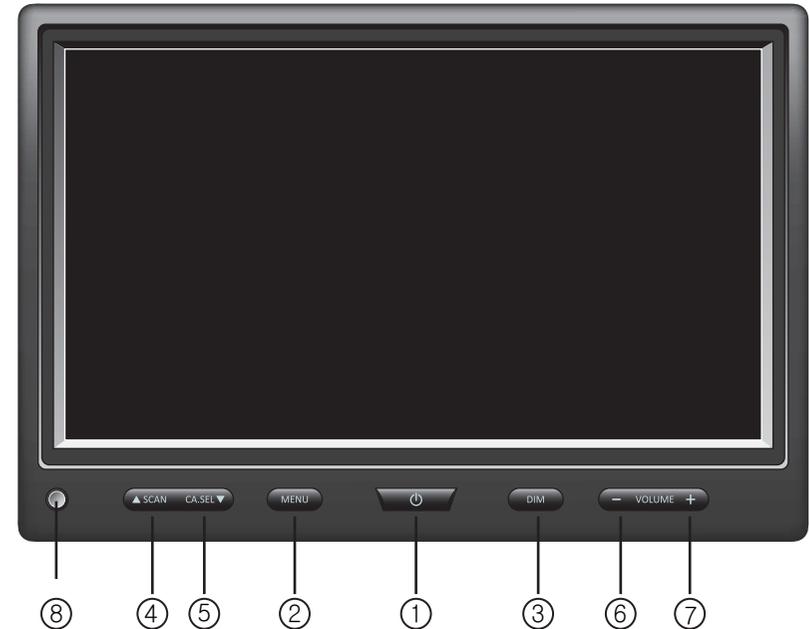SCAN   CA.SEL   MENU   DIM   — VOLUME +

USER GUIDE

Contents

I Features / Technical Specifications

MONITOR	SPECIFICATION	RESOLUTION	1440 (W) x 234(H) Pixels
		BRIGHTNESS	500 cd / m^2
		SCREEN MODE	4:3 / 16:9 WIDE SCREEN
		VIEW ANGLE	TOP: 40° BOTTOM: 60° LEFT: 60° RIGHT: 60°
		CAR REAR VIEW	AUTOMATIC SCREEN-ON (SIGNAL FROM "R"GEAR)
		HOUSING	RUBBER TOUCH NEUTRAL BLACK
		DISPLAY MODE	NOR./ MIR.& UP / DOWN IMAGE REVERSING
		3 CAMERAS INPUT	SHUTTER CAMERA (HEATER) NORMAL CAMERA
		POWER SOURCE	DC 10V ~ 30V (Free voltage)
		OPERATING TEMP.	-20°C ~ 70°C
		STARAGING TEMP.	-30°C ~ 85°C
		AUDIO OUTPUT	BUILT- IN SPEAKER (1W)
		REMOTE CONTROL	BUILT- IN REMOTE RECEIVER (OPTIONAL)
		DIMMER	BUILT- IN CDS SENSOR Automatical / Manual
	SIZE	DIMENSION	181(W) x 122 (H) x 24(D)mm (7.13x4.8x0.94 Inch)
		WEIGHT	450 (g)
CAMERA	WATERPROOF / SUN SHIELD / IR SENSOR / NORMAL / MIRROR / HEATER (OPTIONAL)		
ACCESSORIES	POWER & CAMERA INPUT CABLE / HEAVY DUTY BRACKET KIT / STAND BRACKET(OPTION) SUN SHIELD WITH PROTECTION RUBBER (PATENT PENDING)		

II Checking the main unit and supplied accessories
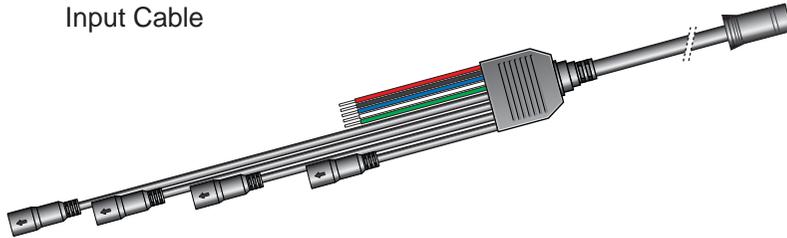
◆ MTB-7300 MONITOR

	▲ SCAN CA.SEL ▼	MENU	⏻	DIM	− VOLUME +
⑧	④ ⑤	②	①	③	⑥ ⑦

① POWER
② MENU
③ DIM
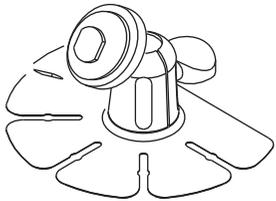④ SCAN(up)
⑤ CA.SEL(down)

⑥ VOLUME(down)
⑦ VOLUME(up)
⑧ Cds SENSOR

◆ Accessories

Supplied Accessories

- Power & Camera
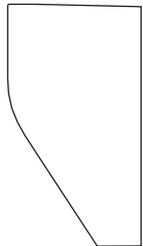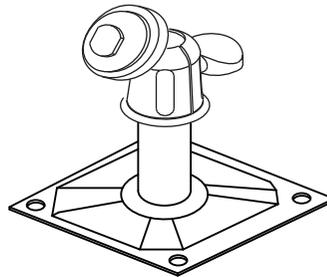 Input Cable

- Stand Bracket Kit (Option)

- Heavy Duty Bracket Kit

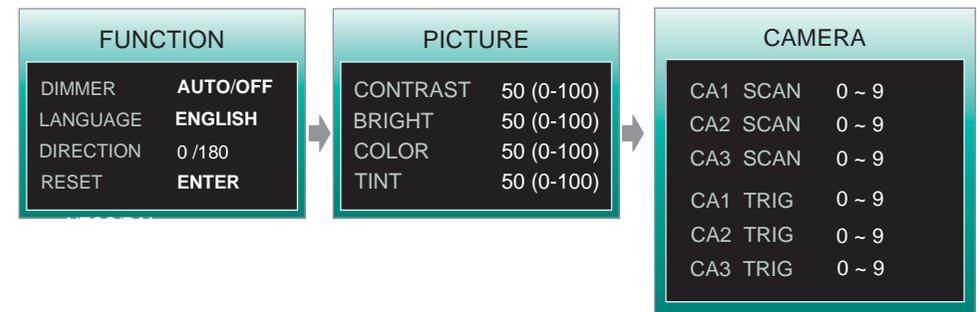- Rubber Sun Shield

- User's Guide

Ⅲ Operations

A Menu Control Keys

1 Power Key

- When POWER OFF (which means STANDBY state), the LED has
  RED color.

- After POWER ON, the LED in RED color is turned off and all
  LEDs light in GREEN color.

- After POWER ON, the LAST CHANNEL saved from its last operation
  is displayed on the monitor.
  (Factory Default).

- DIRECT POWER ON Subject To LAST POWER SAVE Mode:

* After starting up the vehicle engine, the monitor turns on automatically
  at the same time and the monitor starts displaying of the views from the
  cameras if the LAST POWER SAVE mode is ON.

  (1) If the vehicle engine had been turned off at the POWER ON state of monitor,
      the LAST POWER SAVE mode is ON (Factory Recommendation).
  (2) If the vehicle engine had been turned off after the POWER OFF of monitor,
      the LAST POWER SAVE mode is OFF.

2 Menu Key

- If the Menu Key is pressed at the POWER ON mode, the OSD appears
  in the monitor and the selected letters on OSD is classified in a different color.

- If pressing of the Menu Key is repeated in OSD state, the display
  is circled in regular sequence of FUNCTION → PICTURE → CAMERA → Clear of OSD.
  the sequence will be as below without the CAMERA OSD.
  FUNCTION → PICTURE → Clear of OSD.

FUNCTION	
DIMMER	**AUTO/OFF**
LANGUAGE	**ENGLISH**
DIRECTION	0 /180
RESET	**ENTER**

PICTURE	
CONTRAST	50 (0-100)
BRIGHT	50 (0-100)
COLOR	50 (0-100)
TINT	50 (0-100)

CAMERA		
CA1	SCAN	0 ~ 9
CA2	SCAN	0 ~ 9
CA3	SCAN	0 ~ 9
CA1	TRIG	0 ~ 9
CA2	TRIG	0 ~ 9
CA3	TRIG	0 ~ 9

3 DIMMER Key

- The brightness is adjusted manually at the POWER ON mode,
  if DIMMER is selected in OSD set-up.
  Pressing of DIMMER Key in this condition makes the change
  of brightness responding on every manual operation of the Key.

4 SCAN(Up) Key

- If pressing of the SCAN Key is repeated at the POWER ON mode, the display
  is revolved in sequence of SCAN1 → SCAN2 → SCAN3
- In OSD state, this SCAN Key is in use of moving a cursor to
  downward as well.

5 CA.SEL(down) Key

- If pressing of the CA.SEL Key is repeated at the POWER ON mode,
  the CHANNEL is changed in regular sequence of
  CA1→ CA2 → CA3

6.7 VOLUME Up / Down Key

- In OSD state, pressing of these VOLUME Up / Down KEYS makes
  the selected function to be adjusted and changed its status to new setup.

- Pressing of these VOLUME Up / Down KEYS at POWER ON mode makes
  that the audio volume of the monitor is increased and/or decreased.
  VOLUME Down KEY: To decrease the VOLUME
  VOLUME Up KEY: To increase the VOLUME
  Adjustable volume range from 0 to 100 (0 ~ 100)
  Factory Default: 50

VOLUME

50 [_____]

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1 FUNCTION

```
          FUNCTION

  DIMMER      AUTO/OFF
  LANGUAGE    ENGLISH
  DIRECTION   0 /180
  RESET       ENTER
```

● DIMMER SELECT KEY
- Locate the cursor at SELECT KEY by SCAN and/or CA.SEL Keys.
- Select DIM by VOLUME Up/Down Keys.
- DIM : Release AUTO DIMMER and adjust the brightness manually by
  pressing of DIMMER Key.

● Language : 6 Languages
   ENGLISH, GERMAN, FRENCH, ITALIAN, SPANISH, DUTCH
- Locate the cursor at LANGUAGE by SCAN and/or CA.SEL keys.
- Select the desired language by VOLUME Up/Down Keys.
- Factory default is ENGLISH.

● DIRECTION
- Locate the cursor at DIRECTION by SCAN and/or CA.SEL Keys.
- Select the desired direction by VOLUME Up/Down Keys.
- 0 : Normal Screen (Factory Default)
- 180 : Shifted Screen to 180°reversely.

```
                PICTURE

    CONTRAST    50 (0-100)
    BRIGHT      50 (0-100)
    COLOR       50 (0-100)
    TINT        50 (0-100)
```

● CONTRAST
 - Display PICTURE set-up Screen by pressing the MENU Key twice
   and locate the cursor at CONTRAST by SCAN and/or CA,SEL Keys.
 - Adjust the Contrast by the Volume Up/Down Keys.
   0 ~ 100 / 50 : Factory Default

● BRIGHTNESS
 - After locating the cursor at BRIGHT by SCAN and/or CA.SEL Keys,
   adjust the Brightness by the Volume Up/Down Keys.
   0 ~ 100 / 50 : Factory Default

● COLOR
 - After locating the cursor at COLOR by SCAN and/or CA.SEL Keys,
   adjust the Color by the Volume Up/Down Keys.
   0 ~ 100 / 50 : Factory Default

● TINT
 - After locating the cursor at TINT by SCAN and/or CA.SEL Keys,
   adjust the Tint by the Volume Up/Down Keys.
   0 ~100 / 50 : Factory Default

```
                CAMERA

    CA1  SCAN    0 ~ 9
    CA2  SCAN    0 ~ 9
    CA3  SCAN    0 ~ 9

    CA1  TRIG    0 ~ 9
    CA2  TRIG    0 ~ 9
    CA3  TRIG    0 ~ 9
```

● CA1 SCAN
 - After locating the cursor at CA 1 SCAN by SCAN and/or CA.SEL Keys,
   select the desired delaying time for the selected viewing mode among
   0 ~ 9 seconds by Volume Up/Down Keys.
 - Factory Default : 3 second

● CA2 SCAN
 - After locating the cursor at CA 2 SCAN by SCAN and/or CA.SEL Keys,
   select the desired delaying time for the selected viewing mode among
   0 ~ 9 seconds by Volume Up/Down Keys.
 - Factory Default : 3 seconds

● CA3 SCAN
 - After locating the cursor at CA 3 SCAN by SCAN and/or CA.SEL Keys,
   select the desired delaying time for the selected viewing mode among
   0 ~ 9 seconds by Volume Up/Down Keys.
 - Factory Default : 3 seconds

● CA1 TRIG
 - After locating the cursor at CA 1 TRIG by SCAN and/or CA.SEL Keys,
   select the desired delaying time for the selected viewing mode among
   0 ~ 9 seconds by Volume Up/Down Keys.
 - Factory Default : 3 seconds

● CA2 TRIG
 - After locating the cursor at CA 2 TRIG by SCAN and/or CA.SEL Keys,
   select the desired delaying time for the selected viewing mode among
   0 ~ 9 seconds by Volume Up/Down Keys.
 - Factory Default : 3 seconds

● CA3 TRIG
 - After locating the cursor at CA 3 TRIG by SCAN and/or CA.SEL Keys,
   select the desired delaying time for the selected viewing mode among
   0 ~ 9 seconds by Volume Up/Down Keys.
 - Factory Default : 3 seconds

CAMERA

CAM1 N/M	**NORMAL**/MIRROR
CAM2 N/M	**NORMAL**/MIRROR
CAM3 N/M	**NORMAL**/MIRROR
CAM1 DIST	**ON**/OFF
CAM2 DIST	ON/**OFF**
CAM3 DIST	ON/**OFF**

● CAMERA1
 - Display NOR/MIR set-up Screen by pressing the MENU Key 9 times
   and locate the cursor at CAM1 by SCAN and/or CA.SEL Keys.
 - Select the desired viewing mode between NOR and MIR by Volume Up/Down Keys.
 - NOR : Normal Image / Factory Default
   MIR : Mirror Image
   (Symmetrically Reversed Image of Left & Right against Normal Image)

● CAMERA2
 - After locating the cursor at CAM2 by SCAN and/or CA.SEL Keys,
   select the desired viewing mode between NOR and MIR by Volume
   Up/Down Keys.
 - NOR : Normal Image / Factory Default
   MIR : Mirror Image
   (Symmetrically Reversed Image of Left & Right against Normal Image)

● CAMERA3
 - After locating the cursor at CAM3 by SCAN and/or CA.SEL Keys,
   select the desired viewing mode between NOR and MIR by Volume Up/Down Keys.
 - NOR : Normal Image / Factory Default
   MIR : Mirror Image
   (Symmetrically Reversed Image of Left & Right against Normal Image)

● DISTANCE
- Locate the cursor at DISTANCE by SCAN and/or CA.SEL Keys.
- Select ON or OFF by VOLUME Up/Down Keys.
- ON : The rear scale OSD is displayed on the monitor.(Factory Default)
- OFF: No rear scale OSD is displayed on the monitor.
- From the POWER OFF state of the monitor, if the CA1~3 is turned on by
  Trigger1 ~ 3, the rear scale OSD is displayed on the monitor but DISTANCE must be
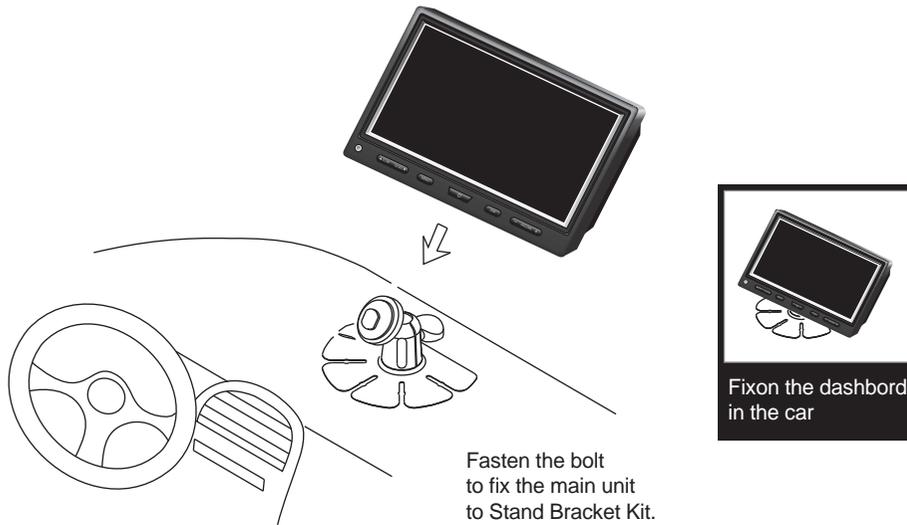 ON in OSD setting.

CAM MODUS

| CA 1 | **NORMAL**/SHUTTER |
| CA 3 | **ON**/OFF |

● CAM / MODUS
 - Display CAM / MODUS set-up Screen by pressing the MENU Key 9 times and locate the
   cursor at CAM / MODUS by SCAN and/or CA.SEL Keys.

 - After locating the cursor at CA1 by SCAN and/or CA.SEL Keys,select the desired
   CAM / MODUS to view among the cameras NORMAL/MIRROR by Volume Up/Down Keys.

 - After locating the cursor at CA3 by SCAN and/or CA.SEL Keys,select the desired
   CAM / MODUS to view among the cameras ON/OFF by Volume Up/Down Keys.
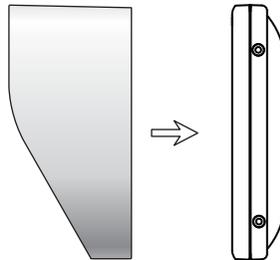
Ⅳ Using MTB-10C in the Vehicle

◆ For using MTB-10C on the dashboard

- ○ After connecting power to the unit through the Cigarette adaptor, press [Power button] on the main unit or on the Remote Control to power on.
- ○ Set up MTB-10C with Stand Bracket Kit and fix the Stand Bracket Kit on the dashboard of the car.

Fixon the dashbord in the car

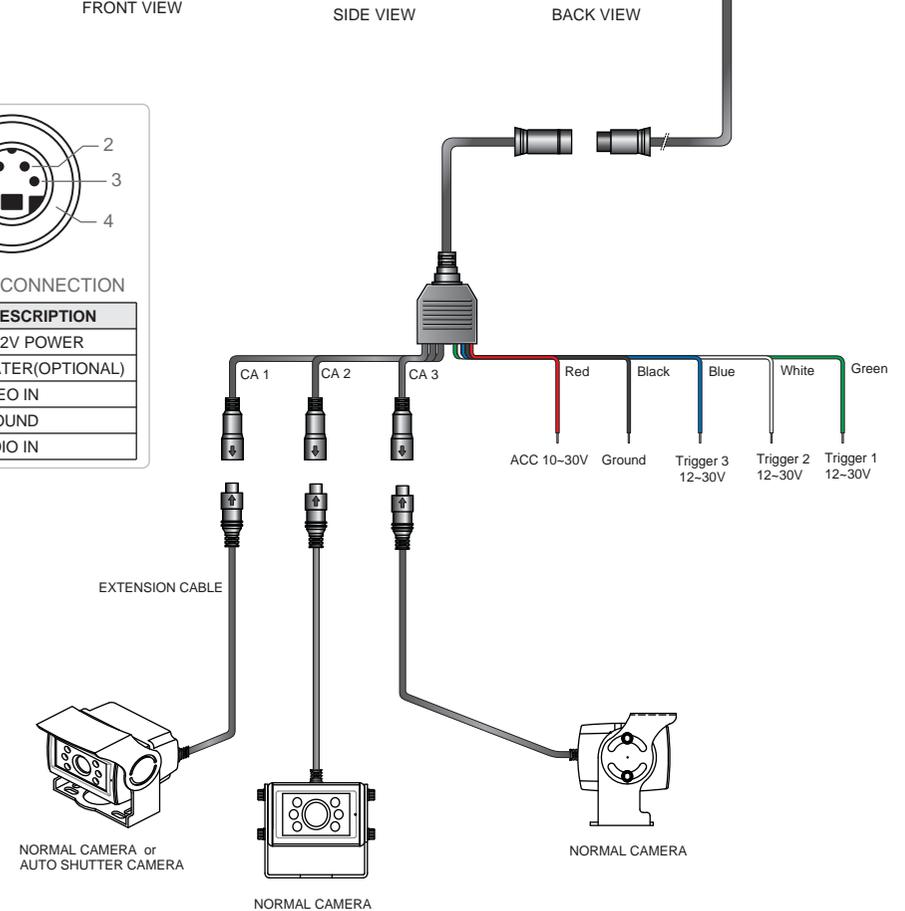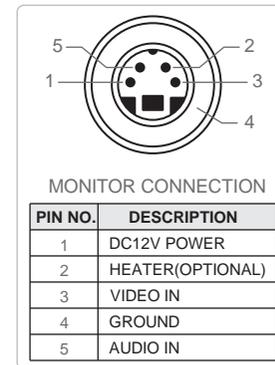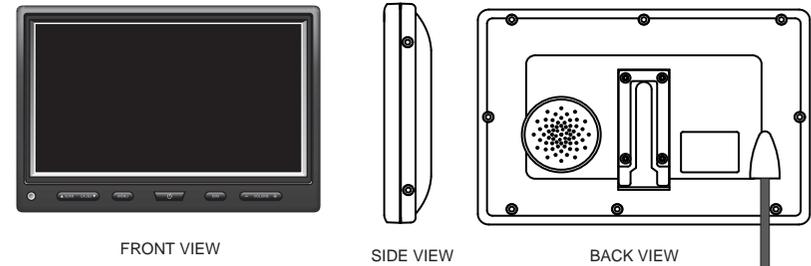Fasten the bolt to fix the main unit to Stand Bracket Kit.

Ⅴ Sun Shield

By setting up MTB-10C with the Sun Shield which has the rubber guide for protection,
the MTB-10C will be shielded off the direct sunlight.

The Sun Shield will offer visual comfort for driving and will make driving safer & more comfortable.

Ⅵ System Wiring

FRONT VIEW   SIDE VIEW   BACK VIEW

MONITOR CONNECTION

PIN NO.	DESCRIPTION
1	DC12V POWER
2	HEATER(OPTIONAL)
3	VIDEO IN
4	GROUND
5	AUDIO IN

CA 1   CA 2   CA 3   Red   Black   Blue   White   Green

ACC 10~30V   Ground   Trigger 3 12~30V   Trigger 2 12~30V   Trigger 1 12~30V

EXTENSION CABLE

NORMAL CAMERA or
AUTO SHUTTER CAMERA

NORMAL CAMERA

NORMAL CAMERA
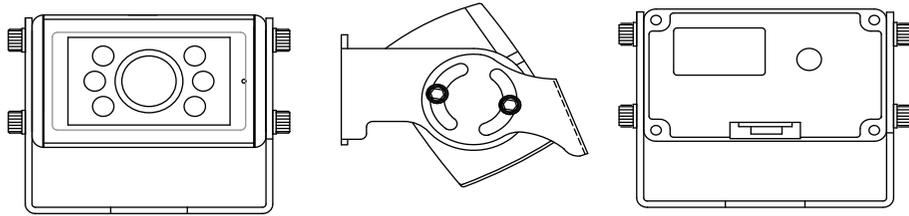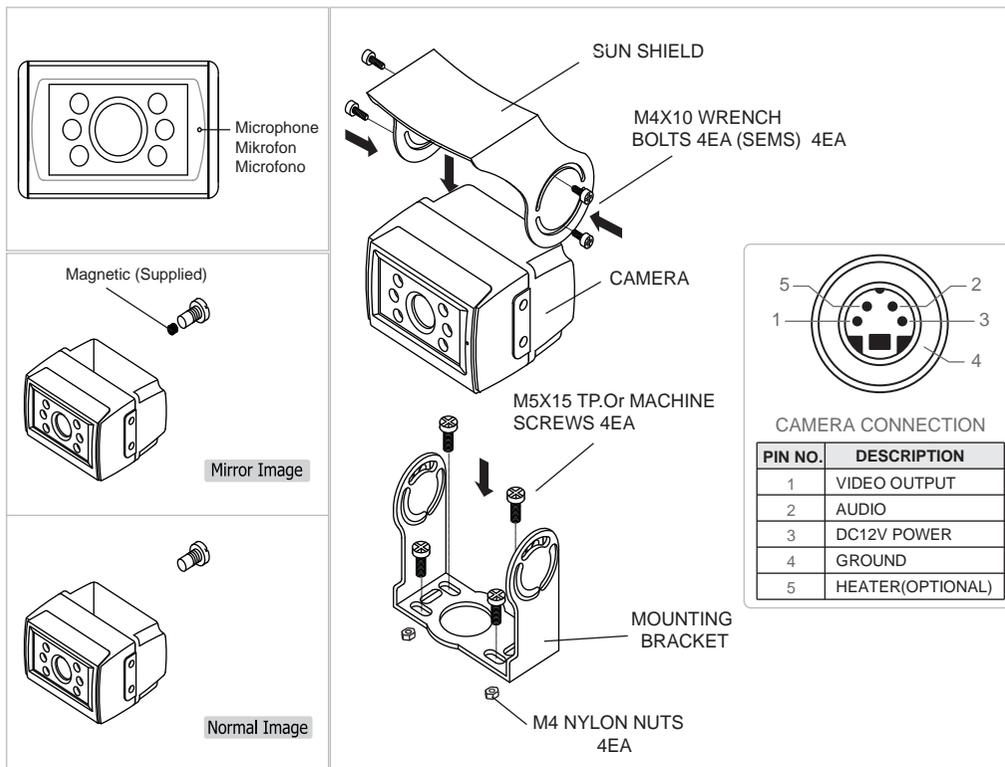
Ⅶ MTB-10C Rear View Camera

○ Waterproof Aluminium Diecasted Low Illumination Color CCD Camera.
○ Mirror & Normal Image Views

1 Features & Installation

Attach the supplied mounting bracket to vehicle.
Adjust the angle of the camera and fasten the screws firmly.

Microphone
Mikrofon
Microfono

Magnetic (Supplied)

Mirror Image

Normal Image

SUN SHIELD

M4X10 WRENCH
BOLTS 4EA (SEMS) 4EA

CAMERA

M5X15 TP.Or MACHINE
SCREWS 4EA

MOUNTING
BRACKET

M4 NYLON NUTS
4EA

CAMERA CONNECTION

PIN NO.	DESCRIPTION
1	VIDEO OUTPUT
2	AUDIO
3	DC12V POWER
4	GROUND
5	HEATER(OPTIONAL)

2 Specifications

IMAGE SENSOR	1/3" Sony Super HAD Color CCD (Compatible with Sharp CCD)
EFFECTIVE PIXELS	PAL : 320,000 Pixels
RESOLUTION	380 TV Lines
SYNCHRONIZING SYSTEM	Internal
VIDEO OUTPUT	75 Ohms ,1.0Vp-p Composite.
AUDIO INPUT	High Sensitive C-Microphone
S/N RATIO	More than 48dB
REQUIRED .ILLUMINATION	0 Lux at F2.0 / f =2.45mm (LED ON)
POWER SOURCE	DC 12V / Max. 150mA (LED ON)
OPERATING VOLTAGE RANGE	DC 12V (Powered by monitor)
FIELD OF VIEW / OPTION	120° 130° 150°
OPERATING TEMPERATURE	-30℃ ~ +60℃ -50℃ ~ +60℃ (With Heater)
DIMENSION	69(W) X 42(H) X57(D) mm 2.7(W) X 1.65(H) X 2.2(D) inch
WEIGHT	650g
ACCESSORIES	20M Waterproof cable (Option) Sun Shield Mounting Bracket and Screw Kits
BEST NIGHT VIEW FEATURE	20 degrees visible IR LED X 6ea