User Manual

MC7601
7 inch LCD Color Monitor

Please read this manual thoroughly before operating the unit,
and keep it for future reference.

Contents

1 Precautions

● Storage and Keeping

1. Do not expose the monitor to excessive heat or cold. The storage temperature of this device is -30~+80℃, and the operating temperature is -20~+70 ℃. The humidity is RH90%
2. Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.
3. Never use this device in environments with excessive moisture, dust or smoke.
4. Avoid dropping or striking this device.
5. Avoid using this device in enclosed spaces, areas with excessive vibration or subject to severe impacts.
6. Never puncture, scratch or use abrasive cleaning materials on this device.
7. Do not place cables where they may be pinched or stepped on.
8. Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.
9. The monitor is not designed to be waterproof.

● Operating Precautions

1. The device may be powered by a 12 or 24 volt automotive battery or vehicle electrical system.
2. Make sure all cables are connected properly. Observe polarity. Improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the unit.

⚠ Warning

1. High voltage is present within the monitor. The opening of the case should be by professionals.
2. Do not watch the video while driving unless you are monitoring the rear view camera display.
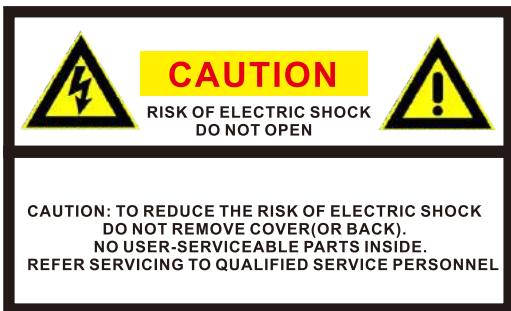
⚠ Special Notice

Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn't necessarily indicate any defects or faults. Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and void the warrantee.

● Maintenance

1. Remove all the cable connections from the monitor before cleaning the device.
2. Use a mild household detergent and clean the unit with a slightly damp, soft cloth.
3. Never use strong solvents such as thinner or benzine, as they might damage the finish of the device.

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

This symbol 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 risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This symbol is intended to alert the user not to dispose of electrical and electronic equipment.

CAUTION
You are cautioned that any changes or modifications not expressly approved in this manual couldvoid your warrantee and neccessitate expensive repairs.

● Declaration of conformity
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
la FCC (Comisión Federal de Comunicaciones). El funcionamien to está sujeto a dos condiciones:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

❷ Product Features

1. TFT LCD monitor with wide angle view and high resolution display.
2. Picture image may be adjusted for Horizontal, Vertical, Mirror and Normal viewing.
3. Select from 8 languages for user operation.
4. Automatic back lighting for buttons.
6. Multiple video formats: AUTO/ PAL/NTSC.
7. Up to 3 cameras input.
8. Operates from 10 -32V. Supports 12V or 24V automobile battery.
9. On-board speaker.
10. Automatic scanning function.
11. The scale can be adjusted for left, right, up and down.
12. Automatically switches to back-up,left,right camera views.

❸ Technical Specifications

1. 7" LCD Color monitor with digital panel.
2. Audio output: 1W.
3. Loudspeaker: one 15x24mm round loudspeaker.
4. Power supply: Automobile storage battery (DC 10-32V).
5. Power consumption: about 6W.
6. Outer dimension: 182mm (W) × 122mm(H) × 26mm(D)
7. Dot pitch: 0.0642(W) x 0.1790(H).
8. Resolution: 800×3 (RGB) × 480.
9. Contrast: 500:1.
10. Brightness: 400cd/m2.
11. Viewing angle: U: 50° / D: 70°; R: 70°/L: 70°.
12. Operating temperature: -20~+70ºC, RH90%.
13. Storage temperature: -30~+80ºC, RH90%.

⚠ Special Notice
All specification are subject to change without notice.

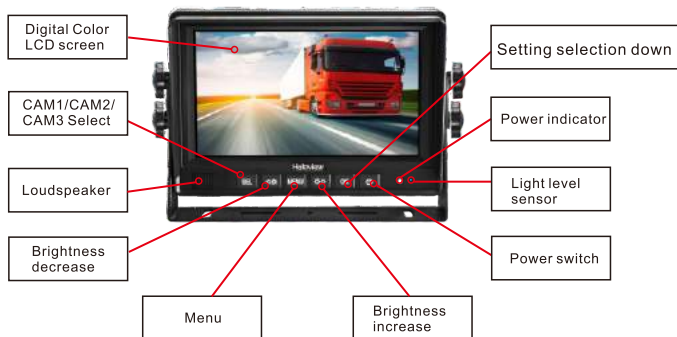|	
U-Support Bracket X 1	**Center Mount Bracket X 1**
Sun Shield X 1	**Power cable X 1**
Angle Adjustment Screws X 4	**User Manual X 1**

⚠ **Special Notice**

Accessory supply may be different for different application.

❺ Parts Identification

Digital Color LCD screen

CAM1/CAM2/CAM3 Select

Loudspeaker

Brightness decrease

Menu

Brightness increase

Setting selection down

Power indicator

Light level sensor

Power switch

Mounting bracket installation

① White 4pin male for Camera 1.
② Blue 4pin male for Camera 2.
③ Brown 4pin male for Camera 3.
④ Single red wire to power wire of DC 10-32V.
⑤ Single black wire to GND.
⑥ Single brown wire to positive power wire of the back-up light.
⑦ Single white wire to positive power wire of left light.
⑧ Single blue wire to positive power wire of right light.

Red
Black
White
Blue
Brown

CAM1   White

CAM2   Blue

CAM3   Brown
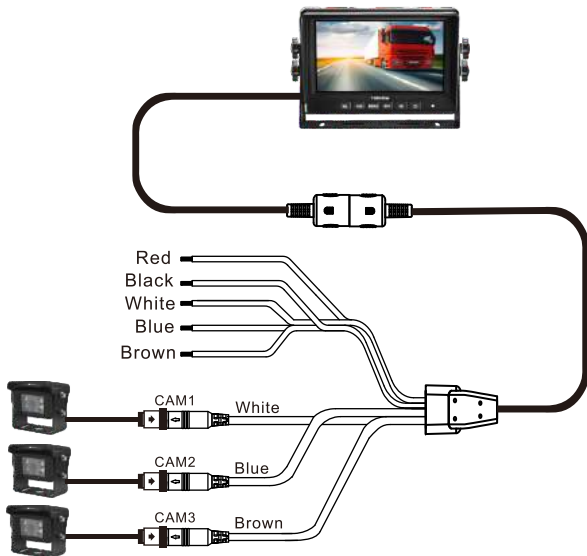
5.4. Reversing Display:
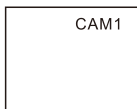
CAM1

5.4.1. When the white wire is connected to the positive wire of the left turn light , the monitor automatically switches to CAM1 (left side camera) when the left turn indicator is activated.
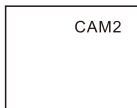
CAM2

5.4.2. When the blue wire is connected to the positive wire of the right turn light, the monitor automatically switches to CAM2 (right side camera) when the right turn indicator is activated.
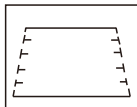
5.4.3. When the brown wire is connected to the positive wire of back-up light, the monitor automatically switches to CAM 3 (back-up camera) when the back-up light is turned on. The distancing grid will also be displayed.
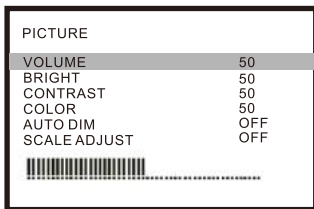
❻ Menu

● **Press MENU to display the following options and settings:**

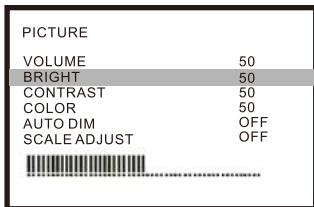1. PICTURE
2. OPTION
3. SYSTEM
4. AUTO SCAN

(1) Picture
   VOLUME, BRIGHT, CONTRAST, COLOR, AUTO DIM and SCALE ADJUST
   options will display on the screen as illustrated below:

● **Press "OK" to select VOLUME**

```
┌─────────────────────────────────┐
│  PICTURE                        │
│                                 │
│  VOLUME              50         │
│  BRIGHT              50         │
│  CONTRAST           50         │
│  COLOR              50         │
│  AUTO DIM           OFF        │
│  SCALE ADJUST       OFF        │
│                                 │
│  ▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌·············  │
│                                 │
└─────────────────────────────────┘
```

Press ◁☼ or ☼▷ adjust the volume Level.

● **Press "OK" to select BRIGHT.**

```
┌─────────────────────────────────┐
│  PICTURE                        │
│                                 │
│  VOLUME              50         │
│  BRIGHT             50          │
│  CONTRAST           50         │
│  COLOR              50         │
│  AUTO DIM           OFF        │
│  SCALE ADJUST       OFF        │
│                                 │
│  ▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌▌·············  │
│                                 │
└─────────────────────────────────┘
```

- When auto dim is turned on in dark environment, OSD turns into dim mode for dim setting; when auto dim is turned on / off in bright environment, OSD displays normal mode.
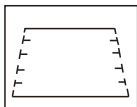
PICTURE			PICTURE	
VOLUME	50		VOLUME	50
BRIGHT	50		BRIGHT	50
CONTRAST	50		CONTRAST	50
COLOR	50		COLOR	50
AUTO DIM	OFF		AUTO DIM	ON
SCALE ADJUST	OFF		SCALE ADJUST	OFF

- Press "OK" to select SCALE ADJUST.

PICTURE	
VOLUME	50
BRIGHT	50
CONTRAST	50
COLOR	50
AUTO DIM	ON
SCALE ADJUST	OFF

- Exit menu and again press "OK" to display the parking line.

If ↕ is selected, press ◀☼ or ☼▶ to adjust the scale up/down;
If ↔ is selected press ◀☼ or ☼▶ to adjust the scale left/right.

(2) Option
LANG, CAM1, CAM2, CAM3, SCALE, options display
on the screenas illustrated below:

● **Press "OK" to select LANG.**

```
OPTION

LANG                    ENGLISH
CAM1                    NORMAL
CAM2                    NORMAL
CAM3                    NORMAL
SCALE                   ON
```

Press ◀☼ to ☼▶ select English, Deutsch, Français,Español,Português,
Italiano, Nederlands or Русский options

● **Press "OK" to select SCALE.**

```
OPTION

LANG                    ENGLISH
CAM1                    NORMAL
CAM2                    NORMAL
CAM3                    NORMAL
SCALE                   ON
```

Press ◀☼ to ☼▶ select ON / OFF. Scale refers to the reversing distance
indicator displayedon on the monitor.

● **Press "OK" to select CAM1.**

```
OPTION

LANG                    ENGLISH
CAM1                    NORMAL
CAM2                    NORMAL
CAM3                    NORMAL
SCALE                   ON
```
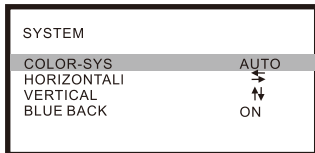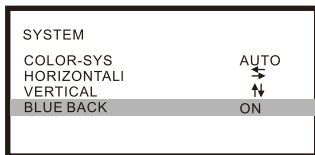
Press ◀☼ or ☼▶ to select NORMAL / MIRROR.

(3) SYSTEM
   COLOR-SYS, HORIZONTAL, VERTICAL, BLUE BACK functions will display
   on the screen as illustrated below:

● **Press "OK" to select COLOR-SYS.**

```
SYSTEM

COLOR-SYS          AUTO
HORIZONTALI          ⇆
VERTICAL             ↕
BLUE BACK          ON
```

Press ◀☼ or ☼▶ to select AUTO / PAL / NTSC.

● **Press "OK" to select BLUE BACK.**

```
SYSTEM

COLOR-SYS          AUTO
HORIZONTALI          ⇆
VERTICAL             ↕
BLUE BACK          ON
```
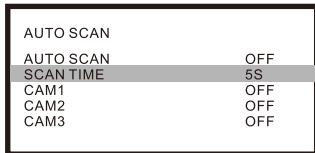
Press ◀☼ or ☼▶ to select ON/OFF.

(4) Auto Scan
   AUTO SCAN, SCAN TIME, CAM1, CAM2 and CAM3, options display
   on the screen as illustrated below:

● **Press "OK" select SCAN TIME.**

```
AUTO SCAN

AUTO SCAN          OFF
SCAN TIME          5S
CAM1               OFF
CAM2               OFF
CAM3               OFF
```

Press ◀☼ or ☼▶ to select 1S~90S.

⑩ Troubleshooting

The symptoms described below do not necessarily mean a failure within the display.
Please check the following items before you initiate request for repair.

Symptoms	Possible Causes/Solutions
No picture, no sound	Improper connection of automobile adapter. Use of un-authorized power supply. Power switch is on OFF position.
No picture	Check whether AV cable is properly connected.
No sound	Check whether audio wire is properly connected or the sound volume is turned off or set too low.
Dark picture	Check whether brightness and contrast are adjusted correctly; Check whether the environments temperature is too low.
No color	Adjust the color settings.
Upside down or lateral inverted picture	Use the remote control horizontal /vertical selection switch to set proper orientation.
No reversing function (i.e.Picture)	The black wire of the monitor AV cable to the reversing light may be loose. The red wire from the monitor may be loose.

CAMERA SPECIFICATION

Mode: CA601

Image Device	1/3" CMOS PC1058	
TV System	PAL	NTSC
Effective Pixels	960 (H) × 576 (V)	960 (H) × 480 (V)
Horizontal Sync Frequency	15.625 kHz	15.734 kHz
Vertical Sync Frequency	50 Hz	60 Hz
Electronic Shutter	PAL: 1/50~1/100,000 Seconds NTSC: 1/60~1/100,000 Seconds	
Sensing Area	4.880 mm (H) × 3.670 mm (V)	
Scanning System	2:1 Interlace	
Sync. System	Internal	
Resolution	600TV Lines	
Video Output	1.0Vp-p, 75Ohm	
Gamma Consumption	0.45	
AGC	Auto	
S/N Ratio	Better than 43.3dB	
White Balance	Auto	
BLC	Audo	
Power Supply	DC12V	
Waterproof rating	IP69K	
Viewing Angle	120°	
Audio	Yes	
Minimum Illumination	0 Lux with IR ON	
Night vision distance	8~10m	
Image mode	Mirror	
SMART IR-CUT	Yes	
Operating Temperature	−30℃~70℃, RH90% MAX	
Storage Temperature	−40℃ ~ 80℃, RH90% MAX	