

# EA EPA-Simulator manual

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# **Table of Contents**

Part I	General	2
Part II	StartEPA V1.0.exe	3
Part III	EPA Simulator	4
1	File	4
2	EPA	5
3	Help	6
Part IV	EA 9782-2USB	7
1	Features	7
2	9782-2 EMPTY	8
3	9782-2 EPA240360	9
4	9782-2 EPA240416 1	0
5	9782-2 EPA400300 1	1
6	9782-2 EPA480800 1	2
Part V	Commands/Pictures 13	3
1	Commands 1	3
2	Font mono_6x8 1	5
3	Font mono_8x16 1	6
4	Font ascii _10 1	7
5	Font ascii _14 1	8
6	Font Arial_2060 1	9
Part VI	Troubleshooting 20	)

I

### 1 General

#### EPA-Simulator "StartEPA.exe"

The program <u>"StartEPA.exe</u>] simulates all displays from EA EPAxxx series. Display setting will be done via menu <u>EPA</u>]. This does mean that with this little program all display types can be simulated. This simulator can be used alone but also together with our Test- and Demoboard <u>EA 9782-2USB</u>].

#### Test-Board "EA 9782-2USB"

For easy startup, a USB test board <u>EA 9782-2USB</u> is available that can be connected to a PC. All displays from EA EPAxxx series will put into operation in a flash. There is no hardware or software knowlegde necessary. The program <u>"StartEPA.exe</u> "" runs also with a connected <u>EA 9782-2USB</u>. Text and pictures (BMP) can be shown directly on the connected display.



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#### 2 StartEPA V1.0.exe

# **EA EPA-Simulator** StartEPA.exe V1.0

EPA EPA240360 (COM4) X File EPA Help DISPI EPA240360 VISIONS • 3.52" E-Paper 3-Color WHITE BLACK RED Zero Power 3.3V single supply 240x360 dots inkl. Controller UC8253 3/4-wireSPI • 0°..+40° (TOP.) • 84.7 x 54.4 x 0.85 mm

You can download the EPA Simulator Software V1.0 free of charge from our Homepage as a .zip file. After unzip you easily can start our StartEPA Simulator with a double click on the startEPA.exe. It starts up immediately with a windows frame and a tool bar with 3 pull down buttons:

File 4 EPA 5 Help 6

4

# 3 EPA Simulator

### 3.1 File

Under the **File** Pull DownButton you can select special functions in four sections:

EPA E	PA240360 (COM4)			<u>199</u> 1		×				
<u>F</u> ile	<u>E</u> PA <u>H</u> elp									
	Open File	Ctrl+0								
~	Show Window	Ctrl+S	EPA	241	051	50				
	Zoom Window (2x)	Ctrl+Z			and states of					
	Always On <u>T</u> op	Ctrl+T	+T WHITE BLACK RED							
	BMP to Clipboard	Ctrl+C	ower							
	Exit	Alt+F4								
		- 240.00		00050						
		• INKI, C	ontroller U	68253						
		• 3/4-wi	reSPI							
		• 0°+40° (TOP.)								
	•	• 84.7 x	c 54.4 x 0.85 mm							

Open File	Open the File-Dialogbox where you can choose a <u>commandfile</u> (*.txt) or graphicfile (*.bmp, *.png, *,jpg, *.gif). You can also Drag and Drop these files from the Explorer onto the EPA-Simulator Window.
Show Window	Shows or hides the frame of the EPA Simulation on the PC screen; When the frame with the menu is hidden you can find the menu with a right mouse click in the display area.
Zoom Window (2x)	The Window of the EPA-Simulator can be zoomed twice.
Always on Top	The Window of the EPA-Simulator always stays in front of the other software pages, whatever page or other Software you are opening.
BMP to Clipboard	The actual shown EPA is copied as BMP into clipboard.
Exit	Stores display organization, options that had been changed in the last session and closes the application;

#### EA StartEPA Help

### 3.2 EPA

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Under the EPA Pull Down Button you can select different display organisations in two sections:

E	PAZ4U	500 (COIVI4)		^
File	<u>E</u> PA	<u>H</u> elp		
	~	EA EPA240360	ALT+1	
		EA EPA240416	ALT+2	FPA240360
		EA EPA400300	ALT+3	-1712-10000
		EA EPA480800	ALT+4	Paper
		View 0°	Ctrl+1	WHITE BLACK RED
	~	View 90°	Ctrl+2	
-		View 180°	Ctrl+ <u>3</u>	) dots
		View 270°	Ctrl+4	ntroller UC8253
		Update EPA	Ctrl+U	SPI
	T		- 0	
		8	• 84.7 X	54.4 X 0.85 mm

EA EPA240360	E-Paper 240 by 360 dots 3.52 inch
EA EPA240416	E-Paper 240 by 416 dots 3.7 inch
EA EPA400300	E-Paper 400 by 300 dots 4.2 inch
EA EPA480800	E-Paper 480 by 800 dots 3.97 inch

View 0°	Set the orientation of the EPA display to 0 degree
View 90°	Set the orientation of the EPA display to 90 degree
View 180°	Set the orientation of the EPA display to 180 degree
View 270°	Set the orientation of the EPA display to 270 degree

Update EPA

transfer the actual Display content to  $\underline{9782\text{-}2USB}_7$  and refresh the E-paper

### 3.3 Help

Under the Help Pull Down Button you have the choice to select this Help-text or an info box:



Help

This click shows you the Help-File;

About

This click shows you the software version of the EPA Simulator and whether the USB-Board is successfully connected to the PC;



6

### 4 EA 9782-2USB

#### 4.1 Features

With that test board all displays from EA EPAxxx series will put into operation in a flash. There is no hardware or software knowlegde necessary. The included USB cable performs easyly the connection to the PC. Pictures (BMP) can be shown direct on the connected display.

- \* Connection to USB: simple Usage
- \* Good for all EA EPAxxx series
- \* no power supply necessary
- \* with demo-text and demo-pictures
- \* individual text and pictures are supported also
- \* inclusive USB cable (1.5m)

8

### 4.2 9782-2 EMPTY



EMPTY - EPA240360 जि - EPA240416 गि - EPA400300 गि - EPA480800 गि

### 4.3 9782-2 EPA240360



### 4.4 9782-2 EPA240416



#### 4.5 9782-2 EPA400300



### 4.6 9782-2 EPA480800



### 5 Commands/Pictures

### 5.1 Commands

# How to bring Text/Pictures to the Display

If you want to show your own text you can change the commandfile (\*.txt) for each display and angle in the folder StartEPA (EPAx\_x.txt) and save it. Immediately the program will take the new file and show your commands in the textfile. Also you can take a commandfile (\*.txt) or graphicfile (\*.bmp, \*.png, \*,jpg, \*.gif) with the mouse and drop it on the EPA-Simulator Window .

#### Syntax:

comment:begin with ';' SEMICOLON, end -> linefeed LF = 0x0Acommand:'#', end -> linefeed LF = 0x0Adelimiter:SPACE or COMMA or TABvalues:dec=123 hex=\$AB bin=%01000010strings:"Text" or 'Text' (\\$xx special Hexcode in string)

### **Commands:**

Display Typ	<b>#DT</b> no	Display Typ no = 1,2,3,4 (1= <u>EPA240360</u> , 2= <u>EPA240416</u> 10, 3= <u>EPA400300</u> 11, 4= <u>EPA480800</u> 12)
Display Orientation	<b>#DO</b> angle	set Display Orientation, angle = 0,90,180 or 270 degree
Display Update	#DU	Display Update and refresh
Display Clear	#DC	Display Clear (color white)
Display Fill	<b>#DF</b> color	Display Fill with color = 1,2,3 (1=white, 2=black, 3=red)
Fill Area	<b>#FA</b> color, xs,ys,xe,ye	Fill Area xs,ys < xe,ye with color = 1,2,3 (1=white, 2=black, 3=red)
Text Color	<b>#TC</b> colorTxt, colorBgd	set Text Color -> Text,Background: 0,1,2,3 (0=none, 1=white, 2=black, 3=red)
Text Font	<b>#TF</b> fs, zx,zy	set Text Fontsize $(8=\underline{6x8}$ [15], $16=\underline{8x16}$ [16], $10=\underline{ascii}_{10}$ [17], $14=\underline{ascii}_{14}$ [18], $20,22,24,26,32,40,48,60=\underline{Arial}_{2060}$ [19]) and zoom zx,zy (14)
Text Place	<b>#TP</b> x,y,"text"	Text Place at posiotion x,y
Text Start	<b>#TS</b> xs,ys, h	set global Text Start coordintaes xs,ys and h (lineheight)
Text Line	<b>#TL</b> "text"	place Text Line at global position (#TS); after textplace ys=ys+h
place BitMap	<b>#BM</b> x,y,BMdata	place Bitmap at posiotion x,y BMdata=binary data from *.BMP File
place BitMap (startEPA.exe)	<b>#BM</b> x,y,"filename"	only for "startEPA.exe", filename = *.bmp, *.png, *.jpg, *.gif The Image will be converted and resized

	DISPLAY INDUSTRIAL SOLUTIONS VISIONS EPA240360
	• 3.52" E-Paper
	3-Color WHITE BLACK RED
	Zero Power
	<ul> <li>3.3V single supply</li> </ul>
	• 240x360 dots
	<ul> <li>inkl. Controller UC8253</li> </ul>
	3/4-wireSPI
- 11	• 0°+40° (TOP.)
	• 84.7 x 54.4 x 0.85 mm

#DT 3 #DO 90

#DU

#DC ; clear Display #BM 30,302," DisplayVisions\_240x98.bmp"

#FA 3 0,0 399,55

#TC 1,0 #TF 48 1,1 #TP 40,5 "EPA400300"

#TC 2,0 #TF 26 1,1 #TS 0,65, 25 #TL '\\$81 4.2" E-Paper' #TL "\\$81 3-Color WHITE BLACK RED" #TL "\\$81 3.3V single supply" #TL "\\$81 3.3V single supply" #TL "\\$81 3.3V single supply" #TL "\\$81 400x300 dots" #TL "\\$81 400x300 dots" #TL "\\$81 inkl. Controller SSD1683" #TL "\\$81 sinkl. Controller SSD1683" #TL "\\$81 0°..+40° (TOP.)" #TL "\\$81 91.0 x 77.0 x 0.85 mm" ; place DisplayVisions Logo ; fill Title rectangle red ; set Textcolor red, no background color ; set Font Arial 48 dots, no zoom ; place Title : set Textcolor black, no background cold

; set display orientation 270°

; set EPA240360

- ; set Textcolor black, no background color
- ; set Font Arial 26 dots, no zoom
- ; set start coordinates an linespace ; place Textlines

; refresh EPA hardware

# 5.2 Font mono\_6x8

mono\_6x8 is a monospaced font

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### 5.3 Font mono\_8x16

mono\_8x16 is a monospaced font

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# 5.4 Font ascii \_10

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ascii\_10 is a proportional font

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# 5.5 Font ascii \_14

ascii\_14 is a proportional font

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### 5.6 Font Arial\_20..60

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Arial is available in 8 sizes 20, 22, 24, 26, 32, 40, 48 and 60 dots

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### 6 Troubleshooting

#### No Demo appears on the display plugged to the EA 9782-2USB

Please click in the menu <u>Help</u> the button About; menu EPA -> Update EPA The display may be damaged;

#### "Board: not connected" please check:

Is the USB-cable plugged in well on both sides; Is the USB driver installed on the PC; The test board  $\underline{EA 9782-2USB}$  may be damaged;

#### Nothing is seen on the display:

The display pins are not correct plugged in; The display may be damaged;