

Date : March 19, 1998
Report No : QCR-0002

MITSUBISHI ELECTRIC CORPORATION

Head office

2-3, Marunouchi 2-chome Chiyoda-ku
Tokyo, 100 Japan

Mitsubishi Electronics Manufacturing (S) Pte Ltd

3000, Marsiling Road, Singapore 739108

ENGINEERING TEST REPORT

This is to report that the Display Monitor specified in Clause 4 below complies with the requirements of FCC Rules and Regulations Parts 15 Subpart B as a result of measurement according to ANSI C63.4 1992.

- | | |
|--------------------------------|---|
| 1. Applicant of Device | Mitsubishi Electric Corporation
2-3 Marunouchi 2 - chome Chiyoda - ku
Tokyo, 100, Japan |
| 2. Manufacturer of Device | Mitsubishi Electric (Malaysia) Sdn Bhd
Plo 32, Kawasan Perindustrian Senai,
81400 Senai, Johor Darul Takzim |
| 3. Type of Application | Certification |
| 4. Description of Application | |
| 1) Type of Device | Display Monitor |
| 2) FCC | BGBTFV6708K |
| 3) Model Number | TFV6708SKHKW |
| 4) Serial Number | 710500007 |
| 5) Date of Manufacture | Jan 22nd, 1998 |
| 5. Measurement Procedures Used | ANSI C63.4 - 1992 |
| 6. Test Facility | Mitsubishi Nagasaki EMI Test Facility
* This facility has been filed by FCC on September 16, 1997. |
| 7. Date of Measurement | March 09, 1998 |
| 8. Summary of Result | Passed |
| 9. Measurement staff | Hidemichi Manmyoji
Mitsubishi Electric Corporation
Image & Information Systems Works
Display Quality Control Section |

Authorized by : Mitsubishi Electronics Manufacturing (S) Pte Ltd



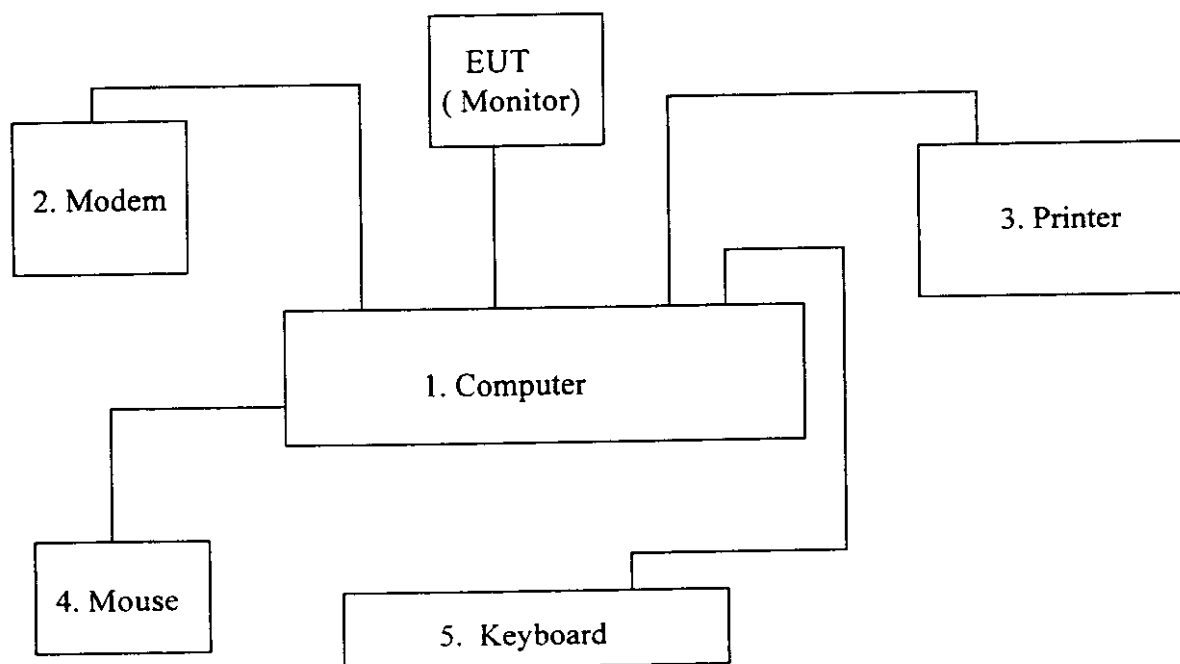
Tadao Tamura

Manager

DM Quality Assurance Section

Measurement Procedure

We measured the radiated and conducted interference according to ANSI C63.4 - 1992.
The following figure and photographs are test configurations of the radiated and conducted interference.



[Note]

In the above figure, the head number of the device is corresponding to the number shown in sheet "List of Equipment Tested".

MEASUREMENT DATA OF RADIATED INTERFERENCE
 (fh = 64KHz, Reso. = 1280 X 1024)

Frequency Band : 30 - 1000 MHz

Measurement Date : Mac 09th, 1998

Detector Function : CISPR Quasi-peak

Weather and Temp : Fine

6dB Band Width : 120KHz

Measurement Distance : 3 m

Emission Frequency (Mhz)	Antenna Factor (dB)	AMP Gain (dB)	Meter Reading (dBu V/m)		Field Strenght (dBu V/m)		Limit (dBu V/m)
			Horizontal	Vertical	Horizontal	Vertical	
49.980	4.8	26.7	43.5	43.3	21.6	21.4	40.0
69.944	7.7	26.7	43.6	40.0	24.6	21.0	40.0
169.912	15.3	26.2	34.1	32.9	23.2	22.0	43.5
179.915	16.1	26.0	37.8	35.6	27.9	25.7	43.5
219.886	18.4	25.8	37.2	33.9	29.8	26.5	46.0
329.847	23.0	27.0	34.4	36.7	30.4	32.7	46.0
369.830	23.9	28.0	37.1	36.4	33.0	32.3	46.0

(Sample Calculation)

49.980MHz

$$43.5 + 4.8 - 26.7 = 21.6 \text{ (dBuV)}$$

PRELIMINARY

TECHNICAL SPECIFICATION

FOR

45cm / 40cmV(17"/16"V) HIGH RESOLUTION
DIGITAL CONTROL AUTO-TRACKING
COLOR DISPLAY MONITOR

BASE MODEL NAME : Tfv6708SKHKW
PET NAME : Diamond Plus 71

DATE : Feb.16, 1998

Drawn by N.Hashiguchi

Checked by



MITSUBISHI ELECTRIC CORPORATION

DOCUMENT NO. | DMS-0058

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■ Design and specifications are subject to change without any notice

1. Regulations

1.1 Geographical Region and Regulations

REGULATIONS						
SAFETY	UL	C-UL	TUV-GS			
EMC	FCC-B	DOC-B	EN55022-B	EN50082-1	EN61000-3-2	VCCI-2
	Guidelines for suppression of harmonics in appliances and general use equipment					
X-RAY	DHHS	HWC	RoV			
ELF/VLF	MPR-2	TCO'91				
Power Management	Energy Star	NUTEK				
Ergonomics	TUV-ERGO					
Miscellaneous	TCO'95	CE-Marking				

- UL : UL1950 2nd Edition
 C-UL : CAN/CSA-C22.2 NO.950 1st Edition
 TUV-GS : EN60950:1992 & AD1/AD2 & HZ1/618
 FCC : 47 CFR Part15 Subpart B, Class B
 DOC : Interference-Causing Equipment Standard ICES-003 Issue 2, Class B
 DHHS : 21CFR Chapter I Subchapter J
 HWC : Radiation Emitting Devices Regulations Chapter 1370
 RoV : RöV Vom 8.1.1987
 MPR-II : MPR 1990:8
 TUV-ERGO : ISO9241-3 & MPR-II
 TCO'95 : Requirements for environmental labelling personal computers - Third Edition
 NUTEK : NUTEK Spec. 803299/94
 CE-Marking : EN60950:1992 & AD1/AD2
 EN55022:1994 Class B
 EN50082-1:1992
 EN61000-3-2:1995
 Energy Star : International Energy Star Office Equipment Program

3. Electric Specifications

3.1 Deflections

Horizontal	Scanning Frequency	30 - 69kHz
	Back Porch	$\geq 1.2 \mu\text{sec}$
	Blanking	$\geq 2.9 \mu\text{sec}$
	H-sync Width	$\geq 0.9 \mu\text{sec}$
Vertical	Scanning frequency	50 - 130Hz
	V-sync + V-back Porch	$\geq 500 \mu\text{sec}$
	V-sync Width	$2H \leq V_s \leq 10H$

3.2 Signal Input

Video Input Signal	R.G.B analog
Sync. Input Signal	External composite sync , Negative TTL External HD/VD separate sync , Polarity free TTL
Video Input Impedance	75Ω to ground
Sync. Input Impedance	1KΩ to ground
Signal Level	Video signal : 0.7V p-p $\pm 10\%$ Separate H/V-sync. : 2.5 - 5.0V p-p (std: 4.0V p-p)

3.3 Video Performance

Video Band Width	50Hz to 100MHz $\pm 3\text{dB}$ (typ.) at 20V p-p
Pulse Rise and Fall time	8.0 nsec. (typ.) 10 to 90% at 30V p-p

- The rise and fall time of the input video signal is 2.0nsec or less.
- The pulse rise or fall time is determined using the formula :

$$T_a = \sqrt{T_m^2 - (T_s^2 + T_p^2 + T_{sc}^2)}$$

Where : T_a = Amplifier rise / fall time

T_m = Measured rise / fall time

T_s = Input signal rise / fall time

T_p = Probe effect on rise / fall time = $2.2 \times R_l \times C_p$

R_l = Amplifier output resistance (ohm)

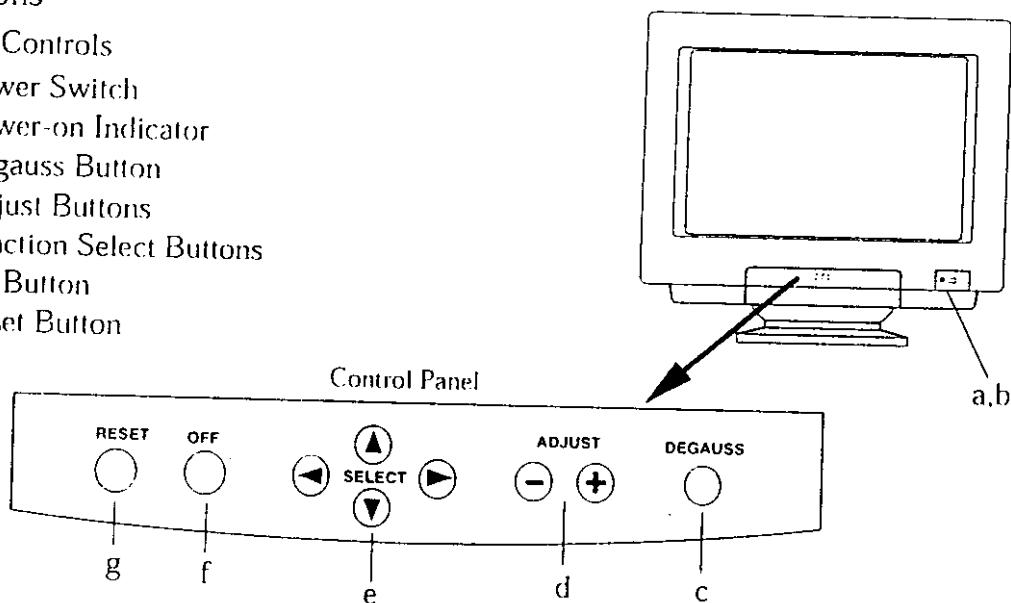
C_p = Total probe capacitance (F)

T_{sc} = Scope rise / fall time = $0.35 / \text{Scope bandwidth (MHz)}$

4. Functions

4.1 Front Controls

- a : Power Switch
- b : Power-on Indicator
- c : Degauss Button
- d : Adjust Buttons
- e : Function Select Buttons
- f : Off Button
- g : Reset Button



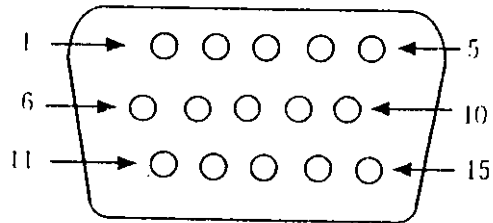
4.2 OSD (On Screen Display) Functions

Normal mode			default
1	Contrast	0 - 255	255
	Brightness	0 - 255	128
2	H-Size	0 - 255	adjusted
	H-Position	0 - 255	adjusted
	V-Size	0 - 255	adjusted
	V-Position	0 - 255	adjusted
	Side-Bow	0 - 255	adjusted
3	Keystone	0 - 255	adjusted
	Top-PCC	0 - 255	adjusted
	Bottom-PCC	0 - 255	adjusted
	Pin-Balance	0 - 255	adjusted
4	Key-Balance	0 - 255	adjusted
	Rotation	0 - 255	adjusted
5	Moire-Cancel	0 - 255	0
6	Color-Temp.	5000-9950	9300K
7	Power-Save	Off / On	On
8	Clamp-Position	Front/Back	Front

4.4 Connector Pin Assignment

1) Signal Input Cable with DB9-15P

Pin	Signal
1	Red-video
2	Green-video
3	Blue-video
4	Gnd
5	DDC Gnd
6	Red Gnd
7	Green Gnd
8	Blue Gnd
9	N.C.
10	Sync Gnd
11	Gnd
12	Serial data
13	H-sync or Composite sync
14	V-sync (V-clock)
15	Serial clock



5. Display Quality

5.1 Test Conditions

AC Voltage	120VAC 60Hz or 230VAC 50Hz
Video Signal	1024×768 (60kHz,75Hz) 0.7Vp-p
Warm Up	More than 30 min. with full white picture
Temperature	20 - 25 °C
Relative Humidity	40 - 80%
Magnetic Field	BH=0, BV=0.040mT
Contrast & Brightness	Contrast maximum and Brightness detent position
Display Size	300×225mm for 4:3 aspect ratio
Ambient light	200 ± 50 lx
Luminance Meter	Minolta CA100 or Equivalent

• Unless specified, the monitor is set at the factory default setting.

5.2 Display size

Display Size at 4:3 aspect ratio	Width: 300mm ± 5mm, Height: 225mm ± 5mm
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5.3 Luminance

Luminance	Window (80×80mm): $\geq 120\text{cd/m}^2$ Full White: $\geq 100\text{cd/m}^2$ (at 9300K + 8 M.P.C.D.)
Luminance Variation	$\Delta\text{Luminance} / \text{Center Luminance} \leq 25\%$
Back Raster Luminance	0.3 cd/m^2 typical at Brightness detent position Raster must not visible at minimum Brightness control

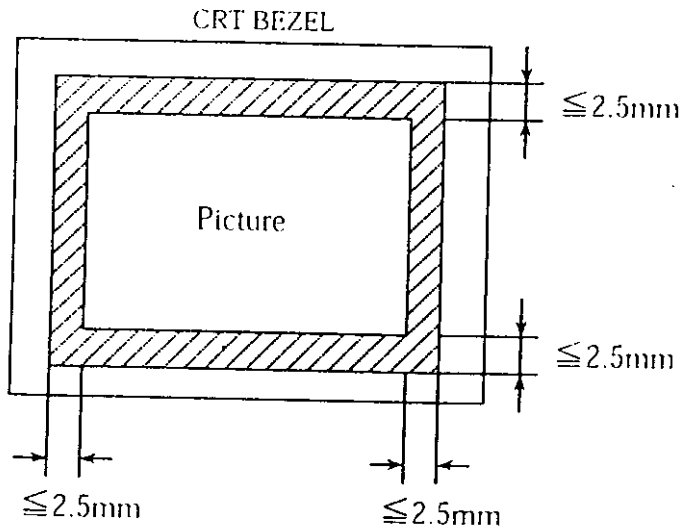
5.4 Color

Color Temperature	9300K + 8 M.P.C.D. $X=0.283 \pm 0.020$ $Y=0.297 \pm 0.020$
White Uniformity	≤ 0.020 : in either the X or Y shift between the center and any area within 300 x 225mm
Color Tracking	Contrast Control: 0.020 from 25 cd/m^2 to Maximum at detent Brightness position

5.7 Other Distortion

Other Distortion Except rotation and centering	H: $\leq 2.5\text{mm}$, V: $\leq 2.5\text{mm}$
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- With Green-Crosshatch applied.
- The other distortion is defined as the total of all image distortion excluding rotation and display centering.

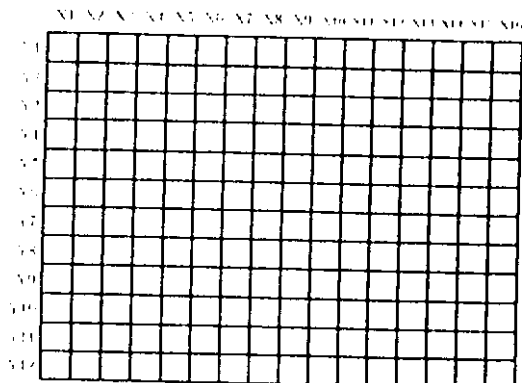


5.8 Linearity

Linearity	H: $\leq 10\%$, adjacent: $\leq 7\%$
	V: $\leq 10\%$, adjacent: $\leq 7\%$

- With Green-Crosshatch (17 lines horizontally by 13 lines vertically) applied.
- Heights and widths of squares anywhere on the screen is less than 10%.
- Widths of adjacent squares is less than 7%.
- Heights of adjacent squares is less than 7%.
- The formula used to calculate linearity is:

$$\frac{X_{\max} - X_{\min}}{X_{\max}} \times 100\% \quad \frac{Y_{\max} - Y_{\min}}{Y_{\max}} \times 100\%$$



$$X1=X2=X3=\dots=X16$$

$$Y1=Y2=Y3=\dots=Y12$$

5.11 Raster Regulation

Raster Size Regulation	$\leq 0.5\%$ of the horizontal or vertical picture size
------------------------	---

- The picture size change is less than adjusted value in either the horizontal or vertical direction over 30% to 100% luminance range and 90 - 132VAC or 198 - 264VAC Input respectively.

5.12 Stability over Operating Temperature Range

Display Size	H: $\pm 2\%$, V: $\pm 2\%$
Luminance	Window, Full White: $\pm 10\%$
Color	X,Y : ± 0.015 (at center of the screen)
Display Centering	H: $\pm 2.0\text{mm}$, V: $\pm 2.0\text{mm}$

- Each parameters shall not changed over 5 - 35°C from the value at 25°C.
The parameters will be measured after 30 minutes warm-up time.

7. Environmental Conditions

7.1 Temperature, Relative Humidity & Altitude

	Operating	Storage and shipment
Temperature	5 - 35℃	-20 - 60℃
Relative Humidity	10 - 90% without condensation	10 - 95% without condensation
Altitude	3000m (10000ft)	16000m (50000ft)

7.2 Vibration Test (with carton box)

1) Swept Sine (Resonances Search and Dwell)

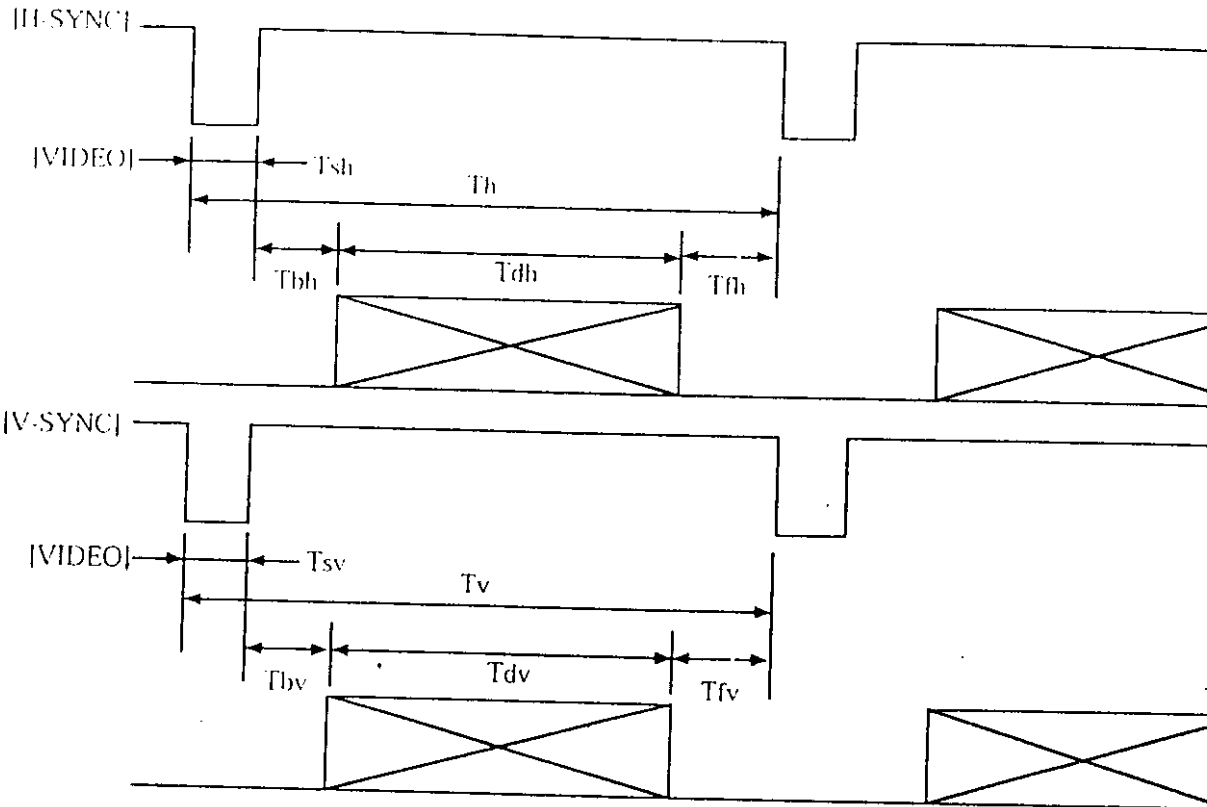
Test Axis	3 axis
Search Frequency	5 - 200Hz
Sweep Time	2 minutes
Acceleration	0.5G (zero to peak)
Dwelling Time	5 minutes for each resonant point of each 3 axis
Mounting	fixed firmly on the vibration table

2) Random Vibration

Test Axis	3 axis
Search Frequency	5 - 200Hz
Acceleration	0 - 1.47Grms
Dwelling Time	30 minutes × 3 axis
Mounting	fixed firmly on the vibration table

Appendix 1 Preset Timing Chart

TENTATIVE

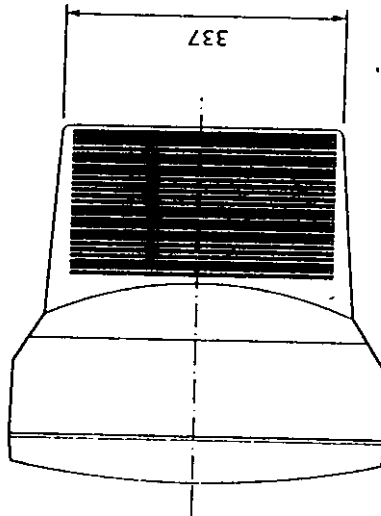


NO.	T_h	T_{sh}	T_{fh}	T_{bh}	T_{dh}	T_v	T_{sv}	T_{fv}	T_{bv}	T_{dv}	H/V	FH	FV	REMARKS
1	31.778	3.813	0.636	1.907	25.422	16.683	0.064	0.318	1.018	15.253	N/N	31.5	60.0	VGA 480 640 x 480
2	20.115	1.118	0.559	3.910	14.528	13.417	0.060	0.020	0.785	12.552	N/N	49.7	74.5	AP16 832 x 624
3	16.661	1.219	0.203	2.235	13.004	13.328	0.050	0.017	0.466	12.795	P/P	60.0	75.0	VESA 1024 x 768
*4	26.667	2.032	0.508	3.810	20.317	13.333	0.080	0.027	0.426	12.800	N/N	37.5	75.0	VESA 640 x 480
*5	21.333	1.616	0.323	3.232	16.162	13.333	0.064	0.021	0.418	12.800	P/P	46.9	75.0	VESA 800 x 600
*6	17.70	1.813	0.321	1.920	13.653	14.272	0.106	0.054	0.513	13.599	N/N	56.5	70.0	VESA 1024 x 768
*7	15.631	1.180	0.589	2.065	11.797	16.663	0.047	0.016	0.594	16.006	P/P	64.0	60.0	VESA 1280 x 1024
*8	14.560	1.280	0.320	1.440	11.520	13.322	0.044	0.043	0.568	12.667	N/N	68.7	75.1	AP 21 1152 x 870

(μ sec) (μ sec) (μ sec) (μ sec) (μ sec) (msec) (msec) (msec) (msec) (msec) (msec) (kHz) (Hz)

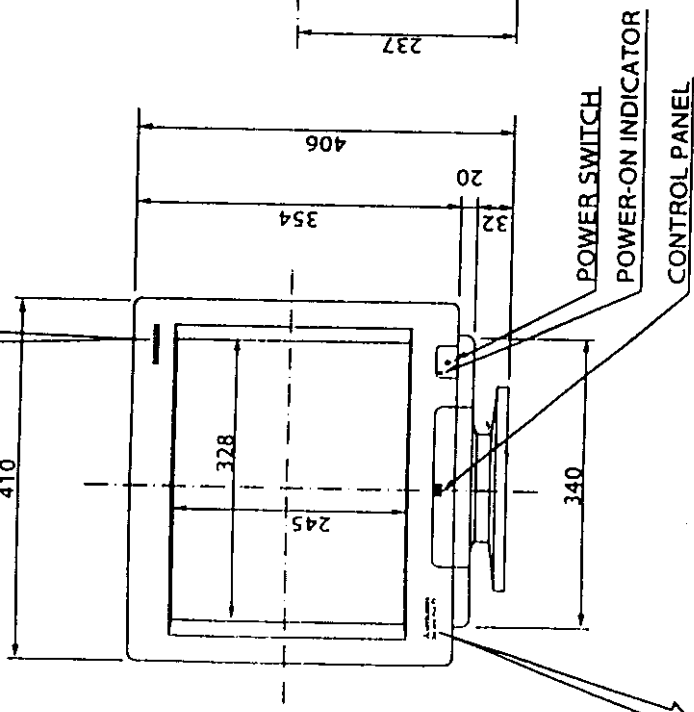
* : Reservation Timing

- CABINET COLOR : Grayish White
(COLOR No. : B-N-C039)
- TILT / SWIVEL BASE
Swivel Angle : $+90^{\circ} \sim -90^{\circ}$
Tilt Angle : $+15^{\circ} \sim -5^{\circ}$
- WEIGHT : APPROX 22.5Kg



PANTONE COOL GRAY 10C

DIAMONDTRON



mitsubishi
Diamond Plus 71

PANTONE COOL GRAY 10C

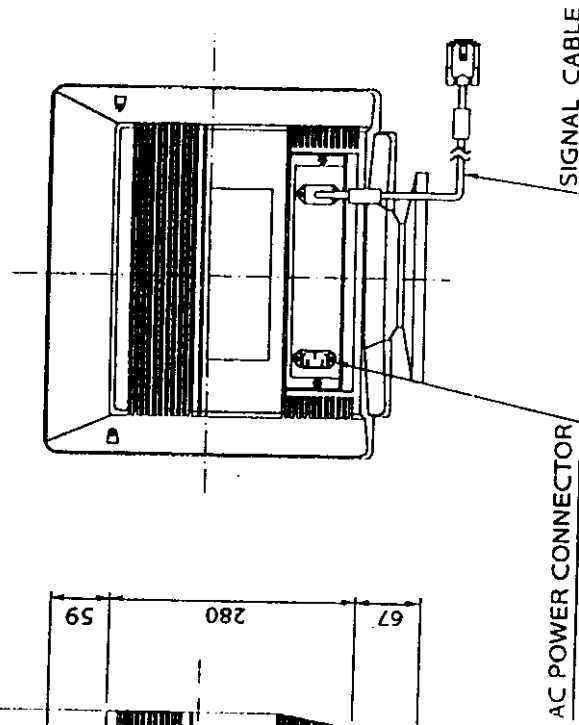
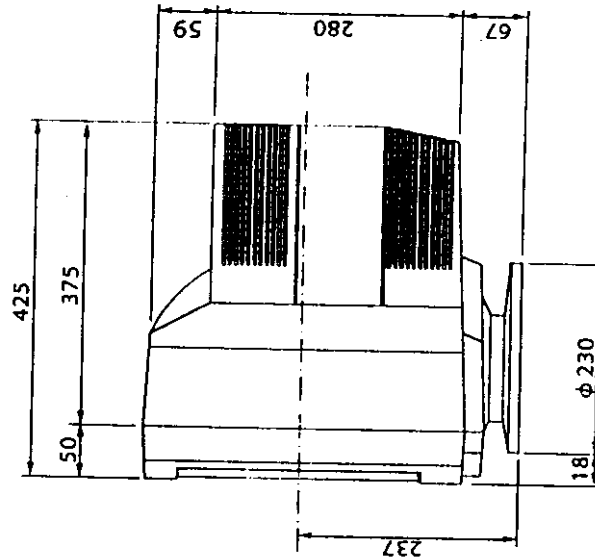
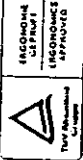


Fig. 1 OUTLINE

198.5 ± 0.5		4-R1		63.5 ± 0.5	
MITSUBISHI Color Display Monitor Model No. TFV6708SKHKW 100-120V ~ / 220-240V ~ 50 / 60Hz 1.2A/0.7A		 LISTED Info Tech Equip ULJI C E142210       			
FCC ID : BGBTFV6708K 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.		CAUTION • Do not open this cover. Trained service personnel only. • Abdeckung nicht öffnen. Nur für Wartungspersonal. • Ne pas ouvrir ce carter. Réserve au personnel qualifié. • 7-537-1190-811-2-01A-1-E-DIGITAL C.F.S.L.			
This product complies with DHS Rules 21 CFR Subchapter J applicable at date of manufacture. Cet appareil numérique répond aux exigences de la classe B respectue toutes les exigences du Règlement sur le matériel brouilleur au Canada.		This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur au Canada.			
Serial No.		Manufactured			
MEM		MITSUBISHI ELECTRIC CORPORATION CHASSIS F-411C VERUS 517-7 Hamaoka-cho Toyohashi-shi Nagasari JAPAN MADE IN MALAYSIA			

· COLOR OF BACKGROUND : CABINET COLOR
 · COLOR OF LETTERING : PANTONE COOL GRAY 10C

Fig. 2-2 RATING LABEL (For AUSTRALIA Version)



COLOR DISPLAY MONITOR

Diamond Plus 71

Item Number : DPLUS71

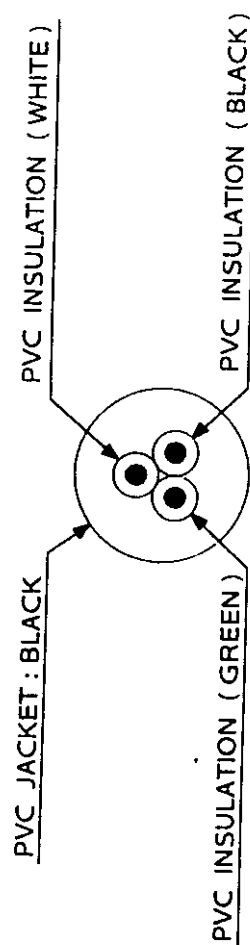
Model Number : TFV6708SKHKW

**A New Technology 45cm/17" (40cm/16"
Diagonal Viewable Image) Color Monitor
for the Ultimate in Desktop Publishing
and CAD/CAM/CAE Applications**

- NEW MITSUBISHI VERTICALLY FLAT SQUARE DIAMONDTRON™ APERTURE GRILLE CRT
- FINE 0.25 mm APERTURE GRILLE PITCH
- HIGH OPTICAL QUALITY, HIGH-CONTRAST, ANTI-GLARE, ANTI-REFLECTION AND ANTI-STATIC CRT COATING
- 1280x1024 NON-INTERLACED MAXIMUM ADDRESSABLE RESOLUTION FORMAT
- MPU BASED 30 to 69 KHz AUTO SCAN RANGE
- WIDE 100 MHz VIDEO BANDWIDTH
- FULLY COMPATIBLE WITH IBM, VESA, APPLE, APPLE THIRD PARTY AND MOST UNIX WORKSTATION GRAPHICS STANDARDS
- DYNAMIC BEAM FORMING ENSURES PRECISE DEFINITION AT SCREEN CORNERS
- NEW, MORE VERSATILE DIAMOND MATCH COLOR CALIBRATION SYSTEM™
- MORE ADJUSTMENT CONTROLS SUCH AS MOIRE REDUCTION, PICTURE ROTATION
- ON-SCREEN DISPLAY MPU-BASED SET-UP CONTROLS
- POWER MANAGEMENT FOR REDUCED POWER CONSUMPTION, LONGER LIFETIME AND REDUCED EMI (VESA DPMS, INTERNATIONAL ENERGY STAR PROGRAM AND NUTEK)
- VESA DDC1&2B COMPATIBLE (PLUG & PLAY)
- COMPLIES WITH ISO 9241/3 ERGONOMICS STANDARDS AND MPR II GUIDELINE
- CERTIFIED FOR FCC095 ENVIRONMENTAL LABELING
- INTEGRATED TILT/SWIVEL BASE, APPLE ADAPTOR AND FIXED SIGNAL CABLE

【SPECIFICATION】

1. CABLE : Cross - section Area...AWG18X3C
2. JACKET : PVC
3. ABILITY
 - (1) VOLTAGE : AC 125V
 - (2) AMPERAGE : AC 10A
 - (3) TEMPERATURE : 60°C
4. REGULATORY APPROVALS : UL, CSA



CONSTRUCTION

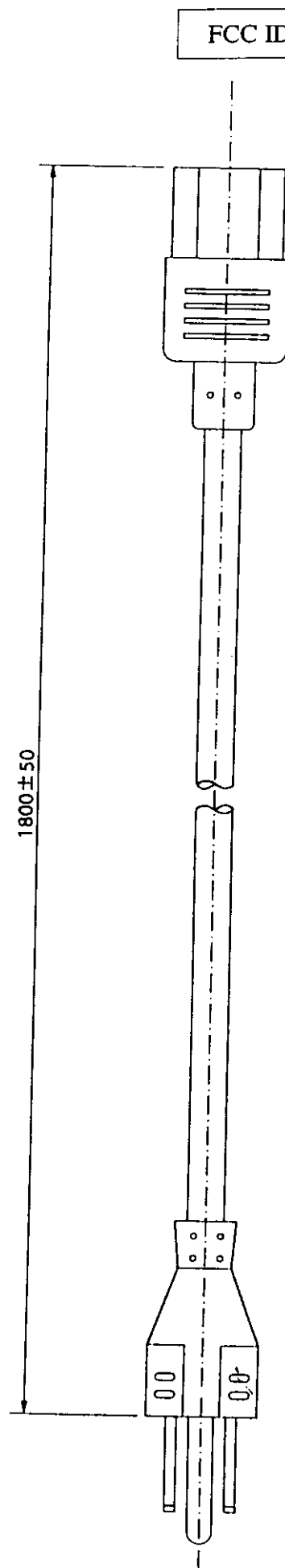
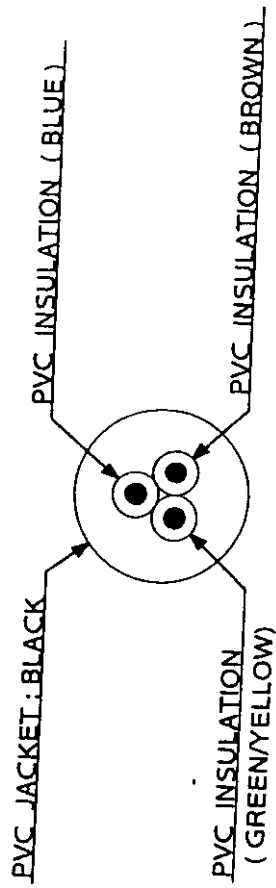


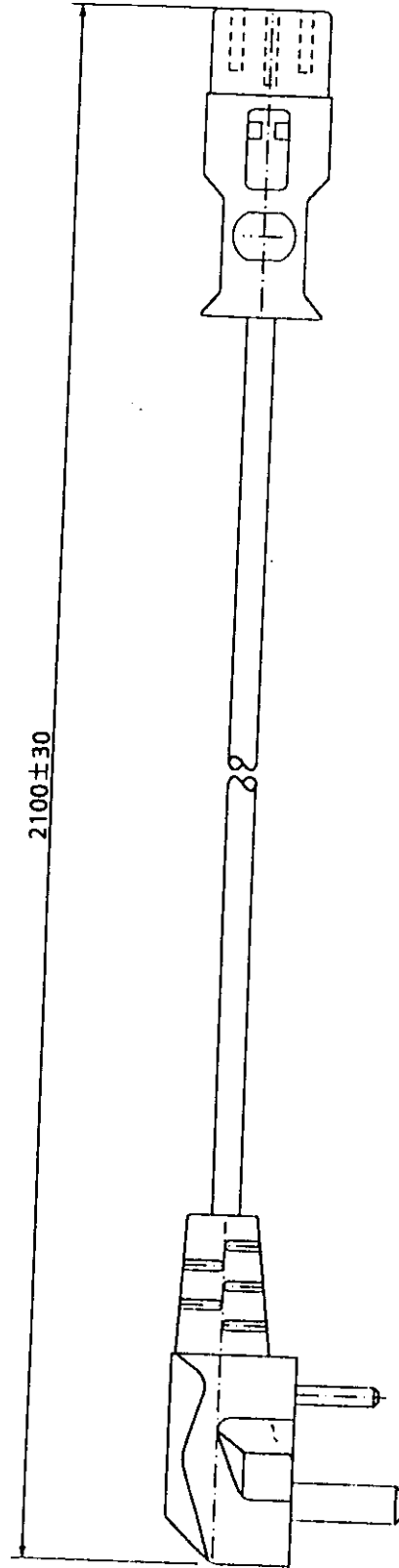
Fig. 5-1 AC POWER CORD (For NORTH AMERICA)

[SPECIFICATION]

1. CABLE : Cross - section Area...1.0mm² X 3C
2. JACKET : PVC
3. ABILITY
 - (1) VOLTAGE : AC 250V
 - (2) AMPERAGE : AC 10A
 - (3) TEMPERATURE : 60°C
4. REGULATORY APPROVALS : BS



CONSTRUCTION



FCC ID : BGBTFV6708K

Fig. 5-3 AC POWER CORD (For U.K.)

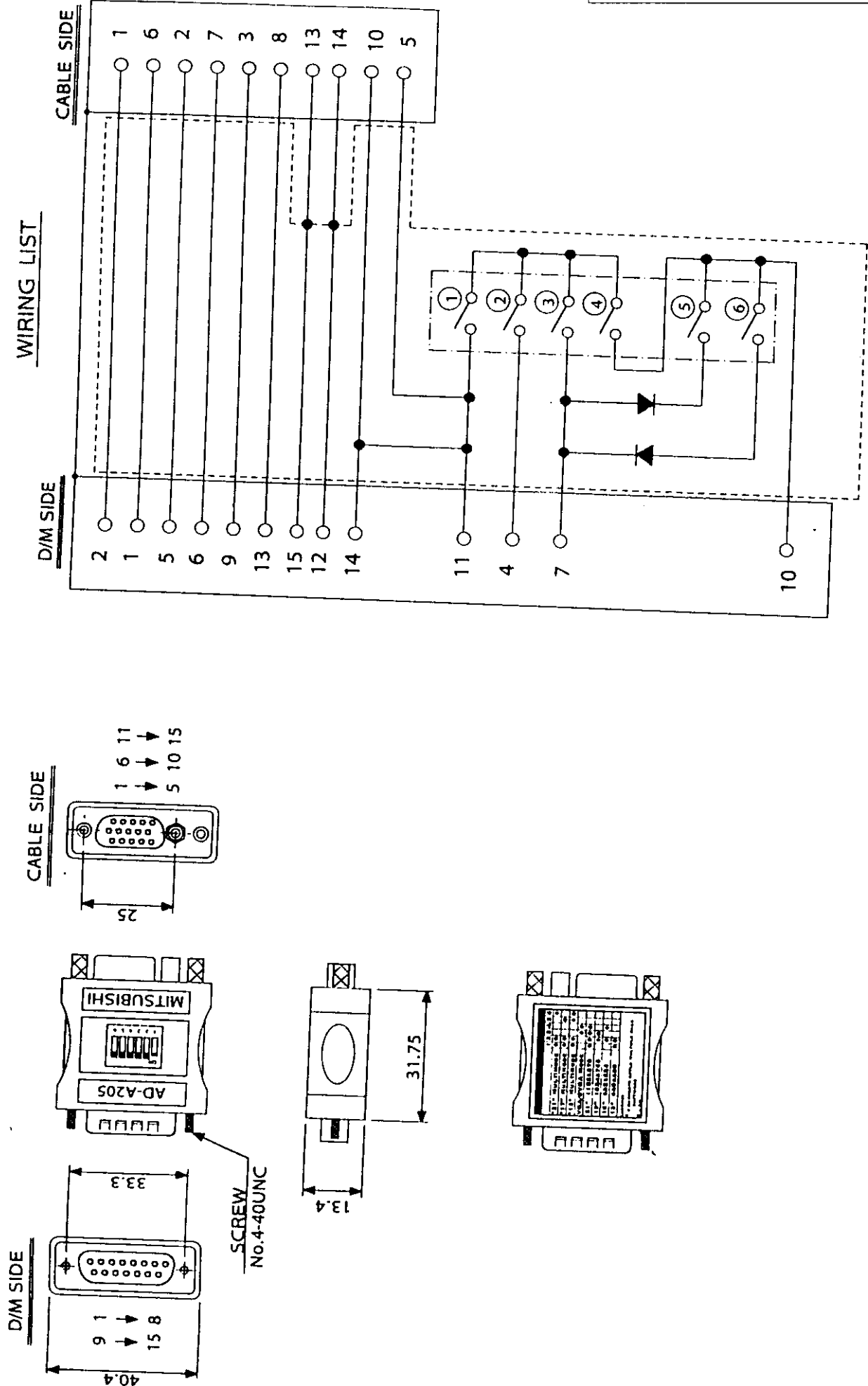


Fig. 6 ADAPTER (AD-A205)

Report No : QCR-0002

Sheet 6 of 8 Sheets

MEASUREMENT DATA OF LINE CONDUCTED INTERFERENCE
 (fh = 64KHz, Reso. = 1280 X 1024)

Frequency Band : 0.45 - 30 MHz

Measurement Date : March 14, 1998

Detector Function : CISPR Quasi-peak

Weather and Temp : Fine 23°C

6dB Band Width : 10 kHz

Emission Frequency (MHz)	LISN Factor (dB)	Meter Reading (dBuV)		RF Voltage (dBuV)		Limit (dBuV/m)
		Phase A (Live)	Phase B (Neutral)	Phase A (Live)	Phase B (Neutral)	
0.9900	0.15	32.9	34.4	33.1	34.6	48.0
9.0000	0.15	32.3	36.0	32.5	36.2	48.0
12.1000	0.15	31.1	34.4	31.3	34.6	48.0
24.3070	0.20	34.4	34.8	34.6	35.0	48.0

(Sample Calculation)

0.9900MHz Phase A

$$32.9 + 0.15 = 33.1 \text{ (dBuV)}$$

List of Measurement equipment**1. Field strength meter**

- | | |
|------------------|----------------------------|
| 1) Model No. | : ESVP |
| Serial No. | : 890371/ 8 |
| Manufacturer | : Rohde & Schwartz |
| Frequency range | : 25MHz - 1000MHz |
| Operation Mode | : CISPR Pub. 16 Band C & D |
| Last Calibration | : Aug / 1997 |
| How often | : Once a year |
| | |
| 2) Model No. | : ESH3 |
| Serial No. | : 882400/002 |
| Manufacturer | : Rohde & Schwartz |
| Frequency range | : 9KHz - 30MHz |
| Operation Mode | : CISPR Pub. 16 Band C & D |
| Last Calibration | : Nov / 1997 |
| How often | : Once a year |

2. Tuned Dipole Antenna

- | | |
|------------------|--------------------|
| 1) Model No. | : VHA-9103 |
| Manufacturer | : Schwartzbeck |
| Frequency range | : 30MHz - 300MHz |
| Last Calibration | : Aug / 1997 |
| How often | : Once a year |
| | |
| 2) Model No. | : UHA-9105 |
| Manufacturer | : Schwartzbeck |
| Frequency range | : 300MHz - 1000MHz |
| Last Calibration | : Aug / 1997 |
| How often | : Once a year |

3. Amplifier

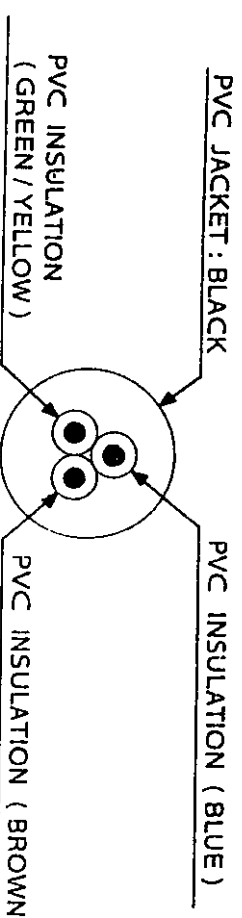
- | | |
|------------------|-------------------|
| Model No. | : 8447D |
| Serial No. | : 2727A05285 |
| Manufacturer | : Hewlett Packard |
| Frequency range | : 0.1- 1000MHz |
| Last Calibration | : Aug / 1997 |
| How often | : Once a year |

4. Line Impedance Stabilization Network

- | | |
|------------------|---------------------------|
| Model No. | : KNW-407 |
| Serial No. | : 8-559-4 |
| Manufacturer | : Kyoritsu Electric |
| Frequency range | : 150KHz - 30MHz |
| Specification | : 50 μ H, 50 Ω |
| Last Calibration | : Aug. / 1997 |
| How often | : Once a year |

[SPECIFICATION]

1. CABLE : Cross - section Area...1.0mm² X 3C
2. JACKET : PVC
3. ABILITY
 - (1) VOLTAGE : AC 250V
 - (2) AMPERAGE : AC10A
 - (3) TEMPERATURE : 60℃
4. REGULATORY APPROVALS : AS N / 12516 (PLUG),
AS N / 11411 (CONNECTOR)



CONSTRUCTION

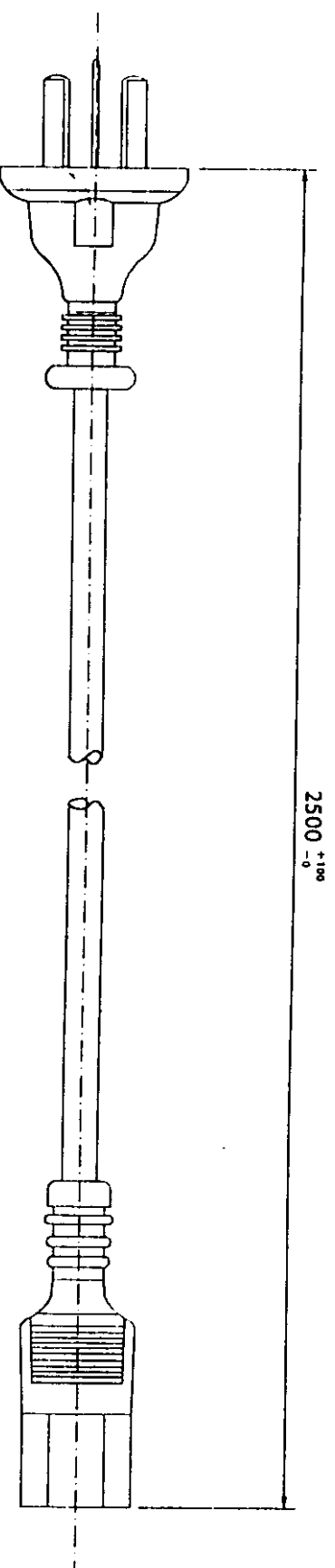
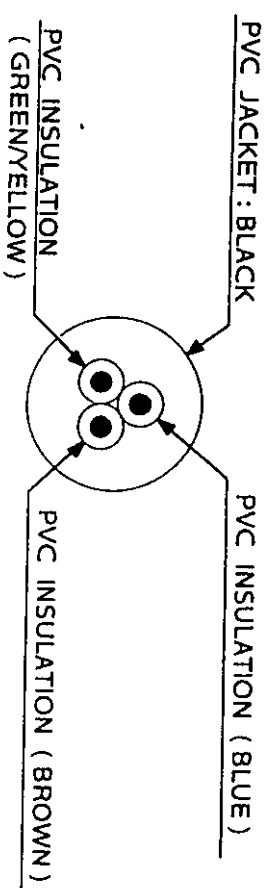


Fig. 5-4 AC POWER CORD (For AUSTRALIA)

[SPECIFICATION]

1. CABLE : Cross - section Area...1.0mm² X 3C
2. JACKET : PVC
3. ABILITY
 - (1) VOLTAGE : AC 250V
 - (2) AMPERAGE : AC 10A
 - (3) TEMPERATURE : 70°C
4. REGULATORY APPROVALS : CEBEC, KEMA, S, N, ÖVE, FI, D
NF-USE, VDE



CONSTRUCTION

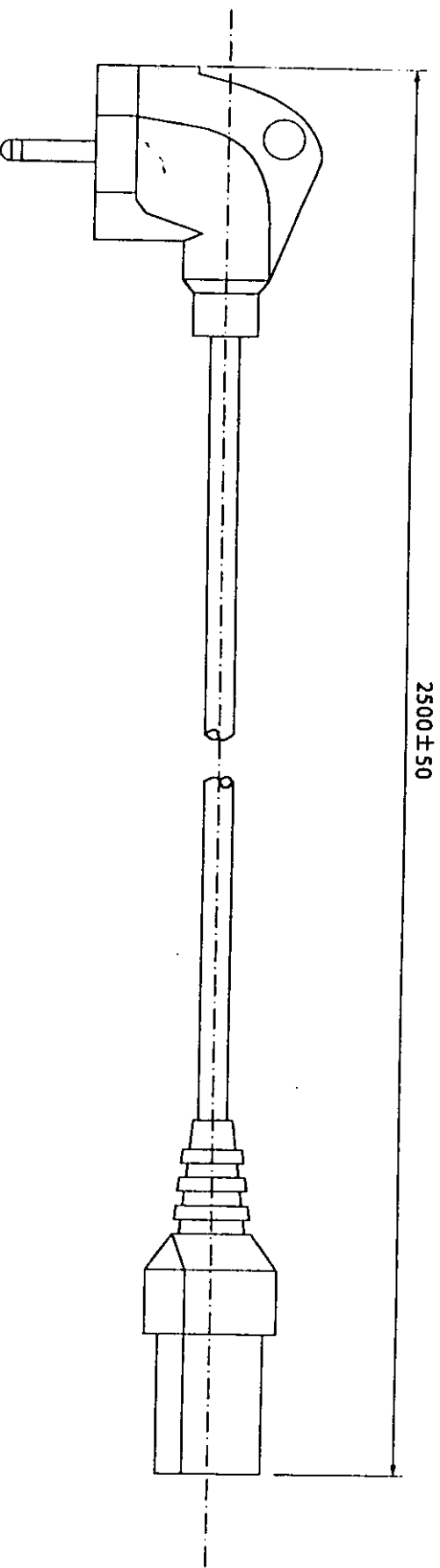
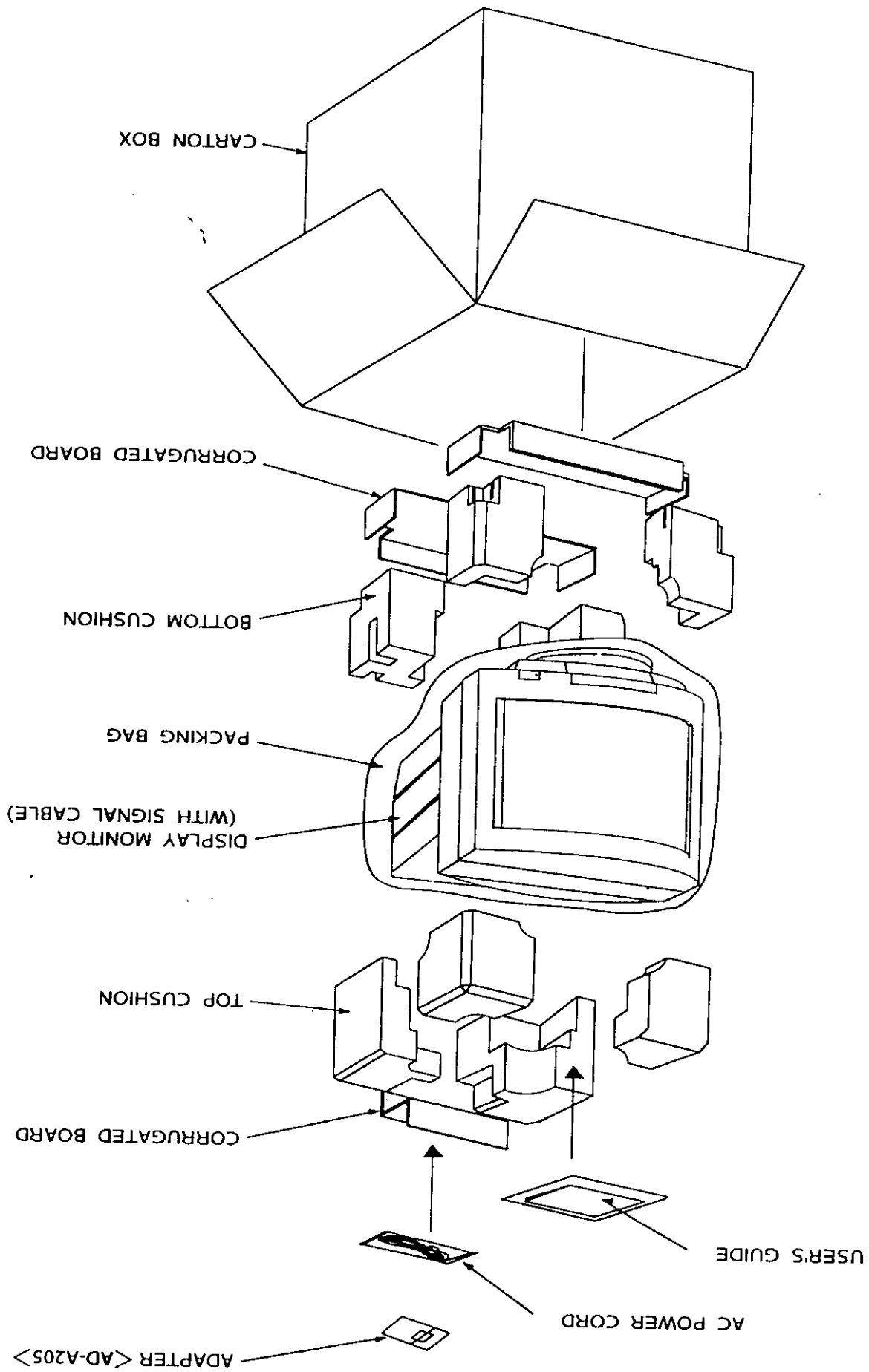
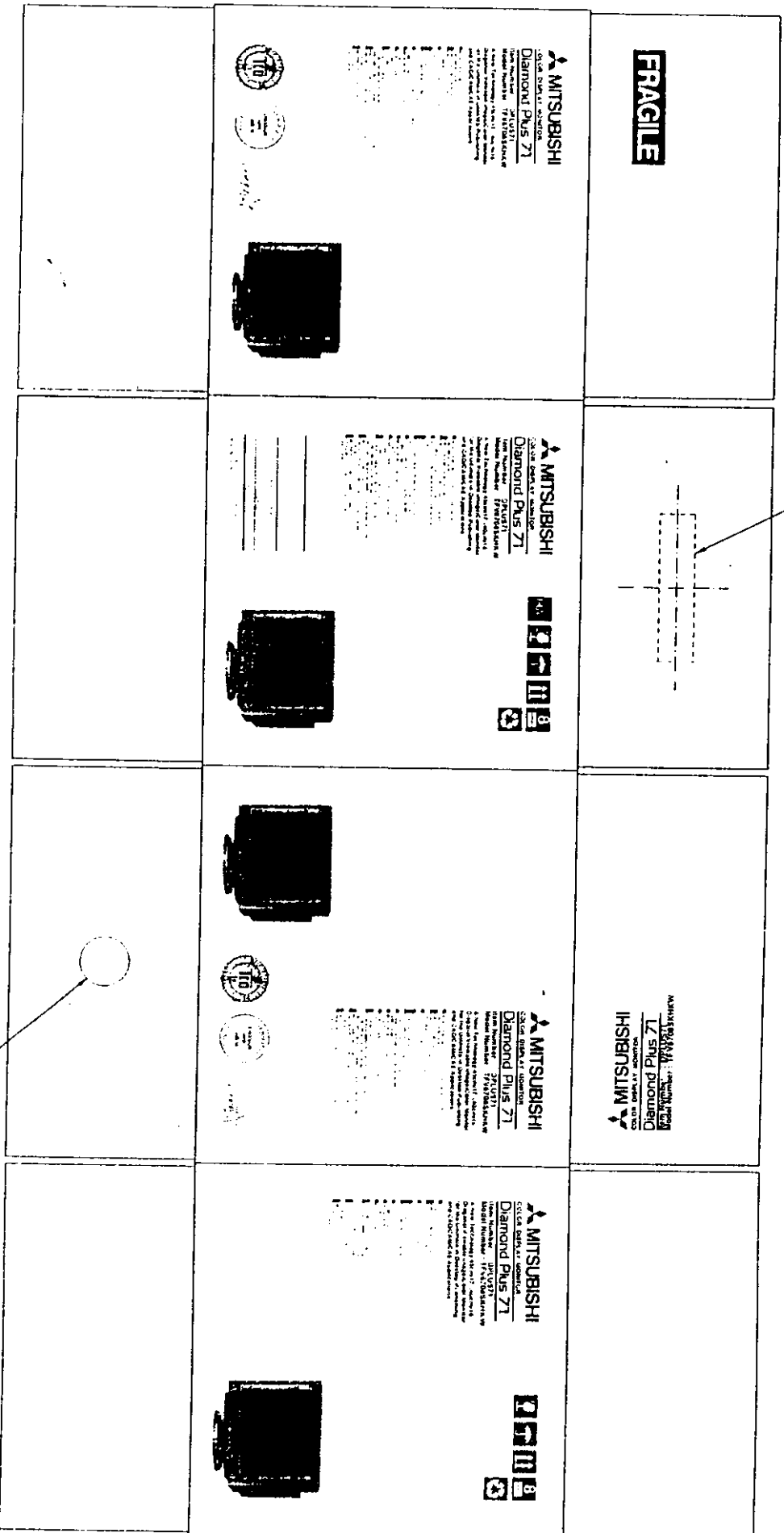


Fig. 5-2 AC POWER CORD (For GERMANY)

Fig. 4 PACKING STYLE



SERVICE CODE



FRONT

MARK OF BOX CERTIFICATION

- COLOR OF PAPER : KRAFT COLOR (BROWN BOX)
- COLOR OF PRINTING :  LOGO MARK, PETNAME RED
- OTHER BLACK

Fig.3-1 PRINTING SPECIFICATION OF CARTON BOX

4-R1

Model No. TFV6708SKHKW
100-120V ~ / 220-240V ~ 50 / 60Hz
1.2A/0.7A

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.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Beschleunigungsspannung maximal 28 kV Vorsicht Hochspannung !
Die in diesem Gerät erzeugten Röntgenstrahlen sind durch die eigensicheren
Kabinenstrahlkappe ausreichend abgeschirmt.

MEM



- Do not open this cover. Trained service personnel only
- Abdeckung nicht öffnen. Nur für Wartungspersonal

- Ne pas ouvrir ce carnet. Réserve du personnel autogère.
- 7-227048691220000-EMR161TF30).

CHANDLER FARM 7/27/15

MADE IN
MALAYSIA

 63.5 ± 0.5

· COLOR OF BACKGROUND : CABINET COLOR
· COLOR OF LETTERING : PANTONE COOL GRAY 10C

Fig. 2-1 RATING LABEL (For NORTH AMERICA, GERMANY and U.K. Version)

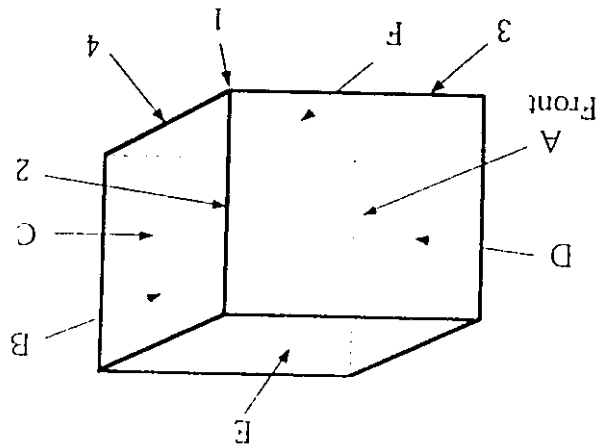
Appendix 2 EDID data for VESA DDC

TENTATIVE

Address	Description	Data	Address	Description	Data	Address	Description	Data	Address	Description	Data	Address	Description	Data
00	Header	00	43		01	86		01	86		01	20		20
01		FF	44	Standard Timing #1	01	87		01	87		20			20
02		FF	45		01	88		01	88		20			20
03		FF	46	Standard Timing #5	01	89		01	89		20			20
04		FF	47		01	90	Detailed Timing #3	00	90		00			00
05		FF	48	Standard Timing #6	01	91		00	91		00			00
06		FF	49		01	92		00	92		00			00
07		FF	49		01	93		00	93		00			00
08	[B] Manufacturer Name	31	50	Standard Timing #7	01	94		00	94		00			00
09		AC	51		01	95		00	95		00			00
10	[D] Product Code	40	52	Standard Timing #8	01	96		00	96		00			00
11		42	53		01	97		00	97		00			00
12	[D] Serial Number	XX	54	Detailed Timing #1	10	98		00	98		00			00
13		XX	55		27	99		00	99		00			00
14		XX	56		80	100		00	100		00			00
15		XX	57		30	101		00	101		00			00
16	Week of Manufacture	00	58		41	102		00	102		00			00
17	Year of Manufacture	Y	59		66	103		00	103		00			00
18	Edid Version	01	60		2D	104		00	104		00			00
19	Edid Revision	01	61		30	105		00	105		00			00
20	Video Input Definit	0C	62		2C	106		00	106		00			00
21	Max H Image Size	1E	63		80	107		00	107		00			00
22	Max V Image Size	17	64		33	108	Detailed Timing #4	00	108		00			00
23	Gamma	62	65		00	109		00	109		00			00
24	Feature Support	E8	66		2C	110		00	110		00			00
25	Red Green Low Bits	01	67		E1	111		00	111		00			00
26	Red White Low Bits	88	68		10	112		00	112		00			00
27	Red X	20	69		00	113		00	113		00			00
28	Red Y	57	70		00	114		00	114		00			00
29	Green X	1A	71		13	115		00	115		00			00
30	Green Y	9E	72	Detailed Timing #2	00	116		00	116		00			00
31	Blue X	26	73		00	117		00	117		00			00
32	Blue Y	12	74		00	118		00	118		00			00
33	White X	48	75		FD	119		00	119		00			00
34	White Y	1C	76		00	120		00	120		00			00
35	Established Timing #1	21	77		32	121		00	121		00			00
36	Established Timing #2	66	78		82	122		00	122		00			00
37	Manufacture Reserved	80	79		1E	123		00	123		00			00
38	Standard Timing #1	01	80		45	124		00	124		00			00
39		01	81		0C	125		00	125		00			00
40	Standard Timing #2	01	82		00	126	Extension Flag	00	126		00			00
41		01	83		0A	127	Check Sum	00	127		00			00
42	Standard Timing #3	01	84		20									
			85		20									

Position	Height	Corner	1	61cm (24 inch)
		Edge	2, 3, 4	61cm (24 inch)
		Surface	A, B, C, D, E, F	61cm (24 inch)

The inside unit shall be withstand without any damage by following procedure.
Drop to the hard wooden board from the position of the following heights.



7.3 Drop Test (with carton box)

6. Mechanical Specifications

6.1 Cabinet, Tilt / Swivel Base

Molded material	Cabinet : PPE/PS (Flame Class 5VA) Tilt /Swivel Base : ABS (Flame Class HB)
Cabinet color	Grayish-White (Mitsubishi Standard Color: B-N-C039)
Outline	see Fig.1
Tilt & Swivel	Right & Left : -90° to +90° Up & Down : 15° to 5°
Dimension	410mm (W) × 406mm (H) × 425mm (D) 16.1" (W) × 16.1" (H) × 16.7" (D) (include Tilt /Swivel Base, see Fig.1)

6.2 Rating Label

NORTH AMERICA, GERMANY and U.K. Version : see Fig. 2-1
AUSTRALIA Version : see Fig. 2-2

6.3 Carton Box

Paper Material	Kraftliner and lined corrugated board (Double wall)
Carton Box Print	See Fig.3-1 / 3-2
Dimension	535mm (W) × 530mm (H) × 575mm (D) 21.1" (W) × 20.9" (H) × 22.6" (D)
Packing Contents	see Fig.4

6.4 Weight

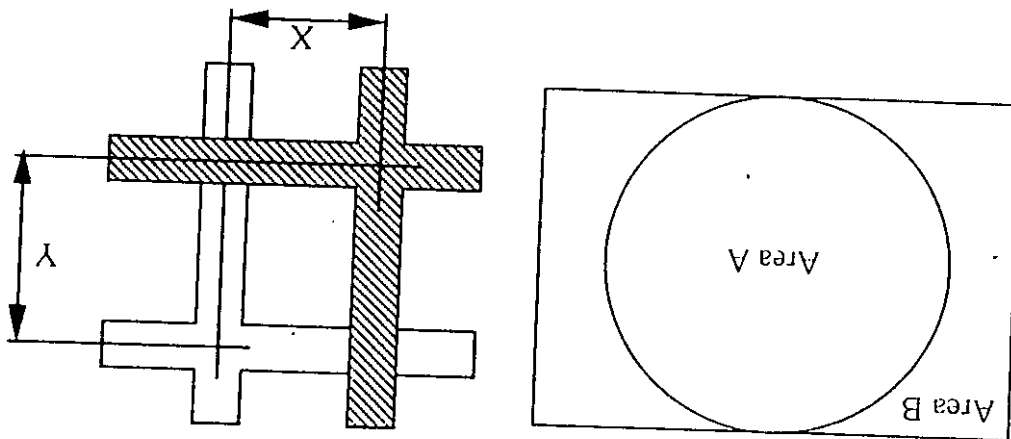
Net	approx. 22.5kg (49.6 lbs)
Gross	approx. 25.5kg (56.1 lbs)

6.5 Accessories

AC Power Cord	NORTH AMERICA : see Fig.5-1 GERMANY : see Fig.5-2 U.K. : see Fig.5-3 AUSTRALIA : see Fig.5-4
Macintosh-Adaptor	AD-A205 : see Fig.6
User's Guide	NORTH AMERICA version : English EUROPE version : 4 Languages (English, German, French, Italian)

5.10 Focus

Focus	Displaying 7 × 9 pixel "e" with white single pixel strokes, the entire screen shall be readable with clearly discernible characters.
-------	--



- With White-Crosshatch applied.
- Zone A is a circular area with 225mm diameter at the center.
- Zone B is a rectangular area (300mm × 225mm) outside of the zone A.
- Use worst case horizontal/vertical misconvergence between any two primary colors.

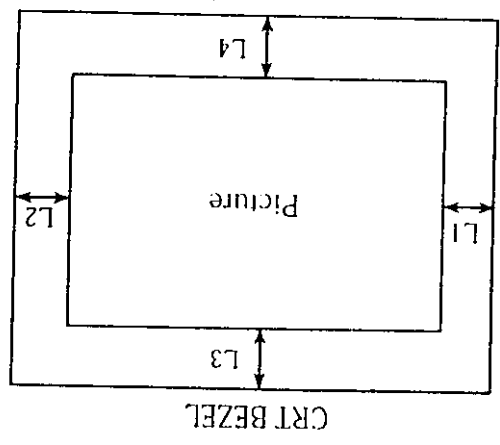
Misconvergence	Area A: $\leq 0.3\text{mm}$ within the 225mm diameter circle Area B: $\leq 0.4\text{mm}$ within 300mm × 225mm
----------------	--

5.9 Misconvergence

5.5 Display Centering

Centering	L1 - L2 ≤ 4mm, L3 - L4 ≤ 4mm
-----------	------------------------------------

- With Full-White applied.
- The active area is centered as follows for all factory preset timings in Appendix I.

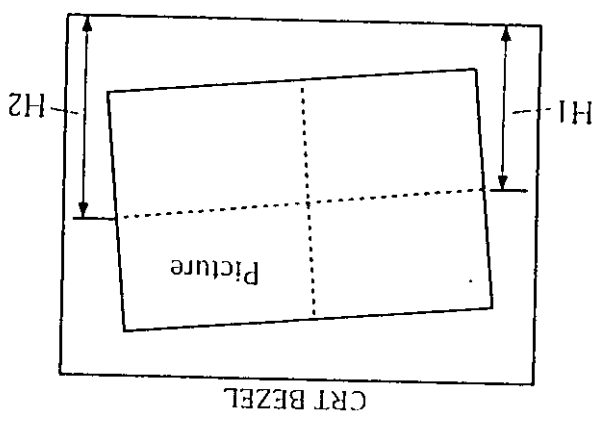


$| L1 - L2 | \leq 4 \text{ mm}$
 $| L3 - L4 | \leq 4 \text{ mm}$

5.6 Rotation

Rotation	H1 - H2 ≤ 2 mm
----------	------------------

- With Green-Crosshatch applied.
- The active display rotation is such that a horizontal line located at the center of the display is less than 2.0mm.



$| H1 - H2 | \leq 2 \text{ mm}$

· The monitor can distinguish the input signals by at least one of above conditions.

Horizontal Frequency	$\geq 1\text{kHz}$	H or V-sync signal polarity is different.
Vertical Frequency	$\geq 5\text{Hz}$	
Sync Signal Polarity		

Timing Descriminate Conditions

timings.

At the reservation timing, the display picture is expected to be within the CRT phosphor area. The display quality specification in the section 5. are not applied to the reservation

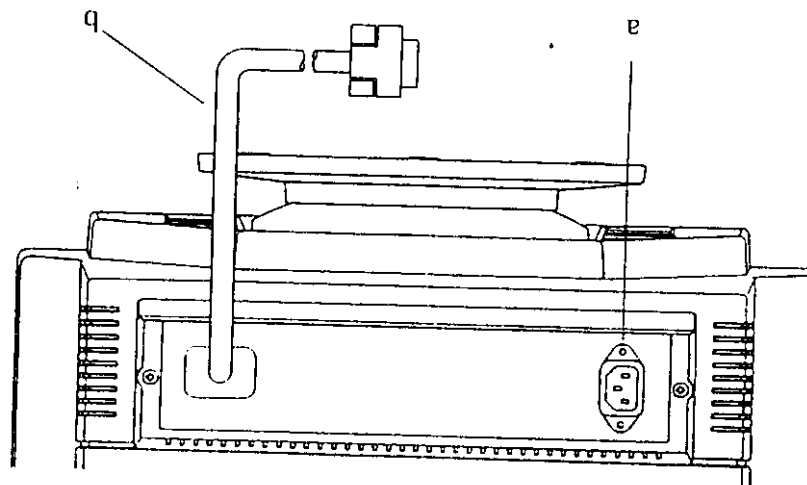
· Reservation timing is defined as follows :

- 4.6 Preset Timing
- Factory-preset : 8 (5 Reservation Timings) see Appendix 1 for detail timing parameters.
 - User-preset : 6

4.5 DDC (Display Data Channel) Functions

VESA DDCCI, DDC2B Compliance (EDID data only).

See Appendix 2 for EDID data.



4.3 Back Panel
 a : AC Power Connector (3P IEC Plug)
 b : Signal Input Cable with DB9-15P

- The Monitor requires minimum 15 minutes after last degauss operation for full degauss capability.

Auto Degaussing	The monitor have an automatic degaussing function which activates when the unit is turned on.
Manual Degaussing	This activates degaussing at the user's discretion after the unit is operating.

3.6 Degaussing

- Power saving function complies with the VESA DPMS (Display Power Management Signaling) standard, NUTEK and International Energy Star Program.

Mode	H-sync	V-sync	Video	Power Consumption	Recovery Time	LED Indicator
Normal	On	On	Active	<105W	—	On
Stand-By	Off	On	Blank	<80W	in an instant	0.5 sec Blink
Suspend	On	Off	Blank	<15W	3 sec	2 sec Blink
Off	Off	Off	Blank	<8W	12 sec	3 sec on / 1 sec off Blink

3.5 Power Saving

Input Voltage	100 - 120 / 220 - 240 VAC $\pm$ 10%
Frequency	50/60Hz $\pm$ 3Hz
Power Consumption	105W (1.2A: 100 - 120VAC, 0.6A: 220 - 240VAC)Rating
AC leakage current	$\leq$ 3.5mA
Inrush current (cold start)	$\leq$ 50A 0-p at 240VAC, $\leq$ 40A 0-p at 120VAC

3.4 Power Supply

2. CRT Specifications

CRT model no.	M41KZV31×31
Type	Diamondtron
Size	45cm / 40cm Diagonal Viewable Image (17" / 16" Diagonal Viewable Image)
Grille Trio Spacing	0.25mm
Deflection Angle	90 degree
Phosphor Type	P22 (Medium short persistence)
Electron Gun Type	P-NX ⁺ -DBF
Face-plate Transmission	38% (Include Face-plate coating)
Face-plate	K coating (Anti-reflection, Anti-glare and Anti-static)
Screen Phosphor Area	325.1 × 243.0 mm
Face-plate Curvature	H: R=1300mm, V: R=4000mm
Phosphor Color	R: X=0.625 ± 0.020, Y=0.34 ± 0.020 G: X=0.29 ± 0.020, Y=0.605 ± 0.020 B: X=0.15 ± 0.020, Y=0.07 ± 0.020
Coordinate	

■ Design and specifications are subject to change without any notice

7.	Environmental Conditions	
7.1	Temperature, Relative Humidity & Altitude	
7.2	Vibration Test	
7.3	Drop Test	
Appendix 1 Preset Timing Chart		
Appendix 2 EDID data for VESA DDC		
Fig. 1	Outline	
Fig. 2-1	Rating Label (For NORTH AMERICA, GERMANY and U.K. Version)	
Fig. 2-2	Rating Label (For AUSTRALIA Version)	
Fig. 3-1	Printing Specification of Carton Box	
Fig. 3-2	Features' Print of Carton Box	
Fig. 4	Packing Style	
Fig. 5-1	AC Power Cord (For NORTH AMERICA)	
Fig. 5-2	AC Power Cord (For GERMANY)	
Fig. 5-3	AC Power Cord (For U.K.)	
Fig. 5-4	AC Power Cord (For AUSTRALIA)	
Fig. 6	Adaptor (AD-A205)	