RMW6170

Industrial Monitors

User Manual

ACNODES

Legal Information

Safety Instructions
Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Contents

Before Installation

■ It is very important to mount the equipment in a suitable cabinet or on a stable surface.

■ Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The equipment comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damaged, contact the supplier immediately.

How To Clean Your LCD Monitor

⚠ Caution :

■ To avoid the risk of electric shock, make sure your hands are dry before unplugging your monitor from or plugging your monitor into an electrical outlet.

■ When you clean your monitor, do not press down on the LCD screen. Pressing down on the screen can scratch or damage your display. Pressure damage is not covered under warranty.

■ Use only cleansers made specifically for cleaning monitors and monitor screens. Cleansers not made to clean monitors and monitor screens can scratch the LCD display or strip off the finish.

■ Do not spray any kind of liquid directly onto the screen or case of your monitor. Spraying liquids directly onto the screen or case can cause damage which is not covered under warranty.

■ Do not use paper towels or abrasive pads to clean your monitor. Using an abrasive pad or any wood based paper product such as paper towels can scratch your LCD screen.

Cleaning Your Monitor

To clean your LCD safely, please follow these steps :

① Disconnect the power cord.

② Gently wipe the surface using a clean, dry microfiber cloth. Use as little pressure as possible.

Cleaning Tough Marks and Smudges

To remove tough marks and smudges, please follow these steps :

① Disconnect the power cord.

② Spray a small amount of non-abrasive cleanser on a microfiber cloth.

⚠ **Caution : Do not spray or apply any liquids directly onto the monitor. Always apply the solution to your microfiber cloth first, not directly on the parts you are cleaning.**

③ Gently wipe the surface. Use as little pressure as possible.

④ Wait until your monitor is completely dry before plugging it in and powering it up.

< Part 1 >
< 1.1 > Package Content

RMW6170 unit X 1

- 6ft VGA cable X 1
- Power adapter X 1
- Power cord X 1

< 1.2 > Structure Diagram

Front view

① ②

③

Rear view

Power adapter

④

Power cord

① LCD panel
② LCD membrane · · · · · · · · ·
③ Audio speaker
④ Power adapter basket

DVI-D	Audio		Power	BNC	VGA	HDMI
	out	in				

Basic I/O   : VGA + DVI-D
Upgrade   : VGA + HDMI + DP + BNC + audio in & out
Options   : SDI, USB for touchscreen & DC power
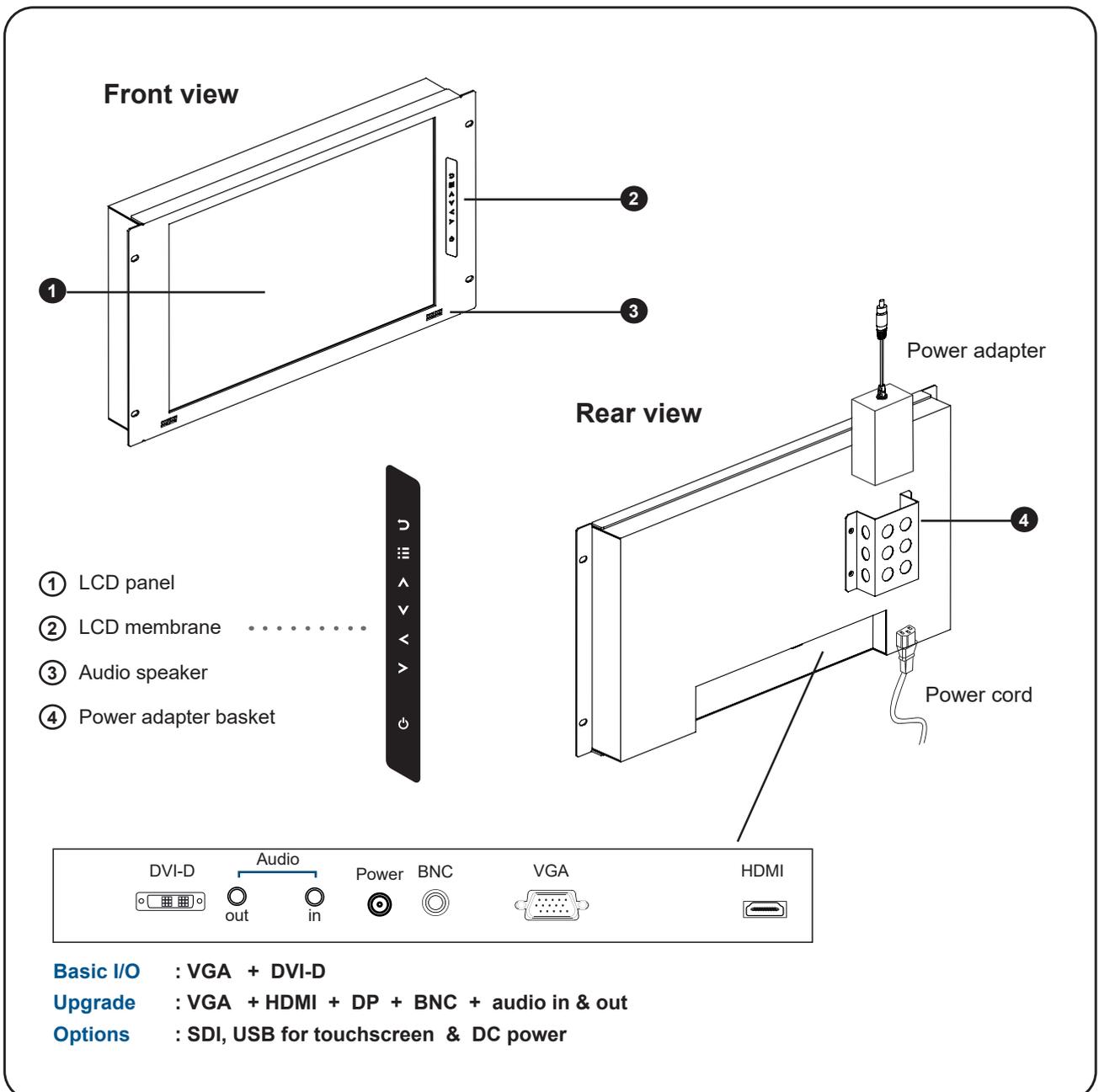
< 1.2 > Dimension

Front View

Side View

217,8

384,8

190

266

463

480

48

261
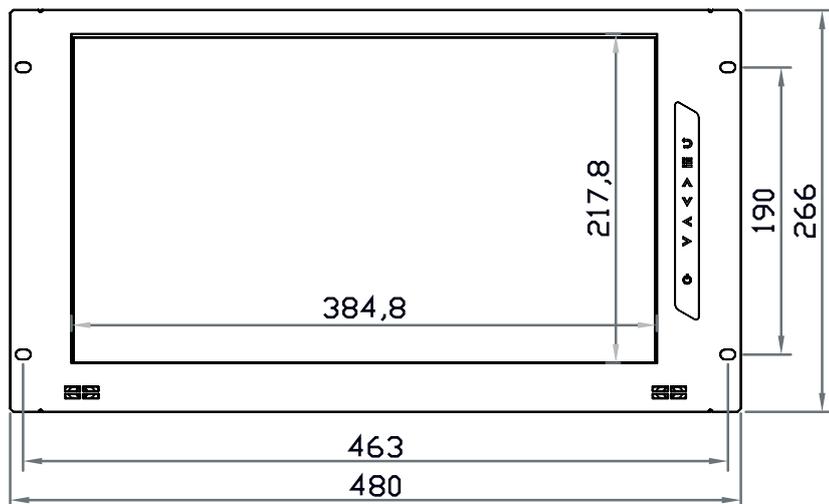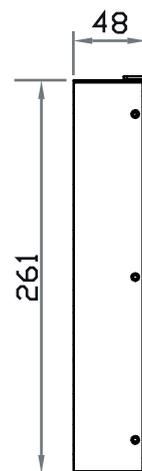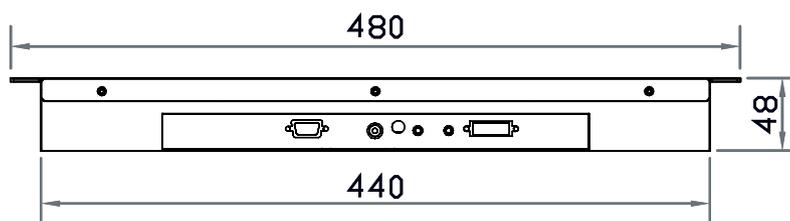
UNIT : mm
1mm = 0.03937 inch

Bottom View

480

48

440

Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
RMW6170	480 x 48 x 266 mm 18.9 x 1.9 x 10.5 inch	529 x 124 x 451 mm 20.8 x 4.9 x 17.8 inch	4.5 kg 9.9 lb	6 kg 13.2 lb

< 1.3 > Installation

Step ❶
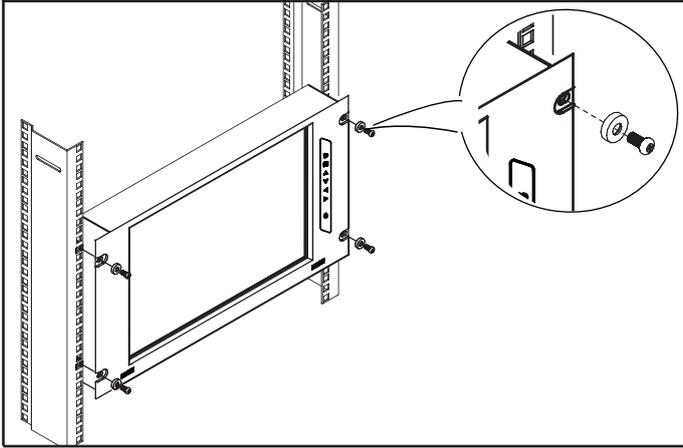
■ Mount the display panel with M6 screw set.

■ M6 screw x 4 pcs required (Left & right side).

M6 screw sets are not provided.

Step ❷
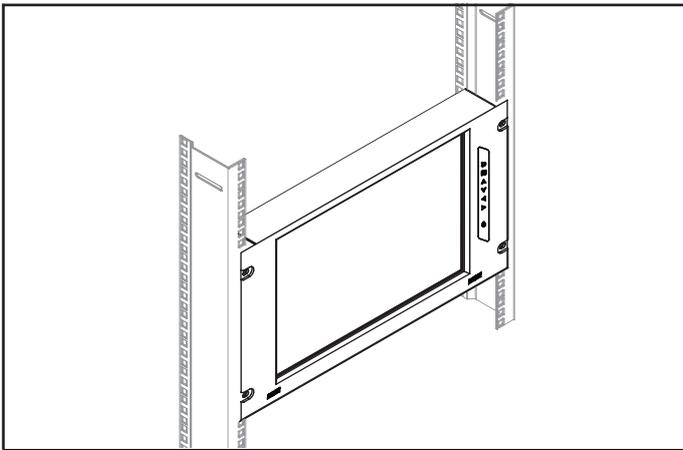
■ Fix the LCD into the rack.

< Part 2 >

< 2.1 > Product Specifications

LCD Panel		
Panel Size (diagonal)		17.3-inch Widescreen TFT color LCD
Display pixel (dots x lines)		1920 x 1080
Brightness (typ.)		300
Contrast Ratio (typ.)		1000:1
Color		16.7 M, 8-bit
Viewing Angle (L/R/U/D)		80/80/60/80
Response Time (ms)		5.5
Dot pitch (mm)		0.1989
Display Area (mm)		381.888H x 214.812V
Surface treatment		Anti-glare, Hard-coating
Surface hardness		3H
Backlight Type		LED
MTBF (hrs)		15,000

Video Connectivity			
Digital		HDMI	HDMI 1.4, HDCP 1.4
		DVI	DVI-D, TMDS single link
Analog		VGA	Analog 0.7Vp-p
		Display Port	DP 1.0 / HDCP 1.3
		Composite (BNC)	NTSC & PAL
Plug & Play		DVI / VGA	VESA EDID structure 1.3
Synchronization		VGA	Separate, Composite & SOG

Audio Connectivity			
Audio Input		Connector	3.5mm stereo jack
		Impedance / Power level	30kΩ / 750mV
Audio Output		Connector	3.5mm stereo jack
		Resistance / Power level	30kΩ / 2.8V
Speaker		Dual Stereo Speaker	2W x 2

* When the audio output is connected, speaker output is OFF

Power			
Power Supply		Range	Auto-sensing 100 to 240VAC, 50 / 60Hz
Power Consumption		Screen ON	Max. 14W
		Power saving mode	Max. 2W
		Power button OFF	Max. 1W

Regulatory		
Safety	FCC & CE certified	
Environmental	RoHS3 & REACH compliant	

Environmental Conditions			
Operating		Temperature	0 to 55°C degree
		Humidity	20~90%, non-condensing
		Altitude	16,000 ft
Storage / Non-operating		Temperature	-20 to 60°C degree
		Humidity	5~90%, non-condensing
		Altitude	40,000 ft
		Shock	10G acceleration (11ms duration)
		Vibration	10~300Hz 0.5G RMS random

Physical Specification	Product (W x D x H)		480 x 48 x 266 mm
			18.9 x 1.9 x 10.5 inch
	Packing (W x D x H)		529 x 124 x 451 mm
			20.8 x 4.9 x 17.8 inch
	Net Weight		4.5 kg / 9.9 lb
	Gross Weight		6 kg / 13.2 lb

* All dimensions stated are subject to change if options are selected / integrated to base model part codes

Applicable Format	DVI-D / VGA Input	PC Signal	1920 x 1080 x 60Hz
			1680 x 1050 x 60Hz
			1440 x 900 x 60Hz
			1360 x 768 x 60Hz
			1280 x 1024 x 60Hz
			1280 x 768 x 60Hz
			1280 x 720 x 60Hz
			1152 x 864 x 60Hz
			1024 x 768 x 60Hz
			800 x 600 x 60Hz
			640 x 480 x 60Hz
		Audio Signal	2ch Linear PCM
	HDMI Input	PC Signal	Same as VGA
		HDMI 1.4	1920 x 1080 x 50 / 60Hz (1080p)
			1920 x 1080 x 25 / 30Hz (1080i)
			1280 x 720 x 50 / 60Hz (720p)
			720 x 480 x 50 / 60Hz (576p / 480p)
		Audio Signal	2ch Linear PCM
	Display port Input	PC Signal	1920 x 1080 x 60Hz
			1680 x 1050 x 60Hz
			1440 x 900 x 60Hz
			1360 x 768 x 60Hz
			1280 x 1024 x 60Hz
			1280 x 768 x 60Hz
			1280 x 720 x 60Hz
			1152 x 864 x 60Hz
			1024 x 768 x 60Hz
			800 x 600 x 60Hz
			640 x 480 x 60Hz
		Audio Signal	2ch Linear PCM

* In some circumstances, if the user connects the LCD to PC via HDMI port or video and audio signals, the LCD may display incorrectly on a full screen. If so, please adjust the display card setting on display size to fix the issue.

< 2.2 > On-screen Display Operation (OSD)

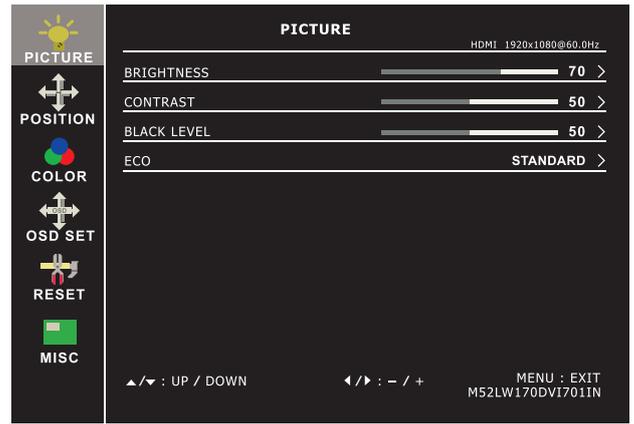| Membrane Switch	Function
⏻	Turn the monitor on or off
☷	Display the OSD menu Act as an Enter key to select screen setting options
∧ ∨ ‹ ›	Scroll through menu options and adjust the displayed control
↰	Exit the OSD screen Go back to the previous on-screen sub-menu or main menu

Remark : All LED touch buttons in **WHITE** light.
The LED of **Power** ⏻ touch button will flash continuously when there is
no signal input.

① All the LED touch buttons will automatically turn off after 10 minutes of idle status
(except the **Power** ⏻).

② Light up all membrane buttons, please press any button for 1 - 2 seconds (except
the **Power** ⏻).

< 2.2 > On-screen Display Operation (OSD)
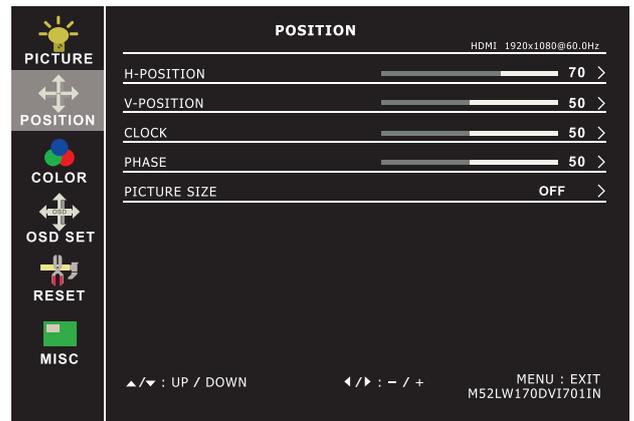
① Picture

Brightness : Adjust the screen brightness

Contrast : Adjust the difference between the image background (black level) and the foreground (white level)

Black level : Adjust background black level of the screen
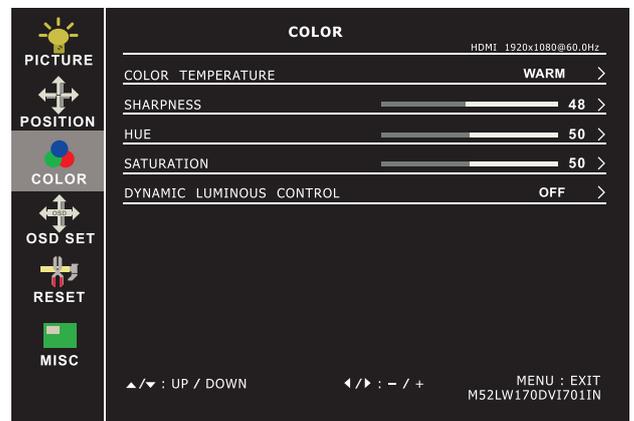
Eco : Screen in power saving mode

```
                    PICTURE
                                    HDMI 1920x1080@60.0Hz
PICTURE

           BRIGHTNESS        ▬▬▬▬▬▬▬▬     70 >
POSITION   CONTRAST          ▬▬▬▬▬▬       50 >
           BLACK LEVEL       ▬▬▬▬▬▬       50 >
           ECO                       STANDARD >
COLOR

OSD SET

RESET

MISC
           ▲/▼ : UP / DOWN    ◄/► : − / +     MENU : EXIT
                                            M52LW170DVI701IN
```

② Position

H-Position : To adjust the horizontal position of the video

V-Position : To adjust the vertical position of the video

Clock : To auto adjust H. Size of the screen

Phase : To fine tune the screen.

Picture size : FULL SCREEEN / 4:3 / 5:4 / 16:10

```
                    POSITION
                                    HDMI 1920x1080@60.0Hz
PICTURE

           H-POSITION        ▬▬▬▬▬▬▬▬     70 >
POSITION   V-POSITION        ▬▬▬▬▬▬       50 >
           CLOCK             ▬▬▬▬▬▬       50 >
           PHASE             ▬▬▬▬▬▬       50 >
COLOR      PICTURE SIZE              OFF    >

OSD SET

RESET

MISC
           ▲/▼ : UP / DOWN    ◄/► : − / +     MENU : EXIT
                                            M52LW170DVI701IN
```
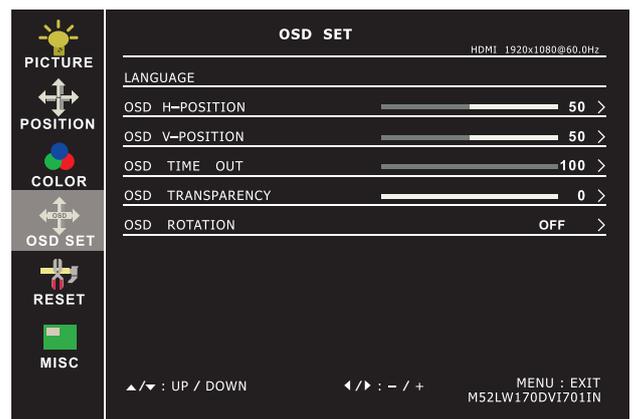
③ Color

Color temperature : User / Warm / Cool / 5400k mode and Red / Green / Blue color balance

Sharpness : Adjust the image from weak to sharp

Hue : Adjust the screen hue value

Saturation : Adjust the saturation of the image color
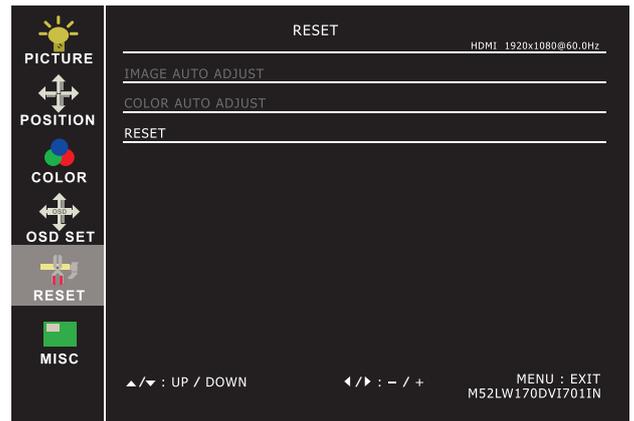
Dynamic luminous control : Control the dynamic brightness

```
                    COLOR
                                    HDMI 1920x1080@60.0Hz
PICTURE

           COLOR TEMPERATURE           WARM   >
POSITION   SHARPNESS         ▬▬▬▬▬▬     48 >
           HUE               ▬▬▬▬▬▬     50 >
           SATURATION        ▬▬▬▬▬▬     50 >
COLOR      DYNAMIC LUMINOUS CONTROL     OFF   >

OSD SET

RESET

MISC
           ▲/▼ : UP / DOWN    ◄/► : − / +     MENU : EXIT
                                            M52LW170DVI701IN
```

④ OSD Set

Language : Select the language in which the OSD menu is displayed - English

OSD H-Position : Align the screen image left or right

OSD V-Position : Align the screen image up or down

OSD time out : Adjust the screen timeout

OSD transparency : Adjust the screen transparency

OSD rotation : Rotate the screen - 90° / 180° / 270°

```
                    OSD SET
                                    HDMI 1920x1080@60.0Hz
PICTURE

           LANGUAGE
POSITION   OSD H−POSITION    ▬▬▬▬▬▬     50 >
           OSD V−POSITION    ▬▬▬▬▬▬     50 >
           OSD TIME OUT      ▬▬▬▬▬▬▬    100 >
COLOR      OSD TRANSPARENCY  ▬            0 >
           OSD ROTATION              OFF   >
OSD SET

RESET

MISC
           ▲/▼ : UP / DOWN    ◄/► : − / +     MENU : EXIT
                                            M52LW170DVI701IN
```

P.7

⑤ Reset

Reset : Return the adjustment back to factory setting

```
                              RESET
                                       HDMI 1920x1080@60.0Hz
PICTURE     IMAGE AUTO ADJUST
            COLOR AUTO ADJUST
POSITION    RESET

COLOR

OSD SET

RESET

MISC
            ▲/▼ : UP / DOWN          ◀/▶ : − / +        MENU : EXIT
                                                        M52LW170DVI701IN
```
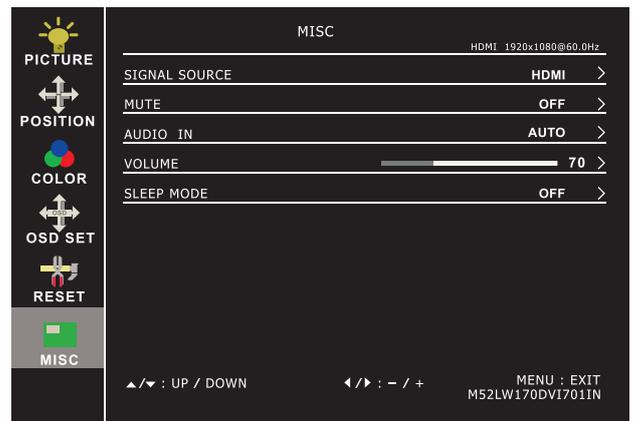
⑥ MISC

Signal source : Select the signal source - DP / HDMI1 / HDMI2

Mute : Turn off the surrounding sound

Audio in : Auto / Line in / DP
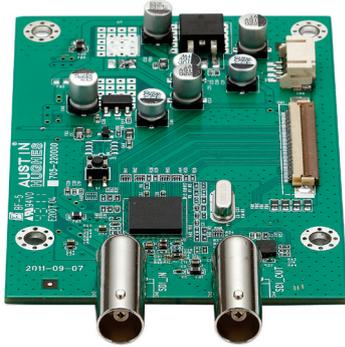
Volume : Adjust the volume of sound

Sleep mode : Set the off time - 10 min / 20 min / 30 min / 50 min / 60 min / 120 min / 240 min

```
                              MISC
                                       HDMI 1920x1080@60.0Hz
PICTURE     SIGNAL SOURCE                          HDMI    ⟩

POSITION    MUTE                                   OFF     ⟩
            AUDIO IN                               AUTO    ⟩
COLOR       VOLUME                      ━━━━━━━     70  ⟩
            SLEEP MODE                             OFF     ⟩
OSD SET

RESET

MISC
            ▲/▼ : UP / DOWN          ◀/▶ : − / +        MENU : EXIT
                                                        M52LW170DVI701IN
```
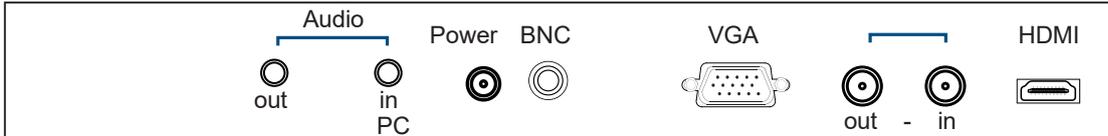
< 3.1 > Options : 3G / HD / SD-SDI input

Acnodes' SDI input is an ideal solution for the broadcast-grade video and high resolution CCTV market.

Designed for use with LCD displays, a SDI input module can support up to 1080p @60Hz resolution without using additional space or power and it comes standard with a 2-year warranty.

SDI

*** For **SDI** option, the AD board will be upgraded, and this comes standard with HDMI, VGA, BNC and audio inputs.

INPUT	3G-SDI IN	BNC x 1 / 0.8Vp-p (75 ohm)
	3G-SDI OUT	BNC x 1 / Active through, equalized & relocked

Standard Compliance	Video	SMPTE 425M / 274M / 296M / 125M ITU-R BT.656
	Audio	SMPTE 299M / 272M-C

Compatible Video Format	3G-SDI	1080p	@60 / 50Hz, 4:2:2
		1080p	@30 / 25 / 24Hz, 4:4:4
		1080i	@60 / 50Hz, 4:4:4
		720p	@60 / 50Hz, 4:4:4
	HD-SDI	1080p	@30 / 25 / 24Hz, 4:2:2
		1080i	@60 / 50Hz, 4:2:2
		720p	@60 / 50Hz, 4:2:2
	SD-SDI	480i	@60Hz, 4:2:2
	ITU-R BT.656	576i	@50Hz, 4:2:2

Compatible Audio Format	3G-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	HD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	SD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized / Asynchronized Video

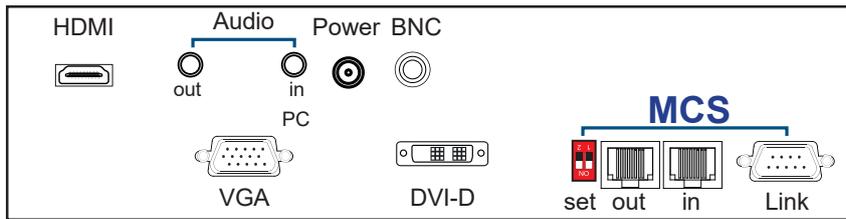| Max. Transmission Distance 75 ohm coaxial cable	3G-SDI	150m at 2.97Gb/s
	HD-SDI	250m at 1.485Gb/s
	SD-SDI	480m at 270Mb/s

< 3.2 > Options : MCS
(Multi-display Control)
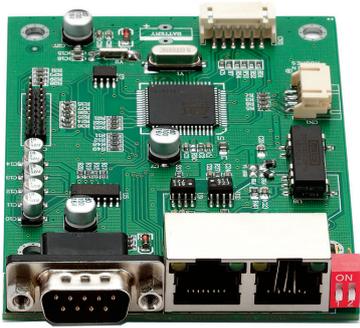
More control is always good. Especially when it is necessary and easy. Acnodes provides MCS solution to control the OSD of various LCD display up to 64 units.

The RS-232C is used for the communication between the PC and the first display via a 15 feet serial cable while the CAN bus is used for the various LCD displays cascade together via CAT 5/6 cable, and daisy chain up to 1,000 meters.
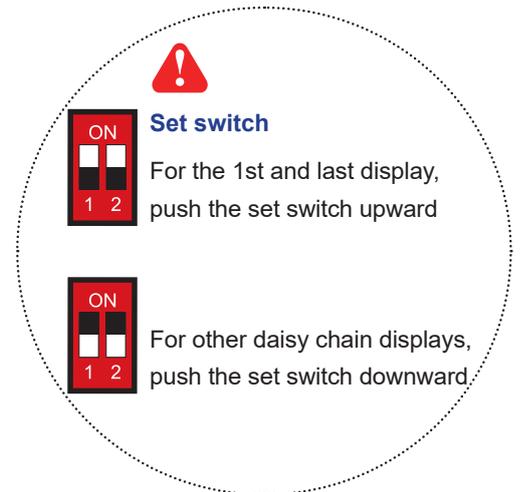
Designed for use with LCD displays, Acnodes provides a MCS input module without using additional space or power and it comes standard with a 2-year warranty.

*** For **MCS** option, casing depth will be changed.

RS-232C

15 feet serial cable
(over 15 feet, extender required)

Set switch

For the 1st and last display, push the set switch upward

For other daisy chain displays, push the set switch downward.

LINK   OUT   IN   OUT   IN   OUT   IN   OUT

Cat5 / 6 cable
max. 300 meters

Cat5 / 6 cable
max. 300 meters

Cat5 / 6 cable
max. 300 meters

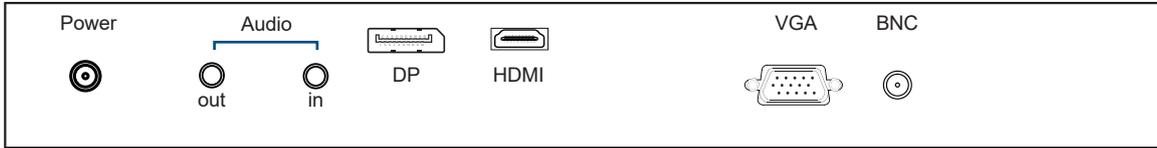RJ-45 jack

Daisy chain up to 1,000 meters and 64 displays

up to 64 displays

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< 3.3 > Upgrade Options :

      - HDMI   (HDMI 1.4, HDCP 1.4)

      - Display Port   (DP 1.0, HCDP 1.3)

      - Audio   (Built-in Dual Stereo Speakers, 2W x 2)

                         (3.5mm audio jacks for audio in)

Power	Audio		DP	HDMI	VGA	BNC
◎	out ○	in ○				◎

(1) In some circumstances, if the user connects the LCD to PC via HDMI port for video and audio signals, the LCD may display incorrectly on a full screen. If so, please adjust the display card setting on display size to fix the issue.

< 3.4 > Options : Touchscreen & Driver

17" USB Touchscreen Specification

Model	TRB e-Resistive
Technology	5-Wire Resistive
Touch Point	Single
Method	Stylus or Finger
Activation Force	≤ 50g / Stylus=R0.8
Durability	10 million touches
Response Time	15 ms
Optical Transmittance	80% ± 3%
Surface Hardness	3H
Haze	8% ± 3%
Glass	2.2 ±0.2 mm
Connector	USB Type A
Compatibility	Windows 7 / XP / Vista, Linux

■   USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc

■   For detailed information, please refer to the attached CD disc

■   As the touchscreen unit is not made of toughened glass, please handle it carefully
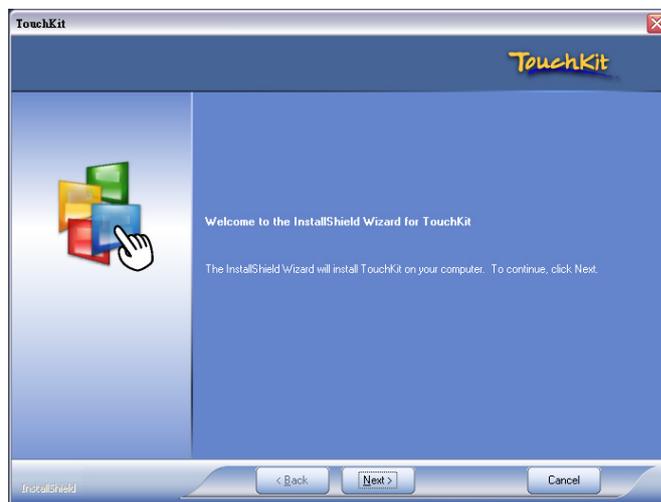
USB Touchscreen

	DVI-D	Power	VGA
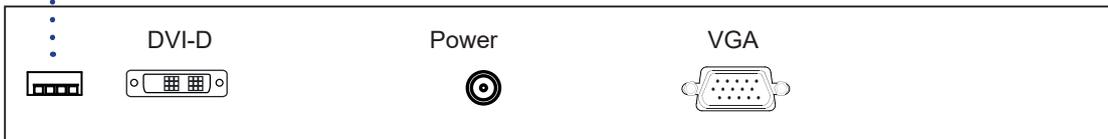
Please follow the below steps to setup the touch screen:-

Step 1. Run the bundled CD disc

Step 2. Double click the Setup.exe

Step 3. Follow the installation instruction to finish the setup

Step 4. After installation, run the TouchKit program & the "4 point calibration"

Please do the initial calibration after the first setup

TouchKit

TouchKit

Welcome to the InstallShield Wizard for TouchKit

The InstallShield Wizard will install TouchKit on your computer. To continue, click Next.

InstallShield   < Back   Next >   Cancel

< 3.5 > Options : DC Power

Model	12V	24V	48V	125V
Input rating				
Input voltage:	12-Volt	24-Volt	48-Volt	110-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V	66 ~ 160V
Input current				
- No load	50 mA	50 mA	50 mA	35 mA
- Full load	4950 mA	2450 mA	1220 mA	749 mA
Output rating				
Output voltage:	12-Volt	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A	6.25A
Efficiency	84%	85%	85%	91%

*** **For DC power option :**

(1) **If the unit with LCD,** earthing **may be required**

< 3.6 > Options : MIL-type or Lockable Connector

	Input	Part no.		MIL Standard
MIL - type Connector	DC Power *** (Male)	MS3470W8-33P		MIL - DTL - 26482
	VGA *** (Male)	MS3470W14-15P		MIL - DTL - 26482

*** There are several additional MIL DC and VGA connector types with varying design characteristics to meet cost considerations and to provide users with the most design flexibility possible. For more information, please contact us.

	Input	Part no.		Standard
Lockable Connector	DC Power (Male)	YM-Ext-461CP001		D-type 3W3
	USB	LUSB - A111 - 00		-

*** MIL - type or Lockable connectors above can be integrated with our LCD displays. Sale service just for connectors not provided.