

**WELDEX CORPORATION**

Original Equipment Manufacturer of CCD Cameras, DVR's & LCD Monitors

**15" / 17" / 19" TFT-LCD COLOR MONITOR**

**WDL-1500M / WDL-1700M / WDL-1900M**



## **Owner's Instructions**

Please read carefully before using and keep in a safe place.  
Design and specifications are subject to change without notice.

V.07J

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***Before operating the set, please read this manual carefully***

## Precautions

### **Do not remove the cover.**

To reduce the risk of electric shock and maintain the quality of the product, please do not remove the cover.

Please follow the instructions of the wiring diagram in the Installation Guide.

### **Keep small articles out of the reach of children.**

Store small articles (screws, etc.) in places not accessible to children.

If swallowed, consult physician immediately.

### **Stop using immediately if a problem appears.**

When problems appear, stop using the system immediately and contact the dealer from whom you purchased the equipment. Some problems which may warrant immediate attention include a lack of sound, noxious smoke being emitted from the unit, or foreign objects dropped inside the unit.

### **Do not use this equipment outside the vehicle.**

Do not use this equipment for purposes other than those listed for the vehicle.

Failure to do so may result in an electric shock or an injury.

### **Stop the vehicle before carrying out any operation that could interfere with your driving.**

If the operation of the unit(such as turning on or turning off the monitor, etc.) interferes with your driving, stop the vehicle in a safe location before attempting operation.

### **Temperature**

Before turning your unit on, be sure the temperature inside the vehicle is between -15°C(+5°F) and +60°C(+140°F)

### **Maintenance**

If you have problems, do not attempt to repair the unit by yourself. Return it to your purchasing dealer.

## Warnings



**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 "dangerous voltage" within a product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



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.

### **WARNING**

To prevent fire or shock hazard, do not expose the set to rain or moisture. Do not rub or strike the Active Matrix LCD with anything hard, as this may scratch, mar, or damage the Active Matrix LCD permanently.

### **REGULATORY INFORMATION**

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 when the equipment is operated in a residential installation. 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. 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.

**CAUTION**

Do not attempt to modify this product in any way without written authorization. Unauthorized modification could void the user's authority to operate this product.

**POWER**

This set operates on DC power. The voltage is as indicated on the label on the back cover. Never apply AC power to the set directly. Do not allow anything to rest upon or roll over the power cord, and do not place the set where the power cord is subject to damage.

**SERVICE**

Never remove the back cover of the monitor, as this can expose you to high voltage and other hazards. If the monitor does not operate properly, unplug it and call your dealer.

**LOCATION**

Position your monitor where no bright light or sunlight will shine directly on the screen. Also ensure that the monitor is placed in a position that allows a free flow of air. Do not cover the ventilation openings on the back cover.

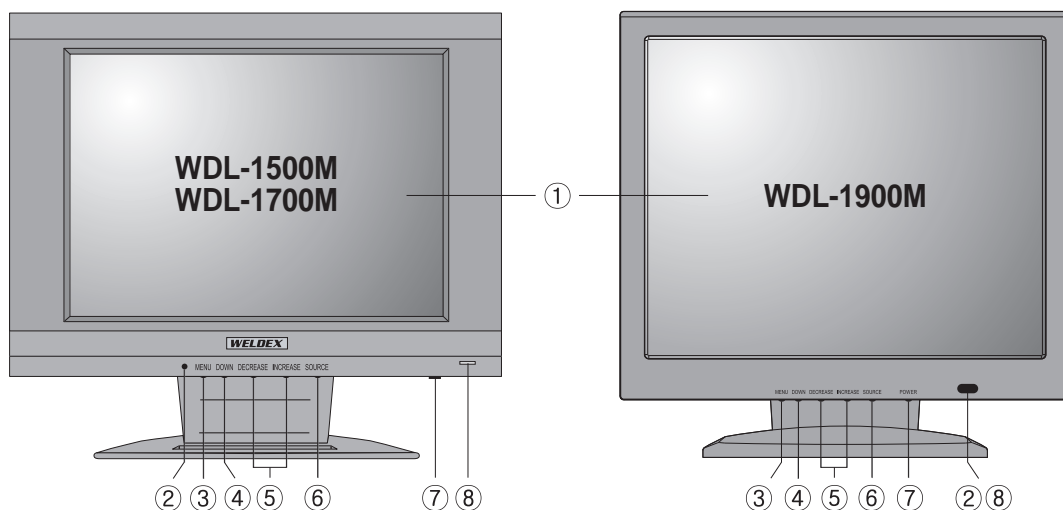
**CLEANING**

Unplug the monitor before cleaning the face of the LCD Screen. Dust the monitor by wiping the screen and cabinet with a soft, clean cloth. If the screen requires additional cleaning, use a clean, damp cloth. Do not use liquid or aerosol cleaners.

## Function

### A. Front side of monitor.

It is an explanation of the name and function per each part.



#### 1. LCD PANEL

It supports a resolution 1024x768 [WDL-1500M] /  
1280x1024 [WDL-1700M/1900M] mode (optimal condition) 16.2M colors.

#### 2. REMOTE CONTROL SENSOR

IR-SENSOR is built in so that you can use remote control.

#### 3. MENU

Display a main menu on screen.

#### 4. DOWN

Press to use select items in the on-screen menu.

#### 5. DECREASE/INCREASE CHANNEL OR VOLUME

#### 6. SOURCE

TURN DOWN A CHANGE OF SCREEN

Change a mode to TV / VIDEO1 / VIDEO2 / S-VIDEO / PC.

#### 7. POWER BUTTON

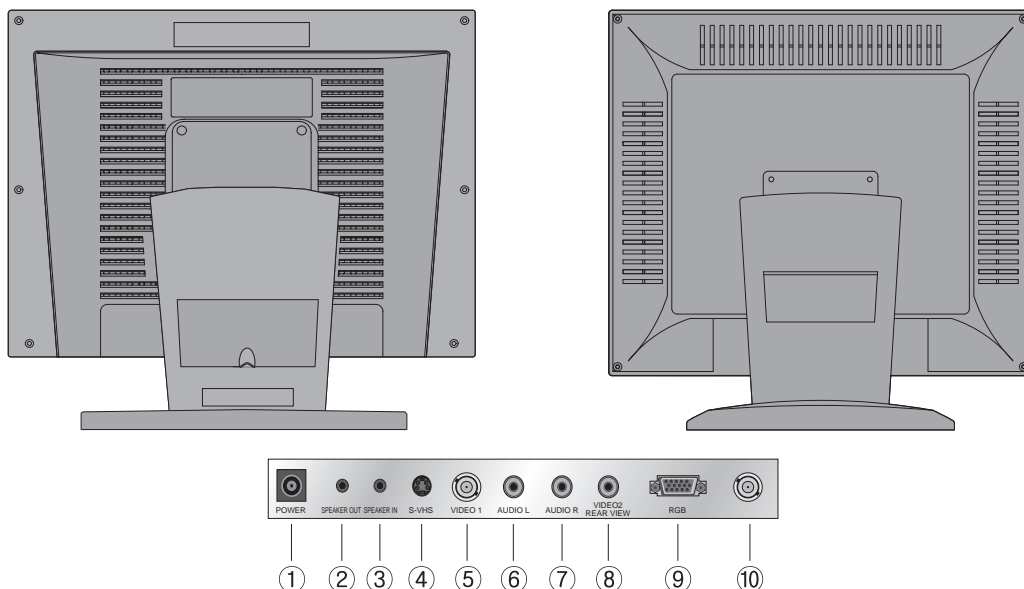
Turn ON/OFF power of monitor.

#### 8. LED

Illuminates brightly when the monitor is switched on. (Power standby indicator)

## B. Back side of monitor.

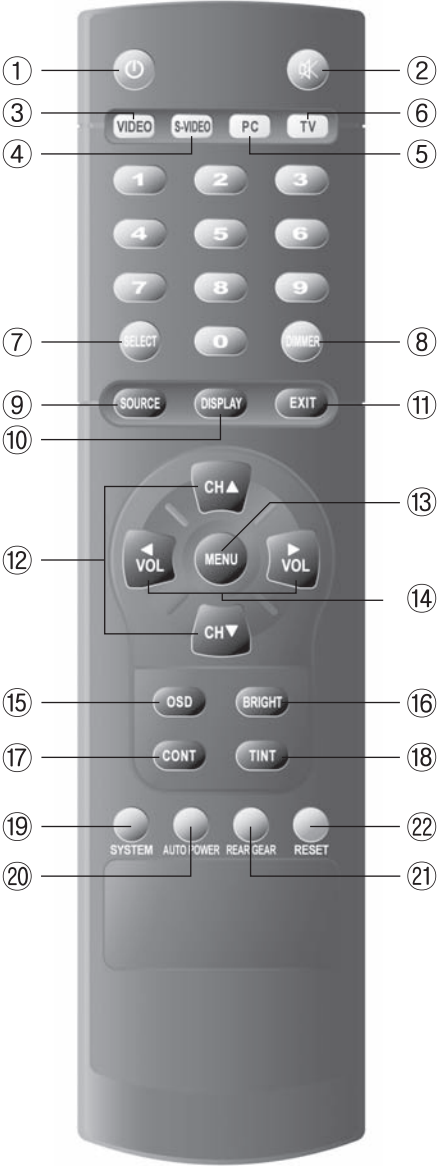
It is an explanation of the name and function per each part.



1. Power input port.  
It is a connection for power.(Use the adapter supplied)
2. Speaker output port.(PC)  
Connect external speaker by audio cable.
3. Speaker input port.(PC)  
Connect external sound output by PC audio.
4. S-VHS input port.  
Connect with external equipment supporting S-VHS.
5. External BNC video input port.(1)  
Connect to external image output port BNC cable.
6. External audio input port.(LEFT)  
Connect RCA cable by fitting external sound output port color.(WHITE)
7. External audio input port.(RIGHT)  
Connect RCA cable by fitting external sound output port color.(RED)
8. External video input port.(2)  
Use to connect with external equipments additionally and connect to external image output port and car rear view signal.
9. RGB input port.  
Connect D-SUB connector of PC and monitor by D-SUB signal cable.
10. BNC LOOP output port.(1)  
Connect to extra monitors or other display units.

C. Explanation of remote control.

The button and function of remote control.



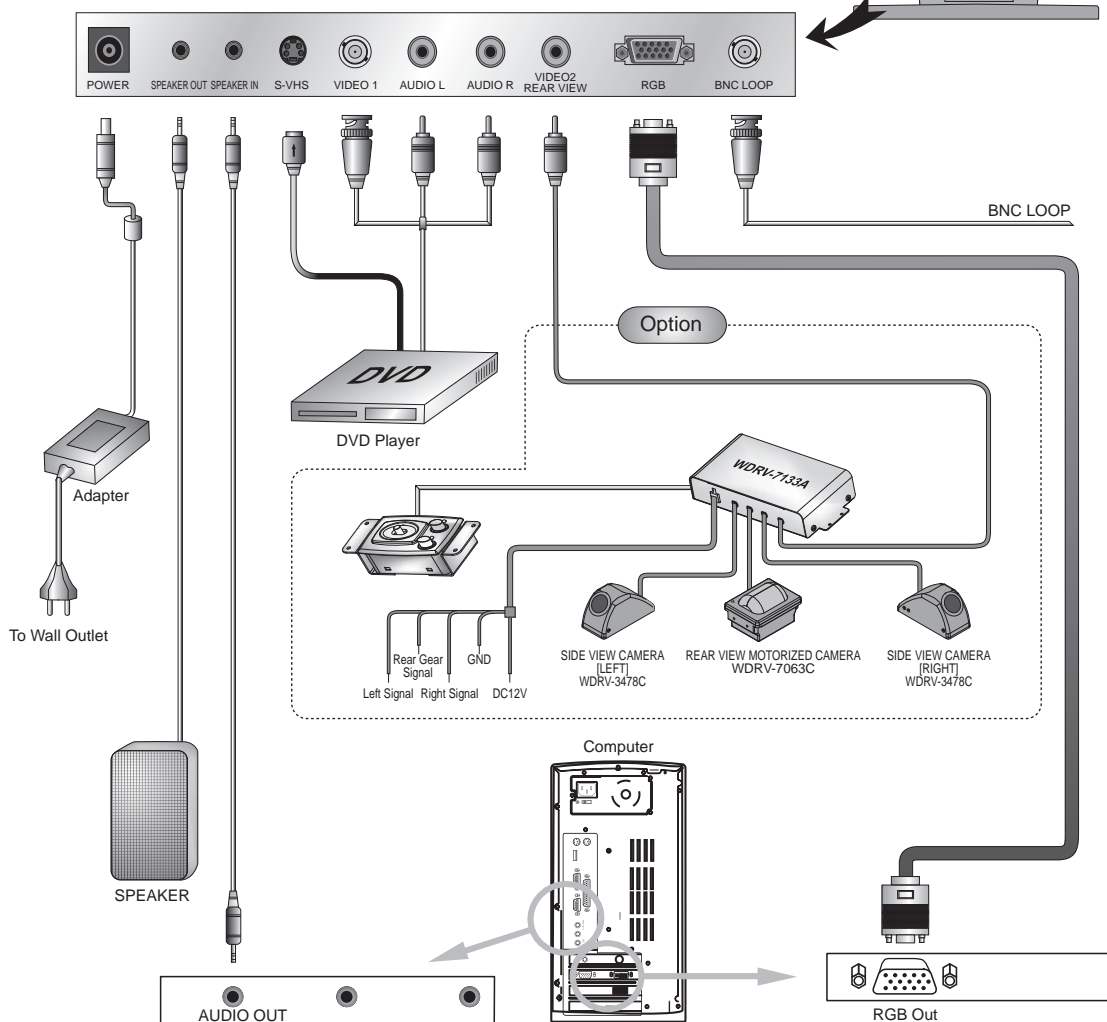
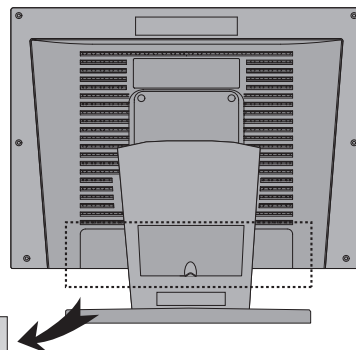
1	Power	Turn on/off power of LCD monitor
2	Mute	Make sound of speaker be mute
3	VIDEO	Change to VIDEO mode (VIDEO 1,2)
4	S-VIDEO	Change to S-VIDEO mode
5	PC	Change to PC mode
6	TV	Change to TV mode
7	Scan	Scan channel automatically (TV only) to select
8	Dimmer	Dimmer control button
9	Source	Press to display all of the available video source
10	Display	Present display mode
11	Exit	MENU becomes off
12	CH ▲▼	UP/DOWN channel of TV screen or menu
13	Menu	Display screen adjusting menu on screen
14	VOL ◀▶	UP/DOWN mute or turn up/down sound
15	OSD	Set operating OSD display
16	Brightness	Adjust the brightness of screen
17	Contrast	Adjust the contrast of screen
18	TINT	Adjust the TINT of screen
19	System	Video system control (NTSC/PAL/SECAM)
20	Auto Power	The power of LCD stays ON or OFF
21	Rear gear	Rear gear function ON or OFF
22	RESET	Return to initial set mode



## System Wiring

It is an explanation how to connect to monitor.

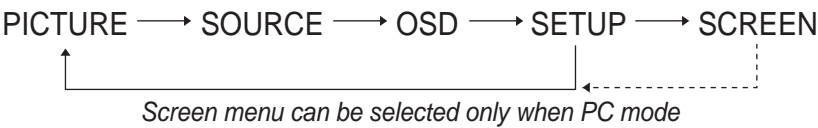
- Caution: Turn off power before connecting PC and other equipments and connect to monitor.
- Input Power consumption should be 220V or 110V for AC/DC Adapter
- Use after plugging in outlet. (Connect to POWER)



# Operation

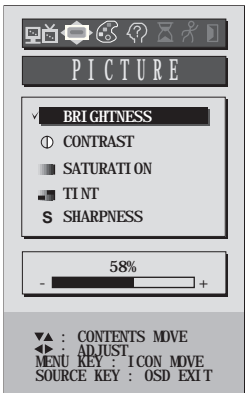
## OSD screen configuration and adjustment buttons

- Press "MENU" button to activate OSD menu screen.
- OSD is changed consequently as below when press menu continuously.



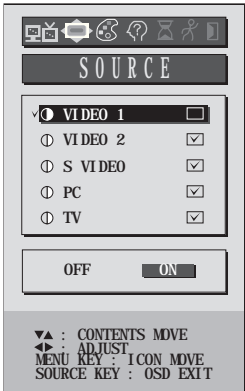
- Press menu key 1~2 second to exit menu or press source button. (EXIT on remote control)

### A. PICTURE



BRIGHTNESS	Select "BRIGHTNESS" fuction from the OSD picture menu. Press DECREASE/INCREASE button to select a desired brightness from the display.
CONTRAST	Select "CONTRAST" fuction from the OSD picture menu. Press DECREASE/INCREASE button to select a desired contrast from the display.
SATURATION	Select "SATURATION" fuction from the OSD picture menu. Press DECREASE/INCREASE button to select a desired saturation from the display.
TINT	Select "TINT" fuction from the OSD picture menu. Press DECREASE/INCREASE button to select a desired tint from the display.
SHARPNESS	Select "SHARPNESS" fuction from the OSD picture menu. Press DECREASE/INCREASE button to select a desired sharpness from the display.

### B. SOURCE

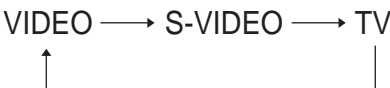


Select desired source from the source menu.

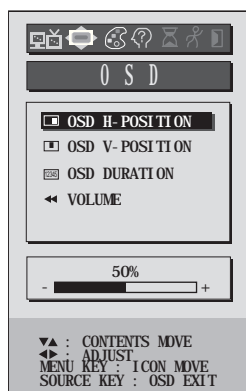
Ex)

VIDEO 1	<input checked="" type="checkbox"/>
VIDEO 2	<input type="checkbox"/>
S VIDEO	<input checked="" type="checkbox"/>
PC	<input type="checkbox"/>
TV	<input checked="" type="checkbox"/>

Source is changed as below when you select desired source button on the set or remote controller.

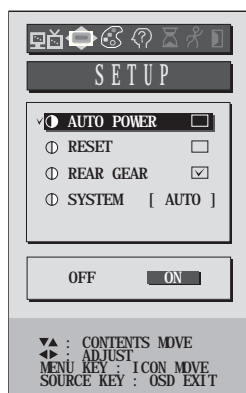


## C. OSD



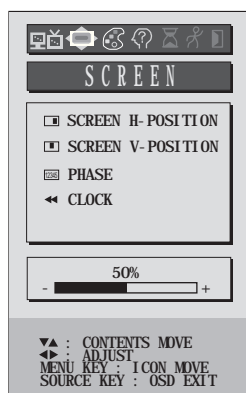
OSD H-POSITION	Select "OSD H-POSITION" function from the OSD osd menu. Press DECREASE/INCREASE button to adjust a desired OSD horizontal position for the OSD display.
OSD V-POSITION	Select "OSD V-POSITION" function from the OSD osd menu. Press DECREASE/INCREASE button to adjust a desired OSD vertical position for the OSD display.
OSD DURATION	Select "OSD DURATION" function from the OSD osd menu. Press DECREASE/INCREASE button to adjust a desired OSD duration.
VOLUME	Select "VOLUME" function from the OSD menu. Press DECREASE/INCREASE button to adjust a desired OSD volume level.

## D. SETUP



AUTO POWER	Select "AUTO POWER" function if you want that your system data like this, volume, channel, kind of source and etc are saved whenever its time to turn off the system.
RESET	Select "RESET" function from the OSD setup menu return to initial set mode.
REAR GEAR	Check the function which is changed to VIDEO2 automatically when rear gear signal input.
SYSTEM	Color system conversion. NTSC → PAL → SECAM → AUTO ↑

## E. SCREEN (PC Mode Only)



H-POSITION	Select "H-POSITION" function from the OSD screen menu Press DECREASE / INCREASE button to adjust a desired horizontal position for the display.
V-POSITION	Select "V-POSITION" function from the OSD screen menu Press DECREASE / INCREASE button to adjust a desired vertical position for the display.
PHASE	Select "PHASE" function from the OSD screen menu Press DECREASE / INCREASE button to adjust a desired phase for the display.
CLOCK	Select "CLOCK" function from the OSD screen menu Press DECREASE / INCREASE button to adjust a desired clock for the display.

## **F. Terms**

### **TFT LCD (Thin Film Transistor LCD)**

Is a thin film transistor LCD and is a type of LCD, a display element that uses optical switch controlling the transmission of light by changing the arrangement of liquid crystal. Active matrix type of flat plate display operates the liquid crystal by integrating TFT(thin film transistor), an active switching element to each pixel of existing simple type LCD, and is emerged as a powerful CRT substitute in PC areas including TV since it has excellent resolution.

### **Resolution**

Refers to precision level of device that displays graphics including graphic screen, TV camera and plotter. In general, resolution of screen is determined by the number of pixels at the horizontal points and vertical points forming the screen. The bigger the resolution of screen is, the more it can display information and easier it can perform several tasks at the same time.

### **Horizontal frequency**

Number of horizontal frequencies that can be displayed for 1 second is called horizontal frequency. The unit is Khz

### **Vertical frequency**

Frequency of displaying the screen repetitively for 1 second is called vertical frequency. The unit is Hz.

### **Pixel**

Graphic screen can be separated into the row and column of small points and this small point is called "Pixel". It is the smallest unit of screen that can be saved, displayed and addressed.

### **Pixel pitch**

Minimum diameter of LCD display is called "Pixel pitch".

For your reference, the distance between each pixel in CRT monitor is expressed as "DOT Pitch".

### **OSD (On Screen Display)**

When the user press the adjustment button to adjust the monitor screen status while data is displayed in the screen, this function appears in the graphic form in the screen so that the user can easily adjust it.

### **Plug and Play**

This function is to automatically and easily adjust new hardware without separate installation process.

**G. Check before asking warranty service****Q: Power doesn't come out.**

A: Connect power cord correctly and press power switch.

**Q: Screen doesn't come out.**

A: Check that monitor of signal cable(D-Sub) is connected correctly.

**Q: LED of monitor is blinking.**

A: Check that monitor of signal cable(D-Sub) is connected correctly.

**Q: The size and position of screen is not normal.**

A: Activate auto on screen display.

**Q: Screen is too bright or dark.**

A: Adjust brightness or contrast on screen display.

**Q: The letter on screen is not clear and noise comes out.**

A: Make it be optimal by adjusting "Phase" on display adjust.

**Q: Screen doesn't come out clearly.**

A: Adjust vertical frequency in registration information of system display.

If the symptom happen continuously, adjust by changing video card.

**Q: No signal is shown up.**

A: Check signal cable(D-Sub) of monitor(S-Sub) and the condition of damage.

**Q: An image is turned up, but sound doesn't come out.**

A: Check program from other broadcast and press volume up button.

**Q: Screen of whole channel or special channel is overlapped.**

A: Adjust the position and direction of antenna.

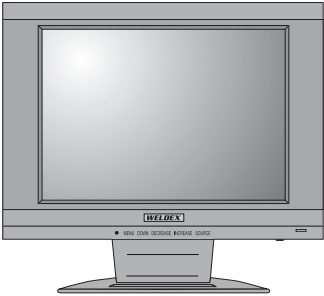



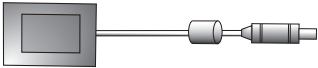
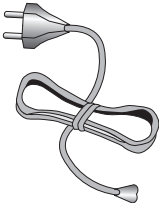
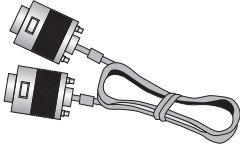
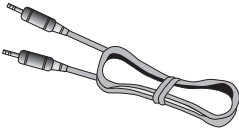
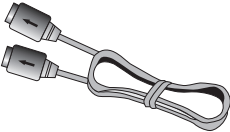
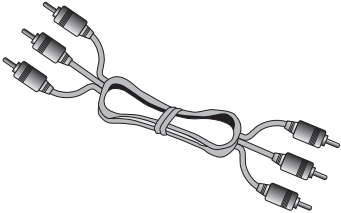
**Q: Sound doesn't come out from speaker.**

A: Check that audio cable is connected with audio in port of monitor and sound card speaker of PC.

**Q: Screen doesn't turn up after changing to our monitor from previous one.**

A: Install new monitor(ours) after changing to frequency supported by our monitor on registration information of window display from previous one.

Packing List

<div></div> <div>Set [TFT-LCD Monitor]</div>		
<div></div> <div>Remote Controller</div>	<div></div> <div>2 Batteries for Remote Controller</div>	<div></div> <div>Owner's Manual</div>
<div></div> <div>Adpater</div>	<div></div> <div>Power Cord</div>	<div></div> <div>D-SUB Signal Cable</div>
<div></div> <div>Audio Cable(Optional)</div>	<div></div> <div>S-Video Cable(Optional)</div>	<div></div> <div>RCA Cable(Optional)</div>

## Specifications

DESCRIPTION		WDL-1500M	WDL-1700M	WDL-1900M
DISPLAY TYPE(LCD TYPE)		ACTIVE MATRIX COLOR TFT LCD		
SCREEN SIZE(inch)		15" (Diagonal)	17" (Diagonal)	19" (Diagonal)
VIEWABLE SIZE		304.128mm x 228.096mm	337.92mm x 270.336mm	376.32mm x 301.06mm
VIEWING ANGLE	WDL-1500M	TOP 65 °C/ BOTTOM 60 °C/ LEFT 70 °C/ RIGHT 70 °C(CR ≧10)		
	WDL-1700M	TOP 80 °C/ BOTTOM 80 °C/ LEFT 80 °C/ RIGHT 80 °C(CR ≧10)		
	WDL-1900M	TOP 80 °C/ BOTTOM 80 °C/ LEFT 80 °C/ RIGHT 80 °C(CR ≧10)		
PIXEL PITCH(mm)		0.297(H) x 0.297(V)	0.264(H) x 0.264(V)	0.294(H) x 0.294(V)
WALL MOUNTING		YES		
BRIGHTNESS		250 cd/m <sup>2</sup>	300 cd/m <sup>2</sup>	300 cd/m <sup>2</sup>
RESOLUTION		XGA(1024x768)	SXGA(1280x1024)	SXGA(1280x1024)
DISPLAY COLOR		16.2M Colors		
PIXEL FORMAT		RGB VERTICAL STRIPE		
INTERFACE		ANALOG		
VIDEO INPUT		ANALOG R.G.B(0.7Vp-p), S-VIDEO, COMPOSITE(0.7Vp-p)		
CONTRAST RATIO		700:1	800:1	700:1
AC/DC ADAPTOR		AC 100-240, 60/50Hz, DC12V/4.16A		
BULT-IN SPEAKERS		WITH SPEAKER(2W x 2 Stereo)		
PLUG&PLAY LEVEL		VESA DDC 1/2B		
I/O CONNECTOR		DC POWER IN(DC 12V) / VGA 15PIN D-SUB		
		AUDIO_L/R IN & SPEAKER OUT & SPEAKER IN		
		TV IN(Optional)		
		VIDEO 1/2,S-VHS, Rear gear signal, External source signal(Optional)		
OPTION		Touch Screen / WDRV - 7133A		
SYSTEM TYPE		NTSC / PAL / SECAM / AUTO		
POWER REQUIREMENTS		36W, SAVING MODE : 5W	48W, SAVING MODE : 5W	48W, SAVING MODE : 5W
RESPONSE TIME		8 msec	5 msec	6 msec
VIDEO SOURCE		COMPOSITE, S-VHS		
WEIGHT(NET)		10.1lbs	13.2lbs	17.6lbs
SIZE (Width x Depth x Height)		15.6" x 9" x 14.3"	16.9" x 9" x 16.2"	17" x 9" x 16.8"

Memo