

User manual mermaid ventura 150 TFT



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1. Preface

The mermaid ventura 150T is a state of the art high-tech flat panel TFT monitor, including a high quality TFT-LCD panel with maximum resolution of 1024x768, based on the newest TN technology, and high brightness 4-lamp CCFL backlight unit. The very fast response time (25 ms) provides excellent suitability for video and gaming applications. The monitor is made of steel and hardened glass which provides excellent stability and strength. The integrated hinge and high adjustment means you are able to manoeuvre the monitor for optimal viewing angle and comfort. The monitor is fully DDC 2 compliant, which makes installation very easy.

Connections:

- Analog VGA (D-Sub connector via integrated cable)

Features:

- Graphical based OSD menu controlling all the functions of the monitor.
- High display quality : High contrast ratio, wide-viewing angle and High-speed response time.
- High brightness with the 4-CCFL backlight lamps
- Intelligent Digital Image processor
- Wide Input Voltage Range +9 VDC - +20 VDC
- Accepts refresh rates of between 56 Hz and 75 Hz.
- VESA DPMS power saving compatible.
- DDC Ver.2 Compliant
- Low power Consumption
- Separate H/V sync, Composite H/V Sync or Sync-on-green (SOG)

2. Important Information

When using the ventura 150TFT with Windows NT, it is recommended that the refresh rate be set to 60 Hz before connecting the monitor.

Please save the packaging. It has been designed to provide optimal support and protection for the monitor during transportation.

3. Content of the Box

- ventura 150 TFT (15")
- "Quickstart" card

Accessories bag including:

- PSU (45 Watt)
- Powercord
- Speaker cable
- Users manual
- Glass cleaner & screen wiping cloth

4. Unpacking, Placement and Set-up (PC)

After the box has been opened, remove the accessories bag.

Bend the cardboard flaps outward and turn the box upside down, which will ensure the inlay foam with the monitor is able to slide out. Do not drop the content on the floor.

Remove the foam side pieces and the plastic bag.

The monitor needs to be placed on a smooth and stable surface. This surface must be able to safely support 10 kg.

Make sure both the computer and monitor are turned off before connecting the monitor.

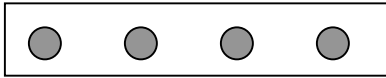
- Connect the monitor to the computer by means of the supplied VGA cable. (Attached to the monitor)
- Connect the PSU to the monitor and AC outlet.
- Turn on the computer and monitor.

OSD panel is located
beneath the monitor



- mermaid ventura 150 TFT is plug & play compatible via VESA DDC1/2B. Windows 98, ME and XP will recognise this and self configure.
- When using the mermaid ventura 150 TFT with Windows NT, the computer needs to be started in VGA mode the first time. Log on as administrator and set the resolution to 1280x 1024 and refresh rate to 60 Hz. The computer can then be started in normal mode.

5. OSD Key Functions





Hot Key	Menu	Bright	Bright	Source
Normal	Select	Down Left	Up Right	Info Exit Pre-Menu

Function	Description
Menu (Hot Key)	Activate the OSD
Bright (Hot Key)	Activate brightness control OSD
Source info (Hot Key)	Displays the resolution and frequencies of the input
Select	Select the highlighted menu
Down/Left Up/Right	Moves the selector right or left on the OSD Increase or decrease the value of the selected item.
Exit	Exit from menu or sub-menus Exit from OSD menu

6. OSD Functions & Adjustments



Function	Description
1. Brightness	Changes the overall brightness of the image.
2. Contrast	Changes the ratio between white and black.
	
3. Phase	Fine tune vertical and horizontal noise in the display.
4. Frequency	
	
5. H-Position	Moves the vertical and horizontal location of the picture shown.
6. V-Position	
7. Sharpness	Modify the sharpness of the display. Sharp: Edges of image become sharp Medium Soft: Edges of image become soft
8. Color Temperature	Changes the color tone of the display.

OSD Functions & Adjustments - continued



Function	Description
1. H-Position	Moves the location of the OSD menu.
2. V-Position	
3. OSD Timeout	Specifies the time span before the OSD menu disappears. (20 - 200 seconds)
4. Language	Specifies the OSD language. Select between English – German – Korean and Japanese

OSD Functions & Adjustments - continued



Function	Description
1. Dynamic Brightness	Smart Inverter Control. This function allows the system to adjust the brightness of the backlight automatically in conjunction with the quantity of the input data.
2. Information	Displays the resolution and frequencies of the input.
3. Reset	Reset to factory default.
4. Half Tone	Changes the color of the OSD menu.

OSD Functions & Adjustments - continued



Function	Description
Auto Adjust	The built-in microprocessor will optimize all display adjustment sets such as video offset gain, position, phase and frequency automatically according to the pre-programmed auto adjustment program. 1)

1) If the microprocessor does not optimize all settings successfully, please use the manual adjustment functions in the OSD menu. (Phase – Frequency – V-position and H-position)

7. Guarantee Terms

mermaid ventura 15" are covered by a 3-year guarantee agreement (1 year SWAP + 2 years Pick-UP).

SWAP

Exchange at your address. If your mermaid ventura needs repairing, contact mermaid customer services, who will arrange to have your screen exchanged for a new one within 5-7 working days.

Pick-UP

Collection from and return to your address. If your mermaid ventura needs repairing, contact mermaid customer services, who will arrange to have your screen collected, repaired and returned to you within 14 working days.

The guarantee terms set out above apply to Europe only.

8. If you need to contact us!

Contact mermaid customer support.

If you need to get in touch with mermaid technology, please contact us via phone or mail:

Phone

mermaid customer support opening hours are Monday to Friday 14.00-16.30.

By mail

mermaid technology a/s
Att.: Customer Support (Kundeservice)
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<http://www.mermaid.dk>

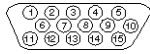
9. Troubleshooting

If you have troubles using this monitor, please refer to following suggestions for troubleshooting. If you can not rectify the problem yourself, please contact your distributor or place of purchase.

Symptom	Suggestions
Screen is blank	Ensure that the power cord is connected and the monitor is on.
"Check signal cable" message	Ensure that the signal cable is connected firmly to the signal source. Ensure that the signal source is turned on.
"Sync out of range" message	Check the maximum resolution and the frequency of the video adapter.
The image is too dark or bright	Adjust the brightness and contrast.
Horizontal bars appear to flicker, jitter or shimmer on the image	Adjust the "Phase".
Vertical bars appear to flicker, jitter or shimmer on the image	Select "Auto Adjust" in OSD menu
Screen is blank	The system activates power management mode. Just press the PC keyboard or move the PC mouse
Image is not stable and may appear to vibrate	Check the display resolution and frequency from your PC or video board is within the available range of your monitor. On your PC, check "Control Panel -> Display >Settings". If the setting is incorrect, you may change the setting using PC utility program.
Image is not centered on the screen	Adjust the "Image Position / H-Position or V-Position".

Appendix A: Connector Specifications

Analog RGB in



Pin no.	Function	Pin no.	Function	Pin no.	Function	Pin no.	Function
1	Red	2	Green	3	Blue	4	NC
5	GND	6	R_GND	7	G_GND	8	B_GND
9	NC	10	GND	11	GND	12	SDA
13	H Sync	14	V. Sync	15	SCL		

Appendix B: Power Management Mode: VESA DPMS protocol applied

Mode	Horizontal sync	Vertical sync	Video signal	Power Consumption
On	Active	Active	Active	< 3 Watts
Stand by	Inactive	Active	Blanked	
Suspend	Active	Inactive	Blanked	
Off	Inactive	Inactive	Blanked	

Appendix C. Technical Specifications

Input Video and sync signal

Item		Description	Notes
Video	Input	<ul style="list-style-type: none"> Type: Analog RGB Level: 0.7Vp-p $\pm 5\%$ Polarity: Positive Bright Impedance: $75\Omega \pm 5\%$ (Terminated) 	VESA Compliance
	Resolution	<ul style="list-style-type: none"> Optimum: 1024x768@60Hz Maximum: 1280x1024@60Hz 	Down Scaling mode
	Horizontal Frequency	<ul style="list-style-type: none"> 30-61KHz (normal mode) 30-75KHz (Failure Safe mode) 	
	Vertical Frequency	<ul style="list-style-type: none"> 55-75Hz (normal mode) 55-75Hz (Failure Safe mode) 	
	Applicable Bandwidth	<ul style="list-style-type: none"> Typical: 95MHz (1024x768@85Hz) Max: 108MHz (1280x1024@60Hz) 	Depends on ADC specification
	Sync Signal	<ul style="list-style-type: none"> Type: Separate H/V sync, Composite H/V Sync, Sync-on-green (SOG) Level: TTL level (V high $\leq 2.0V$, V low $\leq 0.8V$) Polarity: Positive or negative Termination resistance: more than $2K\Omega$ 	
Sync	Input	<ul style="list-style-type: none"> Type: Separate H/V sync, Composite (SOG) Sync-on-green Level: TTL level (V high $\leq 2.0V$, V low $\leq 0.8V$) Polarity: Positive or negative 	
	Horizontal Frequency	<ul style="list-style-type: none"> 30-61 KHz (normal mode) 30-69 KHz (Failure Safe mode) 	
	Vertical Frequency	<ul style="list-style-type: none"> 55-75Hz (normal mode) 55-75Hz (Failure Safe mode) 	

Electrical Parameters

Description	Min	Typ	Max	Unit
DC power supply	9	12		Volts
Supply Current		2.0	2.3	Amp.

Additional parameters

Description	Value	Unit	
Driver element	a-Si TFT active matrix		
Display Colors	16.7M (true)	Colors	
Display area	304.1(H) x 228.1(V)	mm	15.0 Inch diagonal
Number of Pixels	1024 x 768	Pixels	
Pixel arrangement	RGB vertical stripe		
Pixel Pitch	0.297(H) x 0.297(W)	mm	
Display Mode	Normally White		
Lamp	4-Lamp CCFL		
Operating temperature	0 ~50	°C	
Storage temperature	-25 ~60	°C	

Appendix D: Video Mode Support

No	Mode	Resolution	Total	Horizontal		Vertical		Pixel Clock
				Frequency	Polarity	Frequency	Polarity	
1	VGA	720x400	900x449	31.47KHz	N	70.0 Hz	P	28.322MHz
2		640x480	800x525	31.47KHz	N	60.0 Hz	N	25.175MHz
3		640x480	864x525	35.00KHz	N	66.7 Hz	N	30.240MHz
4		640x480	832x520	37.86KHz	N	72.8 Hz	N	31.500MHz
5		640x480	840x500	37.50KHz	N	75,0 Hz	N	31.500MHz
6		640x480	832x509	43.27KHz	N	85.0 Hz	N	36.000MHz
7	SVGA	800x600	1024x625	35.16KHz	N/P	56.3 Hz	N/P	36.000MHz
8		800x600	1056x628	37.88KHz	P	60.3 Hz	P	40.000MHz
9		800x600	1040x666	48.08KHz	P	72.2 Hz	P	50.000MHz
10		800x600	1056x625	47.87KHz	P	75.0 Hz	P	49.500MHz
11		800x600	1048x631	53.67KHz	P	85.1 Hz	P	56.250MHz
12		832x624	1152x667	49.73KHz	N	74.6 Hz	N	57.284MHz
13	XGA	1024x768	1152x667	48.36KHz	N	60.0 Hz	N	65.000MHz
14		1024x768	1328x806	56.48KHz	N	70.1 Hz	N	75.000MHz
15		1024x768	1312x806	60.02KHz	P	75.0 Hz	P	78.750MHz
16		1024x768	1276x808	68.67KHz	P	85.0 Hz	P	94.500MHz
17	SXGA	1280x1024	1708x1056	64.00KHz	N	60.0 Hz	N	108.000Mhz

6, 11, 16, 17 mode is "Failure-safe Mode"

Appendix E: Optical Characteristics – ventura 150 TFT

The following items were measured under stable conditions. The optical characteristics should be measured in a dark room or equivalent state.

* Measuring equipment: TOPCON MB-5A: Contrast Ratio, Luminance of White, Viewing Angle
 TOPCON BM-7: Response time, Flicker
 Photo Research PR650: Color Chromaticity

* $T_a = 25 \pm 2 \text{ }^\circ\text{C}$, $V_{IN} = +12\text{Vm}$ $f_v = 60\text{Hz.}$, $I_L = 6.0\text{mA}$

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	
Contrast Ratio		CR	$\Phi=0,$ $\Theta=0$ Normal Viewing Angle	(200)	300	-		
Response Time at T_a	Rising	T_R		-	5	-	msec	
	Falling	T_F		-	20	-		
Luminance of White (Center of Screen)		Y_L			(200)	250	-	cd/m^2
Color Chromaticity (CIE 1931)	Red	R_X			(0.603)	(0.628)	(0.653)	
		R_Y			(0.328)	(0.353)	(0.378)	
	Green	G_X			(0.265)	(0.290)	(0.315)	
		G_Y			(0.570)	(0.595)	(0.620)	
	Blue	B_X			(0.119)	(0.144)	(0.169)	
		B_Y			(0.063)	(0.088)	(0.113)	
	White	W_X		0.279	0.304	0.329		
		W_Y		0.300	0.325	0.350		
Viewing Angle	Hor.	θ_L	$CR \geq 10$	(65)	-	-	Degrees	
		θ_R		(65)	-	-		
	Ver.	θ_H		(50)	-	-		
		θ_L		(60)	-	-		
Color Gamut				-	(65)	-	%	
Brightness Uniformity (9 points)		B_{UNI}		-	-	(29)	%	

- Measuring Condition: Maximum value of Brightness and Contrast in OSD menu.
- Flicker must be controlled internally.