EPD-3133

31.2" E Ink Public Display

Quick Reference Guide

1st Ed – 07 September 2020

Copyright Notice

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FCC Statement

THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

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 WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTATLLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

A Message to the Customer

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at: http://www.avalue.com.tw/

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1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

- 1 x EPD-3133 31.2" E Ink Public Display
- 1 x Power Adapter
- 1 x DC-in extended cable



If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

Component			
Mother Board	ECM-APL2-B (with CPU Bottom Mounted)		
CPU	Onboard Intel® Celeron® SoC BGA Processor N3350		
CPU Cooler (Type)	Heatsink		
Memory	1 x 204-Pin DDR3L 1866MTs SO-DIMM up to 8GB		
Power Supply	+19V DC in		
Adapter	+19V/3.4A (65W)		
Speaker	2 x 2W(optional, need to add AUX-031 Amplifier Board)		
Wireless LAN	mPCIe Wi-Fi/BlueTooth module(optional)		
Bluetooth	mPCIe Wi-Fi/BlueTooth module(optional)		
Operating System	Android 8.1(default) / Windows 10 IoT		
Other Component	T1000 (E9697E33004R-A)		
Other Component	Transfer board (E9697E33001R-B)		
Storage			
Solid State Drive	1 x 2.5" Drive Bay		
Other Storage Device	1 x mSATA (Shared mPCle)		
Panel			
LCD Panol	E Ink ED312TT2 or ED312TT3		
	(Active area with 2560 x 1440 pixels and 16:9 aspect ratios)		
Touch Screen	P-cap touch(optional)		
Touch Controller	EETI		
Others	Front light module(optional)		
External I/O			
Serial Port	1 x DB-9 male connector for COM1 supports RS232		
USB Port	4 x USB 3.1 (Gen1 5Gbps)		
DIO Port	8-bit GPIO(open frame)		
Video Port	2 x HDMI (3840x2160@30Hz)		
Audio Port	2 x speaker out (L/R 1x2 header)		
LAN Port	2 x RJ45 LAN port (1 x Intel® I211AT/1 x Intel® I210IT, 10/100/1000		
	Base-Tx Gigabit Ethernet Compatible)		
Wireless LAN Antenna	2 x Antenna Mounting with Dust Cover		
Mechanical			
Power Type	Power Input: +19V/3.4A (65W)		
Power Connector Type	Lockable DC Jack		
Dimension	750 x 445 x 36.7 mm		
Weight	7.2 Kgs (True flat mode) / 4.9 Kgs (Front bezel mode)		

EPD-3133

Color	Black
Fanless	Full System Fan-less
OS Support	Android 8.1(default) / Windows 10 IoT
	(400 × 200 mm) VESA mount compliant(optional)
Reliability	
EMI Test	CE/FCC Class A
Vibration Test	With SSD : 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Mechanical Shock Test	With SSD : 10Grms, IEC 60068-2-27, Half Sine, 11ms
Drop Test	ISTA-2A, IEC-60068-2-32 (96.5cm)
Operating Temperature	0 ~ 50°C (32 ~ 122°F)
Operating Humidity	0% ~ 90% Relative Humidity, Non-condensing
Storage Temperature	-20 ~ 60°C (-4 ~ 140°F)

Ø Note:

Specifications are subject to change without notice.

1.4 System Overview



Connectors		
Label	Function	Note
LAN	2 x RJ-45 Ethernet connector	
USB3.1	4 x USB3.1 connector	
СОМ	Serial port connector	
HDMI	2 x HDMI connector	
DC IN	DC Power-in connector	
Power Switch	Power Switch	



EPD-3133 Open Frame mode







EPD-3133

EPD-3133 Front Bezel mode





2. Hardware Configuration



Note: If you need more information, please visit our website: http://www.avalue.com.tw

2.1 EPD-3133 connector mapping

2.1.1 Serial port connector (COM)





Signal	PIN	PIN	Signal
NDCDA#	1	6	NDSRA#
NRXDA	2	7	NRTSA#
NTXDA	3	8	NCTSA#
NDTRA#	4	9	NRIA#
GND	5		

3. T1000 test tool



3.1 Driver

3.1.1 Windows 7

a. Connect the T1000 device to PC and find the **USB Mass Storage Device** in the subtree of universal serial bus controllers in the device manager.



b. Right click **USB Mass Storage Device** and click **Properties** to check device.



c. Change to **Details** page and select **Property** to **Hardware Ids**, the device connect to PC is **USB\VID_048D&PID_8957**.



d. When find the device, change to Driver page and click Update Driver.



e. Select Browse my conputer for driver software.



f. Browse the folder which contain the **AvalueDriver_T1000.inf**.

🚚 Device Manager	
File Action View Help	
Update Driver Software - USB Mass Storage Device	<u> </u>
Browse for driver software on your computer	
Search for driver software in this location:	
C:\Users\Test\Desktop\AvalueDriver_T1000	
☑ Include subfolders	rfiles. orthis device.
Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.) the driver, roll driver. ed).
Next Cancel	Cancel

g. Click Install.

💂 Device Manager	= □ ×
File Action View Help	
X	
Update Driver Software - USB Mass Storage Device	
Installing driver software	
Windows Security	
Would you like to install this device software?	r files.
Name: Avalue Technology Inc. System devices Publisher: Avalue Technology Inc	or this device.
Always trust software from "Avalue Technology Install Don't Install Inc".	anver.
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?	ed).
	Cancel

h. Finish.



i. Device manager will see Avalue Driver - T1000 in the subtree of system devices.



3.1.2 Windows 10

a. After connect the T1000 device to PC, Right click **AvalueDriver_T1000.inf** to install driver.

📙 🛃 📕 🖛 AvalueDrive	er_T1000				-		×
File Home Share	View						~ ?
$\leftarrow \rightarrow \cdot \uparrow$ Aval	ueDriver_T1000		~ Ō	Search Avalue	Driver_T	000	<i>م</i>
 Avaluation Cuick access Desktop * Downloads * AvalueDriver_T11 function SOP T1000 OneDrive This PC 3D Objects Desktop Documents Documents Downloads Music Pictures Videos 	ueDriver_T1000 Name avaluedriver_t1000.cat AvalueDriver_T1000.inf	Date modified 6/15/2020 9:58 AM Open Install Print 7-Zip CRC SHA Scan with Wind CRC SHA Share Open with Give access to Restore previou Send to Cut Copy Create shortcut Delete	V Ø Type Security Cat Security Cat Security Cat Iows Defended Security Cat	search Avalue Size talog	8 KB	000	م
2 items 1 item selected 3.	83 KB	Properties					

b. Device manager will see Avalue Driver - T1000 in the subtree of system devices.

📇 Device Manager	_	\times
File Action View Help		
✓ Im System devices		 ^
🏣 ACPI Fan		
🏣 ACPI Thermal Zone		
Tana Avalue AvaluelO Driver		
🏣 Avalue Driver - T1000		
🏣 Composite Bus Enumerator		
🏣 High Definition Audio Controller		
🏣 High precision event timer		
🏣 Intel(R) Celeron(R)/Pentium(R) Processor Host bridge - 5AF0		
🏣 Intel(R) Celeron(R)/Pentium(R) Processor LPC Controller/eSPI Controller - 5AE	3	
🏣 Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD9		
🏣 Intel(R) Celeron(R)/Pentium(R) Processor PCI Express Root Port - 5AD8		
🏣 Intel(R) Celeron(R)/Pentium(R) Processor SMBUS - 5AD4		
🏣 Intel(R) Power Engine Plug-in		
🏣 Intel(R) Serial IO GPIO Host Controller - INT3452		
🏣 Intel(R) Serial IO GPIO Host Controller - INT3452		
🏣 Intel(R) Serial IO GPIO Host Controller - INT3452		
🏣 Intel(R) Serial IO GPIO Host Controller - INT3452		
🏣 Intel(R) Trusted Execution Engine Interface		
🏣 Microsoft ACPI-Compliant System		
🏣 Microsoft Hyper-V Virtualization Infrastructure Driver		
🏣 Microsoft System Management BIOS Driver		
🏣 Microsoft UEFI-Compliant System		
🏣 Microsoft Virtual Drive Enumerator		
🏣 NDIS Virtual Network Adapter Enumerator		
E PCI Express Root Complex		~

3.2 Application

I 1000 Test		– 🗆 X
Init		Exit
Type: NONE	Image Buffer 0 Address: 0x0	WBF Buffer Address: 0x0
Height: 0	Image Buffer 1 Address: 0x0	WBF Flash Address: 0x0
Width: 0	Waveform Modes: 0	FW Version:
	Waveform Temperature Segments: 0	LUT Version:
Screenshot	Interval (s) 5	
 Slideshow 	Select folder	
 Single 	Select picture	
Start X 0	Start Y 0 💌	
Width 0	Height 0 🔺 Waveform mode	2
Flip horizontal	Flip vertical 📄 Rotate left 90° 🗹 Fl	ull panel Display Clear
		By SWR3 Gary

- a. Connect the T1000 device to PC before click Init.
- b. This application will hide in the notification area if click upper right corner **X** to close application when initial is success.



- c. Right click the Avalue icon will show the option menu.
- Click **Show** or double click the Avalue icon to show the application.
- Click Start (when the application is executing screenshot or slideshow, this option is Stop) to stop (start) display.
- Click Exit to close application and stop screenshot or slideshow if the application is executing.



d. If **Avalue Driver - T1000** not install or T1000 device not connect, it will see the error message as below when click **Init**.

I 1000 Test					
Init Driver	or device not found.	Exit			
Type: NONE	Image Buffer 0 Address: 0x0	WBF Buffer Address: 0x0			
Height: 0	Image Buffer 1 Address: 0x0	WBF Flash Address: 0x0			
Width: 0	Waveform Modes: 0	FW Version:			
	Waveform Temperature Segments: 0	LUT Version:			
Screenshot	Interval (s) 5				
 Slideshow 	Select folder				
 Single 	Select picture				
Start X 0 🛓	Start Y 0				
Width 0	Height 0 🔹 Waveform mode	2			
Elip horizontal	Flip vertical 📄 Rotate left 90° 🗹 F	ull panel Display Clear			
		By SWR3 Gary			

- C T1000 Test \times Disable Exit Type: INCH_42 WBF Buffer Address: 0x3BA620 Image Buffer 0 Address: 0x3D3658 Height: 2160 WBF Flash Address: 0x200000 Image Buffer 1 Address: 0x159FA68 Width: 2880 Waveform Modes: 5 FW Version: v.001.010A.058 Waveform Temperature Segments: 14 LUT Version: V220_C286_EA0601 Screenshot 5 -Interval (s) O Slideshow Select folder O Single Select picture * Start X 0 ٢ Start Y 0 Width 0 + Height 0 --Waveform mode 2 Flip horizontal Flip vertical Rotate left 90° Full panel Display Clear By SWR3 Gary
- e. The T1000 device information will show when initial success.

- f. Both **Display** and **Clear** apply **Start X**/ **Start Y**/**Width**/**Height** setting, others setting only apply for **Display**.
- Interval range is 1 ~ 600 seconds and it is set for screenshot and slideshow.
- Start X/ Start Y is set the display start x/y axis position.
- Width/Height is set the display width/height size.
- Waveform mode is set the display mode.
- Flip horizontal/Flip vertical/Rotate 90° is set the display direction.
- Full panel will ignore Start X/ Start Y/Width/Height.

T1000 Test		- 🗆 X
Disable		Exit
Type: INCH_42	Image Buffer 0 Address: 0x3D3658	WBF Buffer Address: 0x3BA620
Height: 2160	Image Buffer 1 Address: 0x159FA68	WBF Flash Address: 0x200000
Width: 2880	Waveform Modes: 5	FW Version: v.001.010A.058
	Waveform Temperature Segments: 14	LUT Version: V220_C286_EA0601¦
Screenshot	Interval (s) 5	
O Slideshow	Select folder	
 Single 	Select picture	
Start X 0	Start Y 0	
Width 0	Height 0 🚔 Waveform mode	2
Elip horizontal	□ Flip vertical □ Rotate left 90° ☑ F	Full panel Stop Clear
		By SWR3 Gary

g. When click **Display** the application will disable all the setting option.

- **Screenshot** function will capture full screen to show.
- **Slideshow** function will show the BMP files which in the select folder.
- **Single** function will show the BMP file is selected.

3.3 Installation

a. Plug 19V adapter into the EPD-3133 and connect HDMI with a monitor, and then power on EPD-3133. (The EPD-3133 needs to be installed Windows OS first)



- b. Refer to the item <u>1.Driver</u> to install T1000 device driver.
- c. Open EPD-3133 T1000 test tool folder to execute "T1000 Test.exe"

$\leftrightarrow \rightarrow \uparrow \uparrow \blacksquare$	T1000 Te	st >		~	õ	9	搜尋 T1000 Test	
★ 快速存取	^	名稱	^	修改日期			類型	大小
三 桌面	1	AvalueDriver_1	1000				檔案資料夾	
👃 下載	1	T1000 Test Pic	ture				福露資料夾	
□ 文件	*	AvalueAPI_T10	00 v1.1.pdf	2020/6/1	2 上午 11	:23	Microsoft Edge P	58
		AvalueAPI_T10	IIb.oo	2020/6/1	2 上午 10):54	DLL 檔案	8
h 音線		AvalueAPI_T10	00.xml	2020/6/12	2 上午 10	:54	XML Document	
		msvcp140.dll		2016/6/9	下午 10:	53	DLL 福宾	61
1 90 h		G T1000 Test.exe	2	2020/6/1	2上午11	:34	應用程式	1,12
 OneDrive EPD-3133 本機 			公司: Avalue Techr 檔案版本: 1.1.0.0 大小: 1.09 MB	ology Inc.				
🧊 3D 物件								
小 下戦								
1 文件								
♪ 音樂								
直桌 🛄								
■ 圖片								
	Y	< _						>

d. "T1000 Test.exe" will be showed as below when it has been launched, and please refer to the item <u>2. Application</u> for all function of the test tool



e. Click "Init" for initializing T1000 device, and check "Screenshot"

T1000 Test		- 🗆 X			
Disable		Exit			
Type: INCH_31_2	Image Buffer 0 Address: 0x73C7C8	WBF Buffer Address: 0x6BC7A0			
Height: 2560	Image Buffer 1 Address: 0x11C87D8	WBF Flash Address: 0x200000			
Width: 1440	Waveform Modes: 3	FW Version: v.001.011C.058			
	Waveform Temperature Segments: 29	LUT Version: !+/369<>@B?V?			
Screenshot	Interval (s)				
O Slideshow	C:\Users\EPD-3133\Desktop\T1000 Test\T1000 Test Picture\31.2				
○ Single Select picture					
Start X 0 📮	Start Y 0				
Width 0 🜩	Height 0 💌 Waveform mode	2			
🗹 Flip horizontal 🛛	Flip vertical 🗌 Rotate left 90° 🗹 Full	panel Display Clear			
		By SWB3 Gary			



f. Check "Slideshow" and then choose the folder's pictures you want to show periodically. The picture needs to comply with the EPD resolution. For example, EPD-3133's resolution is 2560 x 1440, so the picture needs to be 2560 x 1440 resolution. The picture format needs to be BMP.

T1000 Test		– 🗆 X		
Disable		Exit	瀏覽資料夾	×
Turner INCH 21 2	Image Puffer 0 Address 0v72C7C9	MPE Buffor Address 0x6PC7A0		
Holdhti 2560	Image Buffer 1 Address: 0x11C97D9	MBF Elash Address 0x200000		
Height: 2560	Image Burler 1 Address: 0x11C87D8	WBF Flash Address: 0x200000	▲ 資源回收筒	^
width: 1440	Waveform Modes: 3	W version: v.001.011C.058	> PassMark USB 3.0 Loopback	
	Waveform Temperature Segments: 29	.UT Version: 1+/369<>@B?V?	✓ T1000 Test	
O Screenshot	Interval (s) 10 🔹		AvalueDriver_T1000	
Slideshow	C:\Users\EPD-3133\Desktop\T1000 Test\T1	000 Test Picture\31.2	> 10.2	
○ Single	Select picture	111	13.3	
Start X 0 😩	Start Y 0		42	
Width 0 韋	Height 0 🔹 Waveform mode	2	WG150	*
🗹 Flip horizontal 🛛	Flip vertical 🗌 Rotate left 90° 🗹 Full pa	nel Display Clear	建立新路料本(M) 建定 取消	
		By SWR3 Gary	XELLIN (BRITING (TT)) NEAL 40.08	
				~
□ ☑ □ ▼ □ 個容 常用 共用	管理 31.2 检視 国片工具	_	Avalue.bmp - Me	~
← → × ↑ 🔒 > T10	00 Test > T1000 Test Picture > 31.2	♥ 0 月間31.2	一般 安里性 詳細算科 以創的版本	
 OneDrive 	^		層性 值 影像	^
& EPD-3133	T	THE PARTY STATE AND A	尺寸 2560 x 1440	t –
🥌 本機 🗊 3D 椅件			高度 1440 俚像素	
↓ 下戦	Rotate 8.bmp	9.bmp 14.bmp 15.	<u></u> 位元深度 24 bmp 備客	
☆件 ★ 音響		Contra Contra	名稱 Avalue.bmp	
三 桌面	16.bmp 17.bmp	18.bmp Avalue.bmp	第二法型 0000 周報 資料夾路徑 C:使用者\EPD-3133\眞面\T1000 Test\T100	
■ 国月			建立日期 修改日期 2020/6/1 上午 10:04	
■ 本機磁碟 (C:)			大小 10.5 MB 層性 A	
₩ 媒體種			可用性	
■ 控制台) (分享者)	
◎ 資源回收筒			編有者 DESKTOP-NB5JISC\EPD-3133 電腦 DESKTOP-NB5JISC (本機)	
PassMark USB 3.0 Lo	c			*
T1000 Test	*		<u>移除檔案署性和個人資訊</u>	
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	5	Quali	Ovelue	
-P		GLValu		
			recimology inc.	
17	Tech			
	nology			
	li O			

g. Check "Single" and then choose the folder's picture you want to show constantly. The picture needs to comply with the EPD resolution. For example, EPD-3133's resolution is 2560 x 1440, so the picture needs to be 2560 x 1440 resolution. The picture format needs to be BMP.



