TABLE OF CONTENTS

Important   Safety Instructions

1. Read the manual carefully before using the monitor.
2. Save these user manual for later use.
3. Unplug the monitor from the power source when you clean the monitor. Don't use liquid cleaners or aerosol cleaners. Use cloth to clean it. If it doesn't do, please use LCD screen cleaners.
4. Don't use attachment not recommended as they may cause hazards.
5. Please grasp the plug to unplug the connector from the wall outlet. Don't pull the power cord to unplug it.
6. Don't place anything on the power cord or step on it.
7. Don't place the monitor near water source such as bathtub, washbowl, sink, laundry tub, swimming pool etc.
8. The slots are designed for ventilation, simultaneously to keep the machinery workable and protect it from overheating. For the same reason, please do not place the monitor on the bed, sofa, carpets or other similar surface. Don't place the monitor near or over heat source or place in built-in installation.
9. Keep 5 cm away from the wall or other goods.
10. This monitor can only use the power source indicated on the label. If you have questions, please consult your dealer.
11. As safety measure, this monitor is equipped with a three-wire ground style plug. If you can't insert the plug into outlet, contact your electrician to replace your outlet. Don't defeat the safety purpose of the grounding-type plug.

12. Please make sure that the outlet and power cord can afford the total electricity of the products.
13. Place the monitor in safe place where the cord will not be abused by persons working on it.
14. Follow all the warnings and instructions illustrated on the manual.
15. Don't overload the wall outlets and extend cords as this can result in fire or electric shocks.
16. Don't remove or open the cover to service this monitor yourself. It may expose you to dangerous voltage or other hazards before all servicing to qualified service personnel.
17. Unplug this monitor from the outlet and refer service to qualified service personnel under the following conditions.
    ● The power cord is frayed or damaged.
    ● The monitor has been dropped or the cabinet has been damaged.
    ● When the monitor displays a distinct change in performance, this indicates a need for service.
18. The power cord is the main device to disconnect the power.
19. Unplug the power cord when you do not use it for a long time.
20. Place the monitor in good ventilation and protect it from strong light, overheating and damp environment
21. This monitor must be stored in temperature -20℃～55℃. Otherwise, it may cause permanent damage.

1. Introduction

1.1 General Information
This monitor is a high-performance intelligent multi-scanning color monitor. It is with 15" TFT LCD screen and MCU digital control without radiation and glary. The shape is tiny and thin adapting to small places, save your more place.

1.2 Features
- The best working mode:$1024 \times 768@60Hz$
- Viewable angle: H, 120° V, 100°
- Active area: 304.128 mm$\times$228.096mm
- Pixel pitch: 0.297mm$\times$0.297mm
- Max.Brightness: 250cd/m^2
- Max.Contrast: 450:1
- Response time t_r/t_f:4/12ms
- Color:16.7M
- Power saving compaliant with EPA energy star and VESA DPMS.
- Auto color balance. When connected to different graphic adapter, the monitor can calibrate the white and black reference voltage.
- Plug & play, compatible with Windows9X&ME&NT&2000&XP and VESA DDC1/2B.

1.3 Check the list
Please make sure that all of the following items are included before operating this monitor.
- ■ LCD monitor(include base)
- ■ AC adapter(optional)
- ■ Power cord, VGA signal cable, DVI-D signal cable(optional), audio cable (optional)
- ■ User's manual, pass certificate, warranty certification

3

If any of above listed items are missing, please contact your dealer for technical support.

2. Installing the monitor

Please consider the following advice before you install your monitor.
● **Position**
Choose a place that reflects less to place your monitor. Generally, there is a suitable angle with a window.
● **Highness**
The peak of the monitor should be a little lower than your eyes when you sit down.
● **Inclination**
You will feel comfortable with the sloping screen.

Fig.1（M05-15）

M06 series:Take the monitor from the carton, fix base and knighthead with screw.
● VESA Hanging style
The client may put the monitor on the wall. If you use the style, you need purchase the hanging
subassembly which accords with VESA standard. Operation as these [as Fig.4]:
(1) Take apart the plastic cover of axis of rotation, screw three bolts .
(2) Clean up the signal cable, power cord and audio cable (optional).
(3) Fix hanging subassembly on the back cover to hang up the monitor on the wall.

Fig.2   Fig.3   Fig.4

2.2 Signal cable connection

Plug one connector of the signal cable into the VGA or DVI port and lock the two bolts to ensure firm
grounding. Then plug the other one into the monitor and lock the two bolts.

2.3 Power cord connection

Plug one side of the power cord into the AC adapter and the other side into AC power source outlet, then plug the output side of the AC adapter into the power port at the side of monitor.

2.4 Power on

Switch on the power to both the monitor and your computer.After the monitor is power on, the LED lights up green or blue. If the LED becomes red and flashing, please check the video signal cable connection.If the LED is off, please press power switch slightly.

2.5 Audio cable connection(optional)

Plug one side of the audio cable into the PC audio port, then plug the other side into the audio port of the monitor.

2.6 Self test pattern

If there is no horizontal or vertical sync.signal, your monitor will display Fig.5 to Indicate no signal input.After a few seconds, the monitor will come into waiting and saving power mode; if the monitor receives the video signal, it will return to the normal mode.

(LOGO)

NO SIGNAL INPUT
PLEASE   CHECK
VIDEO   SIGNALS

Fig.5

+
–
Power
LED Indicator
–
AUTO
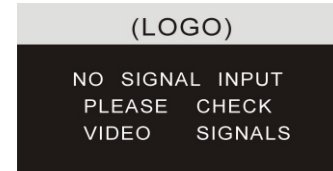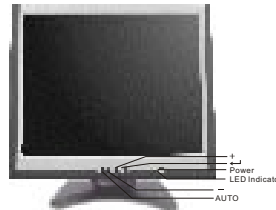
Fig.6

2.7 Adjust the picture

In order to obtain the best visual display, you need adjust it, please refer to chapter 3 " the Operation of the monitor ".

3. Operation

OSD control panel

Fig.6 is M05-15 series model elevation. Other models differ in key-press position and front panel.

3.1 Power on/off switch

This is a slight touch digital control key. It is used to turn the monitor on or off.

3.2 Power LED indicator

When the monitor is working, the power LED is green or blue. If the monitor is in saving power mode, the power LED will be red and flashing. If you turn off the monitor, the power LED will be off. When the LED is off, the monitor is off, but the power adapter is on. In order to security, you should turn off power adpater while you don't use the monitor.

3.3 OSD control keys

3.3.1 Auto key

This key is used to complete auto- adjusting function, it makes the monitor to be the best visual display status in VGA mode.

3.3.2 +/- key

These two keys can complete the navigate right or left and choose the control of the menu function. The adjustment value can be set directly by +/- key.

3.3.3 ↵ key

Confirmation key can show the menu and complete the confirmation function.

3.4 OSD menu

3.4.1 The meaning of the menu in VGA mode [as Fig.8]:

1. auto adjustment
2. brightness
3. contrast
4. H-position
5. V-postion
6. clock
7. phase
8. signal source
9. color adjustment
10. volume (optional)
11. sharpness
12. OSD position/transparence
13. recall
14. language
15. exit
16. selected function name
17. resolution
18. H-frequency
19. V-frequency
20. progressive bar of adjustment
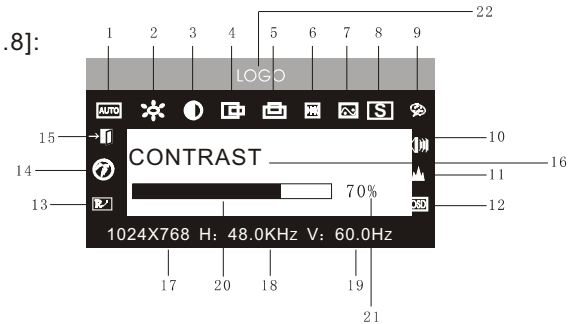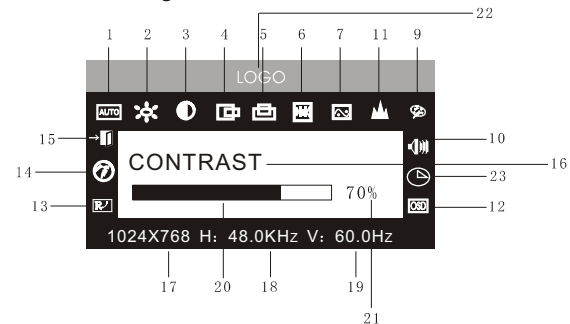21. percentage of adjustment
22. customer LOGO
23. OSD display time

Fig.7 （DVI MODEL）

Fig.8 （VGA MODEL）

3.4.2 The meaning of the menu in DVI mode [as Fig.9]

1. brightness
2. contrast
3.sharpness
4. volume(optional)
5.OSD menu display time
6. transparence
7.OSD position
8. signal source
9. 9300k
10. 7800k
11. 6500k
12. User
13. Recall
14. Language
15. Eixt
16.selected function name
17. resolution
18. H-frequency
19. V-frequency
20. progressive bar of adjustment
21. precentage of adjustment
22. customer LOGO

Fig.9

Fig.10

Fig.11

9
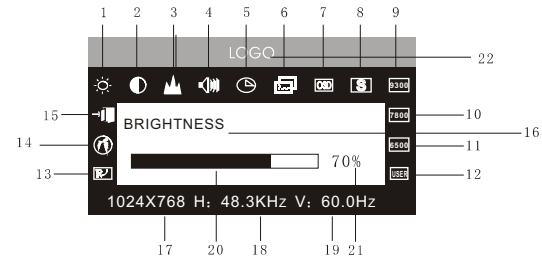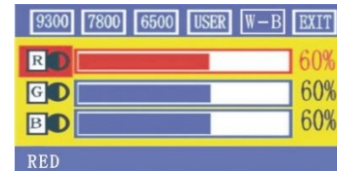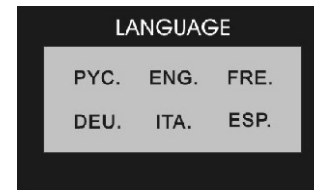
3.4.3 Function table

	Display contents	Function
AUTO	Auto adjustment	Automatically adjust to obtain the best setting
✳	Brightness	Adjust the brightness
◑	Contrast	Adjust the contrast
▣	H-position	Move the screen toward left or right
▥	V-position	Move the screen toward upward or downward
▦	Clock	Adjust the frequency of pixel
▨	Phase	Adjust the phase of pixel clock
⊥	Sharpness	Adjust the sharpness of the picture
✇	Color	Adjust the colors of the picture
9300	9300K	Set 9300K color temperature
7800	7800K	Set 7800K color temperature
6500	6500K	Set 6500K color temperature
USER	User mode	Set user mode
W-B	Auto color balance	Auto color balance
◀⑾	Volume	Adjust the volume
⊙	OSD display time	Adjust the OSD display time
▥	OSD adjustment	Adjust the parameter of OSD
◀OSD▶	OSD H-position	Move the menu toward left or right
OSD	OSD V-position	Move the menu toward upward or downward
▢	OSD transparency	Setting OSD transparency
Ⓢ	Signal source	Exchange signal mode between VGA and DVI
℞	Recall	Reset factory setting
❼	Language	Language selection
→◖	Exit	Exit the menu

3.4.4 Special function

1. Color adjustment( ): when the function is selected, the monitor will come into the sub-menu[as Fig.10], there are five functions that can be selected: a,9300k; b,7800k; c,6500k; d,USER; e,W-B.Selecting USER, you will enter user mode and you can make adjustment to R/G/B values to obtain your satisfying color;Selecting W-B, it will enter color balance mode, and the monitor will automatically adjust the white-black color reference voltage to obtain optimal color balance.

2. R/G/B adjustment(R G B): In "USER" mode, the monitor will automatically enter R/G/B adjustment mode, push " ↵ " key, the relative options will flash, then adjust it by "+/- " key. Then push "↵ " key again to exit.

3. Language( ).
There are six languages to select [as Fig.11].
ENG.: English
FRE .: French
DEU .: German
ITA .: Italian
ESP .: Spanish
PYC .: Russian(TUR.:Turkish or POR.: Portuguese)

4. Position of OSD menu(OSD): When you select the item, you can adjust H-position and V-position of OSD menu and transparence [as Fig.12:VGA、Fig.13:DVI].
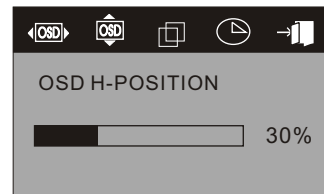
OSD H-POSITION
30%

Fig.12 VGA

OSD H-POSITION
30%
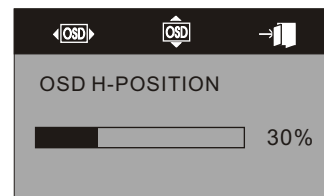
Fig.13 DVI

5.Sharpness adjustment(▲): Adjust the sharpness of the picture on the scree.

3.5 Safety mode

When the video signal exceeds the frequency range of the monitor, the monitor MCU will stop horizontal and vertical scanning in order to protect the monitor. Fig.14 will be display on the screen. After a few seconds, the monitor will enter turn-off mode. You need restart the computer and reset the frequency range.
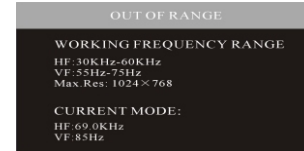
Fig.14

3.6 Timing guide

NO.	Mode	Resolution	V-Frequency	H-Frequency	Available Input Signal
1	VGA	720X400	70Hz	31.5KHz	Analog RGB
2		640X480	60Hz	31.35KHz	Analog RGB ,Digital DVI
3			72Hz	37.9KHz	Analog RGB
4			75Hz	37.5KHz	Analog RGB
5	SVGA	800X600	60Hz	37.9KHz	Analog RGB ,Digital DVI
6			72Hz	48.1KHz	Analog RGB
7			75Hz	46.9KHz	Analog RGB
8	XGA	1024X768	60Hz	48.4KHz	Analog RGB ,Digital DVI
9			70Hz	56.5KHz	Analog RGB
10			75Hz	60.0KHz	Analog RGB

Recommended mode: 1024×768@60Hz

3.7 Plug & Play

This monitor meets the standard of VESA DDC. When using video card with VESA DDC1/2B, it will auto-scan video frequency, output power, function and other data to PC when computer is on. It will go to proper connection mode and proper resolution frequency.

3. 8 Power management

This monitor complies with EPA energy star requirement and meets VESA DPMS standard. The following is the description of the power indicator for the power saving mode [as Fig. 15].

MODE	Power indicator	Power consumption
On	Green or blue	<30W
Stand by/suspend	Red flashing	<5W
Off	Off	<3W(include power adapter's consumption)

Fig.15

3.9 Volume adjust

Adjust the volume by OSD menu and software of the PC.

4. Specification

Monitor type	TFT LCD
Surface disposal	Anti glary
Active area	304.128mm×228.096mm
Viewable angle： H V	 120° 100°
MAX. Brightness	$250cd/m^2$
MAX. contrast	450:1
Response time t_r/t_f	4/12ms
Max. resolution	1024×768
Input resistance	75±3％Ω
H-frequency	30KHz～60KHz
V-frequency	55Hz～75Hz
Power supply for Adapter	100V-240VAC 60Hz/50Hz
Power supply for monitor	12VDC 3.3A
Rated voltage and MAX.Consumption	12VDC 30W
Input connector	15 pins D-Sub or DVI-D
Power saving control	Yes
Comply with EPA energy star standards	Yes
Comply with European CE	Yes
Plug & Play	Yes

Environment Atmosphere pressure Operating temperature Humidity Storage temperature Humidity	86kpa～104kpa 5℃～40℃ 10%～85% −20℃～55℃　5%～95%
Dimension(L×W×H) Unpacking (M05-15)	$360 \times 150 \times 350mm^3$
Weight Net weight (M05-15)	3.5kg

Note：　This specification is subject to change without notices.

5. Simple troubleshooting

Symptom	Solution
1.No picture / no LED	Check if the power cord, the monitor, and the power plug are well connected Check if the monitor is off.
2.No picture / LED red flashing	Check if the PC video card and signal cable are well connected and check if signal cable well connected with monitor.
3.Picture faintness, too big or small	In OSD menu, select " [AUTO] " to make the monitor adjust automatically.
4.Picture too dark	Push " ＋ / － " key to adjust contrast and brightness.
5.Overheating	Keep 5cm away from other goods for ventilation. Don't put anything on the monitor.
6. Bright or dark spot	It's normal phenomena. Eliminate the bright or dark spot in 20 minutes after turning on the monitor.
7.Picture distortion and flicker	Check the PC setting, select the proper resolution and adjust refresh frequency.
8.Short of color	Check if the signal cable pins are twisting or broken.
9.Noise Signals Turning off	There may be noise signals during turning off the monitor. This is caused by electrical release and so is normal.

Touch Panel Specification

1. Suitability

This specification suit analog resistance touch panel. Which used in LCD module.

2. Apply To Specification

2.1. Surface Hardness: 3H
2.2. Optical Clarity: 80%↑
2.3 Operating Temperature: -10℃ ~ 60℃
2.4 Endurance Test strikes: Over 1 million
2.5 Operating Voltage: DC5V
2.6 Resistance: 200Ω ~ 900Ω
2.7 Linearity: 1.5%
2.8 Faceplate Surface: Anti-glare coating
2.9 Operation Pressure: 15 ~ 70g
2.10 Storage Temperature: -20℃ ~ 70℃
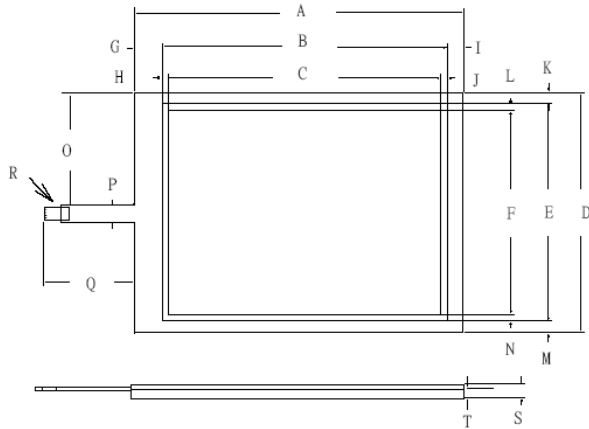2.11 Message Noise: 5 m sec ~ 15 m sec
2.12 Operating Current: 5mA ~ 25mA
2.13 Isolation Resistance: 20MΩ↑   @DC25V

3. Dimension Size

Refer diagram I

A,D	TOUCH PANEL OUTSIDE
B,E	VIEW AREA
C,F	ACTIVE AREA

4. Optical Performance
Light transparency should keep above 80%↑ under the visible wave when the wave length is 550nm

5. Electrical Performance
5.1 Connector Resistance
300Ω < X Axis <900Ω
200Ω < YAxis <800Ω

5.2 Insulation Resistance
20MΩ↑ @ DC 25V

5.3 Electrostatic Endurance
No abnormal appearance after 10kv, 100Ω , 250PF electrostatic used.

5.4 Linearity
X Axis: 1.5%↓
Y Axis: 1.5%↓

5.5 Operating Voltage
3V ~ 12V DC

5.6 Operating Current
5mA ~ 25mA

6. Environment Test

6.1. High Temperature Test
after putting panels at 70℃ for 240 hours, then leaving for 24 hours at room temperature.
A. Resistance between leads
300Ω < X Axis <900
200Ω < YAxis <800
B. Linearity
X Axis : ±1.5%↓
YAxis : ±1.5%↓
C. Insulation Resistance
20MΩ↑ @ DC25V

6.2. Low Temperature Test
after putting panels at -20℃ for 240 hours, then leaving for 24 hours at room temperature.
A. Resistance between leads
300Ω < X Axis <900
200Ω < YAxis <800
B. Linearity
X Axis : ±1.5%↓
YAxis : ±1.5%↓
C. Insulation Resistance
20MΩ↑ @ DC25V

6.3. Temperature and Humidity Test
after putting panels at 40℃ ,90%RH for 240 hours, then leaving for 24 hours at room temperature.
A. Resistance between leads
300Ω < X Axis <900
200Ω < YAxis <800
B. Linearity
X Axis : ±1.5%↓
Y Axis : ±1.5%↓
C. Insulation Resistance
20MΩ↑ @ DC25V

6.4 Repetition of High and Low Temperature and Test
after putting panels at the condition of -20℃ for 30 minutes and then 70℃ 85%RH for 30
minutes and this process is repeated by 20 cycles , then leaving for 24 hours at room temperature.
A. Resistance between leads
300Ω< X Axis <900
200Ω< YAxis <800
B. Linearity
X Axis : ±1.5%↓
YAxis : ±1.5%↓
C. Insulation Resistance
20MΩ↑ @ DC25V

70 ℃ 85%RH
-20 ℃   -20 ℃
30min 30min 30min 30min
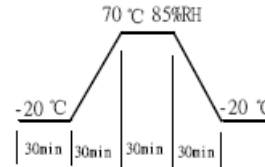
6.5 punching life
After punching 1,000,000 times with the R8.0 silicon rubber Force: 60g, Speed: 5/sec
A. Resistance between leads
300Ω< X Axis <900
200Ω< YAxis <800
B. Linearity
X Axis : ±1.5%↓
YAxis : ±1.5%↓
C. Insulation Resistance
20MΩ↑ @ DC25V

φ 9mm
30 cm
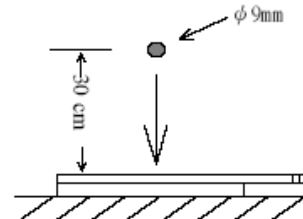
6.6 Impact Resistance
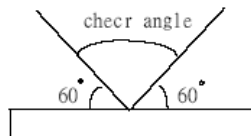No damage when ÿ 9mm steel ball is dropped on the surface from 30cm height at 1 time.

7. Appearance

7.1 Inspection condition
(A).The lightness of place: 500 LUX
(B)The distance of eyeshot:30 CM(The panel must be checked under the light transparency condition.)
(C)The angle of eyeshot: >60°C
(D)The light source of place : natural sunlight.

7.2 Inspection Standard
suitable in the visible area. Except dot space.

1. Spot, otherness	$\phi \leq 0.5$ mm	Ignorance
	$\phi > 0.5$ mm	NG
2. Rub	$\phi \leq 1.0$ mm	Ignorance
	1.0 mm$< \phi \leq 1.5$ mm	2 point above & distance >50 mm
	$\phi > 1.5$ mm	NG
3. Cicatrices (Line) L : Length W : Width	L$<$10.0 mm & 0.15 mm$<$W$\leq$0.2 mm	1 line is allowable 2 lines are reject 2 point above & distance >50 mm
	W$\leq$0.15 mm	Ignorance
	W$>$0.20 mm	NG
4. Edge warp	Edge warp$\leq$0.5 mm	Ignorance
	Edge warp$>$0.5 mm	NG

23

7.3 Quality inspection standard:
Adapt to AQL MIL-STD-105D
Samples inspection QTY: according to AQL MIL-STD-105D(Charter I)
Inspection Base: according to AQL MIL-STD-105D(Charter II)
Broken seriously(otherness, scrape)0.01% --- Cr (Critical Defect)
Obvious(otherness, scrape)0.65% ---------- Ma(Major Defect)
Not obvious(otherness, scrape)2.5% ---------- Mi(Minor Defect)

8.Packing Detail
8.1 Packing:
Can't have otherness on panel. Pack with EPE material.
8.2 Delivery:
For Avoiding the badly affect to the product quality, shouldn't delivery in the situation
of high humidity and unusually high or low temperature

9.Others
(1) If there is any question in specification , the decision depends on conferment between
manufacturer and customer.
(2) If there is any change in specification , can't actualize without document permit.
(3) The specification content is different from the individual specification one, decision bases
on the latter.