WELDEX CORPORATION

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

PUBLIC VIEW MONITOR

WDL-1900PVM / WDL-1900PVM-HD

Owner's Instructions

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

V.00

Table of Contents

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℃(+5°F) and +60℃(+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 of 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 or correct the interference by one or more of the following measures.

WELDEX

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.
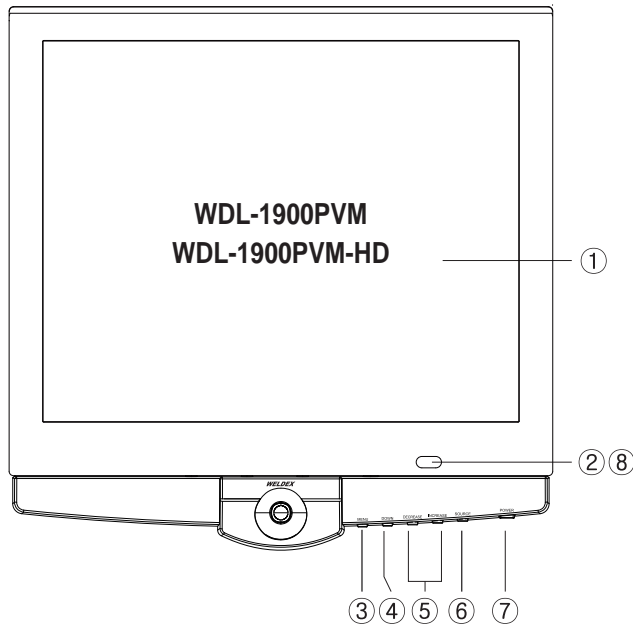
CLEANING

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 1280x1024

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 VIDEO1 / PC / HDMI (HDMI - option)
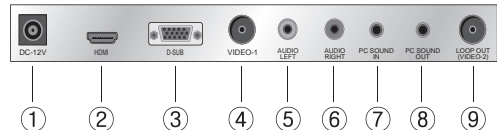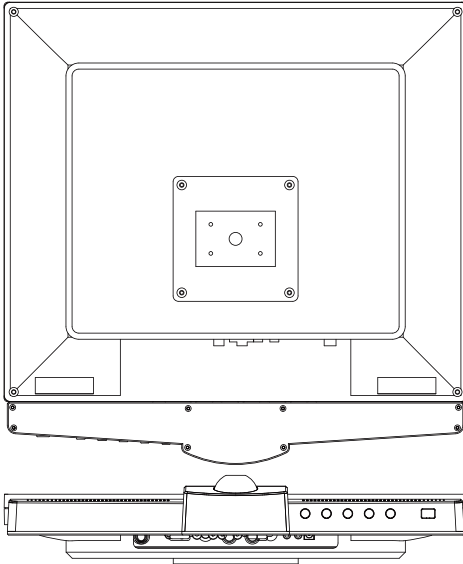
7. POWER BUTTON

   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. DC-12V (Power input port)
   It is a connection for power.(Use the adapter supplied)

2. HDMI (HDMI input port - option)
   Uses of HDMI cable to connect a HDMI output port.
   *HDMI cable(Optional)

3. D-SUB (RGB input port)
   Uses of D-SUB signal cable to connect PC D-SUB.

4. VIDEO-1 (External video input port)
   WDL-1900PVM-HD:CVBS video input, WDL-1900PVM Camera input port

5. AUDIO LEFT (External audio input port)
   External sound ouput port using RCA cable (WHITE)

6. AUDIO RIGHT(External audio input port)
   External sound ouput port using RCA cable (RED)

7. PC SOUND IN (Speaker input port - PC)
   Connect external speaker using audio cable

8. PC SOUND OUT (Speaker output port - PC)
   Connect external sound output using PC audio

9. LOOP OUT (Video-1 output port)
   WDL-1900PVM : Video-1 image loopout (at display the PVM Camera image)
   WDL-1900PVM-HD :CVBS image loopout (at display the PVM Camera image)

C. Explanation of remote control.
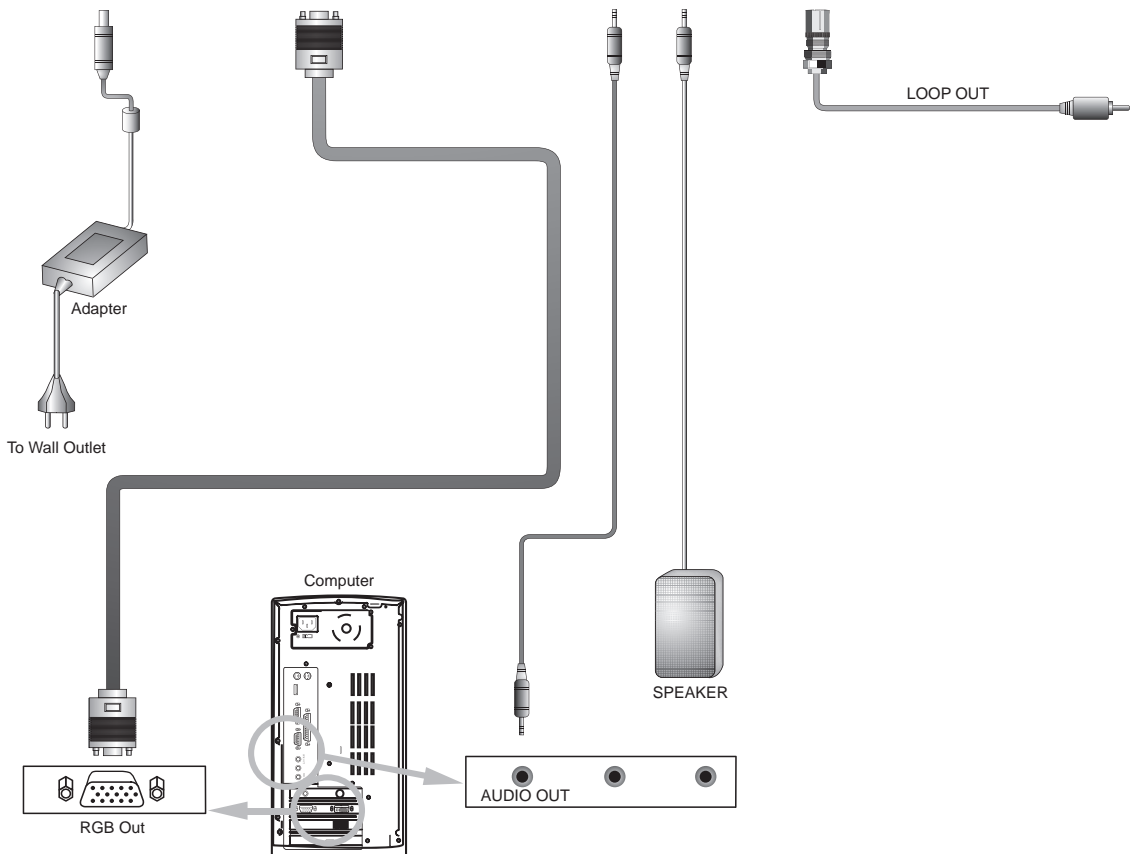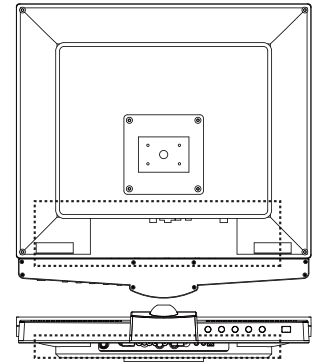
The button and function of remote control.
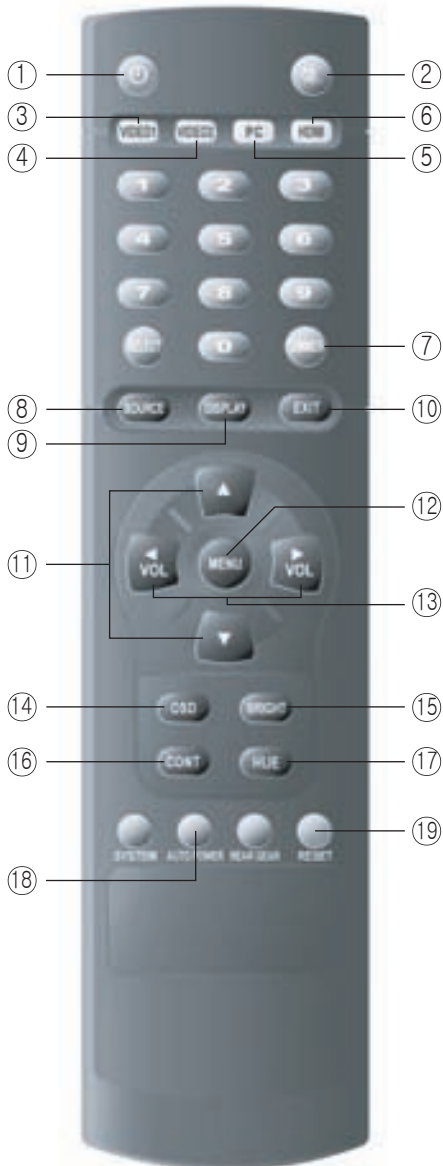
1	Power	Turn on/off power of LCD monitor
2	Mute	Make sound of speaker be mute
3	VIDEO 1	Change to VIDEO 1 mode
4	VIDEO 2	Change to VIDEO 2 (option)
5	PC	Change to PC mode
6	HDMI	Change to HDMI mode
7	Dimmer	Dimmer control button
8	Source	Press to display all of the available video source
9	Display	Present display mode
10	Exit	MENU becomes off
11	▲ ,▼	UP/DOWN during the menu
12	Menu	Display screen adjusting menu on screen
13	VOL◀ , ▶	UP/DOWN mute or turn up/down sound
14	OSD	HOTKEY on the remote control
15	Brightness	Adjust the brightness of screen
16	Contrast	Adjust the contrast of screen
17	HUE	Adjust the HUE of screen
18	Auto Power	The power of LCD stays ON or OFF
19	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)

DC-12V   HDMI   D-SUB   VIDEO-1   AUDIO LEFT   AUDIO RIGHT   PC SOUND IN   PC SOUND OUT   LOOP OUT (VIDEO-2)

LOOP OUT

Adapter

To Wall Outlet

Computer
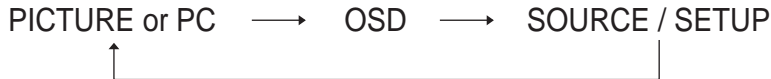
SPEAKER

RGB Out

AUDIO OUT

* HDHI Port : Used PVM Camera
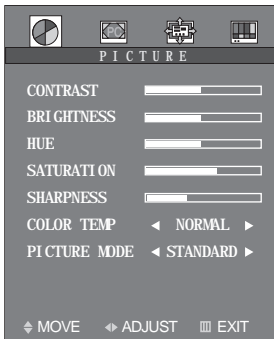 VIDEO -1 Port : Used PVM Camera

Operation

OSD screen configuration and adjustment buttons

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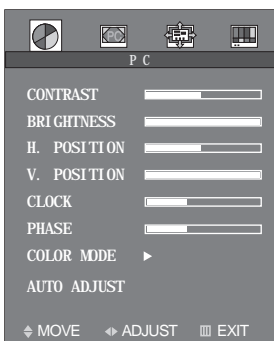- OSD is changed consequently as below when press menu continuously.

PICTURE or PC ⟶ OSD ⟶ SOURCE / SETUP

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

A. PICTURE (VIDEO1, VIDEO2 Only)

CONTRAST	Select "CONTRAST" function from the OSD picture menu. Press DECREASE/INCREASE button to select a desired contrast from the display.
BRIGHTNESS	Select "BRIGHTNESS" function from the OSD picture menu. Press DECREASE/INCREASE button to select a desired brightness from the display.
HUE	Select "HUE" function from the OSD picture menu. Press DECREASE/INCREASE button to select a desired hue from the display.
SATURATION	Select "SATURATION" function from the OSD picture menu. Press DECREASE/INCREASE button to select a desired saturation from the display.
SHARPNESS	Select "SHARPNESS" function from the OSD picture menu. Press DECREASE/INCREASE button to select a desired sharpness from the display.
COLOR TEMP	Toggling "COLOR TEMP" on the screen to adjust [NORMAL - WARM - COOL]
PICTURE MODE	Toggling "PICTURE MODE" on the screen to adjust [STANDARD - MOVIE - VIVID]

The PICTURE OSD menu shows: CONTRAST, BRIGHTNESS, HUE, SATURATION, SHARPNESS, COLOR TEMP ◄ NORMAL ►, PICTURE MODE ◄ STANDARD ►. ⬍ MOVE ◄► ADJUST ▥ EXIT

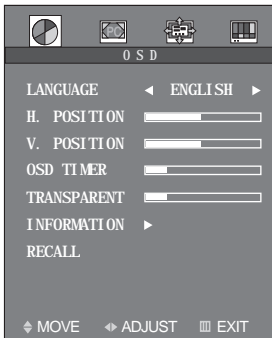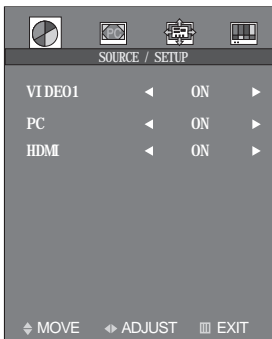## B. PC (PC & HDMI Only)

CONTRAST	Select "CONTRAST" function from the OSD pc menu. Press DECREASE/INCREASE button to adjust a desired contrast for the display.
BRIGHTNESS	Select "BRIGHTNESS" function from the OSD pc menu. Press DECREASE/INCREASE button to adjust a desired brightness for the display.
H. POSITION (PC mode only)	Select "H. POSITION" function from the OSD pc menu. Press DECREASE/INCREASE button to adjust a desired horizontal position for the display.
V. POSITION (PC mode only)	Select "V. POSITION" function from the OSD pc menu. Press DECREASE/INCREASE button to adjust a desired vertical position for the display.
CLOCK (PC mode only)	Select "CLOCK" function from the OSD pc menu. Press DECREASE/INCREASE button to adjust a desired clock for the display.
PHASE (PC mode only)	Select "PHASE" function from the OSD pc menu. Press DECREASE/INCREASE button to adjust a desired phase for the display.
COLOR MODE	Toggling "COLOR MODE" on the screen to adjust [NORMAL - WARM - COOL]
AUTO ADJUST (PC mode only)	Select "AUTO ADJUST" function from the PC menu. DECREASE/INCREASE to play.

The PC OSD menu shows: CONTRAST, BRIGHTNESS, H. POSITION, V. POSITION, CLOCK, PHASE, COLOR MODE ►, AUTO ADJUST. ⬍ MOVE ◄► ADJUST ▥ EXIT

C. OSD

LANGUAGE	Toggling "LANGUAGE" on the screen to select. [ENGLISH - DEUTSCH - FRANCAIS - ITALIANO - ESPAAOL - DUTCH]
H. POSITION	Select "H. POSITION" function from the OSD osd menu. Press DECREASE/INCREASE button to adjust a desired OSD horizontal position for the OSD display.
V. POSITION	Select "V. POSITION" function from the OSD osd menu. Press DECREASE/INCREASE button to adjust a desired OSD vertical position for the OSD display.
OSD TIMER	Select "OSD TIMER" function from the OSD menu to DECREASE/INCREASE the time from 5 to 60 second.
TRANSPARENT	Select "TRANSPARENT" function from the OSD menu to DECREASE/INCREASE transparency.
INFORMATION	Select "INFORMATION" function from the OSD menu. Display (NTSC/PAL) and PROGRAM VERSION on the screen.
RECALL	Select "RECALL" function from the OSD menu. Default SETTING datas.

OSD menu panel:
```
O S D
LANGUAGE      ◄ ENGLISH ►
H. POSITION   ▭▭▭▭▭
V. POSITION   ▭▭▭▭▭
OSD TIMER     ▭▭▭▭▭
TRANSPARENT   ▭▭▭▭▭
INFORMATION   ►
RECALL

⬍ MOVE   ◄► ADJUST   ▥ EXIT
```

D. SOURCE/ SETUP

SOURCE / SETUP menu panel:
```
SOURCE / SETUP
VIDEO1   ◄ ON ►
PC       ◄ ON ►
HDMI     ◄ ON ►

⬍ MOVE   ◄► ADJUST   ▥ EXIT
```

Press DECREASE/ INCREASE buttons to ON/ OFF at the mode.

Ex)   VIDEO1   ◄   ON   ►

          PC   ◄   ON   ►

          HDMI   ◄   OFF   ►

AUTO POWER
Set up automatically "Power ON" until it's Power Off and On again.

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 out monitor on
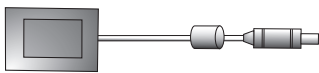   registration information of window display from previous one.

Packing List
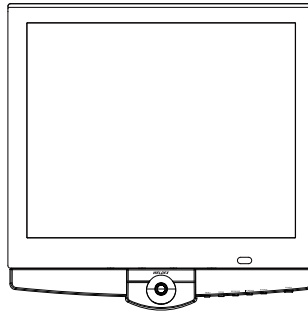
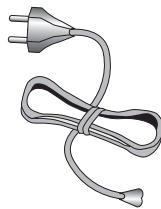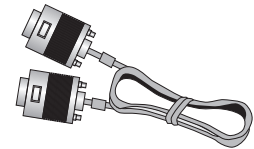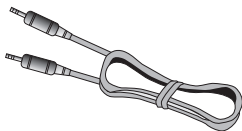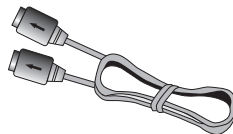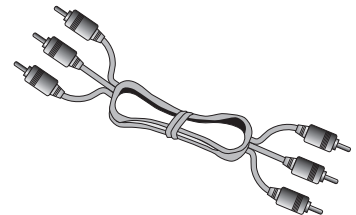|		
Set [TFT-LCD Monitor]		
Remote Controller	2 Batteries for Remote Controller	Owner's Manual
Adpater	Power Cord	D-SUB Signal Cable
Audio Cable(Option)	HDMI(Option)	RCA Cable(Option)

WELDEX

Specifications

DESCRIPTION		WDL-1900PVM / WDL-1900PVM-HD
DISPLAY TYPE(LCD TYPE)		ACTIVE MATRIX COLOR TFT LCD
SCREEN SIZE(inch)		19" (Diagonal)
VIEWABLE SIZE		376.32 mm x 301.06 mm
VIEWING ANGLE	WDL-1900M	TOP 80 $^\circ$C/ BOTTOM 80 $^\circ$C/ LEFT 80 $^\circ$C/ RIGHT 80 $^\circ$C(CR $\geqq$ 10)
PIXEL PITCH(mm)		0.294 (H) x 0.294 (V)
WALL MOUNTING		YES
BRIGHTNESS		250 cd/m^2
RESOLUTION		SXGA (1280x1024)
DISPLAY COLOR		16.2M Colors
PIXEL FORMAT		RGB VERTICAL STRIPE
INTERFACE		DIGITAL
VIDEO INPUT		ANALOG R.G.B(0.7Vp-p), COMPOSITE(0.7Vp-p)
CONTRAST RATIO		1000:1
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 (DC12V)
		AUDIO_L/R IN & SPEAKER OUT & SPEAKER IN
		VGA 15 PIN D-SUB
		VIDEO 1 , HDHI (Option)
OPTION		Touch Screen
SYSTEM TYPE		NTSC / PAL / SECAM / AUTO
POWER REQUIREMENTS		48W, SANING MODE :5W
RESPONSE TIME		5 msec
WEIGHT(NET)		17.6lbs
SIZE (Width x Depth x Height)		441.32mm x 428 mm x 60 mm

19″ PVM 600 Line Camera
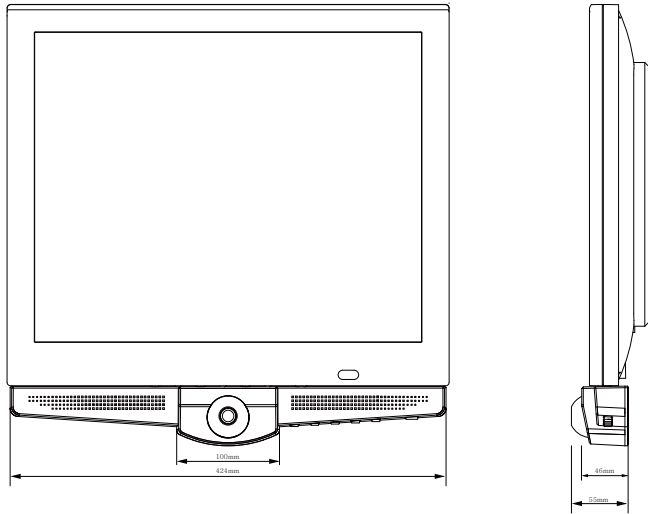
LCD	SCREEN SIZE	19"	
	RESOLUTION	1280 X 1024	
	LCD FROFILE RATIO	4 : 3	
	DISPLAY COLOR	16.7M (8BIT)	
	BRIGHTNESS	250 NIT	
	CONTRAST RATIO	1000 : 1	
	VIEWING ANGLE	160° / 160°	
	VIDEO OUTPUT	BNC LOOP OUT	
	POWER REQUIREMENT	DC 12V	
	SOUND		
	REMOTE CONTROL	OK	
	KEY	POWER KEY ONLY	
CAMERA	IMAGE SENSOR	1/3 Inch SONY Super HAD II CCD	
	RESOLUTION	600 TV Lines	
	EFFECTIVE PIXELS	768 (H) x 494 (V)	
	SCANNING SYSTEM	2:1 Interlace	
	S/N RATIO	48dB (AGC Off)	
	SYNC SYSTEM	Internal	
	SCANNING FREQUENCY	15.734 KHz (H), 59.94 Hz (V)	
	MINIMUM ILLUMINATION	0.2 Lux / F1. 2 (Color), 0.01 Lux / F1.2 (B&W)	
	SHUTTER SPEED	1/60 ~ 1/100,000 sec.	
	WHITE BALANCE	62dB (Max.)	
	LENS	6mm Fixed Board Lens	
MECA	BRACKET	VESA 100mm	

WDL-1900PVM-HD CAMERA SPECIFICATION
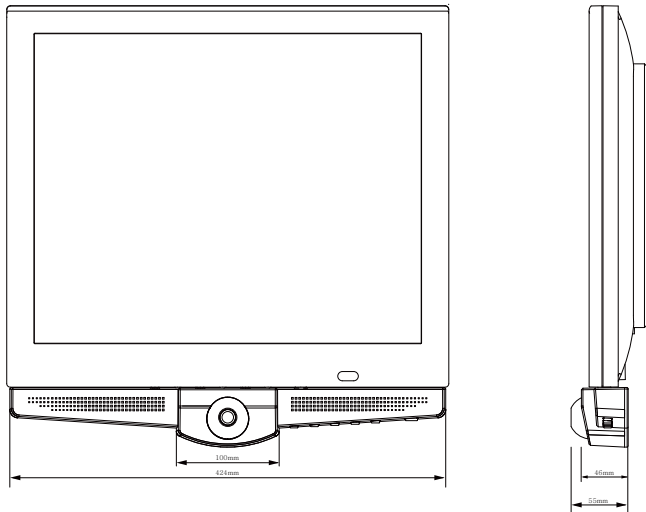
PVM	Imaging Sensor	1/3 inch 2.4Megapixel SONY COMS SENSOR
	Scanning System	Progressive Scan
	Number of active pixel	1936(H)x 1217(V)= 2,43M (Pixel)
	Total number of pixels	2000(H)x 1211(V)= 2,43M (Pixel)
	S/N Ratio	More than 50dB
	Electronic Shutter Speed	Auto / Flk
		1/60 ~1/120,000 sec 1/50 ~1/120,000 sec
	Minimum Illumination	0.5 Lux (Color), 0.1 Lux (BW) , 0.02 Lux (Sens-up x 30)
	SYNC. System	Internal only
	Backlight Compensation	BLC ON
	Day & Night Function	AUTO
	IRIS MODE	ESC
	ACCE (Adaptive Color&Contrasr Enhancement)	Low / Middle / High / Off (Selectable option)
	2D / 3D - NR	2DNR / 3DNR / SMART NR (Selectable option)
	LENS	3.6 mm 92° , F :2.0 Fix board LENS
	AGC	Middle (AGC ON)
	Motion Detection	On / Off (3 Zone Selectable option)
	White Balance	AWB
	Sens -up (Frame Integration)	On / OFF (Selectable limit ~ x30) (Selectable option)
	Gamma	r = 0.45
	Ambient Temp.	-20°C ~ +50 °C

Memo