LM15**D** / LM15**T**

User's Manual

QUICKLY ADJUST PROCEDURE

(If you change PC system or video mode, you may have to make the following adjustment process at least once, in order to get a good picture)

Step 1. Select Microsoft Paint under windows environment.

Step 2. Insert the Diskette, click the icon "LCDADJ" twice, it will show the following pattern.

Step 3. Push " " to make OSD menu appear.

Step 4. Use"**-**" key to select "AUTO" function, then press the "↵ " key to confirm the selection.

Step 5. If the vertical strip appear (Fig 1). Let the OSD menu appear, select "clock", then make the adjustment ("+" or "-") to let vertical strip disappear (Fig 2).

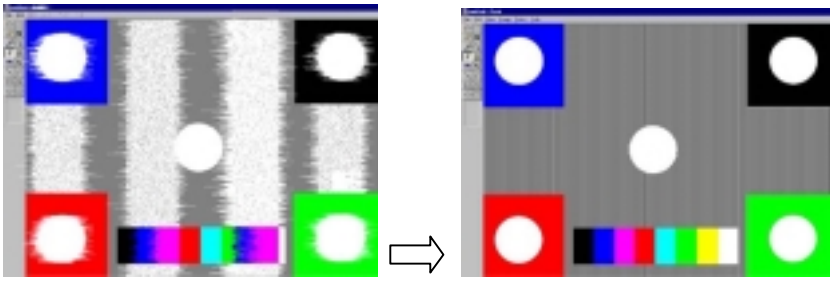


Fig 1 ***Fig 2***

Step 6. If the horizontal noise appear (Fig 3). Select “phase” from OSD menu, then make the adjustment ("+" or "-") to let the horizontal noise disappear (Fig 4).

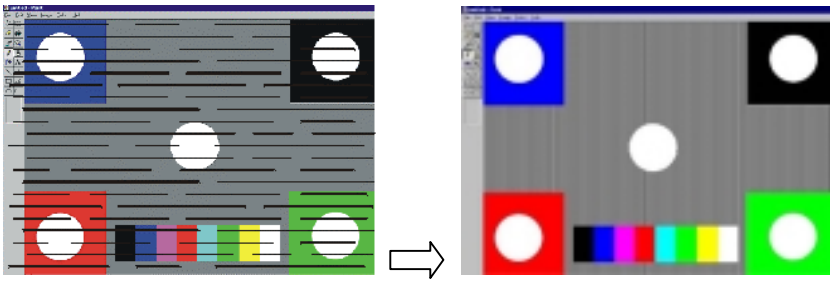


Fig 3 ***Fig 4***

Important Safety Instruction

Please read the following instructions carefully. This manual should be retained for future use.

1. Unplug the monitor from its power source before cleaning it. Do not spray liquid cleaners directly onto the unit. Stand away from the monitor and spray the cleaning solution onto a rag. Then clean the monitor with the slightly dampened rag.

2. Do not place your monitor near a window. Exposing the monitor to rain, water, moisture or sunlight can severely damage it.

3. The openings located on the monitor case are the needed ventilation slots. To protect the monitor from overheating, do not block these openings. For the same reason, this unit should not be placed near or over sources of heat. The unit should never be placed in a built-in installation unless adequate ventilation is provided.

4. If this product is equipped with a three-prong grounding-style plug. It should only be inserted into a grounding-style power outlet. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug by bending the rounded grounding pin back and jamming it into a two-prong socket.

5. Do not lay anything on top of the power cord. Furthermore, make sure the power cord is placed in an area where it will not be stepped on.

6. Do not push any object into the monitor's cabinet openings. They may come in contact with the monitor voltage points and short out parts which may cause a fire or give off electric shocks.

7. Do not remove the cover or attempt to service this unit by yourself. You may void your warranty. Servicing of any nature should be performed only by an authorized technician.

8. If any of the following occur, immediately unplug your monitor and call an authorized technician.

    - The power cord or plug is frayed or damaged.

    - Liquid has been spilled into the monitor, or it has been exposed to rain.

- The monitor has been dropped or the case has been damaged.

9. Power source:

    - For 120V operation, use only a power cord which has a parallel blade plug, rated 125V/3A min.

    - For 240V operation, use only a power cord which has a tandem blade, rated 250V/3A min.

Federal Communications Commission
(FCC Statement)

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 of the following measures:

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

WARNING

Use only shielded cables to connect I/O devices to this equipment.

CAUTION:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- Use only RF shielded cable to connect this monitor to a computer device.

TABLE OF CONTENTS

Model LM15T

Model LM15D

1. INTRODUCTION

Congratulations on the purchase of your new 15" LCD Monitor. Your new Monitor features the latest advances in personal computing technology. Its state of the art design combines ergonomics with high performance circuitry to provide a monitor with unequaled viewing quality and that is easy-to-use.

The LCD Monitor is Plug & Play compliant and when attached to a Plug and Play supported VGA and for video of PAL(B) (G), NTSC(M) adapter, the LCD monitor is automatically detected by your system. The unit also features OSD (On Screen Display) which allows you to adjust the screen parameters to your viewing comfort. Upon exiting the OSD, the display changes are automatically saved to memory. Other ergonomic features include a wide viewing angle and tilt & pivot adjustment.

Features are also available to maximize productivity and expendability. The USB (Universal Serial Bus) Hub provides four USB connectors that can be attached to a vast array of USB supported peripherals such as keyboards, scanners, and printers. The 1-watt speakers are mounted on the bottom of monitor to conserve workspace(Model LM15D)

The LCD Monitor complies with MPRII radiation emission, EPA power saving and VESA Display Power Management Signaling (DPMS) specifications. With the built-in power management features, the monitor can automatically reduce power consumption to less than 5 watts.

Plug & Play

This monitor complies with the DDC1 and DDC2B (Display Data Channel) specifications. These standards, set by the VESA (Video Electronics Standards Association), specify how a monitor must communicate with the video adapter to transfer preset information such as resolutions and refresh rates. Once transferred, the information is then matched with the video adapter's supported resolutions and refresh rates. This matching allows the monitor to run at the highest refresh rate possible for the selected resolution.

Note! As described above, both the monitor and video adapter must adhere to the DDC scheme for Plug & Play to be supported.

The USB (Universal Serial Bus)------- Option

The USB (Universal Serial Bus) Hub. It features one upstream port, to be connected to a host, and four downstream ports that can be connected to a vast array of USB supported peripherals including keyboards, personal printers, scanners, and modems. Furthermore, each port can support numerous daisy-chained devices.

Figure 1 : USB Expandability

Unpacking

Please make sure the following items are in the shipping package :

- 15" LCD Monitor
- This Manual
- Power Cord
- Adapter
- VGA Cable
- Speaker Cable (LM15D only)
- Diskette
- USB Cable (option)

If any of the above is missing or appears damaged, please contact your dealer immediately.

「NOTE」: The USB Expansion is not available till now. Doesn't provide this expansion port before submitted to TCB.

2. INSTALLATION

Choosing A Workstation

When choosing an appropriate workspace, keep these few things in mind:

- A sturdy, level surface.
- An electrical wall outlet and a telephone wall jack near the computer.
- At least 3-inch clearance at the back of the computer to allow for the required airflow.
- Do not place near a window. Exposing the Monitor to direct sunlight for extended periods may damage the unit.
- You may want to use a desk lamp to adjust the ambient lighting for your viewing comfort.

Figure 2 : The Workstation

The Signal Cable Connection

- Locate the VGA port on the rear of the PC. The signal cable has a standard 15-pin mini D-sub (VGA) connector. If you are having trouble locating the VGA port, please refer to the documentation that came with your PC.

- Connect the signal cable to the PC's VGA port.

- Connect the other end of the signal cable to your LCD Monitor .

The AC Connection

- Locate the DC port on the rear of the monitor.
- Plug the adapter into the DC port.
- Plug the male end into the outlet of wall.

Figure 3 : Connecting the Power Cord

Video and S-Video input port (LM15T option)

These ports can support video inputs such as DVD, VCD and other video signal . We suggest that you use the s-video if possible, because it can offer a better performance of display.

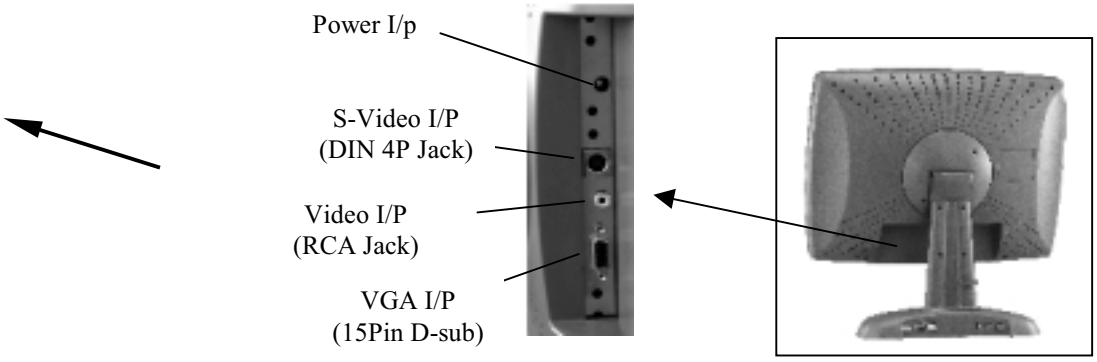


Figure 4

USB Hub Features (Option) (LM15D Only)

The USB features A and B type ports. Four downstream ports of type A can be attached to any USB supported peripheral. The upstream port of type B is a dedicated host port. In most cases, this port will be connected to your PC.

Figure 5: USB hub.

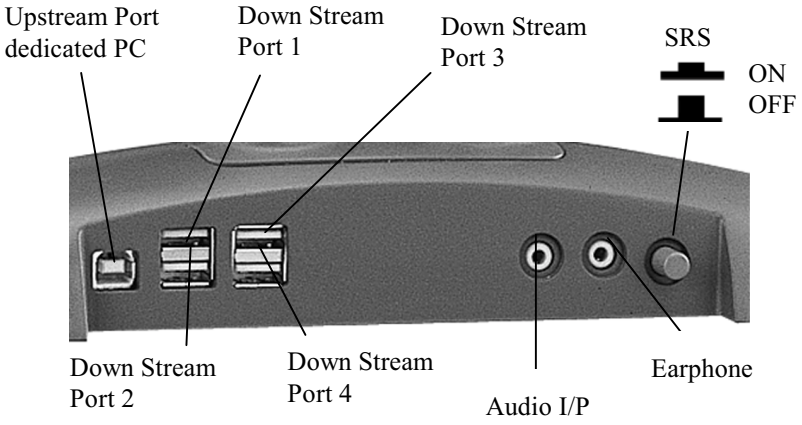


Figure 5: USB Upstream and Downstream Ports

3. OPERATION

Tilt & Pivot Adjustments

The monitor is capable of both tilt and pivot adjustments.

Figure 6: Tilt Adjustment

- With the tilt feature, the monitor is capable of vertical adjustments of +40° to -5° .(figure 6)
- The pivot feature allows the monitor rotate to upright position. (figure 7, LM15D only)

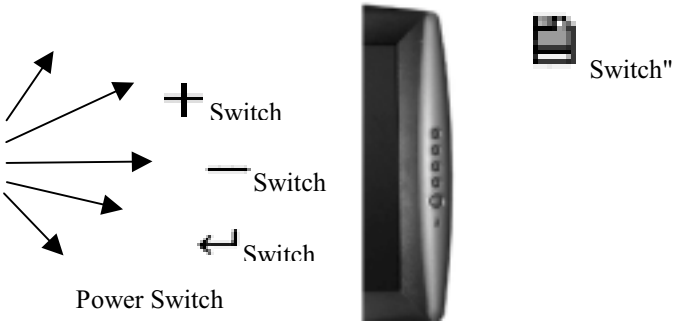
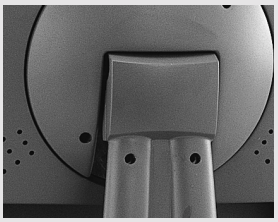


Figure7: pivot Adjustment



Note! You will not be able to swivel the panel (90º) until you tilt the panel up and move the axle-mark over the cover-symbol.

Power Controls

The power controls are located on the right of the monitor's front panel.

P Switch

When the power switch is pressed, the monitor will be turned on. When the power switch is pressed once more, the monitor will be turned off.

Power LED

The power LED is located just beside of the power switch. Two different

colors are used to indicate the monitor's power saving status.

- Green indicates the Monitor is in the ON mode.
- Amber indicates the Monitor is in the power saving mode.

On-Screen Display Controls

The monitor features an intuitive on-screen-display, making adjustments to display settings simple. By using four OSD (on-screen display) control buttons, the user can adjust the viewing environment. A description for each of the monitor's controls follows. *Figure 8* depicts the four function controls as seen on the right panel of the monitor.

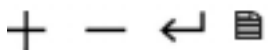


Figure 8: OSD Control

Function

The four buttons allow you to display the OSD menu and select the display fields. After selecting a particular display field, it can be adjusted.

- Press one of four buttons one time to activate the OSD menu.
- Once the OSD menu is active, pressing + or – button will cause the next field to be selected.
- Pressing the ↵ button to confirm the item that you want to adjust. Then the text will change color from yellow to red.
- Press the "▤" button to switch off the OSD.

Note! Refer the Chapter 4 Icon Description for more detailed information concerning the display settings.

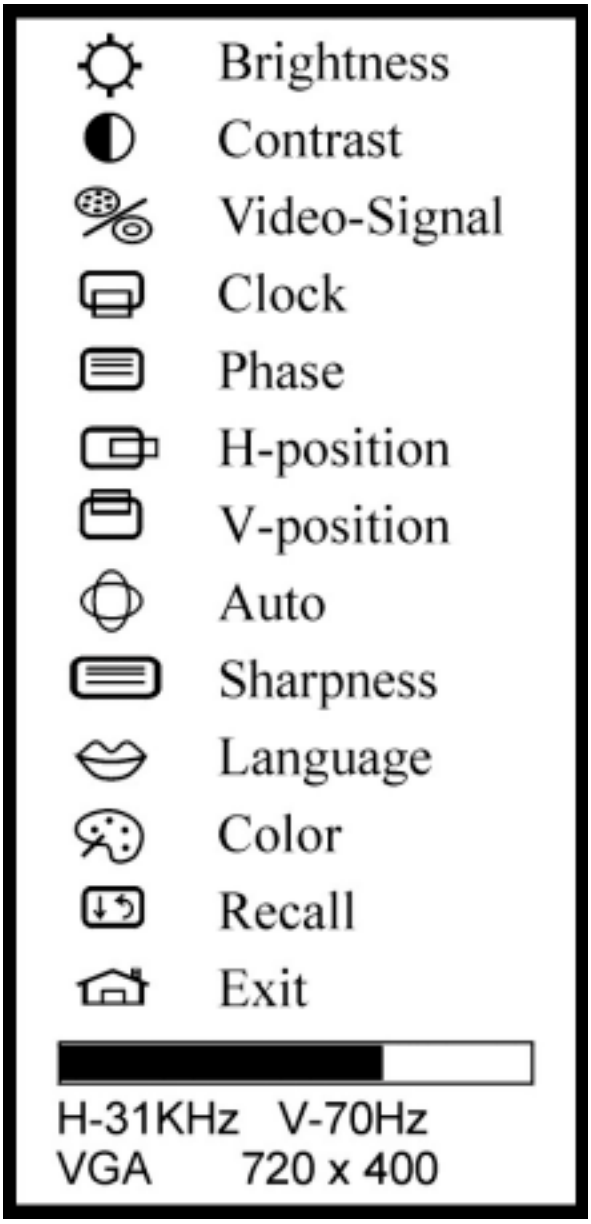


Figure 9 VGA: On-Screen-Display

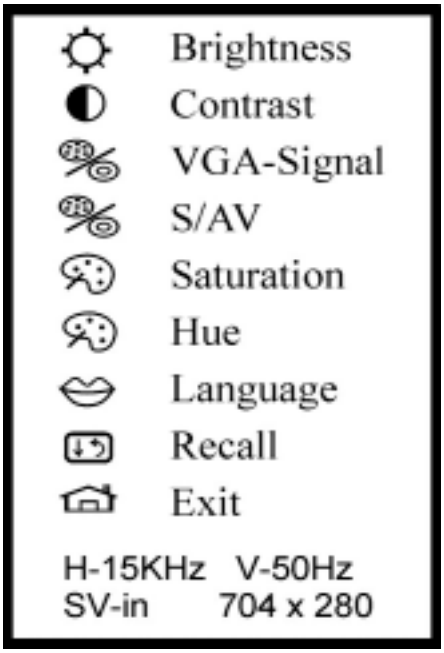


Figure 10 VIDEO: On-Screen-Display

Adjustment + − ↵

The Adjustment controls allow you to change the value of the selected display field.

- **+** Adjustment increases the value of the selected display field.
- **−** Adjustment decreases the value of the selected display field.
- **↵** Confirm the value and return to function selection.

Turning Off OSD

Once all your settings have been made, the OSD menu will automatically turn off after 10 seconds of inactivity. To manually turn off the OSD menu, simply press the "  " button.

4. ICON DESCRIPTIONS

VGA OSD

Controls	ICON	Function
Brightness		This field allows you to adjust the display brightness level.
Contrast		This field allows you to adjust the display contrast level to accommodate the ambient lighting conditions of your working environment.
Video-Signal		This field allows you to select Video input.
Clock		This field allows you to stretch or squeeze the display area horizontally.
Phase		This field allows you to fine-tune the display quality
H-Position		This field allows you to adjust the display to right or left on the screen.
V-Position		This field allows you to adjust the display up or down on the screen.
Auto		This field allows you to adjust phase & clock H-position & V-position automatically.
Sharpness		This field allows you to enhance text.
Language		This field allows you to choose five different languages:
Color		This field allows you to adjust color temperature for your needed
Recall		Recall the default value.
Exit		Exit OSD menu.

Video OSD

Controls	ICON	Function
Brightness		This field allows you to fine-tune the display brightness level.
Contrast		This field allows you to adjust the display contrast level to accommodate the ambient lighting conditions of your working environment.
VGA-Signal		This field allows you to select VGA input.
S/AV		Switch to S (S-video) or AV (Video) under Video-Signal condition.
Saturation		Adjust chroma level to change the value of color
Hue		Adjust color phase to get natural color
Language		This field allows you to choose five different languages:
Recall		Recall the default value.
Exit		Exit OSD menu.

5. TECHNICAL SPECIFICATIONS

Specifications

Model	LM15D	LM15T
Screen	15" LCD	
Dot Pitch (mm)		
Horizontal	0.297	
Vertical	0.297	
Display Size	15"	
Viewing Angle	(panel Dependent)	
Right	70º	
Left	70º	
Top	55º	
Bottom	70º	
Scanning Frequency (VGA)		
Horizontal (KHz)	30 ~ 61	
Vertical (Hz)	50 ~ 75	
Scanning Frequency (Video)		
Horizontal (KHz)	15KHz	
Vertical (Hz)	50/60 Hz	
Max. Resolution	1024 x 768	
Band Width	80 MHz	
Plug & Play	DDC1 & DDC2B	
Display Colors	16.7M (or 262K)	
Signal Cable	Captive 15 pin, mini D-sub	
External Connection	15Pin D-SUB	15Pin D-SUB
	RCA JACK	Option
	DIN4P JACK	Option

Power		
Consumption	35W	35W
Supply	100-250V AC 50/60Hz Adapter	100-250V AC 50/60Hz Adapter
Power Management	Complied with EPA & VESA DPMS	Complied with EPA & VESA DPMS
Display Modes		
Preset	10	10
Video	NTSC(M) & PAL(B)(G)	NTSC(M) & PAL(B) (G) (Option)
Low Radiation	MPR II TCO95 (Option)	MPR II TCO95 (Option)
USB Hub (Option)		
Upstream Ports	1	none
Downstream Ports	4	
Audio		
Output	1W (x2) RMS	none
Controls	Volume	
Response	30Hz ~ 20KHz	
Earphone Jack	Yes	
Operating		
Temperature	0 ~ 40℃	0 ~ 40℃
Relative Humidity	10 ~ 90% non-condensing	10 ~ 90% non-condensing
Dimension	404mm(W) x 398mm(H) x 172mm(D)	404mm(W) x 378mm(H) x 182mm(D)
Net Weight	6.2KGS (13.7LBS)	6.0KGS (13.2LBS)

Preset Timing

Mode	F. Horizontal	F. Vertical	Dot Clock
720 x 400	31.5KHz	70Hz	28.32MHz
640 x 480	31.5KHz	60Hz	25.175MHz
640 x 480	37.9KHz	72Hz	31.50MHz
640 x 480	37.5KHz	75Hz	31.50MHz
800 x 600	37.9KHz	60Hz	40.00MHz
800 x 600	48.1KHz	72Hz	50.00MHz
800 x 600	46.9KHz	75Hz	49.50MHz
1024 x 768	48.4KHz	60Hz	65.00MHz
1024 x 768	56.5KHz	70Hz	75.00MHz
1024 x 768	60.0KHz	75Hz	78.75MHz

6. TROUBLESHOOTING

This section will try to anticipate potential problems that you may encounter in the day-to-day use of your monitor. Included in this section is information, which should help solve these problems for you. If after trying the suggested solutions, your monitor still does not function properly, please contact your authorized service center.

Power

Symptom : The monitor is switched On, but the power LED is not lit.

Solution : Switch the monitor Off. Then check the power cord and signal cable are properly connected. If the monitor is plugged into a powered extension cord or a surge protector, make sure that extension cord or the surge protector is turned on.

Display

Symptom : The display image is either not centered, too small, or too large.

Solution : Adjust the Auto control.

Symptom : The display image is unstable.

Solution : Make sure that the signal cable's D-shaped connector is properly connected to the video adapter port on the back of the PC.

Symptom : The picture is bouncing or a wave pattern is present in the display.

Solution : Move any electrical devices away from the monitor, which may cause display interference. Please refer to the FCC statement at the beginning of the manual for more details on display interference.

7. PANEL CRITERIA

Conditions

Item	Conditions	
Lighting	Fluorescent light (Day-Light Type) Display Surface illumination to be 500-1000 Lux.	
Temperature	25℃ ± 5℃	
Driving Condition	Equipment	Customer CPU or PC AT Compatible
	Supply voltage	DC 5.0V
	Display pattern	Black, White, Gray #31 R, G, B

Remarks: Inspect at 20 inches from display.

Defects not appear within 1 minute shall be ignored.

Standard viewing angle of the inspection shall be 0º to the display surface.

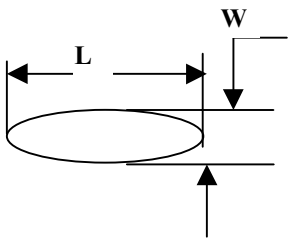
Variation of viewing angle to the display shall not exceed the range of specified viewing angle.

Cosmetic Anomalies Inspection Specifications

Cosmetic defect

Note: 1) All criteria shall be L ≧ W

2) D = (L＋W) /2



Unit: mm

Defect type	Count	Reject
Circular	0.2＜D≦0.5	D＞0.5
Linear	0.04＜W≦0.1 and L≦10.0	W＞0.1 or L＞10.0

Total number of cosmetic defect with the countable range

Accept	Reject
N≦10	N＞10

Functional Anomalies Inspection Specification

There should be no displays that are unable to show any image.

Distribution of defective subpixel

1) ≦2 defective subpixels for all types of combinations shall be allowed as adjacent defective subpixel.

2) Distance between two blocks of defects shall be≧4mm

3) Distance between two blocks of defects both of which include a bright green subpixel shall be≧8mm

4) Blocks of defects within a ϕ20mm circle shall be ≦4

5) Blocks of defects both of which include a bright subpixel within a ϕ20mm circle shall be ≦3

Number of defective subpixels

Defect type	Accept	Reject
Bright subpixels	N≦10	N>10
Bright Green subpixels	N≦4	N>4
Dark subpixels	N≦10	N>10
Total number of defective subpixels	N≦10	N>10

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