

# OPERATION MANUAL

## MAXI – SYNC

## C/N-20

20-inch High Resolution  
Invar Mask Color Monitor

	Page
1. PRECAUTIONS .....	2
2. CONTROLS .....	4
3. SPECIFICATIONS .....	5
4. TIMING CHARTS .....	6

**Ikegami**

## Information to user for FCC

**Warning** - This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested with a class A computing device and found to comply with the limits for a Class A computing device in accordance with the specifications in subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

## 1.PRECAUTIONS

### 1-1 Notice of High Voltage

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#### 高压注意

このセットの内部には高電圧が掛かっていますので、専門の技術者以外は内部に手を触れないで下さい。

#### CAUTION

**"TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE COVER NO USER SERVICEABLE COMPONENTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."**

#### ATTENTION

**"DE NE PAS ENLEVER LE COUVERCLE POUR ÉVITER LE CHOO ÉLECTRIQUE PAS DE PIÉCES UTILISABLES POUF LES UTILISATEURS CONFIEZ LE SERVICE A UN PERSONNEL QUALIFIE."**

#### ACHTUNG

**"ZUM SCHUTZ CEGEN ELEKTRISCHENSCHLAG ABDECKUNG NICHT ENTFERNEN IN INNERN KEINE FÜR DEN BENUTZER WART BARETEILE EINGRIFFE NUR OURCH SERVICE PERSONAL."**

### 1-2 Notice of Grounding

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#### 注 意

電源ケーブルの接地E (Earth) 端子は、安全に使用する為、必ず大地電位に接続して下さい。

#### CAUTION

**"TO AVOID ELECTRIC SHOCK, THE POWER CORD PROTECTIVE GROUNDING CONDUCTOR MUST BE CONNECTED TO GROUND."**

#### PRÉCAUTION

**"A FIN D'ÉVITER TOUTE COMMOTION ELECTRIQUE LE FIL DE TERRE ANTICHOC DU CORDON SECTEUR DOIT ÊTRE RELIE A LA TERRE."**

### 1-3 Notice of Main Voltage

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**注 意**

電源を投入する前に、AC電源電圧が規定値内である事を確認して下さい。

**WARNING**

**"BEFORE POWER ON, CHECK AND CONFIRM THE MAIN VOLTAGE IS WITHIN THE RANGE WHICH IS SHOWN BELOW"**

**AVERTISSEMENT**

**"AVANT DE METTEE L'APPAREIL SOUS TENSION V'ERIFIEZ SI LA TENSION DU SECTEUR SE THOUVE DANS LA GAMME CI-DESSOUS MONTREE."**

**ACHTUNG**

**"VOR DEM EINSCHALTEN SICHERSTELLEN DASS DER SPANNUNGSWAHLER AUF DIE UNTEN GEZEIGTE NETZSPANNUNG EINGESTELLT WURDE."**

**OPERATING VOLTAGE**

**USA/CANADA/JAPAN: 100-120Vac**

**EUROPE: 220-240Vac**

### 1-4 Notice of Display's Color for ZH-1 requirement (W.Germany)

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**WARNING**

**FOR ERGONOMIC REASONS, IT IS RECOMMENDED NOT TO USE THE PRIMARY COLOR BLUE ON A DARK BACKGROUND (BAD VISIBILITY STRAIN FOR EYES BECAUSE OF LOW CHARACTER CONTRAST).**

**VORSICHT**

**AUS ERGONOMISCHEN GRÜNDEN WIRD EMPFOHLEN, DIE GRUNDFARBE BLAU NICHT AUF DUNKLEM UNTERGRUND ZU VERWENDEN (SCHLECHTE ERKENNBARKEIT, AUGENBELASTUNG BEI ZU GERINGEM ZEICHENKONTRAST).**

### 1-5 Notice of Modification

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**注 意**

不当な改造等によって発生した障害については、すべて改造者の責任となります。

**CAUTION**

**IKEGAMI WILL NOT ASSUME ANY RESPONSIBILITY FOR DAMAGE CAUSED BY MODIFICATIONS PERFORMED BY UNAUTHORIZED PERSONNEL.**

**PRECAUTION**

**IKEGAMI N'ASSUME PAS AUQUNE RESPONSABILITÉ POUR DOMMAGES DOS ÁUNE RÉPARATURE OU TRAITEMENT NON-CONVENABLE.**

**VORSICHT**

**IKEGAMI UBERNIMMT KEINE HAFTUNG FÜR SCHADEN. DIE AUF UNSACHGEM'A'BE REPARATUR ODER HANOHABUNG ZURÜCKZUFÜHREN SINDO.**

### 1-6 Notice of Power Cord

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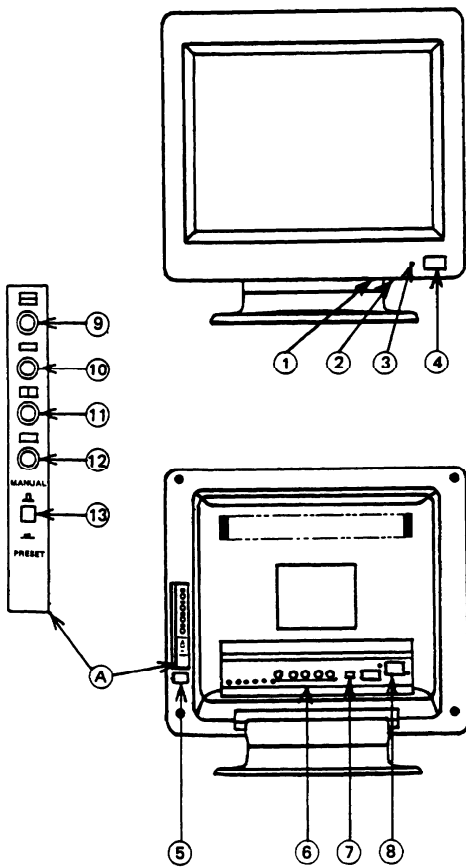
**WARNING**

**IF THE SET FAILS, UNPLUG THE SET AND CALL YOUR DEALER.**





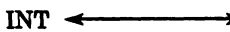
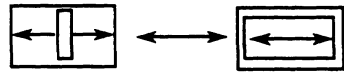
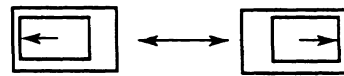
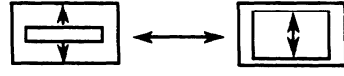
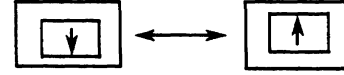


**VORSICHT**

**ZUR VOLLSTÄNDIGEN NETZTRENNUNG NETZSTECKER ZIEHEN.**

## 2. CONTROLS



\*1 The instrument has been designed to operate with an internal sync mode and the external sync modes. In the internal sync mode operation, sync signal is separated from G-channel of composite video signal.

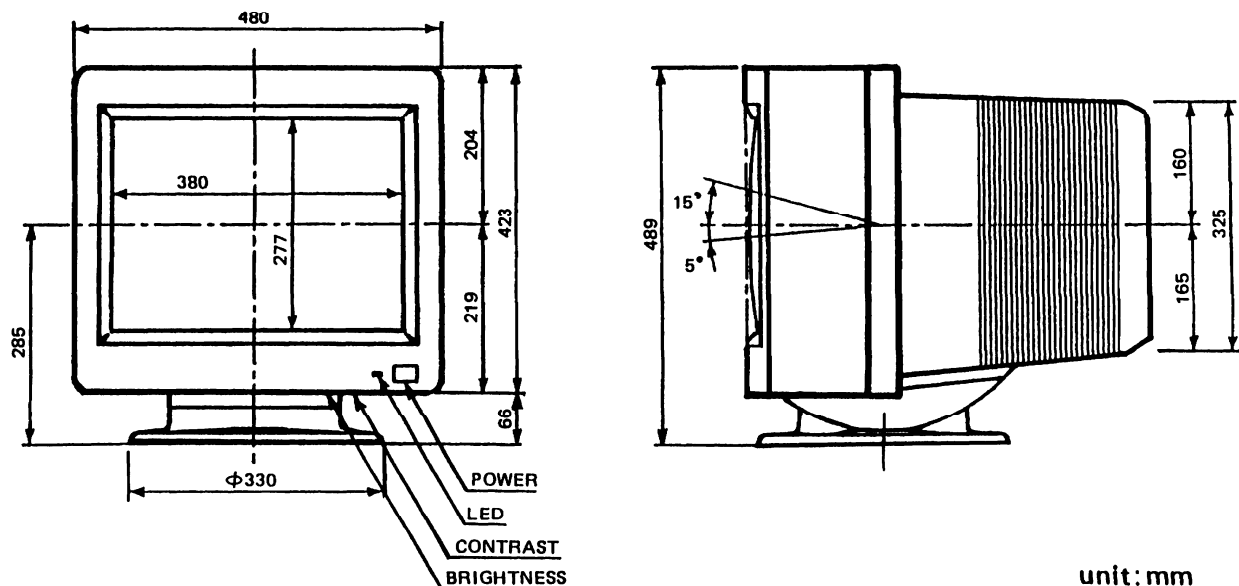
No. CONTROLS	ACTION
① BRIGHTNESS CONTROL	+  -
② CONTRAST CONTROL	+  -
③ POWER INDICATOR	Indicator of Power ON.
④ POWER SWITCH	 OFF,  ON
⑤ DEGAUSSING SWITCH	PUSH ON
⑥ BNC CONNECTORS	Accept RGB video signals and external sync signals
⑦ SYNC *1 SELECTOR	INT  EXT
⑧ AC INLET	AC power inlet.
⑨ WIDTH	 Horizontal size
⑩ H. PHASE	 Horizontal centering
⑪ HEIGHT	 Vertical size
⑫ V. CENT	 Vertical centering
⑬ MANUAL/PRESET SELECTOR	 MANUAL You can adjust the picture dimensions by using the controls ⑨ ⑩ ⑪ and ⑫  PRESET Four timings are preset at factory.

### 3. SPECIFICATIONS

#### 3-1 Specifications

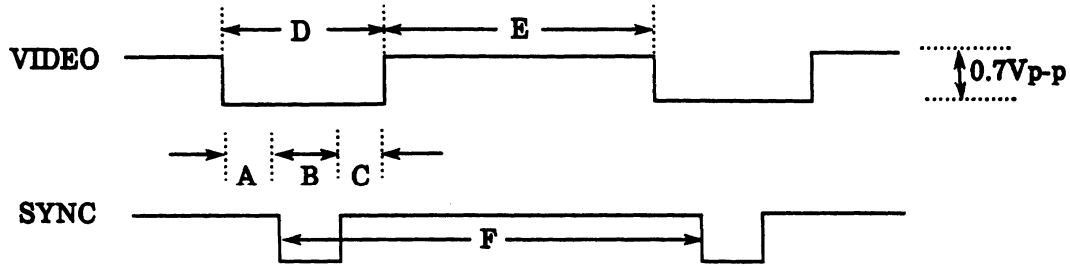
Rated voltage	100–120Vac/220 – 240Vac 50/60Hz (Range is selected by a internal switch at factory)
Power consumption	110W apporoximately
Color Display Tube	20 inch (19V) 90° In-line gun 0.31mm Dot pitch Anti-reflection panel
Horizontal frequency	45KHz–68KHz
Vertical frequency	50Hz–150Hz
Resolution	Up to 1280 dots by 1024 lines
Signal inputs	Red, Green and Blue analog video (0.7Vp-p, Positive) H/V Separate (4Vp-p, Positive/Negative) H/V composite (1–4Vp-p, Positive/Negative) or Sync on Green (G: 0.7Vp-p, Positive, S: 0.3Vp-p, Negative) Impedance: 75Ω for video and sync signal
User controls	Power switch, Degauss switch Contrast, Brightness Width, H.phase, Height, V.cent Manual/Preset selector Sync selector switch
Environment	0–40°C operating ambient temperature 10–90% relative humidity
Dimensions	480(W) × 489(H) × 526(D)mm
Weight	34kg approximately

#### 3-2 External appearance



unit: mm

**TIMING CHARTS**



A: Front Porch, B: Sync Period, C: Back Porch, D: Blanking Period E: Display Period, F: Total Cycle

**Mode A (48kHz)**

1024 Dot × 768 Line Mode

	Unit	A	B	C	D	E	F
H	μS	0.900	1.500	2.100	4.500	16.000	20.500
	Dot	58	96	134	288	1024	1312
V	mS	0.0615	0.0615	0.7995	0.9225	15.744	16.667
	Line	3	3	39	45	768	813

Frequencies : f<sub>d</sub>/64MHz, f<sub>H</sub>/48.78kHz, f<sub>V</sub>/60.00Hz

Interlace : Non

Sync Polarity : H/Negative, V/Negative

**Mode B (53kHz)**

1024 Dot × 768 Line Mode

	Unit	A	B	C	D	E	F
H	μS	0.730	1.333	2.380	4.444	14.222	18.666
	Dot	53	96	171	320	1024	1334
V	mS	0.00	0.1120	0.6720	0.7840	14.335	15.119
	Line	0	6	36	42	768	810

Frequencies : f<sub>d</sub>/72MHz, f<sub>H</sub>/53.57kHz, f<sub>V</sub>/66.14Hz

Interlace : Non

Sync Polarity : H/Negative, V/Negative

**Mode C (60kHz)**

1024 Dot × 768 Line Mode

	Unit	A	B	C	D	E	F
H	μS	1.000	1.000	1.800	3.800	12.800	16.600
	Dot	80	80	144	304	1024	1328
V	mS	0.0498	0.0498	0.4814	0.5810	12.749	13.330
	Line	3	3	29	35	768	803

Frequencies : f<sub>d</sub>/80MHz, f<sub>H</sub>/60.24kHz, f<sub>V</sub>/75.02Hz

Interlace : Non

Sync Polarity : H/Negative, V/Negative

**Mode D (64kHz)**

1280 Dot × 1024 Line Mode

	Unit	A	B	C	D	E	F
H	μS	0.410	1.500	2.000	3.910	11.600	15.510
	Dot	45	165	220	431	1280	1711
V	mS	0.0150	0.0470	0.7140	0.7760	15.894	16.870
	Line	1	3	46	50	1024	1074

Frequencies : f<sub>d</sub>/110.3MHz, f<sub>H</sub>/64.44kHz, f<sub>V</sub>/60.00Hz

Interlace : Non

Sync Polarity : H/Negative, V/Negative

Design and specifications subject to change without notice.

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