ATTACHMENT I. USERS MANUAL

USER GUIDE

IM765A

17" Multi-Sync Color Monitor

IMRI Co.,Ltd.

1. PREFACE

U.S.A.

U.S.FEDERAL COMMUNICATIONS COMMISSION

RADIO FREQUENCY INTERFERENCE STATEMENT

INFORMATION TO THE USER

NOTE : This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

. Reorient or relocate the receiving antenna.
. Increase the separation between the equipment and receiver.
. Connect the equipment into an outlet of a circuit different from that to which the receiver is connected.
. Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Connecting of peripherals requires the use of grounded, shielded signal cables.

CONTENTS

INTRODUCTION

Congratulations on purchasing our high quality performance color monitor, we are confident that you will be pleased with it.

We recommend that you take a few minute to read this manual in order to familiarize yourself with the full range of microprocessor controlled functions it features.

This 17" color monitor is an intelligent, flat screen, auto scanning monitor.
Its advanced microprocessor based, multi frequency design automatically adjusts to match the scanning frequency require by any application from general VGA use to professional CAD/CAM applications.

CONTENT CHECK LIST

Please check that all the parts listed below are contained in the carton, if not contact your dealer.

- Monitor(complete with tilt/swivel base)
- Detachable 15 Pin Video Signal Cable
- Detachable AC power cord
- Guarantee(Warranty) card
- OPTIONAL MACINTOSH adapter(only if ordered)

MONITOR FEATURES

⇔ 17 inch, 0.26mm, 0.28mm dot pitch, flat screen, high performance color monitor.

⇔ Antipastic or multi CRT coating eliminates static shock and helps keep screen dust free.

⇔ Auto frequency scanning range 30㎑ to 70㎑(horizontal) and from 50㎐ to 150㎐ (vertical).

⇔ Plug and Play is built in! Connect immediately to MS Windows 98.

⇔ Power Management System is environmentally friendly, saves energy costs and extends product life.(If your system does not feature energy saving modes this can still be enabled through standard software packages).

⇔ Auto switching power supply allows any AC power supply range of 96 to 264 volts (60/50㎐) to be used.

⇔ On Screen Display(OSD) system allows easy and accurate adjustment of screen controls.

⇔ Tilt and swivel base allows full adjustment to your specific requirements.

⇔ Unlimited colors, depending on your system video card.

⇔ Quality designed and built in.

SAFETY

WARNING!

THIS EQUIPMENT CONTAINS HIGH VOLTAGE COMPONENTS AND SUB ASSEMBLIES!

DO NOT ATTEMPT TO MODIFY OR SERVICE THIS MONITOR YOURSELF.

REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

IF, FOR WHATEVER REASON, THE MONITOR DOES NOT OPERATE ADJUST ONLY THOSE CONTROLS COVERED IN THIS USER MANUAL.

UNAUTHORISED ADJUSTMENT OF INTERNAL CONTROLS WILL INVALIDATE GUARANTEE, MAY RESULT IN ELECTRICAL SHOCK, LOSS OF MONITOR CONTROLS AND FUNCTION AND LEAD TO EXTENSIVE REPAIR WORK.

UNPLUG THE MONITOR FROM MAINS POWER IMMEDIATELY AND HAVE THE MONITOR SERVICED BY A QUALIFIED INDIVIDUAL OR COMPANY IF;

- LIQUID HAS SPILLED INTO THE MONITOR, OR THE MONITOR HAS BEEN EXPOSED TO RAIN
- IF THE MONITOR HAS BEEN DROPPED OR THE CASING HAS BEEN DAMAGED
- IF THE MONITOR EXHIBITS A DISTINCT CHANGE IN PERFORMANCE, INDICATING THE NEED FOR SERVICE.

WARNING! THIS MONITOR CONTAINS HIGH VOLTAGE COMPONENTS.

SAFETY (CONTINUED)

The following instructions are for your safety, please read them carefully.

Follow all of the instructions in this manual, or marked on the product.

Slots and ventilation holes must not be covered.

If you are unsure of the type of AC power available consult your local power company who will advise if it is safe to connect the monitor to AC main power. This monitor operates at AC voltages between 96 Volts and 264 Volts, 50 Hertz to 60 Hertz.

Do not place anything on the monitor or power cord.

Ensure all cords and leads are whole. Do not use leads or cords which are worn, cut or frayed. Ensure Cords and leads do not present a trip hazard and are positioned away from locations where they may be exposed to dampness or any type of fluid.

Do not use this monitor near water and ensure that appropriate steps are taken if fluid of any type enters the monitor cabinet.

Unplug the monitor from mains AC power before Cleaning.

Ensure the total loading of your AC power point is not exceeded by running too many electrical appliances from it.

RECOMMENDED USE

For optimum performance please note the following recommendations during set up and installation of your monitor.

◇ To avoid eye strain and fatigue do not use the monitor against a bright background, or where sunlight or other light sources shine directly onto the screen.

◇ Match the monitor's brightness to local light conditions and levels (see monitor controls and adjustment later in this guide for instruction).

◇ For optimum focus the contrast level should be kept below the maximum setting.

◇ Keep the monitor away from unshielded electrical equipment such as transformers, electric motors and unshielded speaker (for instance in a multimedia application).

◇ Place the monitor just below eye level for an optimum viewing angle and sit more than 18" from the screen.

◇ Although the monitor can be stored in a variety of temperatures and humidities it is best used in climatic conditions which you would be comfortable in. Do not operate the monitor below 0 degrees Centigrade, or above 40 degrees Centigrade. (for specific Temperature and humidity ranges see table A)

◇ Avoid operating/storing the monitor in dirty and/or dusty areas and only use it on reasonably flat and stable surface. Allow at least 4" (100mm) of open space around the monitor for air/ventilation flow.

If the monitor will not be in use for an extended period disconnect it from AC mains power.

INSTALLATION

Your Multi Frequency color monitor is designed to be connected to either an IBM/PC compatible computer or an Apple Macintosh computer system.

In either case your computer system will provide one of the following video configurations;

- the video controller is built into the computer
- the video controller is built into an add-in adapter card

Both configurations provide a video connector (or CRT port). Consult your computer system documentation to determine the location of the video connector.

STEP by STEP INSTALLATION and SET UP

1. Before connecting the monitor to your computer system switch the computer off.

2. Connect the Video Cable next by plugging the DS-15 pin end of the signal cable into your computer monitor port (CRT port). Tighten the integral screws tightly, hand tightening only is usually sufficient - do not over tighten using a screwdriver.

3. Either connect the supplied power cord into the power out port at the rear of your computer and then to the power in socket at the rear of the monitor.

4. OR connect a 3-pin earthen plug directly into an AC mains power socket and then into the power in socket at the rear of the monitor.

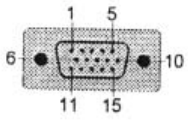
5. Turn on your monitor by pressing the power switch.

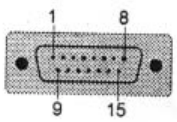
6. Switch your computer system on.

PIN ASSIGNMENTS

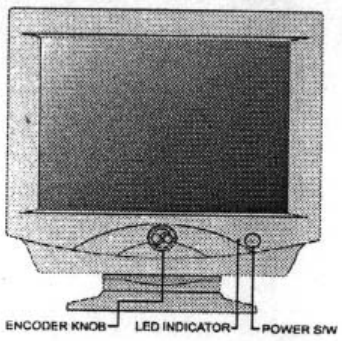
D-SUB SIGNAL INPUT (Female type : Figure)

Pin-No.	Both Ends of the Signal Cable (Figure 1)		Cable Adapter (Figure 2)
	Separate	Composite	Apple Macintosh
1	Red	Red	GND-R
2	Green	Green	Red
3	Blue	Blue	H/V-Sync.
4	GND	GND	Sense 0
5	DDC Return	DDC Return	Green
6	GND-R	GND-R	GND-G
7	GND-G	GND-G	Sense 1
8	GND-B	GND-B	Reserved
9	Reserved	Reserved	Blue
10	GND-Sync./ Self-Raster	GND-Sync./ Self-Raster	Sense 2
11	GND	GND	GND
12	DDC Data	DDC Data	V-Sync.
13	H-Sync.	H/V-Sync.	GND-B
14	V-Sync.	Not-Used	GND
15	DDC Clock	DDC Clock	H-Sync





CONTROLS and ADJUSTMENTS



Basic Controls

Power switch(S/W) : Press to turn Monitor ON and OFF.

LED Indicator : Normal operation LED is green.

Power save mode(s) LED is orange or orange/green blinks.

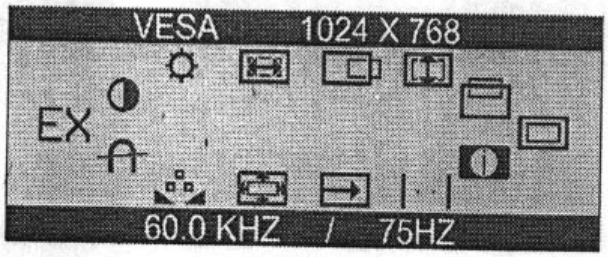
UP and DOWN : Use these adjustment controls to adjust the display image When an OSD(On Screen Display) Menu is being used.

Note : The monitor automatically saves display setting 0.5 to 1 second After the last adjustment.

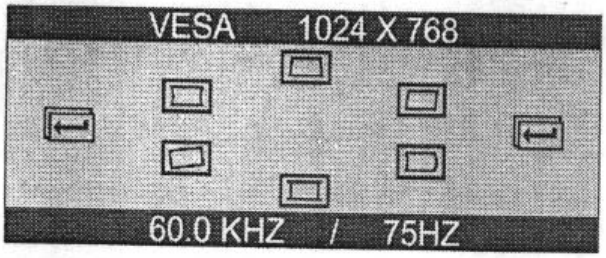
Microprocessor Controls

This Monitor employs advanced microprocessor controls for each of the standard timing signals listed in the timing charts later in this specification/service manual. This allows the Monitor to automatically adjust to various timing signals. Although the Monitor comes with preprogrammed factory settings the Monitor automatically saves user preference settings.

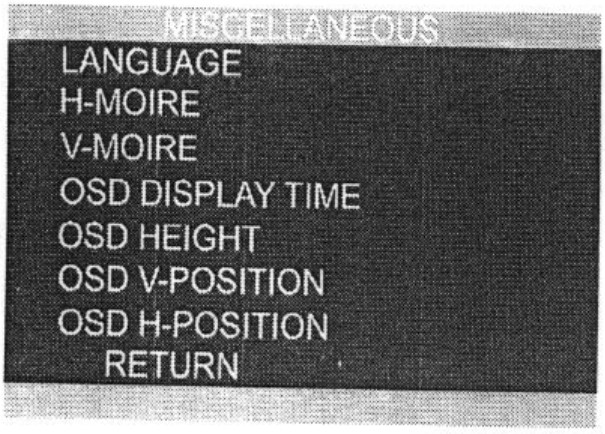
CONTROLS and ADJUSTMENTS



(Main OSD MENU)



(Sub OSD MENU : Inside ADV.CONTROL)



(Sub OSD MENU : Inside MISCELLANEOUS)

OSD (On Screen Display)

The OSD appears on the screen when a function/menu button is pressed.

The name, range and current setting of the specific control function selected is displayed. The OSD remains active for approximately 20 seconds after completing any necessary adjustments.

Menu and control function buttons

MAIN MENU CONTRAST, BRIGHTNESS, H-SIZE, H-POSITION, V-SIZE, V-POSITION ADV.CONTROL(With Sub OSD MENU), INFORMATION, MISCELLANEOUS(With Sub OSD MENU), RECALL, ZOOM CONTROL, COLOR CONTROL, DEGAUSS, EXIT Up → Turn to the right, Down → Turn to the left		
Contrast Press knob button to adjust the difference between dark and light display areas by turning up/down buttons	Brightness Press knob button to adjust overall display brightness by turning up/down buttons	H-size control Press knob button to adjust horizontal size by turning up/down buttons
H-position control (centering) Press knob button to adjust horizontal position by turning up/down buttons	V-size control Press knob button and turning up/down buttons to adjust Vertical size	Vertical position control (centering) Press knob button to adjust Vertical position by turning up/down buttons
ADV.control Press knob button and adjust geometry condition.	Information Press knob button to view video signal information	Miscellaneous Press knob button and choose the function. (with sub OSD Menu)
Recall Press knob button then the preset of all function for current mode will be recalled.	Zoom control Press knob button turning up/down buttons to adjust zoom size	Color control Press knob button turning up/down buttons to adjust display color (user & 6500° K & 9300° K)
Degauss Press knob button to demagnetize the CRT	Exit Press knob button then Make the OSD disappeared from the screen in state that the OSD is displayed.	

SUB MENU PINCUSHION, TRAPEZOID, PARALLEL, RETURN, PIN BALANCE CORNER PIN, ROTATION, RETURN		
Up → Turn to the right, Down → Turn to the left		
Pincushion Press knob button to adjust the correct vertical alignment sides of display turning up/down buttons	Trapezoid Press knob button and turning use up/down controls to correct any Trapezoidal display distortion	Pin balance Press knob button to adjust the correct center pin alignment turning up/down buttons
Return Press knob button then return to the Main Menu from the screen in state that the ADV.CONTROL	Pin balance Press knob button and turning up/down buttons to adjust Vertical size	Corner pin Press knob button to adjust the correct up/down corner side pin alignment turning up/down buttons
Rotation Press knob button to adjust the display rotation turning up/down buttons	Return Press knob button then return to the Main Menu from the screen in state that the ADV.CONTROL	

SUB MENU LANGUAGE, H-MOIRE, V-MOIRE, OSD DISPLAY TIME, OSD HEIGHT, OSD V-POSITION, OSD H-POSITION, RETURN		
Up → Turn to the right, Down → Turn to the left		
Language Press knob button and turning use up/down controls the language(English, Deutsch, Spanish, Italian, Portuguese)	H-moire Press knob button and turning use up/down controls to remove the horizontal display moire.	V-moire Press knob button and turning use up/down controls to remove the vertical display moire.
OSD Display Time Press knob button and turning use up/down controls select to OSD display time (3 to 15 sec.)	OSD Height Press knob button and to adjust OSD height by turning up/down buttons	OSD V-Position Press knob button to adjust OSD-Vertical position by turning up/down buttons
OSD H-Position Press knob button to adjust OSD-Horizontal position by turning up/down buttons	Return Press knob button then return to the Main Menu from the screen in state that the MISCELLANEOUS.	

POWER MANAGEMENT/POWER SAVE MODE(S)

If your computer system features a display power management function the IM766, IM768 Monitor, when signalled, enters power saving modes as detailed below.

When used with a computer system equipped with DPMS(VESA) this Monitor is EnergyStar compliant. If your computer does not feature display power management it is possible to source an optional DPMS software program.

Power saving modes greatly reduce power consumption when the computer system is temporarily out of use. Simply press any key or mouse button to return the Monitor display to normal operation.

	Normal Operation	Power Saving function EPA		
		standby	suspend	Power Off
H-Sync	Active	Inactive	Active	Inactive
V-Sync	Active	Active	Inactive	Inactive
Video	Active	Blanked	Blanked	Blanked
LED Colour	Green	Orange/Green Blinking(1sec)	Orange/Green Blinking(0.5sec)	Orange
Power Consumption	90 Watts (Max.)	60 Watts (Max.)	Less than 15 Watts	Less than 5 Watts

PLUG and PLAY

Our adoption of the new Microsoft Windows 95 Plug and Play solution eliminates the need for often complex and time consuming hassle add set-ups.

Your PC system identifies and configures itself to optimism and use the monitor to best effect using display data Channel (DDC) protocols and Extended Display Identification data(EDID).

If you wish you can select different settings but, in most cases, monitor installation is automatic.

CLEANING and CARE

WARNING! TURN OFF ALL COMPUTER SYSTEM AND MONITOR POWER BEFORE CLEANING THE MONITOR. THIS EQUIPMENT CONTAINS HIGH VOLTAGE COMPONENTS AND SUB-SYSTEMS!

To clean the monitor case lightly moisten a lint-free cloth with tepid (not warm) water.

If the case is heavily soiled a mild detergent (such as dishwashing liquid) may be used.

Gently wipe and dry odd the case being careful not to get water into the monitor.

The screen may be cleaned by carefully wiping it with a clean, dry (or barely moist) lint-free cloth or towel. Ensure that no liquid enters the monitor.

ON NO ACCOUNT SHOULD ANY CHEMICAL BASED CLEANER BE USED ON THIS MONITOR CASE OR SCREEN. SUCH USE WILL CAUSE DAMAGE AND INVALIDATE ANY AND ALL GUARANTEES.

TROUBLESHOOTING GUIDE

Your monitor will operate best in a clean environment free of contaminants such as dust, smoke, and carpet/material fibers. Excessive moisture or oil particles in the air can also hinder your system's performance.

Whenever possible position your monitor away from ground level to prevent dust/carpet fibers and dirt entering the ventilation ducts.

If your monitor is not performing correctly please refer to the guidelines below. On no account should you attempt to open the monitor casing and carry out repairs due to the risk of high voltage discharge - EVEN IN A SYSTEM WHICH IS NOT CONNECTED TO A POWER SUPPLY!

If the suggestions below do not solve the apparent malfunction refer to your dealer of an authorized repair/service centre.

- Make sure that the monitor is installed and set up correctly.
- Check power supply is on and fuse systems if fitted.
- Make sure that your computer system and any installed sub-systems or software are operating correctly.
- Inspect the monitor for the following
  - are any visible components broken or burned?
  - are all connection/power leads whole?
  - are all connectors securely fixed?

If all of the above are OK then carry out systemized checks as follows:

Power LED is not on

The monitor power switch is in the ON position.
The power cord is securely connected.
All fuse system (i. e. in the plug) have been checked
The power cords are not cut, frayed or broken.

Power LED blinks ORANGE/ GREEN (About 1sec.)

Check connected to the signal cable correctly (Computer)

Power LED On ORANGE or Power LED blinks ORANGE/ GREEN (About 0.5sec)

Check connected to the signal cable correctly (Computer)

TROUBLESHOOTING GUIDE - Continued

No picture - Image is unstable - Image is scrolling

Monitor power switch is in ON position.

- Computer power switch is in On position.
- Check power and data leads are connected to correct power and data/CRT /Monitor ports.
- Check power and data leads securely connected.
- Check connectors for bent pins.
- Is the monitor in power save mode? (If so simply press any keyboard key or mouse button to re-activate screen)
- Ensure (if applicable) the correct software drivers for your video card are installed.
- Check (if applicable) the video card is installed correctly.
- IF an optional Video Adapter Card is used ensure it is installed correctly

Image is fuzzy - Image is not adjusted correctly

- Adjust the appropriate monitor control(s) - see Controls and Adjustments section of this guide
- Adjust Contrast and Brightness for optimum focus.
- Degauss screen by turning monitor off, and on again after 2-3 minutes.

Image bounces or appears wavy

- Move any unshielded electrical devices from vicinity of monitor.

APPENDIX A SPECIFICATION

PICTURE TUBE	17" (43cm) Full square/Flat Face Tube, 90° deflection, 0.26mm, 0.28mm Dot pitch, Non-Glare, Antistatic Silica Coating, Semi-Tint, Invar Shadow Mask	
ACTIVE DISPLAY AREA	Horizontal:	306mm ± 5mm (4:3Ratio)
	Vertical:	230mm ± 5mm
SCANNING FREQUENCY	Horizontal:	30KHz to 70KHz (Automatic)
	Vertical:	50Hz to 150Hz (Automatic)
DISPLAY COLORS	Analogue input : Unlimited Colors	
MAXIMUM RESOLUTION	Horizontal:	1280 Dots
	Vertical:	1024 Lines
INPUT VIDEO SIGNAL	Analogue 0.7 Vp-p Positive at 75 Ohms	
INPUT SYNC SIGNAL	Separate Sync:	TTL Level Positive/Negative
	Composite Sync:	TTL Level Positive/Negative
MAXIMUM PIXEL CLOCK	110 MHz (-3dB)	
INPUT VOLTAGE	100 - 240 Volts AC, 60Hz/50Hz ± 3Hz	
POWER CONSUMPTION	90 Watts Maximum	
ENVIRONMENTAL	Operating Temperature 32° F to 104° F (0℃ to 40℃) Storage Temperature -4° F to 113° F (-20℃ to 45℃)	Humidity 10% to 80% Humidity 5% to 95%
DIMENSIONS/WEIGHT	Unit (D × W × H)	414.5× 414 × 432 (mm)
	Carton (H × W × D)	519 × 497 × 527 (mm)
	Weight (Unit + carton)	20Kg

Note: All designs and specifications are subject to change without prior notice

APPENDIX B SIGNAL TIMING CHART

No.	MODE NAME	RESOLUTION	H/V Frequency	Polarity	Remark
1	IBM VGA 2	720 × 400	31.469KHz 70.087Hz	(-) (+)	
2	IBM VGA 2	640 × 480	31.469KHz 59.995Hz	(-) (-)	
3	VESA	640 × 480	43.269KHz 85.008Hz	(-) (-)	
4	VESA	640 × 480	50.625KHz 100.05Hz	(+) (+)	
5	VESA	640 × 480	63.657KHz 120.11Hz	(+) (+)	
6	VESA	800 × 600	46.875KHz 75.000Hz	(-) (-)	
7	VESA	800 × 600	53.674KHz 85.061Hz	(+) (+)	
8	VESA	800 × 600	63.920KHz 100.03Hz	(+) (+)	
9	MAC	832 × 624	49.726KHz 74.554Hz	(-) (-)	
10	VESA	1024 × 768	60.023KHz 75.029Hz	(+) (+)	
11	VESA	1024 × 768	68.677KHz 84.997Hz	(+) (+)	
12	VESA	1152 × 864	67.500KHz 75.000Hz	(+) (+)	
13	VESA	1280 × 1024	63.981KHz 60.020Hz	(+) (+)	