

# Users Manual mermaid ActiveMedia





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## 1. Introduction

The mermaid ActiveMedia 170 TFT and 190 TFT are state of the art high-tech flat panel TFT multimedia monitors, incorporating high quality TFT-LCD panels with maximum resolution of 1280x1024, multimedia FlashPlayer and active Stereo speakers. They are based on the newest technology with high brightness 4-lamp CCFL backlight units. The very fast response time provides excellent suitability for video applications. The monitors are made of steel and hardened glass providing excellent stability and strength. The integrated FlashPlayer means you are able to play back files within a few seconds, after connecting power as the only needed external source.

### **Panel technology:**

- ActiveMedia 170 TFT: TN (Twisted Nematic)
- ActiveMedia 190 TFT: PVA (Patterned Vertical Alignment)

### **Connections:**

- +12 Volt DC Power (2.5 mm Jack via integrated cable)

### **Features:**

- State of the art high performance picture quality design
- Display digital photos, watch movies, and playback music files, all without needing a PC or software
- Auto-detection of different media formats
- JPEG files and EXIF 2.2 support.
- Supports JPEG files up to 19 megapixels.
- 90° clockwise image rotation.
- Digital zoom and pan.
- 9 picture preview mode.
- Automatic slideshow.
- Up to 8 kinds of transition effects, and random transitions mode for slideshows.
- Photo slideshows with background music playback from file.
- MPEG-1 and MPEG-2 video and Motion JPEG file playback.
- Music file playback.
- Browse files by Photo, Music, Movie, and File modes.
- Browse all the files using thumbnail previews.
- FlashPlayer: Full control of all relevant display and interface parameters via Remote Control
  - OSD menu controlled via arrow keys.
  - Volume up/down and mute.
  - Previous/next file.
  - Play, Pause, and Stop.
  - Output select between VGA, S-Video and composite video
  - Switch between NTSC and PAL standards.
  - Special key to play music during slideshow
- Monitor: Full control of all relevant display and interface parameters via OSD
- Monitor: Multi language support
- Compatible with VESA DPMS power saving modes
- +12VDC single power: 45watts AC/DC power adapter recommended. (Supplied)
- Operating temperature: 0 to 50°C
- Internal active stereo speakers (2watt x 2 ch. / 8 ohms)

## 2. Important Information

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

## 3. Content of the delivered packages

### Monitor Unit Box:

- 17" or 19" ActiveMedia unit equipped with:
- Accessories bag including
  - PSU (45 Watt)
  - Power cord
  - Setup Guide
  - ActiveMedia Users Manual (This manual)

## 4. Unpacking, Assembly and Placement

**Note:** To avoid condensation, please wait ½-1 hour, before operating the unit.

### Monitor unit:

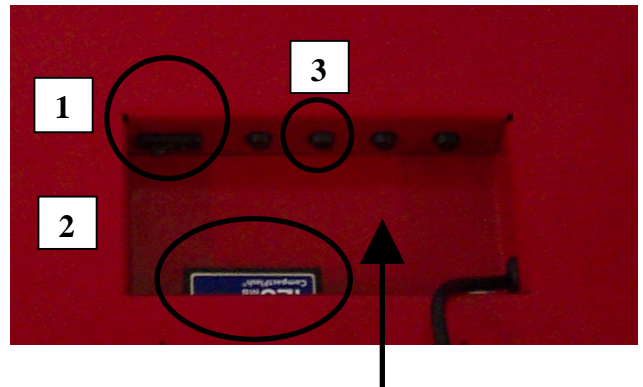
- Open the box and remove the accessories bag.
- Lift out the monitor unit. Remove it from the plastic bag and foam

### 3. Operation

#### Compact Flash/CF card replacement:

**Always turn off the monitor before removing or inserting a CF card!**

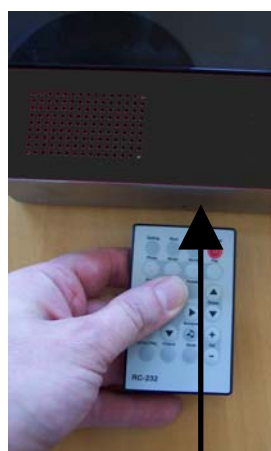
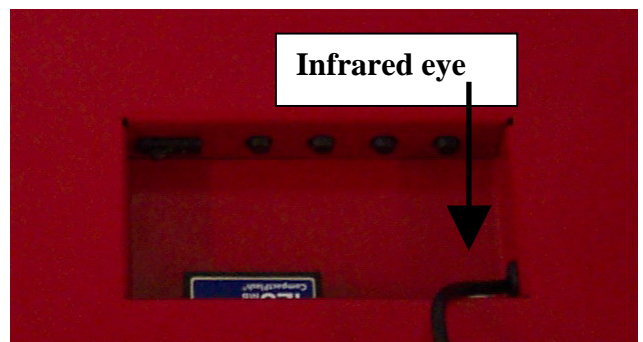
- Turn off the monitor unit by means of the power switch, located in the “well” on the backside. (1)
- Gently pull out the CF card in the direction of arrow (2)
- Gently insert new/replacement CF card with the label face pointing upwards and the pinhole connector pointing into the slot.
- Turn on the monitor by means of the power switch. The playback will start within a few seconds.
- Press “Auto-Config” in order to let the monitor position the new content properly. (3)



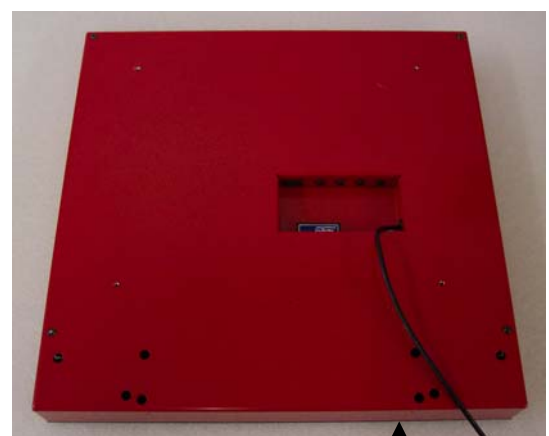
#### Operating the unit – FlashPlayer part:

The ActiveMedia monitor consists of two individually controlled units:

1. A 4-button operated monitor unit.
  2. A remote controlled Flash Player.
- In order to control the FlashPlayer, the remote control unit must be pointed directly against the infrared eye located in the well on the backside.
  - In order to ease up operation, a pinhole is located on the lower left side of the unit (seen from the front). To operate the Player by means of this hole, the transmitter diode on the remote control unit must be pointed directly into this hole.



Pinhole



Pinhole

## Operating the unit – FlashPlayer part: *Continued*

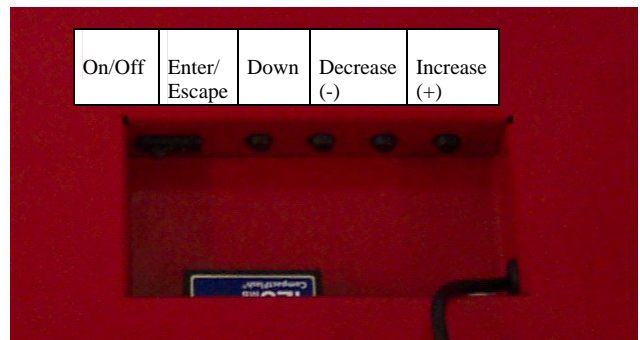
- In order to keep this product in a stable condition, please do not alter the settings of the FlashPlayer. Only Volume +/- will be of importance during daily operation.
- Please note the Volume can also be controlled by means of the 4-button control panel in the well on the backside. But as these buttons are not easily accessible during normal operation, it's a good idea to select a reference level by means of these buttons, and then use the remote control unit to alter the volume. A reference level, which should fit the most common use, has already been selected, though.



Remote Control Unit

## Operating the unit – Monitor part:

- Please refer to next page for an overview off the OSD button functions.
- For an in-depth explanation of the functions, please refer to section 6.



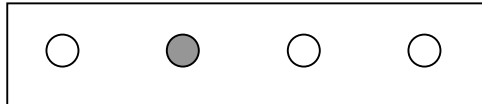


## 4. OSD Key Functions (Overview)

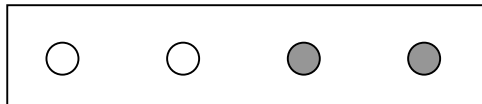
For detailed description: See Users manual.

4-button OSD Panel

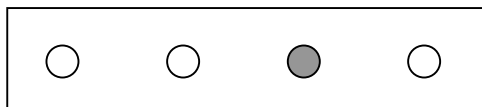
Auto Config:  
(Hot key)



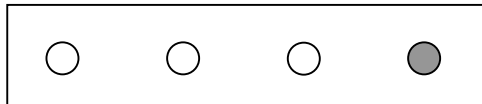
Source select:  
(Hot key(s))



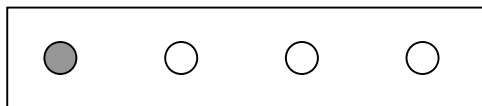
Volume Dec.:  
(Hot key)



Volume Inc.:  
(Hot key)



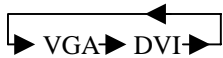
Select OSD Menu:  
(Hot key)



OSD Menu selected:

Enter/ Escape	Down	Decrease(-)	Increase (+)
------------------	------	-------------	--------------

● = key(s) which are pressed

Function	Description
Menu (Hot Key)	Activates the OSD
Auto Config (Hot Key)	Auto calibrate the monitor for optimal performance
Source Select *	When both keys are pressed, the monitor selects the next source 
Enter/Escape	Enters or Escapes the highlighted menu.
Decrease (-)	Moves the cursor down to the next menu item
Increase (+)	Increases the value of the selected. Select the next lower level menu.

\* When the monitor is turned on, it automatically scans the two different inputs (VGA and DVI) for a valid signal, It then stops at the first valid input. The scan routine starts from the last used input.

## 6. OSD Functions & Adjustments

### Color Menu



<b>Contrast</b>	Adjustment of contrast (0..100)
<b>Brightness</b>	Adjustment of brightness (0..100)
<b>Gamma</b>	Selection of the appropriate "Gamma curve" Four different curves are available. (0..3)
<b>Color temp</b>	Adjustment of the color temperature. Select between 3 pre-defined temperature (5800K, 6500K or 9300K) Or use the "User" setting to select the appropriate values yourself.
<b>Color Adjust</b>	Manual adjustment of Color Temperature. Available only, when "User" setting is selected in "Color Temp." Red (0..100) Green (0..100) Blue (0..100)
<b>Exit</b>	Exits to to main menu
<b>Info line</b>	PC: Shows current resolution, refresh rate and VESA mode Video: Shows current signal type of video input, refresh rate and mode

**Picture menu (Only available when Analog VGA input is selected)**

<b>H-Position</b>	Adjustment of horizontal picture position (0..100)
<b>V-Position</b>	Adjustment of vertical picture position (0..100)
<b>Sharpness</b>	Adjustment of picture sharpness (0..5) 5 = "Sharp" picture 0 = "Soft" picture
<b>Phase</b>	The phase setting allows slight picture disturbances (snow & shimmering) to be eliminated. (0..31)
<b>Clock</b>	The frequency setting allows the pixel clock frequency to be adjusted. This will only have to be adjusted, if the automatic alignment was unable to determine the correct pixel clock frequency. (0..200)
<b>Exit</b>	Exits to main menu
<b>Info line</b>	Shows current resolution, refresh rate and VESA mode

**Function Menu (Only available when Analog VGA input is selected)**



Auto Adjust	Auto calibrate the monitor for optimal performance
Auto Color	
Exit	Exits to main menu
Info line	Shows current resolution, refresh rate and VESA mode

## OSD Menu



<b>Language</b>	Select OSD language (English, German, French, Italian, Spanish or Danish)
<b>OSD h-pos</b>	Variable OSD position – horizontal (0..118)
<b>OSD v-pos</b>	Variable OSD position – vertical (0..116)
<b>OSD timer</b>	Activate OSD time out after last key pressed. Yes = 15 Sec time out No = No time out
<b>Translucent</b>	Changes type of the OSD background Yes = Translucent (transparent) No = solid (not transparent)
<b>Exit</b>	Exits to main menu
<b>Info line</b>	PC: Shows current resolution, refresh rate and VESA mode Video: Shows current signal type of video input, refresh rate and mode

Miscellaneous Menu



Signal Source	
Mode Select	
Factory Setting	Resets all functions to factory default.
Volume	Adjustment of Volume
Mute	Turns Amplifier on and off
Exit	Exits to manin menu
Info line	PC: Shows current resolution, refresh rate and VESA mode Video: Shows current signal type of video input, refresh rate and mode

## 7. Warranty Terms

mermaid ActiveMedia 170 TFT and ActiveMedia 190 TFT are both covered by a 1-year send-in warranty.

### Repair

If your mermaid ventura needs repairing, please visit [www.mermaid.dk](http://www.mermaid.dk) and fill-in the RMA-request. You will then receive an RMA-number, which you must attach outside the monitor packing before you ship your product to mermaid. We will return the product to you within 10 to 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 8.30-16.30.

#### By mail

mermaid technology a/s  
Att.: Customer Support  
Klingseyvej 15b  
DK-2720 Vanløse  
Denmark

#### Telephone

+45 44 52 92 00

#### Telefax

+45 44 52 92 65

#### E-mail

[customerservice@mermaid.dk](mailto:customerservice@mermaid.dk)

#### Internet

<http://www.mermaid.dk>

## 9. Troubleshooting

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

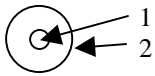
Symptom	Suggestions
Screen is "black"	<ol style="list-style-type: none"><li>1. Ensure that the power cord is connected and the monitor is on.</li><li>2. While pointing the remote control unit directly against the infrared eye located in the well on the backside or the pinhole, press "NTSC/PAL" once. Wait 2-3 seconds. Note the player must be in playback mode, as the changes won't take affect in menu/overview mode.</li><li>3. Press "Output" once. Wait 2-3 second. Repeat step 3 upto 3 times. The "output" button selects between the internal outputs (VGA, S-video or CVBS) of the flashplayer. But as only the VGA output is used, this must be selected as default output. Note that maybe step 2 and 3 must be done in combination.</li></ol>
"Signal out of range" message	<ol style="list-style-type: none"><li>1. While pointing the remote control unit directly against the infrared eye located in the well on the backside or the pinhole, press "NTSC/PAL" once. Wait 2-3 seconds. Note the player must be in playback mode, as the changes won't take affect in menu/overview mode.</li></ol>
"Media not detected" message	<ol style="list-style-type: none"><li>1. Ensure that the memory card is properly inserted.</li><li>2. Ensure that the memory card contains valid playable media files. If the memory card has been removed during operation (with power on), it is possible, by accident, to erase or corrupt the content. Always make sure the monitor is turned off while removing or inserting a memory card.</li><li>3. Maybe the contact pins (CF slot only) have been damaged, and the monitor will need repair.</li></ol>
The image is too dark or bright	<ol style="list-style-type: none"><li>1. Adjust the brightness and contrast.</li></ol>
Horizontal or vertical bars appears and/or the picture is not centered	<ol style="list-style-type: none"><li>1. Press "Auto Config button" on the 4-button OSD panel located on the monitor backside in the well .</li></ol>



## Appendix A: Connector Specifications

### Power in

Power input connector: 2.5 mm DC jack



Pin no	Function	Pin no	Symbol
1	+12 Volt	2	Ground

## Appendix B: Power Management Mode: VESA DPMS protocol applied

Mode	Horizontal sync	Vertical sync	Video signal	Power Consumption (max)
On	Active	Active	Active	27,5W (15'') 40 W (17'' & 19'')
Stand.by	Inactive	Active	Blanked	< 3 Watts
Suspend	Active	Inactive	Blanked	
Off	Inactive	Inactive	Blanked	

## Appendix C: Technical Specifications

### Input Video and sync signal

Parameter	Value	Unit
Max. Output Resolution (17" & 19")	1280x1024	Pixels
Data Processing	24	Bits
Input impedance		
• Video	75	Ohms
• Sync	470	Ohms
Sync Polarities	+/-	
Sync Levels	TTL compatible	
Max. Number of colors	16.7 Mill.	Colors

### Electrical Parameters

reference :  $t_A$  25 ° C

Symbol	Description	Min	Typ	Max	Unit
$V_{DD}$	+12V DC power supply	10.8	12.0	13.2	V
$V_{i(RGB)}$	Video input signal (w.r.t. GND)	0.5	0.7	1.0	$V_{PP}$
$f_S$	Video sample rate			80	MHz
$f_{HS}$	Horizontal sync frequency	30		60	KHz
$f_{vs}$	Vertical sync frequency	56		75	Hz
$F_{SIH}$	Sync input high level	2.5			V
$V_{SIL}$	Sync input low level			0.8	VDC
$I_{DD2}$	Supply current @ +12V, ActiveMedia 170 TFT		3.0	3.3	A
$I_{DD2}$	Supply current @ +12V, ActiveMedia 190 TFT			3.3	A

**Note 1.** Power consumption measuring condition is 2pixel checkerboard pattern @ XGA 75Hz and maximum brightness at  $t_A$  25°C.

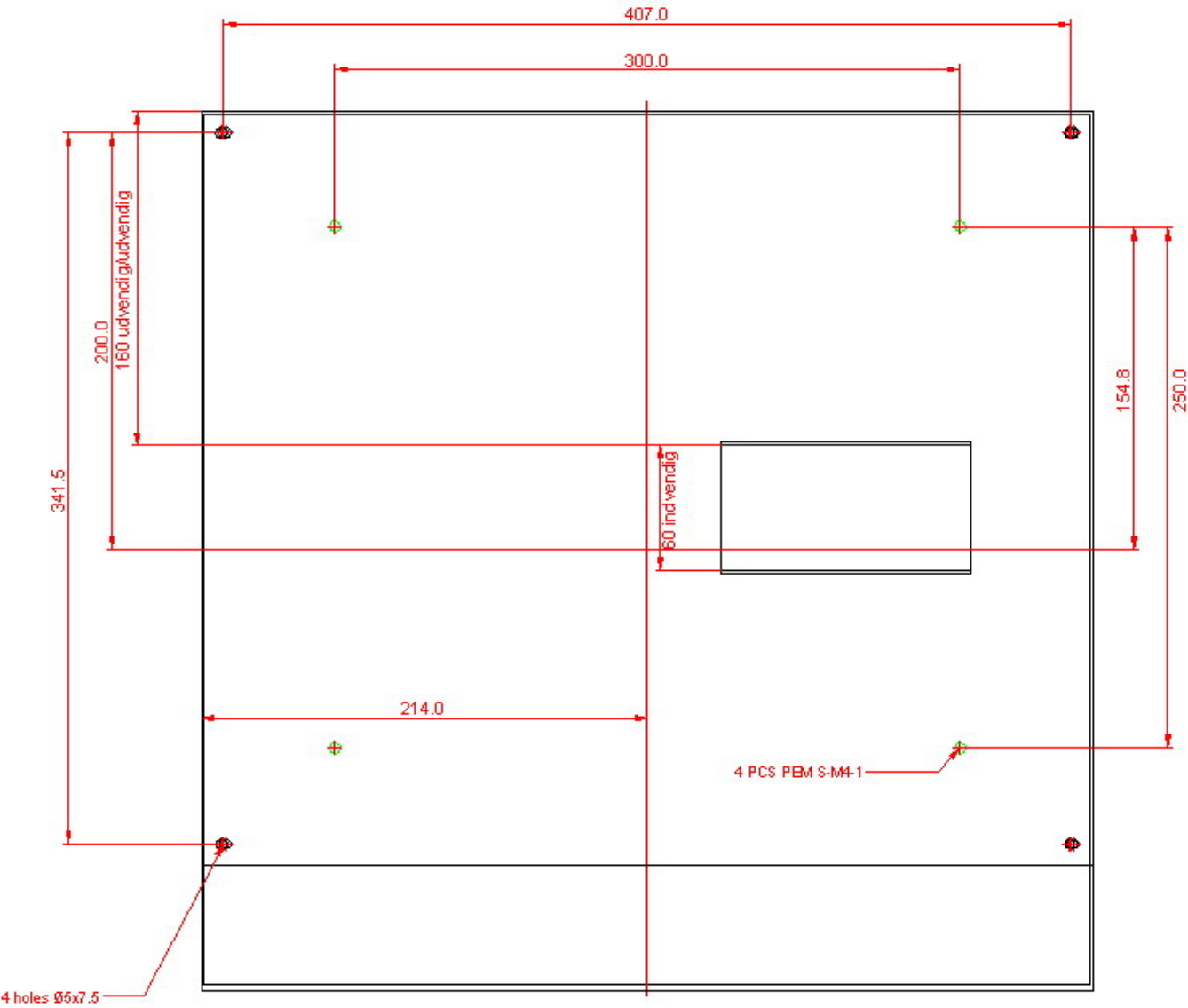
### Amplifier specifications

Max Output	2 x 2watts @ 8ohm
Max Current	450mA max
Input Voltage	12V DC
THD (Total Harmonic Distortion)	0.15%
S/N (Signal to Noise ratio)	105dB

Appendix D: Dimentions and weight, ActiveMedia 170 & 190 TFT

Model	Dimentions (H x W x D)	Weight
ActiveMedia 170 TFT	420mm x 430mm x 53mm	9.5 Kg
ActiveMedia 190 TFT	420mm x 430mm x 53mm	9.5 Kg

Appendix E: Mounting holes/well positions, ActiveMedia 170 & 190 TFT



## Appendix F: Supported file types

### Photo Slideshow

- JPEG and EXIF 2.2 format upto 19 megapixel
- For best performance – use file resolution at 640 x 480 pixels

### Movie Playback

- MPEG-1 and MPEG-2 video Playback
  - Motion JPEG file playback
1. Files must consist of a **Program-stream** including 1 video-track and 1 stereo audio-track
  2. Files must not be **Elementary-stream** or **Transport-stream**.
  3. Recommended file extension is **.mpg**
  4. Use 4:2:0 sampling
  5. File resolution must be **720x480, 60 fields** (30 frames) **NTSC** (VGA 640x480 60 Hz ) *or* **720x576, 50 fields** (25 frames) **PAL** (VGA 800x600 50Hz) - Recommended
  6. It is recommended to use **Closed GOB** including one **I-frame** at least each **15<sup>th</sup>** frame. VBV buffer (Video Buffer) should be **224**.
  7. Both fields must be encoded (Automatic procedure)
  8. It is recommended to use **Constant** videobitrate larger than 4 Mbit/s, to avoid motion artifacts. In comparison, DVD's are typically encoded at 5-6 Mbit/s and satellite TV at 7-8 Mbit/s. In order to achieve optimum picture quality, please encode at **6-8 Mbit/s**.
  9. Recommended Audio bitrate is **384 kbit/s**. Sample rate **48 khz**. Recommended sound level I 0 db by means of standard test tone. Max peak should be +6 db.
  10. To produce MPEG2 files, it is recommended to use software, with possibility to configure a standard template, to be used each time a “unknown” content is received. This will ensure that the output files always are encoded and produced according to the above stated “rules” E.g. the program “ProCoder2” from “Canopus” will suit the common needs.

## Appendix G: Optical Characteristics – ActiveMedia 170 TFT

Measuring equipment : TOPCON BM-5A, BM-7, PHOTO RESEARCH PR650  
Eldim EZ-Contrast

(Inverter Freq. : 50kHz) \* Ta = 25 ± 2°C, VDD=5V, fv= 60Hz, fclk=54MHz, IL = 6.5mA<sub>rms</sub>

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Contrast Ratio (Center of screen)		C/R	Normal $\phi = 0$ $\theta = 0$  Viewing Angle	400	500	-		(3) BM-5A
Response Time	Rising	Tr		-	3	5	msec	(5) BM-7
	Falling	Tf		-	10	13		
Luminance of White (Center of screen)		YL		250	300	-	cd/m2	(6) BM-5A
Color Chromaticity (CIE 1931)	Red	Rx		0.620	0.650	0.680		(7) PR650
		Ry		0.300	0.330	0.360		
	Green	Gx		0.270	0.300	0.330		
		Gy		0.570	0.600	0.630		
	Blue	Bx		0.120	0.150	0.180		
		By		0.050	0.080	0.110		
	White	Wx		0.283	0.313	0.343		
		Wy		0.299	0.329	0.359		
Viewing Angle	Hor.	$\theta$ L	CR $\geq$ 10	65	75	-	Degrees	(8) BM-5A
		$\theta$ R		65	75	-		
	Ver.	$\phi$ H		65	75	-		
		$\phi$ L		50	60	-		
Brightness Uniformity (9 Points)		Buni		-	-	25	%	(4) BM-5A

## Appendix H: Optical Characteristics – ActiveMedia 190 TFT

Measuring equipment : TOPCON BM-5A , BM-7, PHOTO RESEARCH PR650  
Eldim EZ-Contrast

(Inverter Freq. : 54kHz) \* Ta = 25 ± 2°C, VDD=5V, fv= 60Hz, fbCLK=54MHz, IL = 6.5mA<sub>rms</sub>

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Contrast Ratio (Center of screen)		C/R	Normal $\phi = 0$ $\theta = 0$	400	500	-		(3) BM-5A
Response Time	Rising	Tr		-	15	20	msec	(4) BM-7
	Falling	Tf		-	10	15		
Luminance of White (Center of screen)		YL		220	250	-	cd/m <sup>2</sup>	(5) BM-5A
Color Chromaticity (CIE 1931)	Red	Rx	Viewing Angle	TYP. -0.03	0.634	TYP. +0.03		(6) PR650
		Ry			0.354			
	Green	Gx			0.304			
		Gy			0.581			
	Blue	Bx			0.143			
		By			0.102			
	White	Wx			0.310			
		Wy			0.330			
Viewing Angle	Hor.	$\theta$ L	CR $\geq$ 10	70	85	-	Degrees	(7) EZ- Contrast
		$\theta$ R		70	85	-		
	Ver.	$\phi$ H		70	85	-		
		$\phi$ L		70	85	-		
Brightness Uniformity (9 points)		Buni		-	-	25	%	(8) BM-5A



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DESIGNED FOR VISIONARIES