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Monitor Elo 1717L

Monitor touch robusto, fabricado com tecnologia resistiva avançada para suportar condições extremas de uso contínuo. Resistente a líquidos, alimentos, poeira e insetos, é ideal para ser utilizado em locais com grande concentração de clientes.



Service Manual Elo Touch Solutions ET1517L and ET1717L Touchmonitors

Part Description	Part Number
ET1517L-7UWA-1-GY-ZB-G	E999454
ET1517L-7UWA-1-WH-ZB-G	E247852
ET1517L-8UWA-0-GY-ZB-G	E953836
ET1517L-8UWA-0-WH-ZB-G	E291747
ET1717L-7UWA-1-GY-ZB-G	E433551
ET1717L-7UWA-1-WH-ZB-G	E650075
ET1717L-8UWA-0-GY-ZB-G	E928533
ET1717L-8UWA-0-WH-ZB-G	E854392

ES600904 Rev A

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Revision History

Rev	Author	Date	Description
А	Ruby Chen	August 10, 2012	Initial release per ECO-12-014715
			N.O.F



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1. Product Overview

1.1. Specification overview

	Model Name	ET1517L	ET1717L
	LCD Size	15"	17"
	LCD Vendor	CMI / AUO	CMI / AUO
	Panel Model No	G150XGE-L04 / G150XG03 V5	M170EGE-L20 / G170EG01-V1
	Active Area (mm)	304.128(H) x 228.096(V)	337.920 (H)x 270.336(V)
	Resolution	XGA 1024 x 768 (pixels)	XGA 1280 x 1024 (pixels)
Danal	Aspect Ratio	4:3	5:4
Fanel	Brightness (typ)/(min)	250 nits (typ.)/200 nits (min)	300 nits (typ.)/250 nits (min)
	Contrast Ratio (typ.)	700:1 (typ.)	800:1 (typ.)
	Response Time (ms)	8ms (typ.)/ 16max	5ms (typ.)/ 10max
	Pixel Pitch	0.297mm	0.264mm
	Viewing Angle	160 degree (H) / 140 degree (V)	170 degree (H) / 160 degree (V)
	Panel Bit (8 or 10)	8bit (16.2M)	8bit (16.7M)
Platform Solution	Scalar	Realtek 2281W	Realtek 2281W
Damar	Voltage	100 V ~ 240 V, 50 Hz / 60 Hz	100 V ~ 240 V, 50 Hz / 60 Hz
	Maximun (Watt)	<10W	<21W
Power	Standby (Watt)	<1.1W	<1.1W
	Power Off (Watt)	<1.0W	<1.0W
	Operation Temp (dC)	0°C ~ 40°C	0°C ~ 40°C
	Storage Temp (dC)	-20°C ~ 60°C	-20°C ~ 60°C
	Storage Humidity	10% ~ 90% RH Non-Condensing	10% ~ 90% RH Non-Condensing
Environment	Operating Humidity	20% ~80% RH Non-Condensing	20% ~80% RH Non-Condensing
	Operating Altitude	0 ~ 10,000 feet[3048m]	0 ~ 10,000 feet[3048m]
	Non-operating	0 ~ 35,000 feet[10,668m]	0 ~ 35,000 feet[10,668m]



1.2. Interface Functions

1.2.1 VGA

The monitor will be able to display analog RGB component video when inputted to the DE-15 VGA connector. It shall comply with the VESA DDC/CI standard.

1.2.2 DVI

No DVI connector for this product.

1.2.3 LED indicator

Condition (Applies to Monitor or Monitor with Computer Module)	LED status
OFF	OFF
SLEEP	PULSING
ON	ON

1.3. Software Specification

1.3.1 Compliant Timing

1.3. Software Specification		.022
1.3.1 Compliant Timing	0.50	×·
	ET1515L	ET1717L
Preset Video Modes (input video modes which won't require user adjustments to image)(refer to SW600637 for detailed timing parameters)	640x480 60Hz,75Hz 720x400 70Hz 800x600 56Hz,60Hz,75Hz 1024x768 60Hz,75Hz	640x480 60Hz,75Hz 720x400 70Hz 800x600 56Hz,60Hz,75Hz 1024x768 60Hz,75Hz 1280x1024 60Hz,75Hz
Input Video Horizontal Frequency (outside these ranges, monitor will permanently display an Out Of Range message)	31.5 – 80 KHz	31.5 – 80 KHz
Input Video Vertical Frequency (outside these ranges, monitor will permanently display an Out Of Range message)	56 – 75 Hz	56 – 75 Hz



1.3.2 OSD Table

0.0 HotK	ey		
Button	Euroction when OSD is not displayed:	Function when OSD is	
	Tunction when COD is not displayed.	displayed:	
Menu	Display OSD main menu	Return to previous OSD menu	
	Main Menu		
	Auto Adjust		
	🔆 Luminance		
	Image Setting		
	RGE Color		
	OSD OSD		
	🖆 Recall	1	
	Audio	- A:OC	
	Exit		
	1024x786 H:60KHz V:75Hz		
	Display OSD Brightness submenu		
		Increase value of selected	
+	Still Exit	parameter /	
		select previous menu item	
	1024x786 H:60KHz V:75Hz www.elotouch.com		
	j 🛛 🤊 🔶 🌒 🅑		
	Display Audio submenu(If support Audio)		
	Audio		
		Decrease value of selected	
-	Volume 27	parameter /	
	last Exit	select next menu item	
	1024x786 H:60KHz V:75Hz www.elotouch.com		



	Display Contrast submenu(If not support Audio) Luminance	
-	Contrast 50 1024x786 H:60KHz V:75Hz www.elotouch.com	Decrease value of selected parameter / select next menu item
	Auto Adjusting (If not support dual version)	
Select	Auto Adjusting	Select parameter for adjustment / select submenu to enter
	Input Select Menu(If support dual version)	021
	Luminance	S ^K
Select	VGA Priority DVI Priority 1024x786 H:60KHz V:75Hz	Select parameter for adjustment / select submenu to enter



Menu	Remark	Required
1.0 Main Menu		103/110
Main Menu	1. When Main Menu is not displayed, Press	Yes
Ga⊧ Auto Adjust	"Menu" then main menu will display.	
Luminance	2. The OSD position should be on the right bottom and the buttons on OSD should be	
Hage Setting	aligning to the physical buttons on the bottom.	
RGB Color		
OSD OSD		
🖆 Recall		
u audio Audio		
题 Exit		
1024x786 H:60KHz V:75Hz www.elotouch.com	022	
Main Menu	1. Audio item will be disappeared if audio	Vee
Auto Adjust	2. The OSD position should be on the right	165
Luminance	bottom and the buttons on OSD should be aligning to the physical buttons on the bottom	
← Image Setting		
REE Color	L	
OSD OSD		
Recall		
🖅 Exit		
1500		
1024x786 H:60KHz V:75Hz www.elotouch.com		
Power Locked	1. Press the "Menu" and "-" keys for two seconds to toggle the monitor's Power Locking feature between locked and unlocked. This feature allows end-users no access to the monitor's power controls. The	Yes
	OSD will show an "Power Locked" message for 5 seconds when becoming locked, and	
Power Unlocked	will show an "Power Unlocked" message for 5 seconds when becoming Yes unlocked. While the power is locked, pressing the power switch will have no effect on the monitor. Default setting is unlocked.	



Menu	Remark	Required Yes/No
Main Menu Auto Adjust ☆ Luminance ↔ Image Setting OSD OSD OSD OSD ☆ Recall ♥ Audio ♥ Exit Image Setting OSD OSD OSD ● Ecall ● Exit	1. When "Power Locked", the "power" button will be disappeared.	Yes
OSD Locked OSD Unlocked	 Press the "Menu" and "+" keys for two seconds to toggle the monitor's OSD Locking feature between locked and unlocked. This feature allows end-users no access to the monitor's OSD controls. The OSD will show an "OSD Locked" message for 5 seconds when becoming locked, and will show an "OSD Unlocked" message for 5 seconds when becoming unlocked. While the OSD is locked, pressing any of the "Menu", "+", "-", or "Select" keys will have no effect on the OSD. Default setting is unlocked. 	Yes
1.1 Auto Adjust Menu		
Automatically adjusts the system clock to H-position, V-position, Clock, and Phase r VGA input video.	the input analog RGB video signal, affecting the nenu items. This adjustment is only available on	
⊂ a⊧ Auto Adjusting	1. There is an "Auto Adjusting" message when executing "Auto Adjust" on the center of the screen until finishing.	Yes



Menu	Remark	Required Yes/No
1.2 Luminance Menu		
Luminance Image: Brightness Image: Description of the second se	1. Show brightness & contrast value on this menu.	Yes
1.2.1 Brightness Adjusts the Brightness signal from 0% (mi	nimum brightness) to 100% (maximum	
100% (maximum brightness)	o 100 using at least 25 discrete steps. Deladit.	
Luminance Brightness	 "Up" & "Down" Icons will be "+"&"-" on this menu Show the brightness value and gauge. Note: Please follow the panel specification to define the maximum and minimum of the brightness. 	Yes
1.2.2 Contrast Adjusts the contrast of the video signal (ga (maximum) on a scale from 0 to 100 using setting which will clearly display a 25-step	ain of the A/D) from 0% (minimum) to 125% at least 25 discrete steps. Default: 50 that gray shade pattern.	
Luminance Contrast 50 1024x786 H:60KHz V:75Hz www.elotouch.com	 "Up" & "Down" Icons will be "+"&"-" at this menu. Show the contrast value and gauge. 	Yes



	Menu		Remark	Required Yes/No
1.3 Image	e Setting Menu(V	GA input source		
	Image Setting		1. Show H. Position & V. Position & Clock &	No
	Input Select	•	Phase & Sharphess value on this menu.	
	H. Postion	50 ►		
	V. Position	50 ►		
3	Clock	50 ►		
222	Phase	79 ►		
	Aspect Ratio	•		
AA	Sharpness	0 ►		
F	Exit			
	24x786 H:60KHz ww.elotouch.com	V:75Hz	0.54:022	
1.3 Image	e Setting Menu(D	VI input source)	TON	
	Image Setting		20	No
(*****	Input Select	•	. 0 ³	
	H. Position	501		
	V. Position			
E	Clock	54		
883	Phase 5	•		
	Aspect Ratio	•		
AA	Sharpness	0 ►		
E	Exit			
	24x786 H:60KHz ww.elotouch.com	V:75Hz		







Menu	Remark	Required Yes/No	
1.3.3 V. Position			
Moves the image vertically in single-pixel i least 50 discrete steps. Default: 50 (center available on VGA input video.	ncrements on a scale from 0 to 100 using at red in the panel). This adjustment is only		
Image Setting	1. "Up" & "Down" Icons will be "+"&"-" at this	Yes	
V Regition	menu. 2 Show the V Position value and dauge		
 ✓. Fosition ✓. 50 	2. Chew the V. Position value and gauge.		
1024x786 H:60KHz V:75Hz www.elotouch.com			
1.3.4 Clock	-01-		
Adjusts the ratio of dividing frequency of the least 100 discrete steps. Default: That sett white vertical lines without aliasing. This additional statement of the set of the s	ne dot clock on a scale from 0 to 100 using at ing which will display alternating black and djustment is only available on VGA input video.		
Image Setting	1. "Up" & "Down" Icons will be "+"&"-" at this	Yes	
Clock	2. Show the Clock value and gauge.		
< ► 50			
20			
1024x786 H:60KHz V:75Hz www.elotouch.com			
1.3.5 Phase			
Adjusts the phase of the panel dot clock w 100 using at least 25 discrete steps. Defau adjustment is only available on VGA input	ith respect to panel data on a scale from 0 to Ilt: determined/optimized by system clock. This video.		
Image Setting	1. "Up" & "Down" Icons will be "+"&"-" at this	Yes	
Phase	menu. 2. Show the Phase value and dauge		
 < 50 			
1024x786 H:60KHz V:75Hz www.elotouch.com			



Menu	Remark	Required Yes/No
1.3.6 Aspect Ratio		
Switches the scaling method between two Full Scaling – scales the X- and Y-dimens to the display's native resolution. (Default) Fill To Aspect Ratio – Assuming a landsca ratio smaller than 16:9, scales the Y-dimen needed) to the display's Y-resolution, and ratio (and fills the rest of the display with e	options: ions of the input video (up or down as needed) ape orientation and an input video with aspect nsion of the input video (up or down as scales the X-dimension to maintain the aspect equal black bars on the left and right).	
Note: Intellitouch and Accutouch screens between the options. APR screen function	may need recalibration when switching ality is only guaranteed at "Full Scaling".	
Aspect Ratio		Yes
Fill Screen		
Fill to Aspect Ratio		
Exit 1024x786 H:60KHz V:75Hz www.elotouch.com () () () () () () () () () ()	-00:54:022	
1.3.7 Sharpness	28	
Adjusts sharpness of video signals on a se sharpness correction). Note: This adjustment only available wher resolution.	cale from -2 to 2 using 5 steps. Default: 0 (no n input video does not meet monitor's native	
-2 -1 -0 -1 -2 1024x786 H:60KHz V:75Hz www.elotouch.com () () () () () () () () () () () () () (1. Show the sharpness value.	Yes







Menu	Remark	Required Yes/No
1.4.1.1 Red		
Color	1. "Up" & "Down" Icons will be "+"&"-" at this menu.	Yes
Red	2. Show the red value and gauge.	
1024x786 H:60KHz V:75Hz		
1.4.1.2 Green		
Color	1. "Up" & "Down" Icons will be "+"&"-" at this	Yes
Green	menu. 2. Show the Green value and gauge.	
▲ ► 100	1	
	1.0LL	
www.elotouch.com	0.54	
	atus	
1.4.1.3 Blue		X
Color	1. "Up" & "Down" Icons will be "+"&"-" at this menu.	Yes
Blue	2. Show the Blue value and gauge.	
▲ ▶ 100		
-52		
1024x786 H:60KHz V:75Hz www.elotouch.com		
1.5 OSD Menu		
OSD	1. Show OSD Timeout value on this menu.	Yes but
GSD Rotation ►		rotation
OSD Timeout 15 ►		
P Language		
(i) Information		
₩ Exit		
1024x786 H:60KHz V:75Hz www.elotouch.com		







Menu	Remark	Required Yes/No
1.5.3 Language		
Selects which language the OSD informati French, Italian, German, Spanish, Simplific Japanese. Default: English.	ion is displayed in. Options shall be: English, ed Chinese, Traditional Chinese and	
Language		Yes
English		
Français		
Deutsch		
Italiano		
Spanish		
日本語		
繁體中文		
简体中文	2L	
1024x786 H:60KHz V:75Hz www.elotouch.com	T00:54:0	
1.5.4 Information		
OSD	0.9-6	Yes
ET1517 TouchMonitor	2:0	
PN: E00001 SN: W11A000001		
1024x786 H:60KHz V:75Hz www.elotouch.com		
1.6 Recall Menu		
Selecting "Recall Defaults" shall restore al parameters (except OSD Language and C timings.	I factory default settings for OSD-adjustable OSD Location) and for the Preset Video Modes'	
Recall	1.default is No.	Yes
Recall Defaults		
Yes No		
1024x786 H:60KHz V:75Hz www.elotouch.com		



Menu	Remark	Required
û Recalling	1. There is a "Recalling" message when executing "Recall defaults" on the center of the screen until finishing.	Yes
1.7 Audio Menu		
Audio		No
Volume 27		
😹 Exit		
1024x786 H:60KHz V:75Hz www.elotouch.com		
1.7.1 Mute	64.0	
	-00:5	
Toggles the audio output between Muted a	and Not Muted. Default: Not Muted	
Audio	1."+"&"-" are disable on this menu.	No
III → Mute	2:00	
Press Select to Change		
1024x786 H:60KHz V:75Hz www.elotouch.com		
1.7.2 Volume		
Adjusts the volume (of the internal speake x2 on a scale from 0 to 100. Default: a co	rs or the headphones) from 0 Watt to 2 Watt mfortable setting for maximum input levels.	
Audio Volume 0 Max 27	 "Up" & "Down" Icons will be "+"&"-" at this menu. Show the Volume value and gauge. 	No
1024x786 H:60KHz V:75Hz www.elotouch.com		



Menu	Remark Require	
1.8 Factory Menu		165/110
Main Menu	1. If the unit is turned on while the "Select"	Yes
F Auto Adjust	button is held, a "Factory" menu will be available in the OSD. This menu will not be	
↔ Image Setting		
REE Color		
OSD OSD		
Recall		
12 HR 45 MIN 12 HR 28 MIN AUTO COLOR GAIN R 100 G 100 B 101 OFFSET R 122 G 121 B 119 9300K R 255 G 255 B 255 7500K R 255 G 255 B 255 5500K R 255 G 255 B 255 5500K R 255 G 255 B 255 SUB BRI 100 SUB CON 92 BURIN OFF RESET BANK OSSCLER ADDR 0000H VALUE 0000H EXIT MODE INDEX 36 HPVP AUO185XW01V0 TAUM18EK E731193 REVA	 Factory menu is display on the left-top corner of the screen. Function introduction: Total time of System on – HR & Min Total time of panel Backlight on –HR&Min AUTO COLOR: Auto Balance GAIN: Color Gain Value from R G B OFFSET: Color Offset Value from R G B 9300K: Tune R G B value on color temperature 0f 9300K. 7500K: Tune R G B value on color temperature 0f 7500K. 6500K: Tune R G B value on color temperature 0f 6500K. 5500K: Tune R G B value on color temperature 0f 5500K. SUB BRI: tune sub brightness SUB CON: tune sub contrast BURNIN: on/off burn in mode RESET: Factory Recall BANK: Register bank value ADDR : Register Index VALUE: Register Index Value MODE INDEX: Indicates what resolution is now and it's polar of H&V. Display panel model name Scalar IC model and firmware document 	



Menu	Remark	Required Yes/No
Out of Range	 There is an "Out of Range" message if the input signal's pixel clock is too big. 	Yes
No Signal Detected	 There is a "No Signal Detected" message if no input signal. 	Yes

1.4. EDID Code

All video interfaces shall contain a DDC-accessible EDID V1.3 file with 0 extension blocks. Each EDID will be write-protected in normal operation. Some basic requirements for the EDID files are:

- Vendor ID: ELO
- Product ID: 1517/1717
- Mfg Week, Mfg Year, and 6-digit Serial Number according to monitor's serial number
- Corresponding supported timing, size, and color information



2. Level 1 Cosmetic / Appearance / Alignment Service

2.1. Firmware and EDID Upgrade Process

2.1.1 Software configuration:

Step 1. Unzip "RTD Customer Tool V1.7 Install_20110301"

Step 2. Click on "RTD Customer Tool V1.7 Install_20110301" to run the program



Step 3. Click on "Next" when following screen pops up

RTD Customer Tool Setup RTD Customer 7	rool	- 00 ^{.5} A.9	
	RTD Customer Tool Setup	come to the Setup Wizard for RTDTool Setup Wizard will install RTD Customer Tool on your uter. To continue, click Next.	
		Cancel	1



Step 4. Click on "Next" when following screen pops up

TD Customer T	'ool
	RTD Customer Tool Setup
	Choose Destination Location Select folder where Setup will install files.
	Setup will install RTD Customer Tool in the following folder.
	To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
	Destination Falder
	C:\Program Files\RealTek\RTD Customer Tool Browse
	hatalißhield
	Aretalis filed

Step 5. Click on "Next" when following screen pops up

RTD Customer Tool Setup
Start Copying Files Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files. Current Settings:
User Information: User Name: User Company:Flealtek
Program Install Path:C:\Program Files\RealTek\RTD Customer Tool
< Back Next> Cancel



Service Manual: ET1517L, ET1717L ES600904 Rev B, Page 23 of 44 Step 6. Wait for update progress and click on "finish" when setup complete screen pops up



Note: If RTD customer tool can't detect USB ISP BD after you installed SW in PC and checked all the connection of cables correctly, you can re-boot the PC and try again to solve this problem.



2.1.2 Hardware configuration:

Step 1. Prepare following items

- a. PC with 2K or XP system*1
- b. USB cable (A type to B type) *1
- c. D-sub cable *1
- d. Power cord *1
- e. AC Adaptor *1
- f. RTD USB ISP BD*1



- Step 2. Connect the cables to PC, ET1517L or ET1717L Monitor and RTD USB ISP BD a. Connect USB cable between PC and RTD USB ISP BD
 - b. Connect VGA cable between monitor and RTD USB ISP BD (VGA OUT)
 - c. Connect the power cord firmly to the Monitor and the electrical outlet





2.1.3 FW Update Procedure:

Step 1. Double click on it to run "RTD tool Customer V1.7" and check if the connection is OK

VA V1 V2 V3 V4		
AN AL AL AN AT A	x6 x7 x8 x9 x4	A XB XC XD XE XF
x		
×		
X		
Â.		
X		
x		
×		
5x		
lx		
×		
lx		
X		
		XOP
2 2		all
age Select Page & Ember	dded ADC/ABL/LVB/Smith	trigger/Embedded100
Statue: OK	C Debug Message	Clear Flag Status
	Enable Color Mark	Debug Mode
Stop (E5) Run (E8)	Access Port Win 2	Last Line Analyse
Read (F6)	E Epshla Road All	Save Compare

- a. If connection with JIG is OK, the USB button is green, otherwise the color is gray.
- b. If Communication with monitor is OK, the Commu button is green, otherwise the color is red



Select "ISP", then, selec	"Serial Flash	,	
RTD Tool Customer ¥1.7 2011-03-01			
Advanced Setting Page Select Debug Message	alar 2281 CW - 📀	9 2 1	
Ctrl Rep ISP IIC	TCON C	SD DC	C Dither Gamma
BTD2120 BTD2122 Serial Flash	Enrom		e I entre I seemine .
Bank File Path 2010/3/10 下午 02:17:54	CheckSum Len	ProLen Refresh	Company and the
0-		64K	☐ ISP Boot Code
15		64-128K	Show Current File Version Inf
2 -		128-192K	ProjectName
3		192-2558	ProjectVersion
4		256-320K	Date
5		380-3846	FlashType
6		384-448K	EepromEmulation
7		846-512K	Version Code: DV 00
Bank 8-255		-	Show
8 [8]		LD'SIE	Read Out IC Version Info.
*	ISP Type: Normal Flash Brand: P-Flash Option: Auto	Option ← Auto ← Erase	ProjectName ProjectVersion Date
~	EraseType: - ISP Address: 0x94 File Type: Hex Auto Detect Flash: Dis Sector Erase: -	able	FlashType EepromEmulation ScalarType Version Code 0x 2 Read
	ISP Option	9	Info Mismatch!

Step

Step 3. Click on "ISP Option" to set appropriate setting for monitor

EDID HDCP Flash	OD	Cor	nReg D	P EDP	1
Ctri Reg ISP IIC	FEDROM	0	su uc	C Dither	Gamma
ank File Path 2010/3/10下午 02:17:54	CheckSu	m Len	ProLen Refresh	E ISD Bast Ca	da
IF TO S			64K	I ISP Boot Co	ue
Ψ₽		1	64-128K	Show Current F	ile Version Inte
2 -			128-192K	ProjectName	
3 -			192-256K	ProjectVersion	
a 🗂 📔			256-3208	Date	
5		-	380-3648	FabronEmulation	
5 -			38/4448K	ScalarTupe	
			846-512K	Version Code 0x 00	Show
3 - 8 -		T	LD Sile	·	
	ISP Type: Norm Flash Brand: P- Option: Auto EraseType: - ISP Address: 0 File Type: Hex Auto Detect Fla Sector Erase: -	hal Flash k94 sh: Dis	Option	ProjectName ProjectVersion Date FlashType EepromEmulation ScalarType Version Code Ox	A Read





3.2 Select "Flash Protect" and set as following

User Define0	64		
Value C Low • High Series C D Series • LPA Series C LPD Series C RD Series	D/RD Series	LPA Series Pin26 Pin27 Pin28 Pin29 Pin56	LPD Series Pin103 Pin104 Pin108 Pin108 Pin110 Pin111 Pin112 Pin113 Pin114 Pin122
Flash Status Regis Set Status Reg ProtectFlashSta	ster Value: 0x 90 atusRegAfterISP	Read Status	Reg 0x

Select "User Define0" in "Flash Protect" Set "Value" to High Set "Series" to LPA Series Set "LPA Series" to Pin27





EDID Phase H	DCP	Flash	OD	ComR	eg	DP	EDP
Ottl Ring ISP	IIC	TCON	OSD	DCC		Dither	Gamma
RTD2128 RTD2122 Serial File Serial File Path 2011-10-23 20 16:36 0 ○ C\Documents and Settings\Ad 1 ○ C\Documents and Settings\Ad 3 ○ C\Documents and Settings\Ad 3 ○ C\Documents and Settings\Ad 5 ○ C\Documents and Settings\Ad	ash EE i ministrati ministrati ministrati ministrati ministrati ministrati	Prom DeckSur 224E かえます、224E かえますべき 224E	n Len Pro 23779 654 60430 655 53241 655 62068 655 50606 655 42469 655	Len Refresh 536 644 536 64-128K 536 128-192K 536 192-256K 536 192-256K 536 256-320K 536 304-448K 536 384-448K	F ISF Show Projecti Dale Fisihity Erspini Sicilari Vesion	P Boot Cod Current Fi Iana Ierson pr Ensistion pr Ensistion Code Do 20	e le Version In Show
BANK 1 CRC OK. Sector Erase OK. Read CRC 0xDE Program BANK 0 100 % Calculate CRC 0x38 Read CRC 0x38 BANK 0 CRC OK.	*	SP Type Norm Flash Brand P4 Dohon: Adlo EraseType - SP Addross 0x File Type Hax Wto Detect Flas Sector Erase -	al Rash 94 In Disable	Option (* Auto * Erese	Projecti Projecti Date FlashTy Exprosi ScalarT Vession	Lame Version De Emulation Spe Code De	A Reas
PASS		ISP Optio	in	9	In	fo Mis	match!



2.1.4 EDID Upgrade Procedure

Step 1. Select "IIC" and key in "**6e 51 82 e0 00 5d**" as following, then, click on "Send Data" to disable EDID EEPROM write protect.

Note: DC off monitor when RTD Cu	ustomer Tool sends write	protect command to monitor
----------------------------------	--------------------------	----------------------------

RTD T	ool Cust	omer V1.	7 2011-	03-01				
Advanced S	letting Pa	ge Select	Debug Message			1.00		
Commu.	USB .	USB	S	calar 22	81CW -	0 9		
EDID	Dhaca	HDCP	Flach	on	ComRed	DP	EDP	
Chil Ben	ISD	lic	TCON	000	DCC	Dither	Gamma	
corrieg	1.01		TOOR	030		Dimer	Gamma	
Dx	x1 x2	x3 x4	x5 x6 x7	x8 x9	XA XB	XC XD	XE XF	
0x	1	-	-	-				
1x					_			
2x					_			
3X								
4X								
SX Cu								
DX .								1
/X 0.				-				
0X Qu				-			0	
Av								
By							bh I	
C I				-		50		
Dx								
Ex					6			
Fx					90			
Device	Select			C				
· Throu	igh MCU	C 2120/21	22 C Emb	edded M	cu Sta	tus: (DK	
-	Dur	0	E2PROM	R/	WAddress			
Stop	Hun	Upen	I The second	- 0	Start: 0x	00 En	d:0x 7FF	
Read	Write	Save	24LC16	1 0	Device fr	I En	d-OVEE	
DDCCI	-				Device.ux1		iu.oxp	
Dev	Add 1	2 3 4	5 6 7	8 9 10	11 12 13	14 15	16 17 18	Fill the number
Send 6e	51 82 et	00 5d						
Receive								"6e,51,82,e0,00,5d
-				_				1
Head Byte	Number: 18	(1-16)	Checksum	W	rite Re	ad S	end Data	
								1



Advanced S Ctrl Reg EDID x0 0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x Ax	USB Ph ×1 FF 16 50 01 00 31 1F 30	SP ase x2 FF 01 54 01 30 37 50 30	 ce Se de FF 03 A7 01 E4 4C AA 	USB connect IIC DCP x4 FF 6E 4A 01 10 0A	2eb	rCOP Flas x6 FF 17 61 64	x7 00 78 40	alar OSD OD x8 15 EA 01	2281 2281 (x9 8F AA	CW DCC Comf xA 15 20	C Reg	Dith Dith XC 01 56	P xD 4A	Gan EDF xE 00 9A	xF 00 24		
Ctrl Reg EDID x0 0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x Ax	USB Ph ×1 FF 16 50 01 00 31 1F 30	SP ase x2 FF 01 54 01 30 37 50 30	H x3 FF 03 A7 01 E4 4C AA	USB connect IIC DCP X4 FF 6E 4A 01 10 0A	x5 FF 1E 00 01 00	Flas x6 FF 17 61 64	Sc x7 00 78 40 19	alar OSD OD x8 15 EA 01	2281 x9 8F AA	CW DC Comf xA 15 20	Reg xB 17 A6	Dith Dith XC 01 56	P xD 4A	Gan EDF xE 00 9A	xF 00 24		
OX Cirl Reg EDID 0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x	USB Ph ×1 FF 16 50 01 00 31 1F 30	x2 FF 01 54 01 30 37 50 30	H x3 FF 03 A7 01 E4 4C AA	IIC DCP x4 FF 6E 4A 01 10 0A	x5 FF 1E 00 01 00	Flas FF 17 61 64	x7 00 78 40 19	0SD 0D x8 15 EA 01	x9 8F AA	DC Comf xA 15 20	C Reg	Dith Dith XC 01 56	P xD 4A	Gan EDF xE 00 9A	xF 00 24		
x0 0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x	×1 FF 16 50 01 00 31 1F 30	x2 FF 01 54 01 30 37 50 30	H x3 FF 03 A7 01 E4 4C AA	IIC DCP 5F 6E 4A 01 10 0A	x5 FF 1E 00 01 00	Flas x6 FF 17 61 64	x7 00 78 40 19	OSD OD x8 15 EA 01	×9 8F AA	DC omf xA 15 20	C Reg	Dith Di xC 01 56	P xD 00 4A	Gan EDF xE 00 9A	xF 00 24		
x0 0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x	Ph FF 16 50 01 00 31 1F 30	x2 FF 01 54 01 30 37 50 30	H x3 FF 03 A7 01 E4 4C AA	DCP x4 FF 6E 4A 01 10 0A	x5 FF 1E 00 01 00	Flas x6 FF 17 61 64	h x7 00 78 40 19	0D x8 15 EA 01	×9 8F AA	xA 15 20	xB 17 A6	D xC 01 56	P xD 00 4A	EDF xE 00 9A	xF 00 24		
x0 0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x	×1 FF 16 50 01 00 31 1F 30	x2 FF 01 54 01 30 37 50 30	x3 FF 03 A7 01 E4 4C AA	x4 FF 6E 4A 01 10 0A	x5 FF 1E 00 01 00	x6 FF 17 61 64	x7 00 78 40 19	x8 15 EA 01	x9 8F AA	xA 15 20	xB 17 A6	xC 01 56	xD 00 4A	xE 00 9A	xF 00 24]	
0x 00 1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x	FF 16 50 01 00 31 1F 30	FF 01 54 01 30 37 50 30	FF 03 A7 01 E4 4C AA	FF 6E 4A 01 10 0A	FF 1E 00 01 00	FF 17 61 64	00 78 40 19	15 EA 01	8F AA	15 20	17 A6	01 56	00 4A	00 9A	00 24		
1x 10 2x 12 3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x	16 50 01 00 31 1F 30	01 54 01 30 37 50 30	03 A7 01 E4 4C AA	6E 4A 01 10 0A	1E 00 01 00	17 61 64	78 40 19	EA 01	AA	20	A6	56	4A	9A	24		
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3x 01 4x 36 5x 35 6x 4B 7x 00 8x 9x 9x 4x	01 00 31 1F 30	01 30 37 50 30	01 E4 4C AA	01 10 0A	01	64	19	and the second sec	01	01	01	01	01	01	01	1	
4x 36 5x 35 6x 4B 7x 00 8x 9 9x 4x	00 31 1F 30	30 37 50 30	E4 4C AA	10 0A	00			00	40	41	00	26	30	18	88		
5x 35 6x 4B 7x 00 8x 9x Ax	31 1F 30	37 50 30	4C AA	UA.	0.0	00	1E	00	00	00	FC	00	45	54	31		
6x 48 7x 00 8x 9x Ax	30	30	AA.	00	20	20	20	20	20	00	00	00	FD	00	32	-	
7x 00 8x 9x Ax	30	50	20	00	UA 20	20	20	20	20	20	20	00	00	00	FE	-	
9x Ax			30	30	30	30	30	30	30	30	30	30	31	00	51	2	
Ax		-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
AX	-	-	-	-	-	-	-	-	-	-	-	-		h	/	-	
By				-			-		-							-	
CX I	-			-					-							-	
Dx				-		-	-	-			5	P	1	-	-		
Ex	1			-						łC	P		1	1	-		
Fx				1		1			0		1					1	
Function	Sele	ect I	IDM	anuta	octure	Tim	e an	Ver	sion	-	-	-	-	-	-		
Enab Mark File Sh Gurr Differen	Diffe Diffe ow ont (a 0x	olor I erenc Ba			Sub Slav Sage Sub	Add Byte Add Write Add add ED	Idress	a vers mat 2 B ss 0 bytes 0x (0 or AUX	x A(8 _ 200 (2156)			Len 8 B	gth C	256	B B C C C C C C C C C C C C C	 128B for VGA Open EDID file Write EDID 	

Step 3. It will show "Write EDID OK" after finishing EDID writing.

The Information ¥1.7	
Write EDID OK!	
Close	



2.2. Alignment procedure (for function adjustment)

Items	Description	Remark
1	Timing adjustment	Preset timing
2	Auto color balance adjustment	Timing 114 (VGA480) (<u>640x480@60HZ</u>) Burn-In Mode: ON Pattern: 5-Mosaic pattern #42
3	Color temperature adjustment	9300K/Cool, 7500K 6500K/Standard 5500K/Warm

The list of necessary alignment for a LCD monitor.

2.2.1 Preparation:

- Setup input timing to any preset modes, any patterns. 1.
- Enter factory mode (Press "Select" and "Power" button at the same time to turn on monitor) 2.
- 3. Enter factory OSD (Press "F" in OSD window left top side) D:54:C
- 4. Select Burning ON
- 5. Plug out AC cable
- Setup unit and keep it warm up at least 30 minutes. 6.

2.2.2 Auto color balance adjustment:

- 1. Setup input timing #114 VGA480 (640x480@60Hz), pattern #42(5-Mosaic) with analog signal from Chroma video pattern generator.
- 2. Enter factory mode (Press "Select" and "Power" button at the same time to turn on monitor).
- 3. Enter factory OSD (Press "F" in OSD window left top side).
- 4. Select "Auto Color", after ADC calibration OK, factory OSD window will move to middle of screen.

2.2.3 Color temperature adjustment:

- 1. Setup input timing to any preset modes, pattern #42(5-Mosaic) with analog signal from Chroma video pattern generator.
- 2. Enter factory mode (Press "Select" and "Power" button at the same time to turn on monitor)..
- 3. Make sure ADC calibration (auto color balance adjustment) had already been done.
- 4. Measure and adjust color temperatures by CA-210 spectrometer (or equivalent equipment) to the required specification listed in Figure-1 below. Manually adjusting R/G/B gain values in the factory OSD menu.







5. Turns off the monitor power.



3. Level 2 Disassembly /Assembly Circuit Board and Standard Parts

Replacement

3.1. Parts list

ET1517L:

NO.	ELO P/N	Qisda P/N	Qisda Description
1	E164518	5F.MU5VP.011	LCDM15 G150XG03-V5 AUO P/G
2	E120875	5F.MM5VP.001	LCDM 15 G150XGE-L04 P E120875
3	E516564	TY.5F900.002	TOUCH CCREEN AT 1517 E516564
4	E892455	TY.5F900.003	TOUCH SCREEN IT 1517 E892455
5		CS.5J1US.001	PACK AD BD 15-AUO EP15TF4
6		CS.5J1US.011	PACK AD BD 15-CMI EP15TF4
7		5E.1UT10.001	PCBA KEYPAD BD EP17TF1
8	E329179	EM.5D900.01R	PCBA CTR221800ATRSU00R E329179
9	D68054-000	EM.5D900.005	PCACTR270100ITRSU00RD68054-000
10		3J.1US02.001	BEZEL AT AUO ABS GY EP15TF4
11		3J.1US02.011	BEZEL AT AUO ABS WH EP15TF4
12		3J.1US01.001	BEZEL IT AUO ABS GY EP15TF4
13		3J.1US03.001	CASE BACK ABS BLACK EP15TF4
14		3J.1US03.011	CASE BACK ABS WH EP15TF4
15		3J.1US04.001	CASE MSR BC ABS BLACK EP15TF4
16		3J.1US04.011	CASE MSR BC ABS WH EP15TF4
17	055	3J.1US05.001	CASE F STAND ABS EP15TF4
18	,150	3J.1US05.011	CASE F STAND ABS WH EP15TF4
19		3J.1US06.001	CASE BACK STAND ABS EP15TF4
20		3J.1US06.011	CASE BACK STAND ABS WH EP15TF4
21		3J.1US07.001	CASE VESA STAND ABS EP15TF4
22		3J.1US07.011	CASE VESA STAND ABS WH EP15TF4
23		3J.1US08.001	CASE BASE STAND ABS EP15TF4
24		3J.1US08.011	CASE BASE STAND ABS WH EP15TF4
25		4B.1US01.001	KEY PAD OSD ABS EP15TF4
26		4B.1US01.011	KEY PAD OSD ABS WH EP15TF4
27		4B.1US02.001	LIGHT PIPE OSD PMMA EP15TF4
28		4G.1US05.001	SPONGE H EP15TF4
29		4G.1US06.001	SPONGE V EP15TF4
30		5K.1US04.001	WIRE LVDS 20/30P 1571 150MM



31		5K.1US01.001	WIRE 5/5P 1571#28 140MM
32		5K.1US02.001	WIRE 5/6P 1571#28 135MM PANEL
33		5K.1US03.001	WIRE 6/20P 1061#28 90MM TOUCH
34		2E.A123D.W16	ADT SW12V3.33A40W DC UNI LITEO
35		2G.01111.011	CORD SVT125V WO/SH1.8M US DELL
36		2G.05921.011	CORD 0.75 1.8M EU+KOR+RUSS BLK
37	E744255	EM.4J900.002	MANUAL QIG GENERIC TOUCHMONITO
38		4J.1US04.001	SHEET STAND ASSEMBLY 1517
39	E442022	4J.1US05.001	CARD JAPAN CLASSB TM INFO 1517
40	450261-000	EM.5B900.001	CD DMS-TOUCHTOOLS-CD
41	E344038	5B.1UT02.001	CD MONITOR 1717
42		5K.L1E03.501	CABLE USB 2.0A/B B-PVC 1.8M
43		5K.1US06.501	CABLE SIGNAL/C OD5.8 1.8MXINYA
44		4B.1US05.001	BAG PLASTIC 1517
45	E029964	4D.1US01.001	CARTON 1517
46	E945962	4G.1US03.001	CUSHION MOLDED PULP 1517
47	E799920	4G.1US04.001	CUSHION MOLDED PULP T 1517
	US054	52-2012	09-28709



ET1717L:

NO.	ELO P/N	Qisda P/N	Qisda Description
1	E149399	5F.MU7VP.011	LCDM17 G170EG01-V1 AUO
2	E230053	5F.MM7VP.011	LCDM 17 M170EGE-L20 P
3	E086819	TY.5F900.004	TOUCH SCREEN AT 1717 E086819
4	E872607	TY.5F900.005	TOUCH SCREEN IT 1717 E872607
5		CS.5J1UT.001	PACK AD BD 17-AUO EP17TF1
6		CS.5J1UT.011	PACK AD BD 17-CMI EP17TF1
7		5E.1UT10.001	PCBA KEYPAD BD EP17TF1
8		5E.1UT42.001	PCBA DC/DC BD EP17TF1
9	E329179	EM.5D900.01R	PCBA CTR221800ATRSU00R E329179
10	D68054-000	EM.5D900.005	PCACTR270100ITRSU00RD68054-000
11		3J.1UT01.001	BEZEL IT AUO ABS GY EP17TF1
12		3J.1UT02.001	BEZEL AT AUO ABS GY EP17TF1
13		3J.1UT02.011	BEZEL AT AUO ABS WH EP17TF1
14		3J.1UT09.001	BEZEL IT CMI ABS GY EP17TF1
15		3J.1UT10.001	BEZEL AT CMI ABS GY EP17TF1
16		3J.1UT10.011	BEZEL AT CMI ABS WH EP17TF1
17		3J.1UT03.001	CASE BACK ABS EP17TF1
18		3J.1UT03.011	CASE BACK ABS WH EP17TF1
19		3J.1UT08.001	CASE BC MSR DOOR ABS EP17TF1
20		3J.1UT08.011	CASE BC MSR DOOR WH EP17TF1
21		3J.1UT04.001	CASE FRONT STAND ABS EP17TF1
22		3J.1UT04.011	CASE F STAND ABS WH EP17TF1
23	-055	3J.1UT05.001	CASE BACK STAND ABS EP17TF1
24	, 150	3J.1UT05.011	CASE BACK STAND ABS WH EP17TF1
25		3J.1UT06.001	CASE VESA STAND ABS EP17TF1
26		3J.1UT06.011	CASE VESA STAND ABS WH EP17TF1
27		3J.1UT07.001	CASE BASE STAND ABS EP17TF1
28		3J.1UT07.011	CASE BASE STAND ABS WH EP17TF1
29		4B.1US01.001	KEY PAD OSD ABS EP15TF4
30		4B.1US01.011	KEY PAD OSD ABS WH EP15TF4
31		4B.1US02.001	LIGHT PIPE OSD PMMA EP15TF4
32		4G.1UT03.001	SEAL DUST H EP17TF1
33		4G.1UT04.001	SEAL DUST V EP17TF1
34		5K.1UT04.001	WIRE LVDS 30/30P 1571 150MM
35		5K.1US01.001	WIRE 5/5P 1571#28 140MM
36		5K 1US03 001	WIRE 6/20P 1061#28 90MM TOUCH



	5K.1UT02.001	WIRE 6/6P 1571#28 230MM PANEL				
	5K.1UT03.001	WIRE 6/6P 1061#28 120MM LED				
	2E.A123D.W16	ADT SW12V3.33A40W DC UNI LITEO				
	2G.01111.011	CORD SVT125V WO/SH1.8M US DELL				
	2G.05921.011	CORD 0.75 1.8M EU+KOR+RUSS BLK				
E744255	EM.4J900.002	MANUAL QIG GENERIC TOUCHMONITO				
	4J.1US04.001	SHEET STAND ASSEMBLY 1517				
E442022	4J.1US05.001	CARD JAPAN CLASSB TM INFO 1517				
450261-000	EM.5B900.001	CD DMS-TOUCHTOOLS-CD				
E344038	5B.1UT02.001	CD MONITOR 1717				
	5K.L1E03.501	CABLE USB 2.0A/B B-PVC 1.8M				
	5K.1US06.501	CABLE SIGNAL/C OD5.8 1.8MXINYA				
	4B.1UT01.001	BAG PLASTIC 1717				
E115941	4D.1UT01.001	CARTON 1717				
E198630	4G.1UT01.001	CUSHION MOLDED PULP 1717				
E286356	4G.1UT02.001	CUSHION MOLDED PULP T 1717				
53 E286356 4G.1UT02.001 CUSHION MOLDED PULP T 1717						
	E744255 E442022 450261-000 E344038 E115941 E198630 E286356	5K.10102.001 5K.10102.001 2E.A123D.W16 2G.01111.011 2G.05921.011 E744255 EM.4J900.002 4J.1000 4J.1000 E442022 4J.1000 E344038 5B.10102.001 E344038 5K.1000 E115941 4D.10101.001 E198630 4G.10102.001				



3.2. Packing drawing

3.2.1 Packing Method:





3.2.3 Pallet Loading Data

	Model Name	ET1517L	ET1717L
		Size(mm)	Size(mm)
	Outer carton	447*380*207	482*436*240
	Pallet	1140*900*120	1310*970*120
		Quantity	Quantity
Soa	layers	10	8
Jea	Per pallet	60	48
	Container 20'	720	480
	Loading rate	91%	95%
	Container 40'	1,560	1008
	Loading rate	97%	98%
		Size(mm)	Size(mm)
	Outer carton	447*380*207	482*436*240
Air	Pallet	1140*900*120	1310*970*120
All		Quantity	Quantity
	layers	6	5
	Per pallet	36	30

ET1517L:



ET1717L





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3.3. Trouble Shooting Guide

No.	Issue		Analysis	Solution
1	Panel no display, indicator OSD LED not lighting.	A	Check user interface connection: adapter AC plug to outlet, adapter DC plug to monitor	Re-plug in all the cables, or change a cable
		В	Check OSD Power button ON	Press ON OSD Power button
		С	Check internal connector connection: a. LVDS cable, to panel / to AD board b. Backlight cable, to panel / to AD board / to *LED Driving board c. Keypad cable, to Keypad board / to AD board d. *LED Driving board cable, to LED Driving board / to AD board (Note: " *LED Driving board " is for 17" CMI panel model only)	Re-plug in all the cables.
		D	Check internal cables if there any broken	Replace it, if cable broken.
		Е	Check fuse(F1) on AD board	Replace it, if F1 open.
		F	Check panel power at C63 (15" model 3.3V, 17" model 5.0V) Check scalar power at C73 (3.3V)	Replace related circuit components
2	Panel no display, indicator OSD LED blinking.	A	Check user interface connection: VGA cable to PC, VGA cable to monitor	Re-plug in the cable, or change a cable
3	Panel no display, indicator OSD LED lighting.	A	Check internal Backlight cable connection: a. Backlight cable, to panel / to AD board / to *LED Driving board b.*LED Driving board cable, to LED Driving board / to AD board (Note: " *LED Driving board " is for 17" CMI panel model only)	Re-plug in all the cables.
		В	Check internal Backlight cable if any broken	Replace it, if cable broken.
4	Panel displaying all white, but no image, indicator OSD LED lighting.	A	Check internal LVDS cable connection	Re-plug in all the cables.
		В	Check internal LVDS cable if any broken	Replace it, if cable broken.



No.	Issue		Analysis	Solution
5	Panel displaying, indicator OSD LED not lighting.	А	Check internal Keypad cable connection	Re-plug in all the cables.
		В	Check internal Keypad cable if any broken	Replace it, if cable broken.
6	Panel displaying, OSD button no response.	A	Refer to No. 5	
7	Display abnormal	А	Refer to No. 4	
8	Touch function no response.	А	Check user interface USB connection	Re-plug in the cable, or change a cable
		В	Check internal Touch cable connection: a. Touch cable to AD board / to Touch Controller board b. Touch screen cable to Touch Controller board	Re-plug in all the cables.
		С	Check Touch Power at C52	Replace related circuit components
		D	Check Touch Driver on PC	Reinstall Touch Driver on PC
9	Touch function abnormal.	A	Check Touch Driver on PC	Reinstall Touch Driver on PC
	USOF	504	52-20	



3.4. Circuit Operation Theory

3.4.1. Scalar RTD2270CLW Spec

- One Analog input supported
- Integrated 8-bit triple-channel 210MHz ADC
- 1 and 2 pixel/clock panel support and up to 210MHz
- 8 bits LVDS output interface

3.4.2 System Diagram







3.4.3. AD board Diagram (LCD Controller Board)



3.4.4. Power structure



3.4.5. LED Driver Board Diagram (For ET1717L Only)



