POWERTIP TECH. CORP.

Powertip Graphic Editor

User Guide (for N32926)

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1. Software Introduction

1.1 Features

The software can support static graphic editing, including switch / rotation / symbol / graphic display ... . Data format supports BMP & JPG. Includes hardware environment settings.

1.2 Software execution

Open " Powertip Graphic Editor " than you can see software window

Software file name

Software open status

1.3 Function key introduction

Area 1

Project: Project New / Open / Save

Environment: Hardware environment settings. The description is as follows

Project: Name & Path settings

LCM Set: Display & Touch settings

Logo Remain: Wait time after boot Logo Name: Boot logo settings

RS232: Protocol setting

Additional Control: Enter frame settings after booting

Group: Frame Add / Remove / Rename / Group picture settings

Select "Add Frame" in the function "Group", the software will automatically generate a new serial number Frame. as shown below

Select "Remove Frame" in the function "Group", to clear the selected Frame. as shown below

Select "Rename Frame" in the function "Group", to modify the Frame number. as shown below

If you want to play pictures continuously, you can use the following methods to add picture data. as shown below

Select "P/F" in the function "Group", add pictures with "Add button" / modify "SID" area for control number / Bx By for image offset setting.

Picture command: " AA 1A 06 IDH IDL XH XL YH YL C3 " as shown below

Help: Development ownership

Area 2 Object arrangement function

Align toolbar description as shown below

Use the Ctrl key to select the objects you want to arrange

Align Left

Align Right

Align Top

Align Bottom

Equal Horizontal Space

Equal Vertical Space

Center From Horizontal

Center From Vertical

Area 3 Image / Rotate / Symbol / Button / Counter... object selection

Reference Object Introduction

Area 4 Data structure status

Area 5 Object setting area

2. Object Introduction

2.1 Image object select description as shown below

1. Press the Image button and select the picture you want to enter.

2. Press the right mouse button to see the dialog box 1

   Delete: Clear object

   Set BX,BY: Display X = Cx-Bx / Y = Cy-By (set offset reference)

   Set as Background: Background picture setting

3. Manual setting to see the dialog box 2

   ID: Object number

   Type: Object specification

   Path: Data index location

   Name: Data name

   Bx / By / Cx / Cy: Display coordinate setting

2.2 Rotate object select description as shown below

1. Press the Rotate button and select the picture you want to enter.

2. Press the right mouse button to see the dialog box 1

Delete: Clear object

Set BX,BY: Object rotation reference point setting

3. Manual setting to see the dialog box 2

ID : Object number

Type: Object specification

Path: Data index location

Name: Data name

Bx / By: Object rotation reference point setting

Cx / Cy: Display coordinate setting

Image Mathing: Reference Image Mathing description

2.3 Symbol object select description as shown below

1. Press the Symbol button and select the picture you want to enter.

2. Press the right mouse button to see the dialog box 1

Delete: Clear object

Set BX,BY: Display X = Cx-Bx / Y = Cy-By (set offset reference)

3. Manual setting to see the dialog box 2

ID: Object number

Type: Object specification

Path: Data index location

Name: Data name (Normal display)

Bx / By / Cx / Cy: Display coordinate setting

2nd Image name: Data name (Active display)

2nd Bx,By: 2nd Display coordinate setting

Image Mathing: Reference Image Mathing description

2.4 Button object select description as shown below

1. Press the Button button and select the picture you want to enter.

2. Press the right mouse button to see the dialog box 1

Delete: Clear object

Set BX,BY: Display X = Cx-Bx / Y = Cy-By (set offset reference)

3. Manual setting to see the dialog box 2

ID: Object number

Type: Object specification

Path: Data index location

Name: Data name (Normal display)

Bx / By / Cx / Cy: Display coordinate setting

2nd Image name: Data name (Active display)

2nd Bx,By: 2nd Display coordinate setting

Buzzer: Touch sound prompt

Mode: Button function setting (see the dialog box 3)

Image Mathing: Reference Image Mathing description

Frame ID: For Jump Frame use or GPIO ID: For IO use

Button Mode description as shown below

Exp: IF ID = 0006 / Frame = 0004

1. Normal mode: Button unlock mode (TX : 30 00 06)

2. Normal Switch mode: Button lock mode (TX : 30 00 06 00 (or 01))

3. Jump Frame mode: Jump Frame (TX : 31 00 04)

4. String mode: In development

5. IO switch mode: IO output type (H / L type)

6. IO Pulse mode: IO output pulse type (<>20msec)

IO Default status as shown below

Press the red box "I/O Control" as shown. User can set the initial state of the hardware

2.5 Counter object select description as shown below

1. **Press the Counter button, the software will automatically bring out a set of data**

2. **Press the right mouse button to see the dialog box 1**

   Delete: Clear object

3. **Manual setting to see the dialog box 2**

   ID: Object number

   Type: Object specification

   Cx / Cy: Display coordinate setting

   Source: Font or Graphic selection Refer to a & b description

   Initial value: Default value (maximum 9 digits)

a Font mode: See the dialog box 3

Font ID: Built-in font as shown on the right

Foreground: Font color

Background: Background color

ID	Text Size	Start Character	End Character
0x00	4x6	0x00	0xFF
0x01	4x7	0x00	0xFF
0x02	5x8	0x00	0xFF
0x03	6x8	0x00	0xFF
0x04	7x9	0x00	0xFF
0x05	8x8	0x00	0xFF
0x06	9x8	0x00	0xFF
0x07	5x12	0x00	0xFF
0x08	8x16	0x00	0xFF
0x09	9x16	0x00	0xFF
0x0A	12x16	0x00	0xFF
0x0B	10x20	0x00	0xFF
0x0C	12x23	0x00	0xFF
0x0D	12x24	0x00	0xFF
0x0E	12x27	0x00	0xFF
0x0F	14x30	0x00	0xFF
0x10	16x32	0x00	0xFF
0x11	24x32	0x20	0x7E
0x12	16x37	0x00	0xFF
0x13	25x57	0x00	0xFF

Font Mode description

a Normal : Refer to the figure below

b Reverse : Refer to the figure below

c Transparent : Refer to the figure below

d XOR : Refer to the figure below

e Transparent & Reverse : Refer to the figure below

Font mode display reference

b Graphics mode

If the display effect cannot be completed with internal fonts, you can use external graphic design instead. Users need to prepare a set of libraries to bring into the software settings, make "0 ~ 9 + - ." 12 single pictures.

as shown below

Press the red box " Counter " to generate library settings. Select " Add Counter Table " to add library. Click " Image Information " to add display icon. Press " ok " to complete the setting.

as shown below

Image Mathing: Background image processing method

Mathing= None: The original image is not processed

Mathing= 0: Find white edges to replace with background

Mathing= 1: Find white areas to replace with background

Mathing= 2: Find green edges to replace with background

Mathing= 3: Find green areas to replace with background

as shown below

3. Making a picture reference

3.1 Dashboard.AI (Adobe illustrator) as shown below

You can take out any image

Take out the rpm object

Save new objects (*.psd or *.pdf Adobe Photoshop use format)

Convert image file format with photoshop, firmware can accept BMP or JPG format

Save as bmp or JPG format

3.2 Object background process

1 Background processing description (white background)

Making white background (R:255 B:255 G:255), add display image

Save the new file and select the "JPG" format.

Choose the highest quality and the best basic compression

2 Background processing description (Green background)

Making green background (R:000 G:255 B:000), add display image

Save the new file and select the "JPG" format.

Choose the highest quality and the best basic compression

3.3 Firmware background processing method

The firmware provides some background processing methods.

Software settings. as shown below

After firmware processing. as shown below

3.4 Firmware graphics processing method

Making graphic control data (EX: Dashboard *.JPG or *.BMP)

Prepare as shown below

After software combination. as shown below

Initial screen after firmware execution

Rotate command: “ AA 31 04 IDH IDL Angle_H Angle_L C3 “

Symbol command: “ AA 32 03 IDH IDL 00(01) C3 “

It can be displayed through the firmware control as shown below

Making graphic control data (EX: Menu *.JPG or *.BMP)

Prepare as shown below

After software combination. as shown below

Initial screen after firmware execution

Show Frame command: “ AA 30 02 FrameIDH FrameIDL “ as shown below

EX: Button select normal mode

Touch “ Coffee Button ” firmware transfer “ TX: 30 00 01 ”

Touch “ Dashboard Button ” firmware transfer “ TX: 30 00 02 ”

Touch “ Cooking Button ” firmware transfer “ TX: 30 00 03 ”

Touch “ Smart Home Button ” firmware transfer “ TX: 30 00 04 ”

Touch “ Picture play Button ” firmware transfer “ TX: 30 00 05 ”

4. Hardware connection instructions

4.1 USB / RS232 hardware preparation

This PCBxxx677 can provide RS232 / UART / 2 USB Host with PC USB.

Take P05D00063-01 as an example. as shown below

4.2 Boot operation

Connect "USB & URAT" to the computer, power on control board

Default "800x480" resolution if no data, display Powertip Logo.

UART default 115200 N 8 1, communication software will receive the following message (EX: AccssPort) Boot no data ststus

Open the storage area to put the execution environment data

Enter after waiting for " 10 01 ", Open storage command: " AA 58 00 C3 "

Command execution completion message " 10 02 " as shown below

User can see the storage space of the control board from the file manager

Copy software to generate data on storage space (SD or eMMC)

"Update" folder is self-built and puts update firmware (conprog.bin)

Rebooting the firmware will be based on the data

4.3 Update firmware form SD or eMMC

Put the " conprog.bin " file in the update folder as shown below

Enter after waiting for " 10 01 ", Update command: “ AA 5A 00 C3 ”

Command execution completion message “ 10 02 “ as shown below

4.4 Format SD or eMMC by firmware

Enter after waiting for " 10 01 ", Format command: “ AA 5F 00 C3 ”

Command execution completion message “ 10 02 “ as shown below

4.5 Firmware version confirmation

Enter after waiting for " 10 01 ", Version command: “ AA 5C 00 C3 ”

Command execution completion message “ 10 02 “ as shown below

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