User's Manual

FA-2090 Color LCD Monitor



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 anad/or property or product damage.



Indicates a prohibited action.



Indicates to ground for safety.

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As an ENERGY STAR® Partner, Eizo Nanao Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

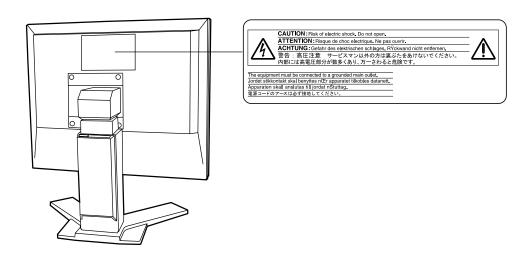
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IMPORTANT

- This Product has been adjusted specifically for use in the region to which it was originally shipped. If operated outside the region to which it was originally shipped, the product may not perform as stated in the specifications.
- To ensure personal safety and proper maintenance. Please read this section and the caution statements on the unit (refer to the figure below).

[Location of the Caution Statements]



A 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 can be dangerous.

Do not dismantle the cabinet or modify the unit
 Dismantling the cabinet or modifying the unit may result in electric shock or burn.

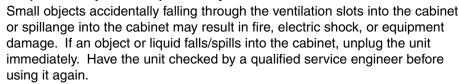


· Refer all servicing to qualified service personnel.

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards.

A WARNING

· Keep small objects or liquids away from the unit.







· Place the unit on a strong, stable surface

A unit placed on an inadequate surface may fall, resulting in injury or equipment damage. If the unit falls, disconnect the power immediately and have the unit checked by a qualified service engineer before using it again. Using a unit after it has been dropped may result in fire or electric shock.



Set the unit in an appropriate location.

Not doing so may cause damage and could result in fire or electric shock.

- * Do not place in outdoors.
- * Do not place in the transportation system (ship, aircraft, trains, automobiles, etc.)
- * Do not install in a dusty or humid environment.
- * Do not place in a location where steam can have direct contact with the screen.



- * Do not place near heat generating devices or humidifier.
- 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 cause in fire or electric shock.

A WARNING

To disconnect the power cord, grasp the plug firmly and pull.
 Never tug on the cord, doing so may cause damage and could result in fire or electric shock.

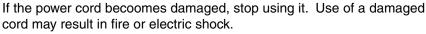


• The equipment must be connected to a grounded main outlet.

Not doing so may cause in fire or electric shock.



- Use the correct voltage.
 - * The unit is designed for use with a specific voltage only. Connection to a another voltage than specified in this User's Manuall may cause fire, electric shock, or other damage.
 - * Do not overload your power circuit, as this may result in fire or electric shock
 - * For proper connections of the power cord, be certain to plug the power cord to the provided unit connector and directly to a wall outlet. Not doing so may result in fire or electric shock.
- Handle the power cord with care.
 - * Do not place the cord underneath the unit or other heavy objects.
 - * Do not pull on or tie the cord.





- Never touch the plug and power cord if it begins to thunder. Touching them may result in electric shock.
- When attaching an arm stand, please refer to the user's manual of the arm stand and install the unit securely with the enclosedd screws.

TNot doing so may cause the unit to come unattached, which may result in injury or equipment damage. When the unit is dropped, please ask your dealer for advise. Do not continue using a damaged unit. Using a damaged unit may result in fire or electric shock. When reattaching the tilt stand, please use the same screws and tighten them securely.

A WARNING

• Do not touch a damaged LCD panel directly with bare hands.

The liquid crystal which leaks 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 throughly. If some physical symptoms result, please consult your doctor.



• Follow local regulation or laws for safe disposal.

The backlight of the LCD panel contains mercury.

A CAUTION

· Handle with care when carrying the unit.

Disconnect the power cord, cables when moving the unit. Moving the unit with the cord attached is dangerous. It may result in injury or equipment damage.

 When handling the unit, grip the bottom of the unit firmly with both hands ensuring the panel faceees 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 books or any other papers on the ventilation slots.
 - * Do not install the unit in a closed space.
 - * Do not use the unit laying down or upside down.

Using the unit in these ways blocks the ventilation slots and prevents proper airflow, leading to fire or other damage.



A CAUTION

• Do not touch the plug with wet hands.

Touching the plug with wet hands is dangerous and can cause electrical 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 arounf the plug.
 Buildup of 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 of the power switch for
the safety and the power conservation.

LCD Panel

- The screen may have defective pixels. These pixels may appear as slightly light or dark area on the screen. This is due to th 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 will result
 in damage to the screen. There wil 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.

1. INTRODUCTION

Thank you very much for choosing an EIZO Color LCD Monitor.

1-1. Features

- DVI p.24) Digital input (TMDS p.24) compliance (DVI-I x 2)
- Two images can be displayed at the same time by dual input support
- 2048 x 1536 resolutioon (Actual video resolutioon: 1024 x 1536)
 Horizontal scanning frequency of 92.86 96.72 kHz
 Vertical scanning frequency of 60 Hz
- The height adjustable stand incorporated
- Ultra slim bezel incorporated
- The portrait/Landscape display capability
- Power saving function (DVI-DMPM^{p.24)})

NOTE

- The FA-2090 supports dual video input. The video input setting and the power saving function depend on settings by graphic boards.
- The power saving function is always "ON" during operation.

1-2. Package Contents

Please contact your local dealer for assistance if any of the listed items are missing or damaged.

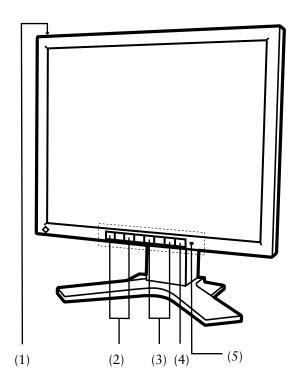
- LCD Monitor
- Signal Cable (FD-C04) ... x2
- Warranty Registration Card
- Power Cord
- User's Manual

NOTE

• Please retain the packing materials for future transference.

1-3. Controls, Connectors & Functions

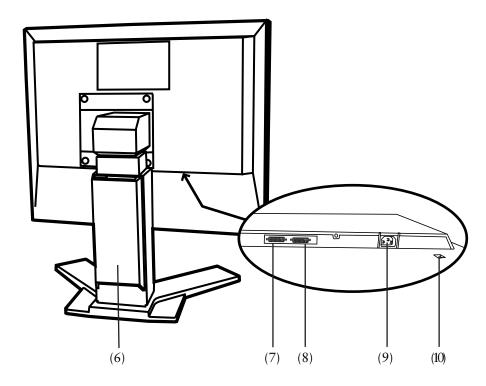
Controls & Connectors [Front]



- (1) Main Power Switch
- (2) Contrast Adjustment Button (+, -)
- (3) Brightness Adjustment Button (+, -)
- (4) Power Button
- (5) Power Indicator

Indicated Color	Power-on status
Green	Power is on/ Main power is off
Yellow	Power save mode
Slowly flashing Yellow	Power is off (Main power is on)

[Rear]



- (6) Height Adjustable Stand (Detachable) *1
- (7) DVI-I Input Connector (Signal 1)
- (8) DVI-I Input Connector (Signal 2)
- (9) Power Connector
- (10) Security Lock Slot*2

Intl: 650-572-2700, x3348 /Fax: 650-572-9675

http://www.kensington.com

^{*1} The LCD monitor can be used with an optional arm stand by removing the stand (see page 19)

^{*2} Allows for connection of a security cable. This lock supports Kensington's MicroSaver security system. For further information, please consult: Kensington Technology Group 2855 Campus Drive, San Mateo, CA 94403 USA 800-850-4242, x3348

Functions

The LCD monitor offers two (2) functions for screen adjustment and a useful function for daily use.

Brightness Adjustment

Adjust screen brightness level by each (+) or (-) key of Brightness Adjustment Button. To finish the adjustment will save the data automatically.

Contrast Adjustment

Adjust screen contrast level by each (+) or (-) key of Contrast Adjustment Button. To finish the adjustment will save the data automatically.

Adjustment Lock

Use the function to prevent any accidental changes of screen adjustment.

• To lock

Turn off the monitor's Main Power Switch while image is diaplayed on the screen. Press on the (-) key of the Contrast Adjustment Button while switching on the monitor's Main Power Switch.

• To unlock

Turn off the monitor's Main Power Switch while image is diaplayed on the screen. Press on the (-) key of the Contrast Adjustment Button one again while switching on the monitor's Main Power Switch.

2. CONNECTING UP

2-1. Before connecting

Supported Resolution

The FA-2090 can be used to connect with the special graphics board which has a capability of dual video signal output.

This monitor supports the following mode and input video signal.

Supported Resolution

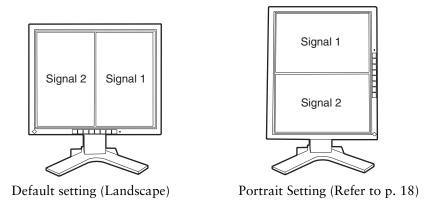
• Display Resolution	2048 dots x 1536 lines
• Input Video Resolution	1024 dots x 1536 lines

Input Video Signal

 Horizontal Scanning Frequency 	fH: 92.86 - 96.72 kHz
• Vertical Scanning Frequency	fV: 60 Hz

2-2. Connecting the signal cable

The FA-2090 has two display area on a display panel. To display both area, it is required to plug signal cables to each Signal 1 or Signal 2 connector.

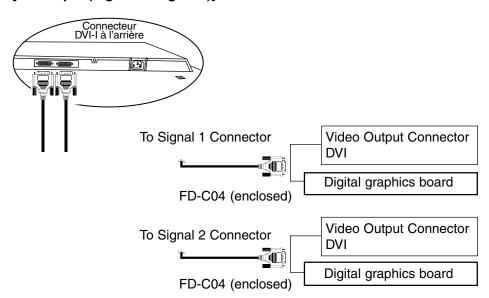


NOTE

- Be sure that the power switches of both the PC and the monitor are OFF.
- **1.** Plug the signal cables into each DVI-I connector at the rear of the monitor and the other end of the cable into the video connector on the PC.

After attaching the connectors, secure the connection with the screw-in fasteners.

[DVI-I Input (Signal 1 / Signal 2)]

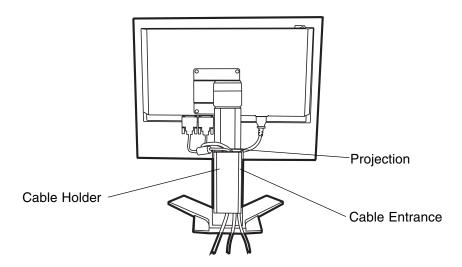


NOTE

- Check that both Signal 1 and Signal 2 connector is securely connected.
 If not, the images cannot be displayed.
- **2.** Plug the power cord into the power connector on the rear of the monitor
- **3.** Lead the power cord and signal cables into the cable holder at the rear of the monitor.

NOTE

- When housing the cables into the cable holder, lead them to the cable entrance side and pinch the projection to open the cable entrance.
- The cables are recommended to lead with slight sag for the smooth motion of the stand.



4. Plug the other end of the power cord into a power outlet.

A WARNING

 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 cause in fire or electric shock.

 The equipment must be connected to a grounded main outlet.

Not doing so may result in an electric shock.



5. Turn on the monitor's power and then switch on the PC's power.

Whenever finished, turn off the PC and the monitor.

NOTE

- If any image is NOT displayed, refer to "TROUBLESHOOTING" (p.21)
- The monitor automatically enters the power saving mode whenever the graphics board goes to DVI-DMPM power save mode. To complete power saving, turn off the Main Power Switch and disconnect the monitor from the power supply while you don't use the monitor.

Suggestions for Maximizing Comfort

- Adjust brightness of the screen depending on the brightness of your environment.
 Too dark or too bright of a screen can cause eye strain.
- Be sure to take adequate rests. A10-minute rest period each hour is suggested.

2-3. Portrait monitor setting

This monitor can be rotated counterclockwise and used as a portrait monitor.

NOTE

- . Be sure that the power switche of the monitor is OFF.
- Hold upper-left and bottom-right corner with both hands, then gently rotate the display panel.
- Turn on the monitor after confirming that the display panel is perfectly rotated by 90 degrees.
- Refer to the User's Manual of graphics board about the software settings when using portrait monitor.

3. ATTACHING AN ARM STAND

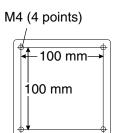
The LCD monitor can be used with an arm stand by removing the tilt stand and attaching the arm stand to the LCD monitor.

NOTE

- Use an arm stand that satisfies the followings.
 - When using the LCD monitor with an arm stand, the arm stand must be VESA approved:
 - * Use an arm stand with a 100 mm x 100 mm hole spacing on the arm mounting pad.
 - * Use an arm stand that is able to support an object weighing 6.5 kg.
 - TÜV/GS approved arm stand.
 - Use an arm stand with sufficient stability (mechanical firmness) to support the weight of the monitor.
 - Use an arm stand remaining that position where it is manually moved.
 - Use an arm stand with the ability to tilt the monitor forward and backward.
- · Please connect cables after attaching an arm stand.

Setup Procedure

- **1.** Lay the LCD monitor down. Do not scratch the panel.
- **2.** Remove the stand by loosening the screws. (4 pcs of M4 \times 10)

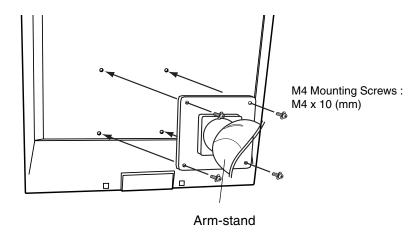


3. Attach an arm stand to the LCD monitor securely.

WARNING

 When attaching an arm stand, please refer to the user's manual of the arm stand and install the unit securely with the enclosed screws.

Not doing so may cause the unit to come unattached, which may result in injury or equipment damage. When the unit is dropped, please ask your dealer for advice. Do not continue using a damaged unit. Using a damaged unit may result in fire or electric shock. When reattaching the tilt stand, please use the same screws and tighten them securely.



4. TROUBLESHOOTING

If a problem persists even after applying the suggested remedies, contact your 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.
Indicator status: GreenIndicator status: Yellow	 □ Check the "Contrast and Brightness" settings. Minimum settings will cause screen to be blank. □ Try pressing a key on the keyboard, or clicking the mouse. □ Check that both signal cables are securely connected.
Indicator status: Slowly flashing Yellow	☐ Try pressing the power button.
2. The screen is too bright or too dark.	☐ Adjust the "contrast and 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.)
3. After image ^{p.24} 's appear.	☐ When the screen image is changed after displaying the same image for a long period, an afterimage may appear.
4. The screen has defectiv pixels (e.g. slightly light or dark).	☐ This is due to the characteristics of the panel itself, and not the LCD product.
5. Fingerprints remain on the screen.	☐ Leaving the screen black may solve the problem.
6. The right and left image is displayed contrary. (Or upper and lower image is displayed upside down.)	□ Check whether the signal cable is plugged to correct side of DVI-I input connector.

5. CLEANING

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 onto the cabinet.

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 moisterning part of a cloth with water to enhance its cleaning power.

6. SPECIFICATIONS

FA-2090

LCD Panel	53 cm (20.8 inch), TFT color LCD panel			
	Viewing Angle: Horizontal : 170 °, Vertical : 170°			
	(at Contrast Ratio ≥10)			
Dot Pitch	0.207 mm			
Scan Frequency	Horizontal: 92.86 kHz - 96.72 kHz (Automatic)			
,	Vertical: 60 Hz			
Resolution	2048 dots x 1536 lines			
Dot Clock (Max.)	132 MHz			
Display Colors	16 million colors (Max.)			
Display Area	423.9 mm (H) x 318.0 mm (V) (16.7" (H) 12.5" (V))			
	(Viewable image size: 529 mm (20.8"))			
Power Supply	100-120/200-240 VAC±10%, 50/60 Hz, 0.8 A/0.4 A			
Power Consumption	Normal/Max.: 70 W / 80 W			
	Power Saving Mode: less than 5 W			
Input Connector	DVI-I x 2			
Input Signal	Digital: TMDS (Single Link)			
Dimensions				
(Landscape setting)	474 mm (W) x 466.5 mm (H: minimum) x 208.5 mm			
	(D) (18.7" (W) x 16.7" (H): minimum) x 8.2" (D))			
(Portrait setting)	368 mm (W) x 519.5 mm (H) x 208.5 mm (D)			
	(14.4" (W) x 20.5" (H) x 8.2"(D))			
(Without stand)	474 mm (W) x 368 mm (H) x 83.5 mm (D)			
	(18.7" (W) x 14.4" (H) x 3.3"(D))			
Adjustable Height	72 mm			
Weight (With stand)	9.5 kg (20.9 lbs.)			
(Without stand)	6.3 kg (14.3 lbs.)			
Temperature	Operating: 0°C to 35°C (32°F to 95°F)			
	Storage: -20°C to 60°C (-4°F to 140°F)			
Humidity	30 % to 80 % R.H. Non-condensing			

7. GLOSSARY

Afterimage

The After image is particular to LCD monitors when the monitor screen is left on for a long period without use. The "After image" can be removed gradually by changing the displayed image.

DVI

(Digital Visual Interface)

A digital flat panel interface. DVI can transmit digital data from the PC directly without loss with the signal transition method "TMDS". There are two kinds of DVI connectors. One is DVI-D connector for digital signal input only. The other is DVI-I connector for both digital and analog signal inputs.

The monitor complies with DVI-D, though it is equipped DVI-I connector(s).

DVI-DMPM

(DVI Digital Monitor Power Management)

The Power management system for the digital interface. The "Monitor ON" status (operation mode) and the "Active Off" status (power-saving mode) are indispensable for the DVI-DMPM as the monitor's power mode.

TMDS

(Transition Minimized Differential Signaling)
A signal transition method for the digital interface.

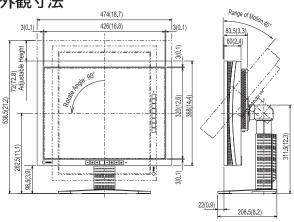
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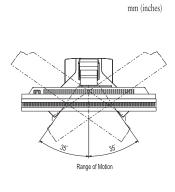
APPENDIX/ANHANG/ANNEXE/付録

Dimensions Abmessungen Dimensions

外観寸法



FRONT VIEW VORDERANSICHT VUE DE FACE 前面 SIDE VIEW SEITENANSICHT VUE DE COTE 側面

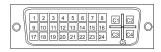


TOP VIEW DRAUFSICHT VUE D'EN HAUT 上面

Pin Assignment Pin-Belegung Affectation des Broches

入力信号接続

* DVI-D Connector



Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	TMDS Data2-	11	TMDS Data1/3 Shield	21	
2	TMDS Data2+	12		22	TMDS Clock Shield
3	TMDS Data2/4 Shield	13		23	TMDS Clock+
4		14	+5V Power	24	TMDS Clock-
5		15	Ground (Return for +5V, H sync and V sync)	C1	
6		16	Hot plug detect	C2	
7		17	TMDS Data0-	C3	
8		18	TMDS Data0+	C4	
9	TMDS Data1-	19	TMDS Data/5 Shield	C5	Analog Ground (Analog R, G & B Return
10	TMDS Data1+	20			

For U.S.A, Canada, etc. (rated 100-120 Vac) Only

WARNING

This equipment has been tested and found to comply with the limits for a Class A 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 commercial environment. This equipment generates, users, 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

Note

Use the attached specified cable with this unit below so as to keep interference within the limit of a Class A computing device.

AC Cord

Canadian Notice

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de le classe A est comforme à la norme NMB-003 du Canada.

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Hinweis zur Ergonomie:

Dieser Monitor erfüllt die Anforderungen an die Ergonomie nach EK-1-ITB-2000 mit dem videosignal, 2048 Punkte x 1536 Zeilen, Digital Eingang und mindestens 60,0 Hz Bildwiederholfrequentz, (non-interlaced).

Weiterhin wird aus ergonomischen Gründen empfohlen, die Grundfarbe Blau nicht auf dunklem Untergrund zu verwenden (schlechte Erkennbarkeit, Augenbelastung bei zu geringem Zeichenkontrast.)

Recycle Auskunft

Die Rücknahme dieses Produktes nach Nutzungsende übernimmt EIZO in Deutschland zusammen mit dem Partner von Roll MBB Recycling GmbH.

Dort werden die Geräte in ihre Bestandteile zerlegt, die dann der Wiederverwertung zugeführt werden.

Um einen Abholtermin zu vereinbaren und die aktuellen Kosten zu erfahren, benutzen Sie bitte folgende Rufnummer: 02153-73 35 00. Weitere Informationen finden Sie auch unter der Internet-Adresse: www.eizo.de.