SPECIFICATIONS

FlexScan® T966

(Model No. MA-21D5)

55 cm (21 inch) class Color Display Monitor

Viewable Image Size 49.8 cm (19.6 inches)

This specification applies only to the destinations below.	
Serene Gray cabinet	**Black cabinet**
-ED, -ES, -UK, -US, -EH, -ER, -TL, -KR, -TR	**-EDK, -ESK, -UKK, -USK, -EHK, -ERK, -TLK, -KRK, -TRK**

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About the specifications

The specifications apply only to the EIZO Color Display Monitor FlexScan T966 (Model No. MA-21D5-ED, -ES, -UK, -US, -EH, -ER, -TL, -KR, -TR, -EDK, -ESK, -UKK, -USK, -EHK, -ERK, -TLK, -KRK, -TRK) for use in North American, European and Asian countries.
The specifications contain copyrighted or original know-how. No part of these specifications may be reproduced or disclose to the third party without the permission of Eizo Nanao Corporation.
If a situation not specified in these specifications or a question about them arises, negotiations should be made between the customer and Eizo Nanao Corporation on the modification of specifications.

PRECAUTIONS

1. Applications

This product is intended to be used with data processing devices for the personal computer or OA devices (Standard application). This product is not developed for applications which would require higher reliability, and safety such as those listed below.

- Transportation systems (Ships, aircraft, trains, automobiles, etc.)
- Safety devices (Disaster prevention system, security control systems, etc.)
- Aviation & Spacecraft devices
- Equipment for the use that have direct effect on human life (Life support system, Medical equipment or devices used in operating rooms, etc.)
- Nuclear energy control devices (Nuclear energy control systems, security control systems of nuclear facilities, etc.)
- Main line devices (Operation control for transportation systems, control systems specific to aircraft, etc.)

Please contact Eizo Nanao Corporation for consultation, if you plan to use a product in the manners listed above or for any other deviation of use from the standard application.

2. Precautions for the product specifications

The product is designed for in door use only. Please carefully read the User's manual provided before use.

- This product has been adjusted specifically for use in the region to which it was originally shipped. The performance of the product, (i.e. picture geometry, picture positioning and color convergence and purity) is optimally adjusted to the earth's magnetic field of the specific destination. If operated outside the region, to which it was originally shipped, the product may not perform as stated in the specifications.
- The product specifications are also guaranteed with the EIZO standard power cord and signal cable provided with the product and/or any other EIZO optional cables.
- Please find listed below phenomena caused by the characteristics inherent to the CRT itself that are not defects of the product.

(1) Burnt phosphor·Retained image (After image)

The CRT has a screen phosphor. Please note that when a pattern is continuously displayed on the screen, the phosphor may burn and/or retained image may appear.

(2) Discharging in the CRT

Please note that a discharging noise may occur or the screen may blank momentarily due to discharge noises of internal terminals in the CRT or when minute dust particles are burnt between the terminals.

(3) Pealing of the CRT surface coating

The CRT has a fragile surface. Never use thinner, benzene, or other strong solvents or abrasive cleaners directly on the monitor or screen, as these may cause damage to surface coating of CRT.

(4) Warm-up period

When the monitor is not fully warmed up, the screen may look slightly colored, e.g. reddish or bluish. This phenomenon is due to the time required for the monitor and the component unstableness of the electron gun is in its warm-up period. It takes approx. 30 minutes until the monitor stabilizes in order to gain its proper color.

3. Exclusion of liability

- Eizo Nanao Corporation will not be responsible for any damage or incident caused by improper use, modification of any part of the product, nor use on the condition otherwise specified herein or when used in conjunction with other equipment not supplied by Eizo Nanao Corporation.
- Eizo Nanao Corporation will not be responsible for any damage or incident caused by the following cases.
  - Any damages caused by freight damage, modification, alteration, abuse, misuse, accident, incorrect installation, disaster, act by the third party or improper use under abnormal.
  - Any special, incidental, or consequential damages including, without limitation, damages for loss of business information, or other pecuniary loss.
  - Any defect of the product caused by external equipment.
  - Operation of this monitor outside of the specifications defined herein.

4. Limited Warranty

The product is warranted by “LIMITED WARRANTY” included with the product.

1. GENERAL DESCRIPTION

The EIZO T966 is a 55 cm (21 inch) class, Viewable Image Size 49.8 cm (19.6 inches) color CRT display monitor for the personal computers.

2. FEATURES

- **55 cm (21 inch) Class fully flat screen CRT**

  Adopting a flat surface CRT (AG pitch 0.24 mm) can provide the flatter image. The T966 has the reduced reflection and no distortion of the corners that might be occurred by the CRT shape.

- **Extended FlexScan for wide compatibility**

  * Horizontal scanning frequency of 30 kHz-130 kHz (Automatic)
  * Vertical scanning frequency of 50 Hz-160 Hz (Automatic)

- **Fine contrast functionality implemented, adjusting the most suitable brightness and contrast of the screen**

- **sRGB Supported**

- **Dual inputs with individual screen & color configuration**

  The configuration of the following screen and color parameters can be adjusted and stored into the monitor for BNC input and D-Sub input individually; contrast, brightness, fine contrast, signal filter, color temperature, color correction, color custom mode and sRGB mode.

- **The EIZO CRT Utility Disk enclosed**

  - The utility software “ScreenManager Pro for USB” (for Windows) to control a monitor from a PC with a mouse and a keyboard.
  - The software “ActiveGamma” (for Windows/Macintosh) to assign fine contrast modes to applications
  - The software “DesktopViewer” (for Windows) to display bright and clear still images

- **Color restoration function incorporated**

  In CRT monitor, it is difficult to avoid of the little change of brightness and color. This circuit detects the change of the black level and the white level of the CRT, and corrects these values to initial value. Recommended execution time of this function is about 2000 hours usage. The total usage time (in hour) can be checked at the <Information> in the OSD.

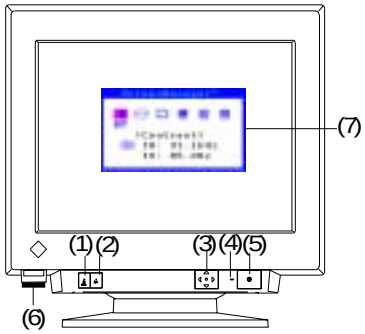
- **DDC 2B Compatibility**

- **Eco Circle 2001 Compliance (200-240 VAC only)**

3. USER CONTROL SPECIFICATIONS

3.1 Function & Control

A1: Front



(1) BNC/D-Sub Selection button

(2) AUTO FINE MODE button*

* Push the button lightly: Fine Contrast Mode Selection button

Push the button for more than 2 seconds: AUTO-SIZING button

(3) QuickSet™ Control Pad

(4) Power Indicator (LED)

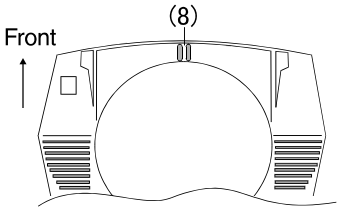
(5) Power Switch

(6) USB Downstream (Series A) port (Drawer type)

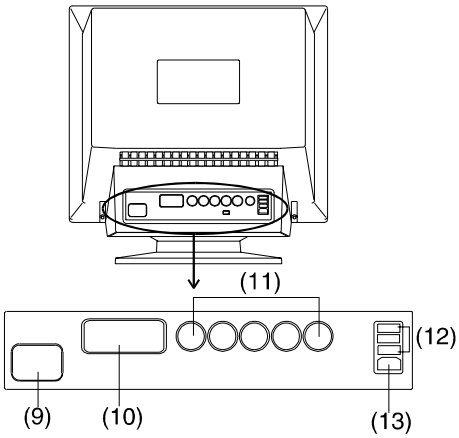
(7) ScreenManager (OSD menu)

(8) DC 6V Connector with lids (for Optional speaker)

A2: Bottom



A3: Rear



(9) Power Connector

(10) D-Sub mini 15 pin input connector

(11) BNC input connector

(12) 3 USB Downstream (Series A) ports

(13) USB Upstream (Series B) port

- **Power Indicator (LED)**

On	Power saving mode 1	Power saving mode 2	Advance notice for Off Timer	Off period	Main power switch off
Green	Green blinking	Yellow	Green blinking (3 sec.incremetns)	Yellow blinking (5 sec.incremetns)	No light

3.2 Functions

(1) Auto sizing

Automatically centers the displayed image, bringing the image borders into alignment with the monitor frame.

(2) Fine Contrast function

Widens the dynamic range of the displayed image for a richer and more brightly contrasted image. Each color tone range becomes higher not only in color image, but also in grayscale image. Select a mode from <Text>, <Browser>, <Picture>, <Graphic>, and <Movie>. The <Movie> mode includes 4 mode settings.

Pushing the AUTO FINE MODE button enables to shift the mode <Text> → <Browser> → <Picture> → <Graphic> → <Movie> and returns to <Text>.

	Text	Browser	Picture	Graphic	Movie	Viewer
Contrast/ Brightness (Default)	100% /50%	100% /50%	100% /100%	100% /100%	92% /100%	92% /100%
Color Temperature	9,300 K	6,500 K	6,500 K	9,300 K	9,300 K	6,500K
Max. Brightness	130cd/m^2	130cd/m^2	130cd/m^2	130cd/m^2	220cd/m^2	200cd/m^2
Gamma Control	-	automatic	automatic	-	Depends on the mode	Depends on the mode
Sharpness	Off	Off	On	Off	On, Off	Depends on the mode

(3) BNC/D-Sub selection

Selects BNC or D-Sub connector as the active input when two computers are connected to the monitor.

- **Input priority setting (with ScreenManager)**
  The "Input Priority" function on ScreenManager menu enables the T965 to automatically detect the active input with priority or for the user to select the input manually.
- **Individual screen & color configuration**
  The configuration of the following screen and color parameters can be adjusted and stored into the monitor for BNC input and D-Sub input individually; contrast, brightness, fine contrast, signal filter, color temperature, color correction, color custom mode and sRGB mode.

(4)ScreenManager (OSD) menu

Pushing the QuickSet Control Pad, ScreenManager menu appears. The followings are adjustment items. Performing the reset function, all settings returns to below.

Items			Default setting
Contrast/Brightness			100 % / 50 %
Horizontal/Vertical Size			-
Horizontal/Vertical Position			-
Screen adjustment	Side-pincushion balances distortion		-
	Trapezoidal/Parallelogram distortion		-
	Tilt		-
	Uniformity (Standard/Custom)		Standard
	Convergence (Horizontal/Vertical)		-
	Moiré reduction (Horizontal)		0 % (Off)
	Fine contrast Movie mode (Movie 1 / Movie 2 / Movie 3 / Movie 4)		Text /Movie 1
	Signal filter 1 (Mode 1/Mode 2)		Mode 1
	Signal filter 2 (0-100 %)		100 %
Color adjustment	Standard mode	Color temperature: 4000 K ~ 10000 K in 500 K increments (including 9300 K)	Standard: 9300 K
		Color Correction	
		Color Restoration	
	Custom mode	Color Temperature, Red/Green/Blue Gain, Red/Green/Blue Cut Off, Save	
	sRGB	sRGB Mode	
Others	PowerManager (On/Off)		On
	Off timer (On/Off)		Off
	Degauss		-
	Beep		On
	Menu position		Center
	Language (English, German, French, Spanish, Italian, Swedish)		English
	Input Priority (Auto D-Sub/Auto BNC/Manual)		Auto D-Sub
	Reset		-
	Information (Usage Time)		-

- **Automatically menu off**
  Leaving the ScreenManager idle for 45 seconds or more will automatically turn the ScreenManager menu off, without the adjustments being saved.
- **Shortcut Keys**
  Brightness and contrast can be adjusted directly without entering the ScreenManager menu by moving the Control Pad.

(5) sRGB function

sRGB (standard RGB) mode can be selected. A color space was defined with the aim of the color matching between applications and hardware devices, such as monitors, scanners, printer, and digital cameras. As a standard default space, sRGB allows Internet users to closely match colors.

(6) Uniformity function for each corner separately incorporated (with ScreenManager)

There are two adjustment modes; "Standard" and "Custom". Using the "Standard mode", the user can choose the best uniformity from 9 presets; 0 μT and 8 directions for easy adjustment. After the selection, the more precise adjustment is available, using the "Custom" adjustment which provides the adjustment for each corner separately.

(7) Automatic color correction (with ScreenManager)

By detecting video signal output level and then compensating it to a proper level automatically, this function is to minimize disparities in color temperature and brightness, which could be caused by the difference of video signal out put level. With this function, almost same color temperature and brightness can be displayed on the screen from teach signal-input connector and on the screen of each T966 model.

(8) Color Restoration (with ScreenManager)

In CRT monitor, it is difficult to avoid of the little change of brightness and color. This circuit detects the change of the black level and the white level of the CRT, and corrects these values to initial value.

(9) Signal Filter function (with ScreenManager)

This function is to reduce a bad influence on the image quality, which could be caused by video signals with poor quality. There are two modes for filtering incorporated, which is selectable for graphics boards.

Signal Filter 1: This is to reduce the shadow appears on the right side of the image.
Signal Filter 2: This is to reduce the ghost (a couple of bars appears on the right side) and brighter lines appears there.

(10)Adjustment Lock function

The ScreenManager operation and the auto sizing button can be disabled by holding down the auto sizing button while switching on the monitor's power. To unlock the buttons, first switch the power off, and then switch the power on while pressing the auto sizing button. The brightness and contrast can be adjusted using the shortcut keys even while the buttons are locked.

(11)Sync switch function

When the signal under 0.3 μs of horizontal back porch is inputted, the following phenomena may be appeared; the entire screen appears too dark, slight shadowed image or character on its right side. If this occurs, hold down the "down" key of the quick set control pad while turning on the monitor's power and the image will be cleared.

(12)USB Hub (Universal Serial Bus), monitor control function support

EIZO USB Hub is a self-powered Bus type which complies with the USB Standard Rev. 1.1 and USB Monitor Control Class Rev. 1.0. incorporated. One upstream port and four (4) downstream ports are incorporated; three (3) on the rear and one (1) on the left front with a drop down access lid for easy connection access.

* "ScreenManager Pro for USB", original utility, is included as standard packaging. By connecting the monitor and computer with the USB cable, the user can make screen adjustment with mouse or a keyboard.
* "ScreenManager Pro for USB" can assign Fine Contrast mode to the application software.

(13)DDC2B compliant

3.3 Scan Frequency

Horizontal	30 kHz ~ 130 kHz
Vertical	50 Hz ~ 160 Hz
Recommended Resolution	1600 dots x 1200 lines 85Hz

(1)Maximum Vertical Refresh rate (Reference value)

Resolution	640x480 800x600 1024x768	1280x1024	1600x1200	1600x1280	1920x1440	2048x1536
Vertical Refresh rate	160 Hz	121 Hz	104 Hz	97 Hz	86 Hz	80 Hz

(2)Signal registration

Factory Preset mode	2	* VGA 720 x 400 (70 Hz) mode * VESA 1600 x 1200 (85 Hz) mode
User settings	20	The 20 signals including the factory preset signals can be registered by users through the ScreenManager. When the signals registration becomes full, the least used data is to be deleted from the memory and the newly input data will be memorized.

3.4 Software

Name of CD-ROM		Contents
EIZO CRT Utility disk	Windows	* User's Manual of Monitor * Install Acrobat Reader * About Display Information Files * ICC Profiles * EIZO ScreenManager Pro for USB Ver. 3.32 * Start WindowsMovie and DesktopViewer Checker * Readme.txt file
	Macintosh	* User's Manual of Monitor * Install Acrobat Reader * ICC Profiles * Readme.txt file

3.5 Optional

Name	Description
Sound Unit "i·Sound"	Detachable optional speaker with microphone.

4. CRT SPECIFICATIONS

Type	Tension Mask M50LRB15X
Size Angle	55 cm (21 inch) class 90° deflection
Electron Gun	In-line Gun
AG Pitch	0.24 mm
Phosphor Chromaticity Coordinates	P22 (Short) Red: x=0.625 y=0.340 Green: x=0.280 y=0.605 Blue: x=0.155 y=0.070 Tolerance ±0.02
CRT Surface	Anti-Reflective Anti-Static Coating (SuperErgoCoat®)
Light Transmission	41 % approx.
Limits of M.P.D. (Missing Phosphor Dots)	Refer to the below.

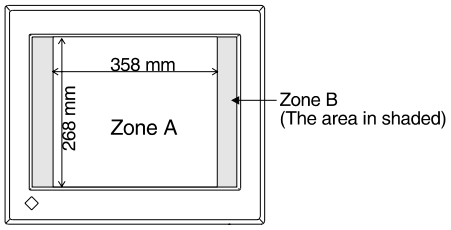
4.1 Limitation of the Missing Phosphor Dots

(1) Quality Zones

The effective screen is divided into two quality zones.

Zone A: inside the center rectangle,
358 mm wide x 268 mm high.

Zone B: outside Zone A.



(2) Limits

Width of the missing phosphor dots (M.P.D.) is the average diameter (the longest + the shortest ÷ 2), unless otherwise specified in the following section, “Missing Phosphor Dots”.

- **Missing Phosphor Dots (M.P.D.)**

(1) High Contrast

The defects are defined by the graphite or dusts which interrupts the lights from the phosphor.

D: Average diameter of defects (mm)	Max allowable quantity (pcs)		Min. allowable distance (mm)
	Zone A	Zone B	
D≤0.10	-	-	-
0.11≤D≤0.25	2	4	20
0.26≤D≤0.50	1	2	40
0.51≤D≤0.75	0	1	50

(2) Black spot, filled mask holes

D: Average diameter of defects (mm)	Max allowable quantity (pcs)			Min. allowable distance (mm)
	Zone A	Zone B	A+B	
0.51≤D	0	0	0	------
0.31≤<D≤0.5	4	4	6	30
0.15<D≤0.31	6	6	10	30

(3) Foreign materials, Stains

D: Average diameter of defects (mm)	Max allowable quantity (pcs)		Min. allowable distance (mm)
	Zone A	Zone B	
D≤0.10	0	0	------
0.11≤<D≤0.25	2	4	30
0.26≤<D≤0.50	2	2	40
0.51≤D≤0.75	0	1	80

- **Glass defects on the surface**

The defects are defined by the scratches on the surface and bubbles.

(1) Scratches on the surface

W: Width (mm)	Max. length (mm)
W≤0.05	No Limits
0.05<W≤0.10	26
0.10<W≤0.15	13
0.15<W	Not allowed

(2) Bubbles, Scratched bubbles

D: Average diameter of defects (mm)	Max allowable quantity (pcs)			Min. allowable distance (mm)
	Zone A	Zone B	A+B	
0.76≤ D	0	0	0	30
0.51≤<D≤0.75	0	1	1	30
0.26≤<D≤0.50	2	3	5	30
0.11≤D≤0.25	------	------	------	------

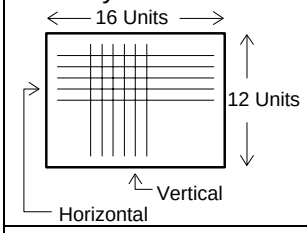
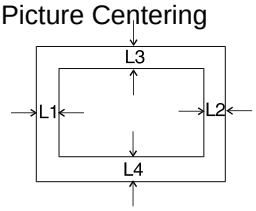
5. ELECTRICAL SPECIFICATIONS

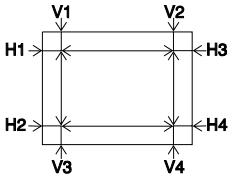
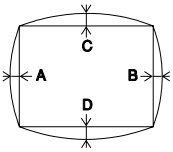
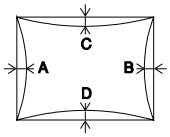
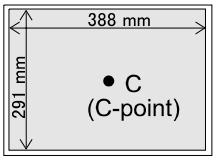
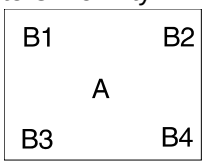
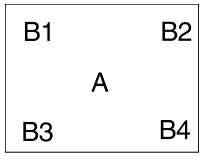
All measurements are subject to the conditions listed in 5.1, unless otherwise specified by the item in secttion 5.2 to 5.5.

5.1 Standard measurement conditions

Pattern of the signal	Cross-hatched pattern (Horizontal (H) x Vertical (V): 16 x 12 Units)
Video signal level	0.7 Vp-p 75 Ω
Contrast/Brightness	100 %/100 %
Ambient temperature	Normal
Input current	AC 200-240 V 50 Hz / 100-120V 50/60 Hz
Magnetic field	Depends on the destination (refer to page 26)
Measurement	After warm up for at least 30 minutes
Mode	VESA 1600 dots x 1200 lines @85 Hz
Display area size	388 mm x 291 mm (15.3" x 11.5")

5.2 Displaying Performance

Items	Values	Conditions
Scanning Frequency	Horizontal: 30~130 kHz (Auto Switching) Vertical: 50~160Hz (Auto Switching)	
Linearity  	Horizontal: ± 5.5 % max. specified as following figure on limited horizontal frequency ranges ; 30~33, 35~42, 45~50, 55~62, 64~69, 73~82, 90~94, 98~102, 104~108 and 111~113 (at kHz). Vertical: ± 5.5 % max.	As obtained through following formula. H = {(X max. or X min.)-(X Ave.)} / (X Ave.) x 100 V = {(Y max. or Y min.)-(Y Ave.)} / (Y Ave.) x 100
Display Area Size		
(a) Standard	Horizontal: 388±6 mm Vertical: 291±6 mm	After activating auto sizing.
(b) Maximum Size	400 mm (H) x 298 (V) mm Viewable Image Size: 498 mm	Sets to horizontal and vertical size at maximum. (NOTE: Picture size depends on the graphics board or PC utilized.)
Picture Centering  	Horizontal: | L1-L2 | ≤ 6 mm Vertical: | L3-L4 | ≤ 6 mm	After activating auto sizing.
Raster Size Regulation		
(a) Static	Horizontal: 2.0 mm max. Vertical: 2.0 mm max.	As defined by overall raster size from white frame pattern to white raster field pattern.
(b) Dynamic	Horizontal: 2.0 mm max. Vertical: 2.0 mm max.	As defined by overall raster size reversing 30% white band pattern.

Items	Values	Conditions
Distortion		
(a)Trapezoidal, Parallelogrammie &Tilt 	| V1 - V2 | ≤ 3.0 mm | V3 - V4 | ≤ 3.5 mm | H1 - H2 | ≤ 3.0 mm | H3 - H4 | v 3.0 mm	Defined by the actual distances of the standard white raster field from the nearest bezel escutcheon against all directions.
(b) Barrel 	Left, Right: A, B = 1.5 mm max. Top, Bottom: C, D = 1.5 mm max.	
(c) Pin 	Left, Right: A, B = 2.0 mm max. Top, Bottom: C, D = 2.0 mm max.	
Color Purity	Conspicuous different colors shall not be recognizable within display area against all directions after the external degaussing.	Display Image: Red, Green & Blue field pattern.
Convergence 	Max. deviation among RGB raster line center distances, either horizontal or vertical, shall not exceed the following: Center (C-Point): 0.20 mm Preset Area (388 x 291 mm): 0.35 mm	
White Balance	To be validated from 4000 K to 10000 K incremented by the 500 K and factory default setting 9300 K. Tolerance of each color temperature of x-y coordinates is ±0.025 for 5000 K, 6500 K, 9300 K.	To be validated through high-intensity white window (40 mm x 40 mm) in the center of the CRT. Brightness is set to 38 ft-L (130 cd/m^2) at 6500 K and 9300 K. 30 ft-L(103 cd/m^2) at 4000 K.
Uniformity		
White Uniformity 	Color coordination A (x, y) Bi (xi, yi) (I=1~4) $\Delta x = \lvert x - xi \rvert < 0.020$ $\Delta y = \lvert y - yi \rvert < 0.020$	To be measured with a white field pattern. Measured after the external degaussing.
Bright Uniformity 	Bi ÷ A × 100 ≥ 60 % (i: 1~4)	

Items	Values	Conditions
Jitters	To be less than 0.1 mm in amplitude, horizontally and vertically, or invisible from the distance of 50 cm from CRT surface.	
Focus	All # characters to be clearly recognized in both normal and reverse mode.	1600x1200 resolution Display "#" character (font of 7 x 9) entire screen.
Brightness	Input signal 0.7 Vp-p, Brightness & Contrast maximum at 9300 K.	
(a) White field pattern	30 ft-L (103 cd/m^2) typ. 27 ft-L (93 cd/m^2) min.	To be measured with a white field pattern.
(b) White window pattern	38 ft-L (130 cd/m^2) typ. 34 ft-L (117 cd/m^2) min. 67ft-L (230 cd/m^2) min.* *selected the 'Movie' mode of the 'Fine Contrast' function.	To be measured with a 40 mm x 40 mm window pattern.
Display Colors	Unlimited Colors	

5.3 sRGB (Reference)

Phosphor Chromatically Coordination	x=0.3127, y=0.3290	To be measured with a white field pattern
Brightness (White window pattern)	23ft-L (80cd/m^2)	To be measured with a 40 mm x 40 mm window pattern.
Gamma	γ=2.2	

5.4 Signal Input

Retrace Time	Horizontal: 2.0 µs max. Vertical: 0.4 ms max.	AC=0
Sync Input Signal Form	(a) Separate, TTL, Positive/Negative (b) Composite, TTL, Positive/Negative (c) Composite, Sync on Green, 0.3 Vp-p Negative (conform to RS343) Sync signals are automatically recognized and internally adjusted in the order of priority (a) through (c).	
Video Input Signal Form	Analogue, Positive (0.7 Vp-p/75 Ω)	
Pixel Dot Clock	340 MHz max.	

5.5 Power Supply

Items	Values	Condition
Input current and voltage	100-120/200-240 VAC±10 % 50/60 Hz, 2.2 A/1.1 A	
In-rush current	60 A peak maximum.	
Power Consumption (a) Normal operation (b) Maximum (c) Power saving mode 1 (d) Power saving mode 2	 160 W (typ.) 180 W*1 *1 With optional speaker and all USB ports in operation. Less than 10 W *2 less than 3 W *2 *2 only monitor operated	To be measured with a white field pattern and contrast and brightness set to maximum.
Power save function	VESA DPMS	

5.6 USB Specifications

Items	
USB Standard	Rev. 1.1 complied USB Monitor Control Class Rev. 1.0 complied
Downstream power supply	500 mA for each (maximum)
Communication speed	12M bps (full) 1.5M bps (low)
USB Ports	Upstream port x 1 (Series B connector) Downstream ports x 4 (Series A connector)
Compatible Computers & Systems	All computers equipped with a USB interface using the OS below. Windows 98/2000 / Mac OS 8.5.1 or newer

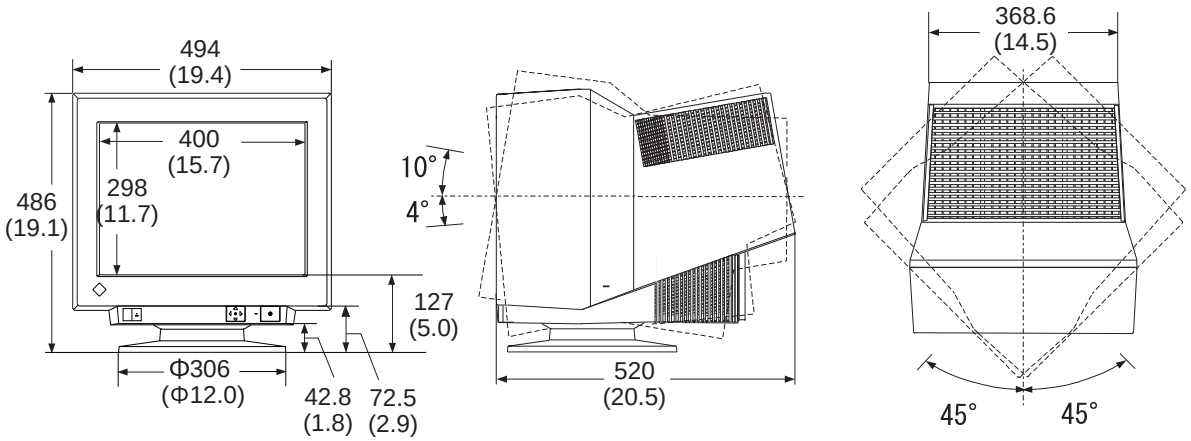
6. MECHANICAL SPECIFICATIONS

6.1 Configuration

NOTE: All of the dimensions, weights and angles below are reference values.

Dimensions (net)	494 mm (W) x 486 mm (H) x 520 mm (D) 19.4" (W) x 19.1" (H) x 20.5" (D) *Both tilt and swivel angle at 0°
Weight (net)	approx. 36.0 kg (79.4 lbs)
Tilt Angle	Up: 10° Down: 4°
Swivel Angle	Right: 45° Left: 45°
Outline drawing	Refer to the below.

Unit: mm (inches)



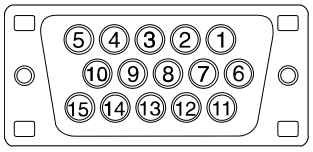
6.2 Packing specifications

NOTE: All of the dimensions and weight below are reference values.

Packing dimensions	619 mm (W) x 630 mm (H) x 678 mm (D) 24.4" (W) x 24.8" (H) x 26.7" (D)
Packing weight	approx. 42.0 kg (95.6 lbs.)
Stack limit	3 units (Maximum)
Packing drawing	Refer to page 24

6.3 Connector Specifications

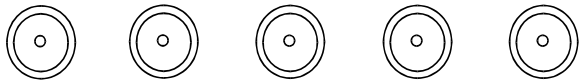
(1) D-Sub mini 15 pin



Pin No.	Separate Sync	Composite Sync	Sync on Green
1	Red	Red	Red
2	Green	Green	Green Composite sync
3	Blue	Blue	Blue
4	Ground	Ground	Ground
5			
6	R Ground	R Ground	R Ground
7	G Ground	G Ground	G Ground
8	B Ground	B Ground	B Ground
9			
10	Ground (Shorted)	Ground (Shorted)	Ground (Shorted)
11			
12	Data	Data	Data
13	H. Sync	Composite Sync	
14	V. Sync		
15	Clock	Clock	Clock
Shell	Ground	Ground	Ground

(2) BNC Connectors

Analog Video input connector. Standard signal is Analog 0.7 Vp-p (75Ω)



H.SYNC (H/V SYNC) V.SYNC GREEN RED BLUE

connector / Input Signal	H.SYNC (H/V SYNC)	V.SYNC	GREEN	RED	BLUE
Separate Sync	H.Sync	V.Sync	GREEN	RED	BLUE
Composite Sync	H/V omposite Sync		GREEN	RED	BLUE
Sync on Green			GREEN Composite Sync	RED	BLUE

(3) USB Ports

Series B Connector Series A Connector

No.	Signal	
1	VCC	Cable power
2	- Data	Serial Data
3	+ Data	Serial Data
4	Ground	Cable Ground

6.4 Accessories

Cables	* Power cord * Signal cable (MD-C87C or MD-C87 (BLACK)) * EIZO USB cable (MD-C93)
Others	* Setup Guide * Screen Manager quick reference * EIZO CRT utility disk (for Windows, Macintosh)…CD-ROM * User's manual (for -KR and –TR only) * Limited Warranty (exclude -ES)

6.5 Accessory Cables

(1)Power Cord

Refer to the 25 page.

(2)Signal Cable

VGA Signal Cable (DDC support)

Connector	(To monitor) D-Sub mini 15 pin (To computer) D-Sub mini 15 pin
Name	MD-C87C or MD-C87(BLACK))
Length	1.8 m

(3)EIZO USB Cable

Connector	(To monitor) Series B (To computer) Series A
Name	MD-C93
Length	1.8 m

6.6 Materials

		Materials
Cabinet	Front panel Back Cover	PPHOX
Tilt Base	Tilt Bowl Tilt Base	PS
Packing Case		AB-Flute K280x120xK220x120xK220

7. CERTIFICATIONS & STANDARDS

7.1 Certifications

(1)Power supply 200-240 VAC certified

Standard	Origin	Category			
		Safety	EMC	Ergonomic	Other
CE Mark	EN60950: 1992+A1+A2+A3+A4+A11 EN55022 (Class B): 1998 EN55024: 1998 EN61000-3-2: 1995+A1+A2 EN61000-3-3: 1995	√	 √ √ √ √		
c-Tick mark	AS/NZ 3548 (Class B)		√		
TÜV Rheinland / GS	EN60950: 1992+A1+A2+A3+A4+A11 EK1-ITB 2000	√		 √	
CB	IEC60950: 1991+A1+A2+A3+A4	√			
German X-Ray Law					√ (X-ray)
TÜV Eco Circle 2000	Eco Circle 2000	√	√	√	√ (Environment)
TCO'99*	MPRII/TCO requirement, NUTEK, EN60950:1992+A1+A2+A3+A4+A11, ENVIRONMENT	√		√	(Environment) √
Windows Logo (Under application)	Microsoft (WHQL)				√
K-Mark	IEC60950: 1991+A1+A2+A3+A4	√			

(2)Power supply 100-120 VAC certified

Standard	Origin	Category			
		Safety	EMI	Ergonomic	Other
TÜV/NRTL	UL 1950 3rd	√			
c-TÜV	CSA C22.2 #950 3rd	√			
FCC Subpart. 15	Class B (DOC)		√		
Canadian ICES-003	Class B		√		
DHHS (DNHW)					√ (X-ray)
CB	IEC60950: 1991+A1+A2+A3+A4	√			
TCO'99*	MPRII/TCO requirement, NUTEK, EN60950:1992+A1+A2+A3+A4+A11, ENVIRONMENT	√		√	(Environment) √
Windows Logo (Under application)	Microsoft (WHQL)				√
KENJI	CN13438				

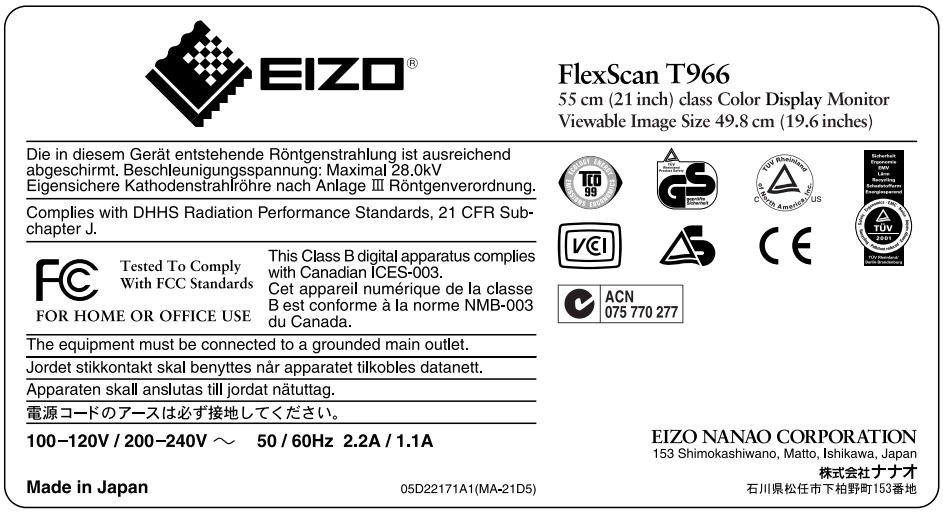
*Applicable to Serene gray (standard) color version only

- **Standards**

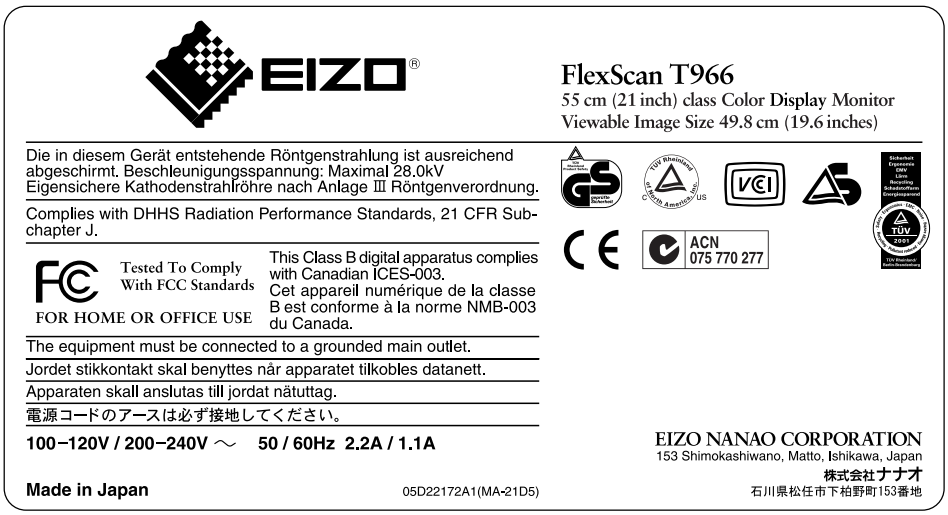
EPA ENERGY STAR®	Environmental Protection Agency (USA)
Energy 2000 Program	Swiss national action program (Switzerland) (-ES only)
DPMS, DDC2B	VESA

7.2 Name Plate

(1) Serene gray color version



(2) Black color version



8. RELIABILITY & SAFETY

8.1 Reliability

(1)MTBF

30,000 hours at standard power input excluding CRT.
*Values calculated according to the simplified "Parts Count Reliability Prediction" method as specified in MIL- HDBK-217F.

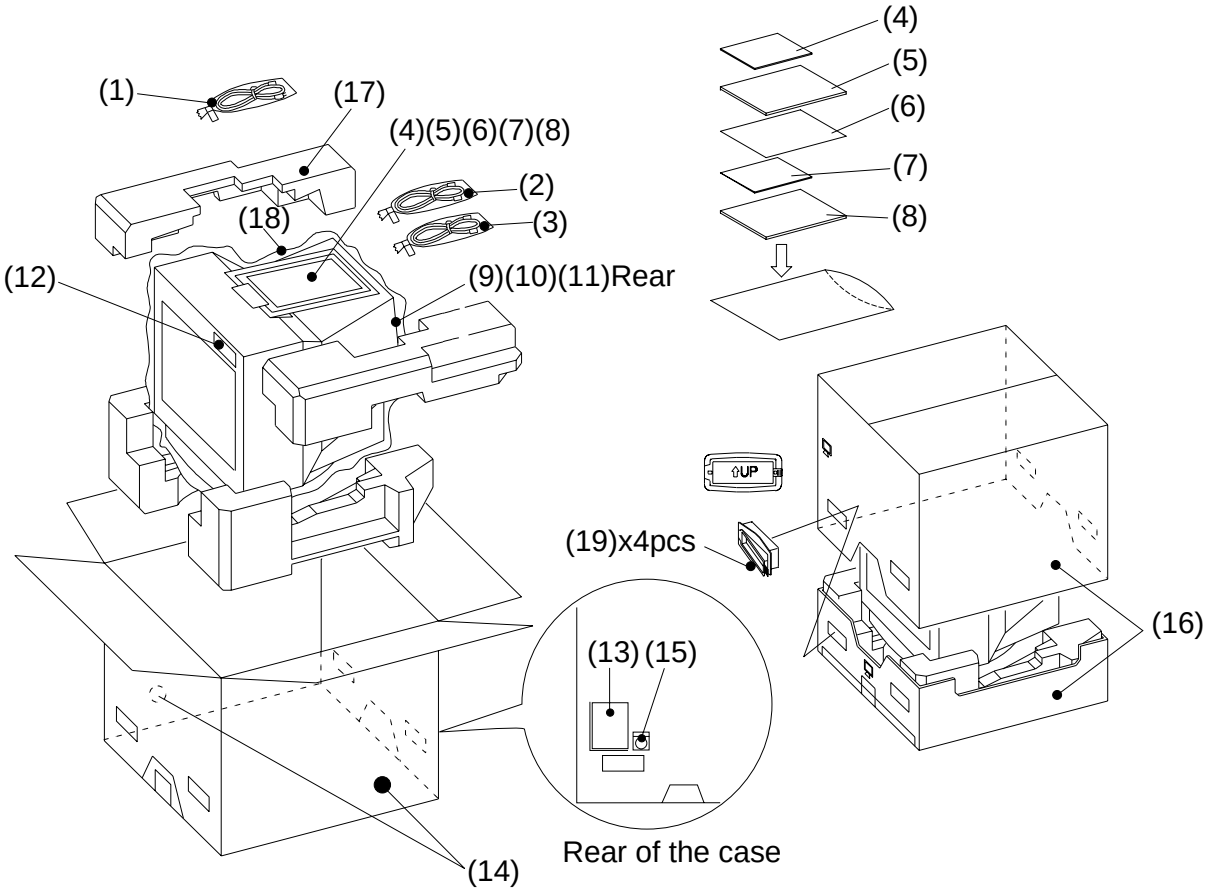
8.2 Safety Aspect

<table>
<tr><td>X-ray Radiation</td><td>Less than 0.1 mR/hour (1 µSv/H) at 10 cm distance.</td></tr>
<tr><td>Anti Static-electricity Effect</td><td>Less than 0.5 kV equivalent surface potential in 20 minutes after turning on the power (25 °C/60 % RH) at 10 cm distance.</td></tr>
<tr><td>Anti Low Frequency Electric and Magnetic Field</td><td>
<table>
<tr><th></th><th>TCO</th><th>measuring distance</th></tr>
<tr><td colspan="3">Alternating Electric Fields</td></tr>
<tr><td>Band 1 (5 Hz~2 kHz)</td><td>< 10 V/m</td><td>30 cm and 50 cm from CRT surface</td></tr>
<tr><td>Band 2 (2 kHz~400 kHz)</td><td>< 1 V/m</td><td>50 cm around monitor and 30 cm from CRT surface</td></tr>
<tr><td colspan="3">Alternating Magnetic Fields</td></tr>
<tr><td>Band 1 (5 Hz~2 kHz)</td><td>< 200 nT</td><td>50 cm around monitor and 30 cm from CRT surface</td></tr>
<tr><td>Band 2 (2 kHz~400 kHz)</td><td>< 25 nT</td><td>50 cm around monitor</td></tr>
</table>
* Tested on positive (black text against a white background) display mode.
* Test resolution: 1600 x 1200 @85 Hz
* All values are RMS.
</td></tr>
<tr><td>Leakage Current</td><td>Less than 0.25 mA at 110 VAC
Less than 3.5 mA at 264 VAC</td></tr>
</table>

9. OPERATING ENVIRONMENT SPECIFICATIONS

<table>
<tr><td>Ambient Temperature</td><td>Operation: 0 °C~35 °C (32 °F ~ 95 °F)
Storage : -20 °C~60 °C (-4 °F ~ 140 °F)
(To be kept for 4 hours at 25 °C <77 °F> before use.)</td></tr>
<tr><td>Ambient Humidity</td><td>Operation & Storage: 30 %~80 % R.H. Non condensing</td></tr>
<tr><td>Altitude</td><td>Operation: up to 3,000 m (9,840 ft.)
Shipping or Storage: up to 12,000 m (39,370 ft.)</td></tr>
<tr><td>Vibration
(Standard Package)</td><td>To be free from any damage on 1 hour 1 G vibration test to be carried out under 5~100~5 Hz varying frequencies in every 10 minutes. To be validated along all three axes.</td></tr>
<tr><td>Drop Test
(Standard Package)</td><td>To be free from any damage on free drop from 60 cm <2 ft>height.
To be validated one corner, three edges and six faces.</td></tr>
<tr><td>Electrostatic Discharge</td><td>Based on IEC801-2 (1991)
<table>
<tr><th></th><th>Air Discharge</th><th>Contact Discharge</th><th>Discharge Impedance</th></tr>
<tr><td>Voltage</td><td>8 kV</td><td>4 kV</td><td>330 Ω/150 pF</td></tr>
</table>
</td></tr>
</table>

10. PACKAGING SPECIFICATIONS



Accessories		Parts name	Special for **K
1	Power cord	ASSY AC-CORD	√
2	Signal cable (MD-C87/MD-C100)	CABLE-CONNECTOR	√
3	EIZO USB cable (MD-C93)	CABLE-CONNECTOR (MD-C93)	√
4	EIZO CRT Utility Disk	PARTS-EL	
5	Setup Guide	SETUP-GUIDE-CRT	
6	ScreenManager quick reference	QR-MA21D5	
7	User's Manual (for -KR and -TR only)	UM-MA21D5-KR (KR only) UM-MA21D5-TR (TR only)	
8	Limited Warranty (exclude -ES)	REGISTRATION-CARD-E	
Sticker & Packing materials			
9	Name plate *Korean version (for KR only)	N.P-MA21D5 or N.P-MA21D5-K N.P-MA-21D5-KR or N.P-MA21D5-KRK (KR only)	√
10	Energy 2000 label (for -ES only)	LABEL-GEA	
11	EMC label (for -TR only)	LABEL-FA21D5-TR	
12	Sticker	STICKER-MA21D5 or STICKE-MA21D5	√
13	Set-label (EAN/UPC code, Bar code & Serial number label)	SET-LABEL	
14	Brown Sticker to hide TCO mark (for **K only)	LABEL-CASE-1883A	√
15	Label for Color Option	LABEL-BLACK	√
16	Packing case	CASE-MA21D5, BOTTOM-CASE	
17	Cushions	CUSHION-TR, CUSHION-TL CUSHION-BR, CUSHION-BL	
18	Packing bag	PACKING-BAG-SET	
19	Joint clamps	JOINT x 4pcs	

11. DIFFERENCE IN SPECIFICATIONS FOR COLOR OPTION

	Gray cabinet	Black cabinet
Code	-ED, -ES, -UK, -US, -EH, -ER, -TL, -KR, -TR	-EDK, -ESK, -UKK, -USK, -EHK, -ERK, -TLK, -KRK, -TRK
Cabinet color	Serene Gray (EIZO original color NC-024)	Black (SP 424)
Accessories color *Video signal cable *AC power cord *USB cable	Gray	Black
Name plate color	Serene Gray	Black
Sticker	Serene Gray	Black
Packaging box	Gray distinction is printed.	A Black sticker is put on for the discrimination. 2 Brown sticker is put on to hide the TCO mark.
TCO'99	Compliance	N/A

12. DIFFERENCE IN SPECIFICATIONS FOR EACH DESTINATION

Code		Country	Electrical Specifications		Mechanical Specifications	
	EAN/UPC		Power Cord (Power supply)		Accessories/Stickers	Supplied
-ED -EDK	4995047009023 4995047009030	Europe	2.0 m, VDE approved separate cord with 3 pin plug	250 VAC, 6A, 0.75/1.0mm^2	-	-
-ES -ESK	4995047009023 4995047009030	Switzerland	2.0 m , SEV approved separate cord with 3 pin plug	”	* No registration card * Energy 2000 label	-
-UK -UKK	4995047009023 4995047009030	U.K.	2.0 m, BS approved separate cord with 3 pin plug	”	-	-
-EH -EHK	4995047009023 4995047009030	Hong Kong	”	”	-	-
-ER -ERK	4995047009023 4995047009030	Singapore	”	”	-	-
-TL -TLK	4995047009023 4995047009030	Thailand The Philippines	2.0 m, VDE approved separate cord with 3 pin plug	”	-	-
-KR -KRK	4995047009023 4995047009030	Korea		”	* Name Plate for KR version	User’s Manual
-TR -TRK	4995047009023 4995047009030	Taiwan	2.0 m, UL/CSA approved separate cord with 3 pin plug	125 VAC, 6A, 18AWG	* EMC label	User’s Manual
-US -USK	690592002454 690592002461	U.S.A. Canada	2.0 m, UL/CSA approved separate cord with 3 pin plug	125 VAC, 6A, 18AWG	-	-

13. ScreenManager Pro for USB SPECIFICATIONS

13.1 General information

CRT monitor control software, "ScreenManager Pro for USB", is application software running on Windows. ScreenManager Pro for USB stay resident on Windows and control EIZO FlexScan monitors through USB (Supported monitors only).

- Screen Adjustment
  - Graphical and precise adjustment of distortion can be made.
  - This software can save 2 or more screen and color data even if they are same signals. (T966 itself can't save many data when they are same signals.) And it also can save color characteristics and ICC profile data at the same time.
- Hot key
  - Auto button and Input signal button of the front panel are able to assign to key cord. They can be controlled from keyboards.
- ActiveGamma
  - Automatically change suitable mode (Text, Browser, Picture, Graphic, Movie1, Movie2, Movie3, Movie4, WindowMovie, Viewer) when you activates some applications. (It is required to assign applications to modes beforehand.)
  - In multi-monitor environment, independent auto switching function is available.
  - The area of animation window can be brightened by using LUT(Look Up Table) of graphics board. This function is named WindowMovie. And also, the area of still image window can be brightened. This is named DesktopViewer.
  - WindowMovie/DesktopViewer priority mode is selectable. This priority mode prevent screen from changing mode automatically.
- DesktopViewer
  - Support DesktopViewer. (Describes later.)

13.2 Environment and Condition

Development environment

<Development software>

- Microsoft Visual C++ 6.0J
- Microsoft Windows DDK
- Microsoft Platform SDK
- Microsoft DirectX Ver.8.0

Operating condition

<Operating system>

- Microsoft Windows 98 Second Edition
- Microsoft Windows 2000 Series
- Microsoft Windows Millennium Edition
- Microsoft Windows XP Series

<Host PC>

- IBM PC/AT compatible that meet the requirement of OS.

<CRT monitor>

- USB supported EIZO FlexScan; T565, T765, T965, T566, T766, T966.

13.3 Install

Name of files

These files are copied on Hard Disk when installed.

<Files>

Display.ini
mcal93.dll
mncndll.dll
mncntray.exe
mncnusb.dll
smhook.dll
mncnusbe.chm
mncnusbj.chm
CURSOR folder Animation Cursor files in it.

File location

All files of this software are installed on system folder (\ShellExt) of windows.

<Example: Windows XP>

C:\Windows\System32\ShellExt

13.4 Software specifications

Language and Limitation

Language

This software supports follow languages.

- Japanese
- English

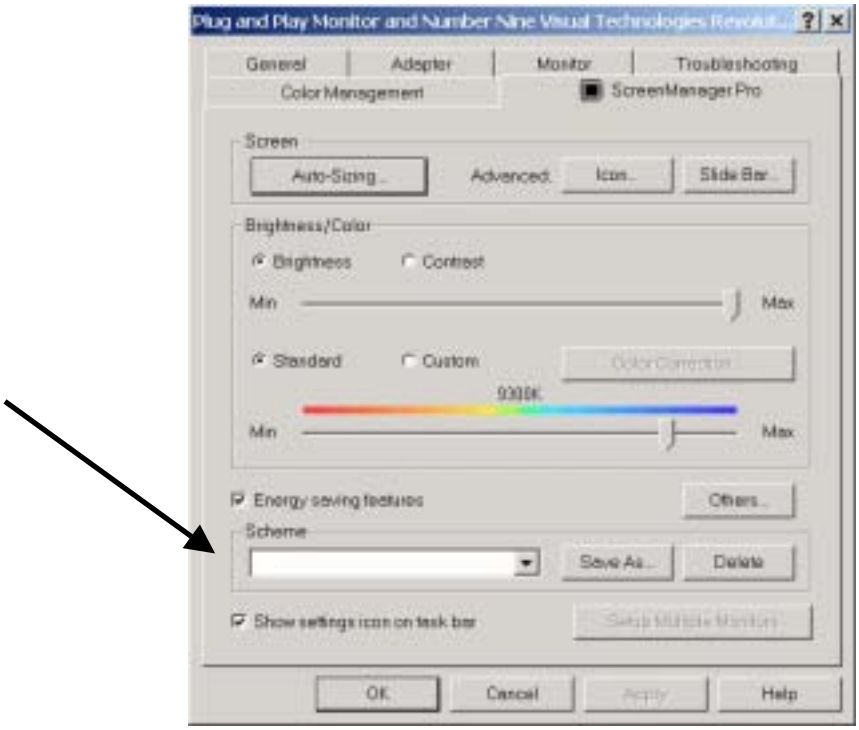
Language expression of each OS is follows.

- Japanese OS — Japanese
- Other language's OS — English (Common dialogue is depends on OS language.)

13.5 Start-up

Start-up

Below menu is appeared when choose [Control Panel]-[Display]-[Settings Tab]-[Advanced…]-[ScreenManager Pro Tab]. Setting icon is appeared when check the box of "Show setting icon on task bar".



In multi-monitor environment, individual monitor can control by ScreenManager Pro tab. This function is available when multi-monitor set up is completed. Under the conditions like below, set up multi-monitor again. (push "Setup Multiple monitors" button.)

- For the first time of multi monitors.
- Monitor is changed.
- Add monitor to PC or disconnect monitor from PC.

Plug & Play

Plug and unplug of video cable is ignored about ScreenManager Pro for USB. AboutUSB, plug and unplug is certainly recognized by host PC. So video card and USB monitor are recognized again.

14. DesktopViewer SPECIFICATION

14.1 General information

- Support still image (jpeg,bmp) and animation (corresponds to Window Media Player6.0).
- Support copy & paste via clip-board.
- Support drag & drop of files.
- Support drag & drop pictures from browser (IE5.0 or later). It can also save the pictures.
- It is possible to capture at any area of the screen.
- It is possible to enlarge of the captured area.
- Keep on capturing image every specified time.
- Rimless window function available. When capture any part of the screen in rimless window mode, rimless window moves to the area what capture does. It looks as if the area are brightened.
- Slide show function available.
- Support rotate function.
- It is possible to show the DesktopViewer window in frontward.
- Resize to normal, 1/4, full-screen and custom. It is selectable to decide ratio of lengthwise and crosswise.
- It is possible to display Exif and PRINT Image Matching II information of JPEG file.
- Support color adjustment of graphics-card's overlay area. And it is possible to save that color data to files.

It is possible to change brightness of the non-image area by using ActiveGamma functions. It is possible to change mode to Normal, Nature, Portrait, Macro, PRINT Image Matching mode. (Only still images)

14.2 Environment and Condition

Development environment

<Development software>

- Microsoft Visual C++ 6.0J
- Microsoft Platform SDK
- Microsoft DirectX Ver.8.0

Operation condition

<OS>

- Microsoft Windows 2000 Series
- Microsoft Windows XP Series (Recommend)

<Necessary software>

- ScreenManager Pro for USB Ver.3.30 or later

<Host PC>

- IBM PC/AT compatible that meet the requirement of OS.
- USB port (Standard)
- 32MB or larger video memory
- Graphic card with gamma correction function
- Pointing device
- PentiumIII 1GHz or lager

<Colors>

- 32,000 colors or larger

[CRT monitor]

USB supported EIZO FlexScan; T566. T766, T966

14.3 Install

Name of files

These files are copied on Hard Disk when installed.

- EDViewer.exe - application software
- eizmon.dll - monitor control library
- EpExifUtil.dll - PIM library
- ijl15.dll - JPEG library
- loadfail.jpg - JPEG file that appears when the loaded images are not supported.
- edvlogo.jpg - Initial JPEG file.

File location

All files of this software are installed on system folder (\ShellExt\EDViewer) of windows.

<Example: Windows XP>

C:\Windows\System32\ShellExt\EDViewer

Uninstall

When uninstalls, all files that installed are deleted.

14.4 Software specification

Language and Limitation

Language

This software supports follow languages.

- Japanese
- English

Language expression of each OS is follows.

- Japanese OS — Japanese
- Other language's OS — English (Common dialogue is depends on OS language.)

14.5 Start-up

Start-up

DesktopViewer appears when right click of indicator of ScreenManagerPro for US.

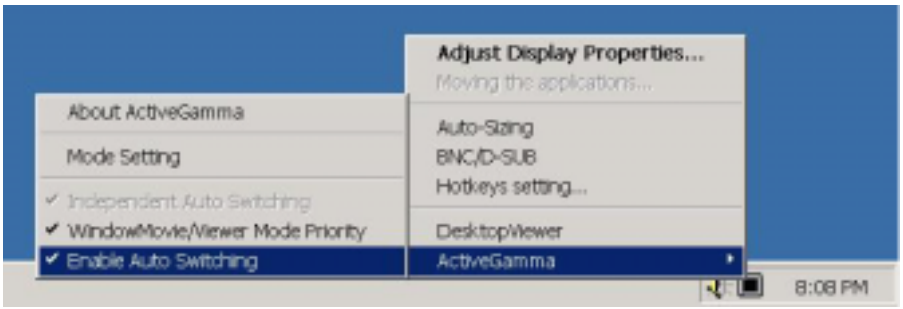
Plug & Play

Plug and unplug is certainly recognized by host PC.

Mode change of the monitor

DesktopViewer uses the function of ActiveGamma. So, the conditions below are required.

- Installed ScreenManger Pro for USB Ver.3.30 or later and stay resident setting icon on task bar.
- Monitor should be support monitor.
- Check "Enable Auto Switching" on the menu of ScreenManager pro for USB.



Icon

DesktopViewer has 16-color icon  and 16,777-color icon  . In Windows 2000, when the color number is 256, 16-color icon is used in normal.