User Manual

21.5'' Color LCD
Model: C22W***
REV: A0
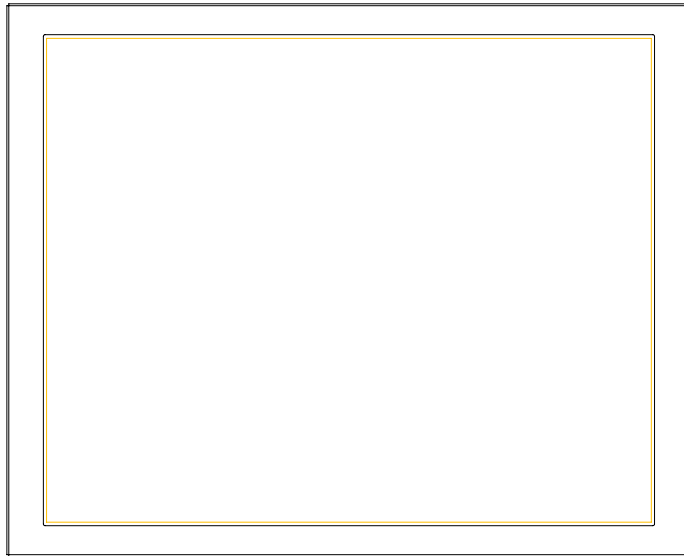
TABLE OF CONTENTS

1. SAFETY SYMBOLS & PRECAUTIONS

1.1. SAFETY SYMBOLS

This manual uses the safety symbols below. They denote critical information. Please read them carefully.

⚠	**WARNING** Failure to abide by the information in a WARNING may result in serious injury and can be life threatening.
⚠	**CAUTION** Failure to abide by the information in a CAUTION may result in moderate injury and/or property or product damage.
⚡	Alert electrical hazard.
🚫	Indicates a prohibited action.
⏚	Indicates to ground for safety.

1.2. PRECAUTIONS

To ensure personal safety and proper maintenance, please read this section and the caution statements on the unit

⚠WARNING

If the unit begins to emit smoke, smells like something is burning, or makes strange noises, disconnect all power connections immediately and contact your dealer for advice.

Attempting to use a malfunctioning unit may result in fire, electric shock, or equipment damage.

Do not open the cabinet or modify the unit.

Opening the cabinet or modifying the unit may result in fire, electric shock, or burn.

Refer all servicing to qualified service personnel.

Do not attempt to service this product yourself as opening or removing covers may result in fire, electric shock, or equipment damage.

Keep small objects or liquids away from the unit.

Small objects accidentally falling through the ventilation slots into the cabinet or spillage into the cabinet may result in fire, electric shock, or equipment damage. If an object or liquid falls/spills into the cabinet, unplug the unit immediately. Have the unit checked by a qualified service engineer before using it again.
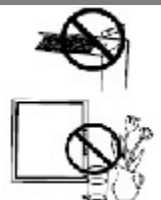
Set the unit in an appropriate location.

Not doing so may result in fire, electric shock, or equipment damage.

- Do not place outdoors.
- Do not place in the transportation system (ship, aircraft, trains, automobiles, etc.
- Do not place in a dusty or humid environment.
- Do not place in a location where the steam comes directly on the screen.
- Do not place near heat generating devices or a humidifier.
- Do not place in an inflammable gas environment.

To avoid danger of suffocation, keep the plastic packing bags away from babies and children.

Use the enclosed power cord and connect to the standard power outlet of your country.

Be sure to remain within the rated voltage of the power cord. Not doing so may result in fire or electric shock.

To disconnect the power cord, grasp the plug firmly and pull.
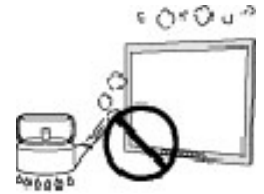Tugging on the cord may damage and result in fire or electric shock.

The equipment must be connected to a grounded main outlet.
Not doing so may result in fire or electric shock.

Use the correct voltage.
- The unit is designed for use with a specific voltage only. Connection to another voltage than specified in this User's Manual may cause fire, electric shock, or equipment damage.
- Do not overload your power circuit, as this may result in fire or electric shock.

Handle the power cord with care.
- The unit is designed for use with a specific voltage only. Connection to another voltage than specified in this User's Manual may cause fire, electric shock, or equipment damage.
- Do not overload your power circuit, as this may result in fire or electric shock.

Never touch the plug and power cord if it begins to thunder.
Touching them may result in electric shock.

Do not touch a damaged LCD panel directly with bare hands.
The liquid crystal that may leak from the panel is poisonous if it enters the eyes or mouth. If any part of the skin or body comes in direct contact with the panel, please wash thoroughly. If some physical symptoms result, please consult your doctor.

**Follow local regulation or laws for safe disposal.**

⚠CAUTION

Handle with care when carrying the unit.

Disconnect the power cord and signal cables and remove the optional unit. Moving the unit with the cord or the option attached is dangerous. It may result in injury.


When handling the unit, grip the bottom of the unit firmly with both hands ensuring the panel faces outward before lifting.

Dropping the unit may result in injury or equipment damage.
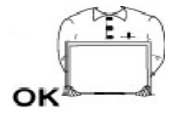
Do not block the ventilation slots on the cabinet.

- Do not place any objects on the ventilation slots.
- Do not install the unit in a closed space.
- Do not use the unit laid down or upside down.
- Blocking the ventilation slots prevents proper airflow and may result in fire, electric shock, or equipment damage.
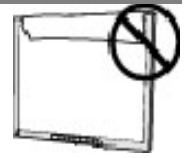
Do not touch the plug with wet hands.

Doing so may result in electric shock.

Use an easily accessible power outlet.

This will ensure that you can disconnect the power quickly in case of a problem.

Periodically clean the area around the plug.

Dust, water, or oil on the plug may result in fire.

Unplug the unit before cleaning it.

Cleaning the unit while it is plugged into a power outlet may result in electric shock.

If you plan to leave the unit unused for an extended period, disconnect the power cord from the wall socket after turning off the power switch for the safety and the power conservation.

LCD PANEL

When the monitor is cold and brought into a room or the room temperature goes up quickly, dew condensation may occur inside and outside the monitor. In that case, do not turn the monitor on and wait until dew condensation disappears, otherwise it may cause some damages to it.

In order to suppress the luminosity change by long-term use and to maintain the stable luminosity, please use the monitor with the lower brightness.

The screen may have defective pixels. These pixels may appear as slightly light or dark area on the screen. This is due to the characteristics of the panel itself, and not the product.

The backlight of the LCD panel has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.

Do not press on the panel or edge of the frame strongly, as this may result in damage to the screen. There will be prints left on the screen if the pressed image is dark or black. If pressure is repeatedly applied to the screen, it may deteriorate or damage your LCD panel. Leave the screen white to decrease the prints.

Do not scratch or press on the panel with any sharp objects, such as a pencil or pen as this may result in damage to the panel. Do not attempt to brush with tissues as this may scratch the LCD panel.

When the screen image is changed after displaying the same image for extended periods of time, an afterimage may appear. Use the screen saver or timer to avoid displaying the same image for extended periods of time.

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2. __INTRODUCTION__

Thank you very much for choosing this monitor.

2.1. __Features__
- VGA analog input
- DVI digital input compliant
- Display Port 1.1a compliant
- Resolutions up to 1920x1080.
- Power management system conforms to VESA DPMS standard.
- Supports DDC1/2B for Plug & Play compatibility.
- Advanced On Screen Display (OSD) control for picture quality adjustment

2.2. __Package Contents__
Please contact your local dealer for assistance if any of the listed items are missing or damaged.
- LCD Monitor
- D-sub Cable
- DVI Cable
- Display Port Cable
- Power Cable
- DC Adapter
- User Manual

Note: Please retain the packing materials for future transference.

3. CABLE CONNECTION

3.1. Before Connecting

Before connecting your monitor to the computer, change the display screen settings (Resolution and frequency) in accordance with the charts below.

Note:

- The lower display modes like 640x 480, automatically enlarge to the maximum display mode (1920 x 1080), and some lines of the characters may become fuzzy.
- When your computer and display support VESA DDC, the suitable resolution and the refresh rate are set by just plugging your display into the computer without any manual settings.

3.2. Connecting the Cables

Note: Be sure that the power switches of both the computer and the monitor are OFF.

AUDIO IN   DISPLAYPORT   DVI   D-SUB   DC IN

Audio cable Connection:

Plug the audio cable to the audio port in the rear of the PC system, and plug the other end to the monitor;

Note: AUDIO IN port is valid for DVI and D-SUB only.

Display Port cable connection:

Plug the Display Port signal cable to the Display Port connector in the rear of the PC system or other signal source, and plug the other end to the monitor.

DVI cable connection:

Plug the DVI signal cable to the DVI connector in the rear of the PC system, and plug the other end to the monitor.   Secure cable connectors with screws.

VGA cable connection:

Plug 15-pin VGA signal cable to the VGA connector in the rear of the PC system, and plug the other end to the monitor.   Secure cable connectors with screws.

Power cable connection:

1. Connect the adapter power cord to the DC input on the rear of the monitor.
2. Plug the power cord into the DC adapter, and plug the other end of the cord into a power outlet

4. ADJUSTMENT

This monitor will not likely require adjustment. Variations in video output and application may require adjustments to the monitor to optimize the quality of the display.

For best performance, the monitor should be operating in native resolution 1920 x 1080. Use the Display control panel in Windows to choose 1920 x 1080 resolution. Operating in other resolutions will degrade video performance.

All control adjustments are automatically memorized.

4.1. How to Use OSD Menu

(1) **Auto** (Auto adjustment or exit OSD menu)
(2) ▲ (Up or Increase value)
(3) ▼ (Down or Decrease value)
(4) **Menu** (Activate OSD menu)
(5) **Power** (Power on/off)
(6) Power indicator LED

Power indicator LED

Green	Operating
Orange	Closed
Off	Power Off

1. Entering the OSD Menu
Press the MENU Button once to display the OSD Menu.

2. Making Adjustments and Settings
a. Select the desired sub menu icon using the Control buttons and press the MENU button. The sub menu appears.
b. Use the Control buttons to select the desired setting icon and press the MENU button. The setting menu appears.
c. Use the Control buttons to make all required adjustments and press the MENU button to save the settings.

3. Exiting the OSD MENU
- To exit the OSD menu, Press <Exit> button.

4.2. OSD MENU Adjustments and Settings

The following table shows all adjustment and setting menus.

Main Menu	Sub Menu	Reference	Note
Input	Source	VGA, DVI, DP	Select input signal source
Image	Brightness	0-100	Backlight setting
	Contrast	0-100	Contrast setting
	Sharpness	0-8	Sharpness setting
	Saturation	0-100	only in video mode, adjust the color saturation
	Color Temp	5500K, 6500K, 7500K, 8500K, 9300K, 11000K,User	Color temperature selection
	Gamma	1,2,3,4,5,6,7	Gamma selection
VGA (only in VGA mode)	Auto Adjust	>>>	Automatically set the screen
	H Position	0-100	Adjust horizontal position of the screen
	V Position	0-100	Adjust vertical position of the screen
	Clock	0-100	Adjust the clock
	Phase	0-63	Adjust the phase
Setup	OSD Language	English, 中文	Select the language of the OSD menu
	OSD Position	Center, Top Left, Top Right, Bottom Right, Bottom Left	Adjust horizontal/ vertical location of the OSD menu
	OSD Rotation	0°, 90°, 180°, 270°	Adjust the viewing angle of the OSD menu
	Auto Scan Input	On, Off	Select the scan mode
	Factory Reset	>>>	Default setting
Sound	Volume	0-100	Volume adjustment
	Mute	On, Off	Mute function
Status	Source	VGA, DVI,DP	Information about the active source
	Format	eg: 1280x1024 60Hz	Information about the resolution

4.3. OSD MENU Adjustments and Settings Screen Adjustment

Screen adjustments for the monitor should be used in suppressing screen flickering and also for adjusting the screen to its proper position. There is only one correct position for each display mode. It is also recommended to use the OSD Menu function when first installing the display or whenever changing the system.

Note: Allow the monitor to stabilize for at least 20 minutes before making image adjustments.

Making adjustment must be **VGA** signal.

Adjustment Procedure

1. Adjust by <Auto Adjust> menu in the OSD Menu.

To automatically adjust the clock, phase, screen position and resolution.

Note:

The Auto sizing function is intended for use on the computer running Windows. It may not work properly when the computer is running on MS-DOS (Not windows) or the background color for the "wall paper" or "desktop" pattern is set to black.

If the appropriate screen cannot be made by using the Auto adjustment button, adjust the screen through the following procedures.
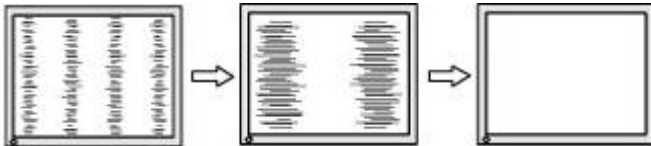
2. Adjust by using <VGA> menu in the OSD Menu.

(1) Vertical bars appear on the screen

→ Use the <Clock> adjustment.

Select the <Clock> and eliminate the vertical bars by using the UP and Down of the Control buttons.

Do not continuously press the Control buttons, as the adjustment value will change quickly and make it difficult to locate the most suitable adjustment point. If the horizontal flickering, blur or bars appear, proceed to <Phase> adjustment as follows.

(2) Horizontal bars appear on the screen.

→ Use the <Phase> adjustment.

Select the <Phase> and eliminate the horizontal flickering, blurring or bars by using the Right and Left buttons.
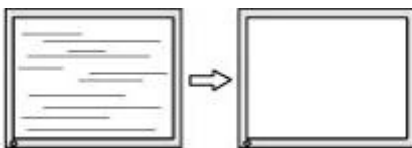

Note: Horizontal bars may not completely disappear from the screen depending on the computer.

(3) The screen position is incorrect.

→ Use the <H-Position> or <V-Position> adjustment.

The <H-Position> or <V-Position> adjustment moves the image to the correct position. Select <Position> and adjust the position by using the Up and Down buttons. If vertical bars of distortion appear after finishing the <H-Position> or <V-Position> adjustment, return to <Clock> adjustment and repeat the previously explained adjustment procedure. (Clock → Phase → <H-Position> or <V-Position>)
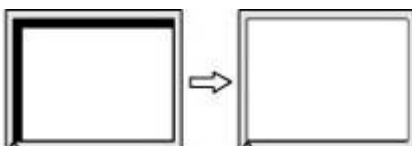
5. **TROUBLESHOOTING**

If a problem persists even after applying the suggested remedies, contact a dealer.

Problems	Points to check with Possible Solutions
1. No picture Indicator status: Off	Check that the power cord is correctly connected. If the problem persists, turn off the monitor power for a few minutes, then turn it back on and try again. - when the signal is not inputted correctly, even if the monitor functions properly. - When the image is displayed correctly after a short time, there is no problem with the monitor. (Some PCs do not output the signal soon after powering on.) Check that the signal cable is properly connected to the PC or graphics board.
Indicator status: Green	Check the "Brightness" setting.
2. Display position is incorrect. 	Adjust the image position or decrease the horizontal or vertical bars using the <Auto Adjust> menu. If the problem persists, use the graphics board's utility software to change the display position if available.
3.Vertical bars of distortion appear. 	
4.Horizontal bars of distortion appear. 	
5. The screen is too bright or too dark.	Adjust the <Brightness> (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.)
6. Afterimages appear.	- Use the screen saver or timer when displaying the same image for extended periods of time. - Afterimages are particular to LCD monitors. Avoid displaying the same image for extended periods of time.
7.The screen has defective pixels (e.g. slightly light or dark).	This is due to the characteristics of the panel itself, and not the LCD product.

6. <u>CLEANING</u>

Periodic cleaning is recommended to keep the monitor looking new and to prolong its operation lifetime.
 Note: Never use thinner, benzene, alcohol (ethanol, methanol, or isopropyl alcohol), abrasive cleaners, or other strong solvents, as these may cause damage to the cabinet or LCD panel.

Cabinet
To remove stains, wipe the cabinet with a soft, lightly moistened cloth using a mild detergent. Do not spray wax or cleaner directly into the cabinet. (For details, refer to the manual of the PC.)

LCD Panel
The LCD surface can be cleaned with a soft cloth, such as cotton or lens paper.
If necessary, stubborn stains can be removed by moistening part of a cloth with water to enhance its cleaning power.

7. SPECIFICATION

7.1. Specification

Display characteristics	
Size:	21.5″ active display
Supported color :	16.7M colors
Native resolution:	1920 x1080
Pixel pitch:	0.248 x 0.248 mm
Viewing angle:	R/L 170°, U/D 160° @ contrast ratio = 10
Brightness:	250cd/㎡ Typ
Contrast ratio:	3000:1Typ.
Response time:	25 ms Typ.
Vertical frequency:	50-76 Hz
Horizontal frequency:	31-80 kHz
External connections	
Digital signal:	Display Port,　DVI-D
Analog Video Input:	15 pin D-sub

7.2. Display Port 20pin Connector

Pin	signal	Pin	signal	Pin	signal
1	ML_Lane 3(n)	9	ML_Lane 1(p)	17	AUX_CH(n)
2	GND	10	ML_Lane 0(n)	18	HOT-PLUG
3	ML_Lane 3(p)	11	GND	19	RTN
4	ML_Lane 2(n)	12	ML_Lane 0(p)	20	DP_PWR
5	GND	13	GND		
6	ML_Lane 2(p)	14	GND		
7	ML_Lane 1(n)	15	AUX_CH(p)		
8	GND	16	GND		

7.3. DVI (Digital Visual Interface) Connector
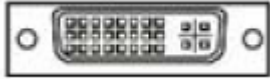
Pin	Signal	Description	Pin	Signal	Description
1	TX2-	Channel 2 Data -	13	TX3+	NC
2	TX2+	Channel 2 Data +	14	+5V	+5 V from input
3	SHLD2/4	Channels 2 and 4 Shield	15	5V_GND	Ground for +5 V
4	TX4-	NC	16	HPD	Hot Plug Detection
5	TX4+	NC	17	TX0-	Channel 0 Data -
6	SCL	DDC Clock	18	TX0+	Channel 0 Data +
7	SDA	DDC Data (bidirectional)	19	SHLD0/5	Channels 0 and 5 Shield
8	VSYNC	NC	20	TX5-	NC
9	TX1-	Channel 1 Data -	21	TX5+	NC
10	TX1+	Channel 1 Data +	22	SCL_GND	DDC Clock Ground
11	SHLD1/3	Channels 1 and 3 Shield	23	TXC+	Clock +
12	TX3-	NC	24	TXC-	Clock -
Pin	**Code**	**Analogue Function**	**Pin**	**Code**	**Analogue Function**
C1	R	NC	C4	HSYNC	NC
C2	G	NC	C5	ANL_GND	Ground
C3	B	NC			

Note: This connector only supports the DVI-D signal.

7.4. D-Sub 15pin Connector

Pin	Signal	Pin	Signal	Pin	Signal
1	Red video	6	Red ground	11	Ground Shorted
2	Green video	7	Green ground	12	Data (SDA)
3	Blue video	8	Blue ground	13	H. Sync
4	Ground	9	5V	14	V. Sync
5	GND	10	Ground Shorted	15	Clock (SCL)

7.5. Preset Timing

| Mode		PixelClk MHz	polarity		Frequency	
			H	V	FH (kHz)	FV (Hz)
VGA	640 x 480	25.175	-	-	31.469	59.940
VGA	720x400	28.320	+	+	31.469	70.087
VESA	640x480	31.500	-	-	37.500	75.000
VESA	800 x 600	40.000	+	+	37.879	60.317
VESA	800 x 600	49.500	+	+	46.875	75.000
VESA	1024 x 768	65.000	-	-	48.363	60.004
VESA	1024 x768	75.000	-	-	56.476	70.069
VESA	1024 x768	78.750	-	-	60.023	75.029
VESA	1280 x 1024	108.000	+	+	63.981	60.020
VESA	1280 x 1024	135.000	+	+	79.976	75.025
VESA	1360 x 768	85.500	+	+	47.712	60.015
VESA	1680 x 1050	146.250	+	+	65.290	59.954
VEA	1920 x 1080	173.000	-	+	67.158	59.963

8. Dimensions
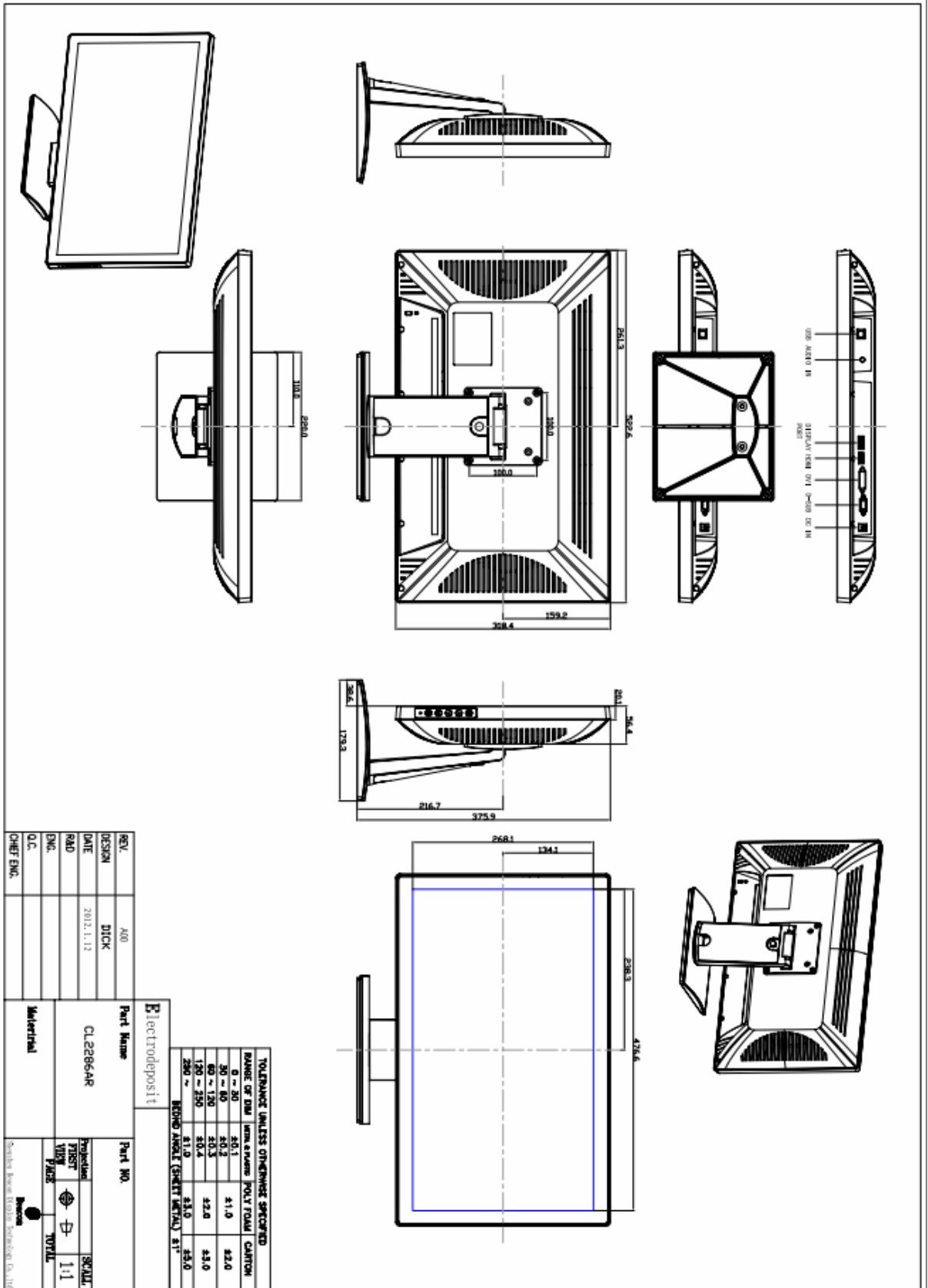
9. Quick Installation Guide

① Rotate to 90 degree:
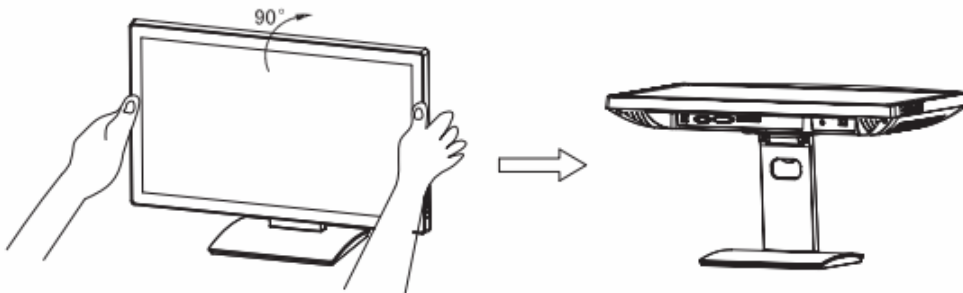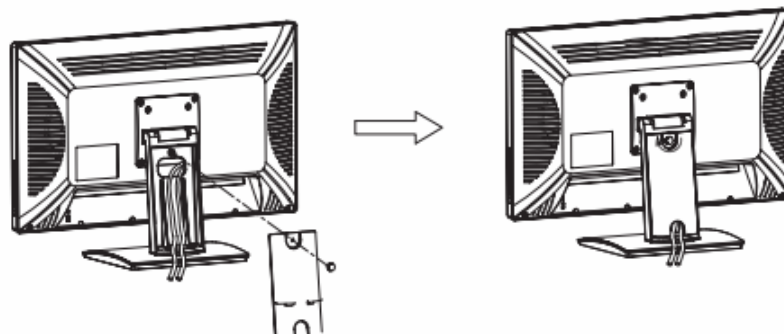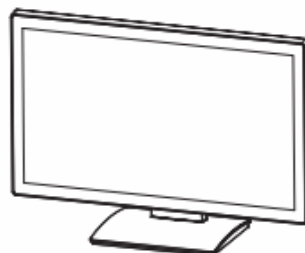
② Remove the base-cover:
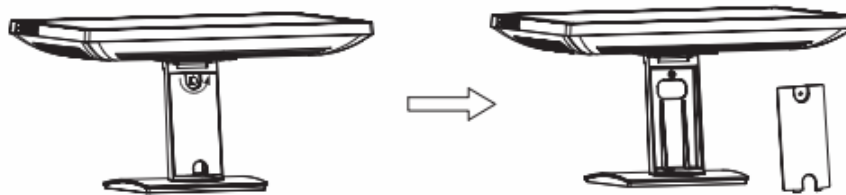
③ Install the cables:
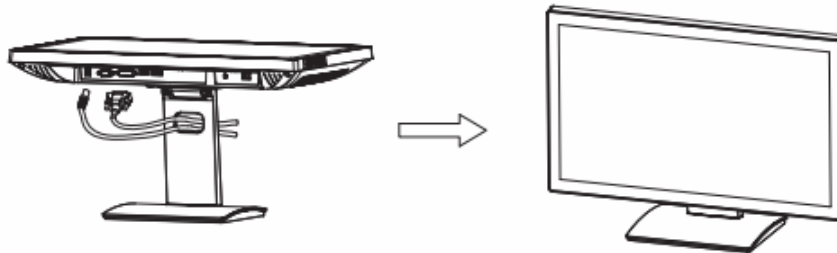
④ Fix the base-cover:

⑤ Set right the monitor:

10. <u>Vendor</u>

Europe: **Headquarter (North America):**

FCC Warning:

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and

- (2) this device must accept any interference received, including interference that may cause undesired operation.

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- NOTE: 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. 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:

- -- Reorient 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.

- -- Consult the dealer or an experienced radio/TV technician for help.