| Classification | ☐ tDS ☐ tGW ☐ PETL/tET/tPET ☐ DS/PDS/PPDS ☑ TouchPAD<br>☐ I/O Card ☐ VXC Card ☐ VxComm ☐ Other | | | | |
|---|---|---|---|---|---|
| **Author** | Jack Lin | **Date** | 2020-04-22 | **NO.** | FAQ040 |

# Q: How can the Touch PAD send and display the Russian?

**A:**

TouchPAD can send Russian by using TCP and Modbus TCP/RTU. For the TCP part, refer to the "**TCP/IP**" example, it can send and receive Russian without the settings changed. For the Modbus part, refer to the "MXXX_ebfont_Display_XXXXX_c.zip" in the "**ebFont**" example. Put the Russian UTF-8(hex) encoding into the data of Modbus command and set the font of the display widgets.

TouchPAD can display Russian by built-in fonts or ebFont. The built-in fonts can be used by the setting changed. It does not support Russian letters eliminated and some special characters. It only Russian and English can be used at the same time. The ebFont requires additional fonts to be installed into TouchPAD. It supports all Russian letters (but does not contain some special characters). It can use multilingual characters at the same time.

The example list of TouchPAD is below:

http://www.icpdas.com/en/download/show.php?num=1000&root=&model=&kw=HMIWorks

The following is a detailed operation and information.

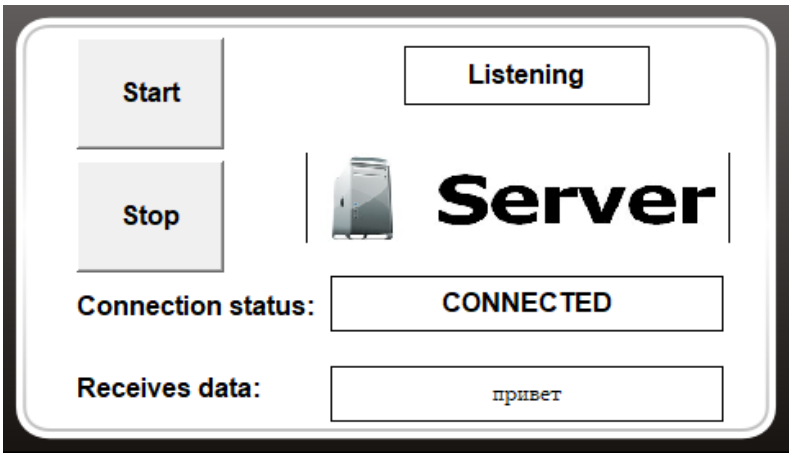
## ◆TCP

Refer to the "**TCP/IP**" example, use client_c as an example, you change the content of the send_buf to a Russian string. (displaying the Russian Label requires changing the font)

```
59  if (hmi_TCPState(h) == STATE_TCP_CONNECTED)
60  {
61    usprintf((char*)send_buf, "DATA%05d", index);  ⟶ usprintf((char*)send_buf, "привет");
62    //sends data and then receives data through a TCP session.
63    hmi_TCPSendCmdEx(h, send_buf, BUF_LEN, recv_buf, BUF_LEN, TIMEOUT);
64    recv_buf[BUF_LEN -1] = 0;     // null-terminated
65    LabelTextSet(&Label12, (char*)send_buf);
66  }
```

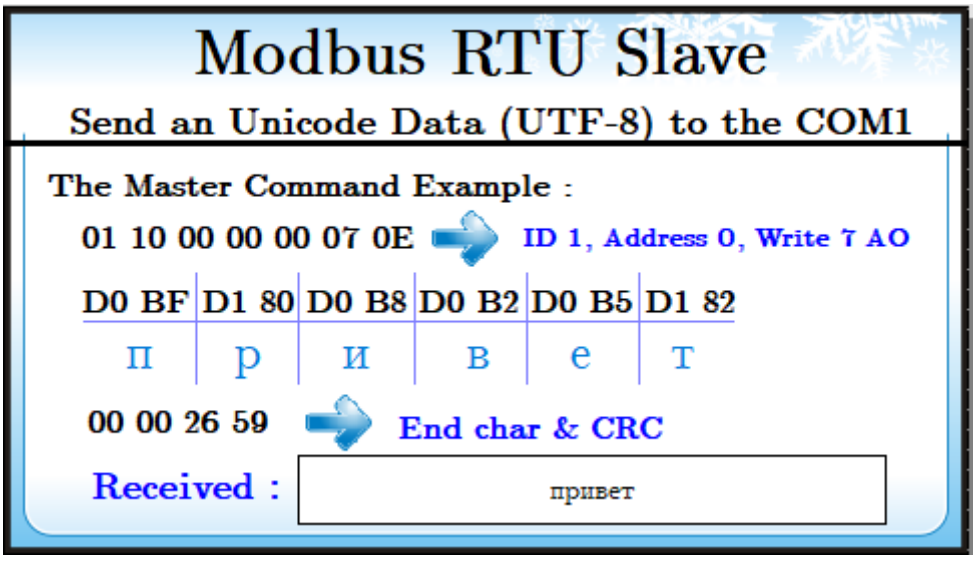
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## ◆Modbus TCP/RTU

Refer to the Modbus related example in the "**ebFont**". In this example, TouchPAD as a Modbus RTU Slave and displays value received on the Label as a string. The Master puts the Russian UTF-8 (hex) encoding into the data of Modbus command.




UTF-8(hex) encoding can refer to the following website:
http://www.fileformat.info/info/charset/UTF-8/list.htm?start=1024

**Change font of the widgets to display Russian**

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## ◆Built-in fonts

This method uses the built-in font to display Russian. The default font is English, please follow the below procedure to change it.

**The widgets can be change string when standard C run:**

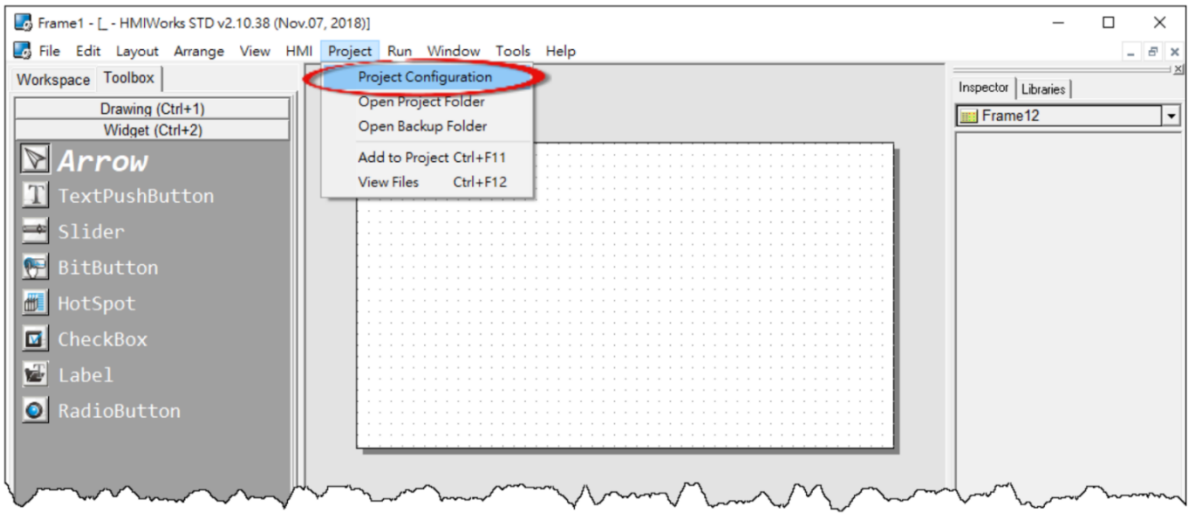
TextPuchButton、CheckBox、Slider、Label。




**Font style:**

Regular, bold, italic.

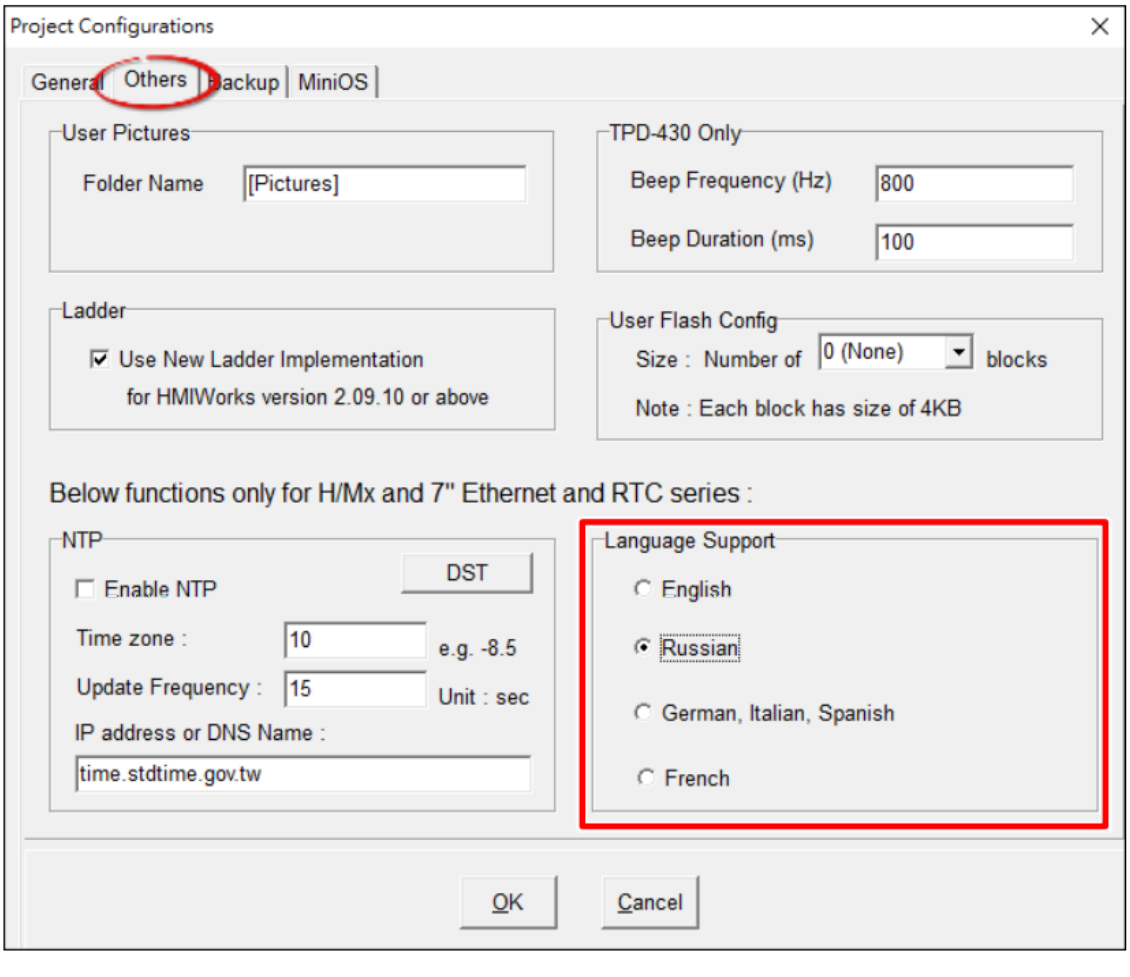
**Step 1:** Click the **“Project”→“Project Configuration”** item to open the **“Project Configuration”** dialog box.




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**Step 2:** As shown below, we can select languages in the **“Others”** tab page of the “**Project Configuration”** dialog box. Select **“Russian”**.

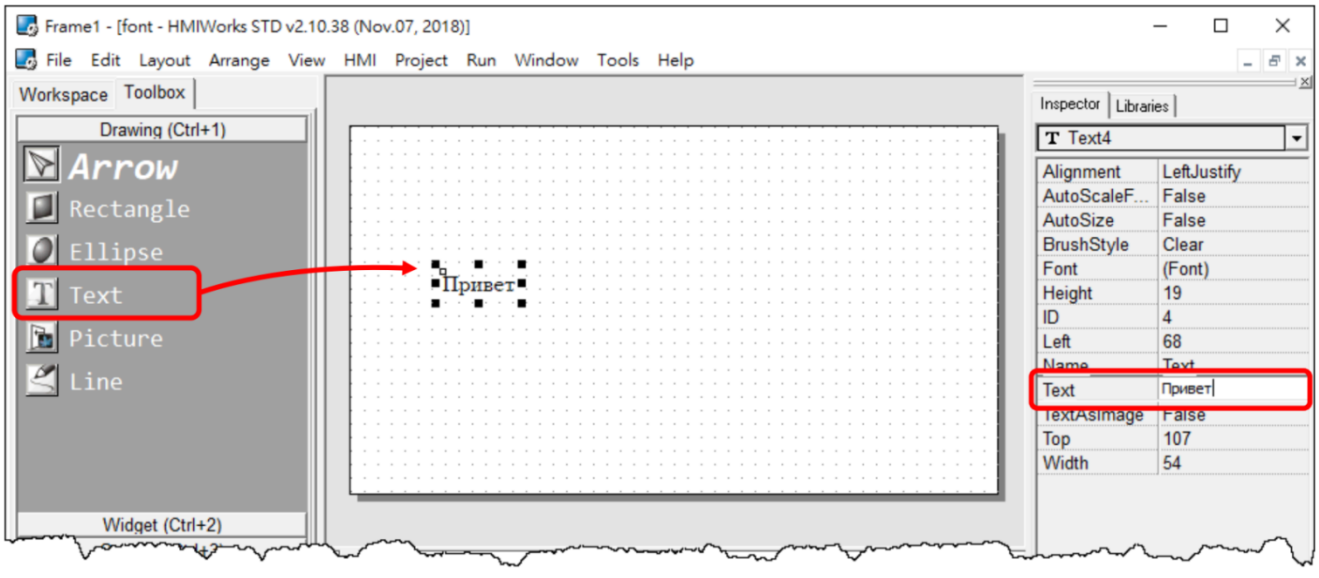



**Step 3:** Click the **"Text"** object in the **“Drawing”** section of the **"Toolbox"** pane, and then click the desired position on the design frame to place the text.

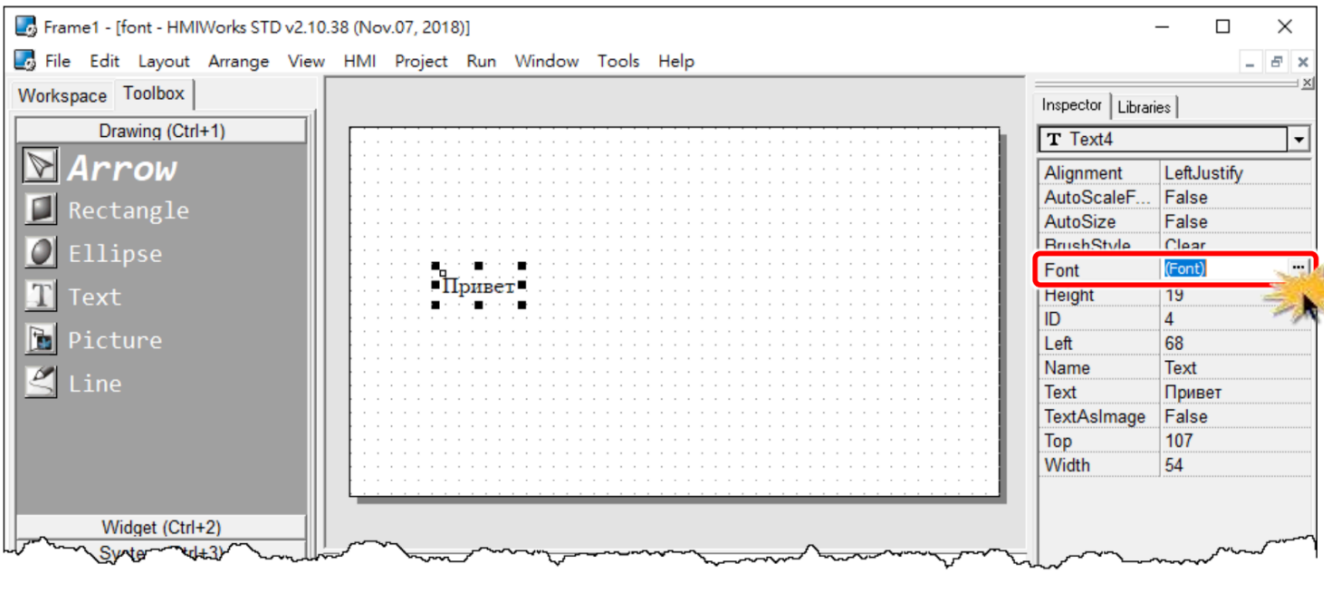
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**Step 4:** In the **"Inspector"** pane, enter strings「Привет」in the **"Text"** field.



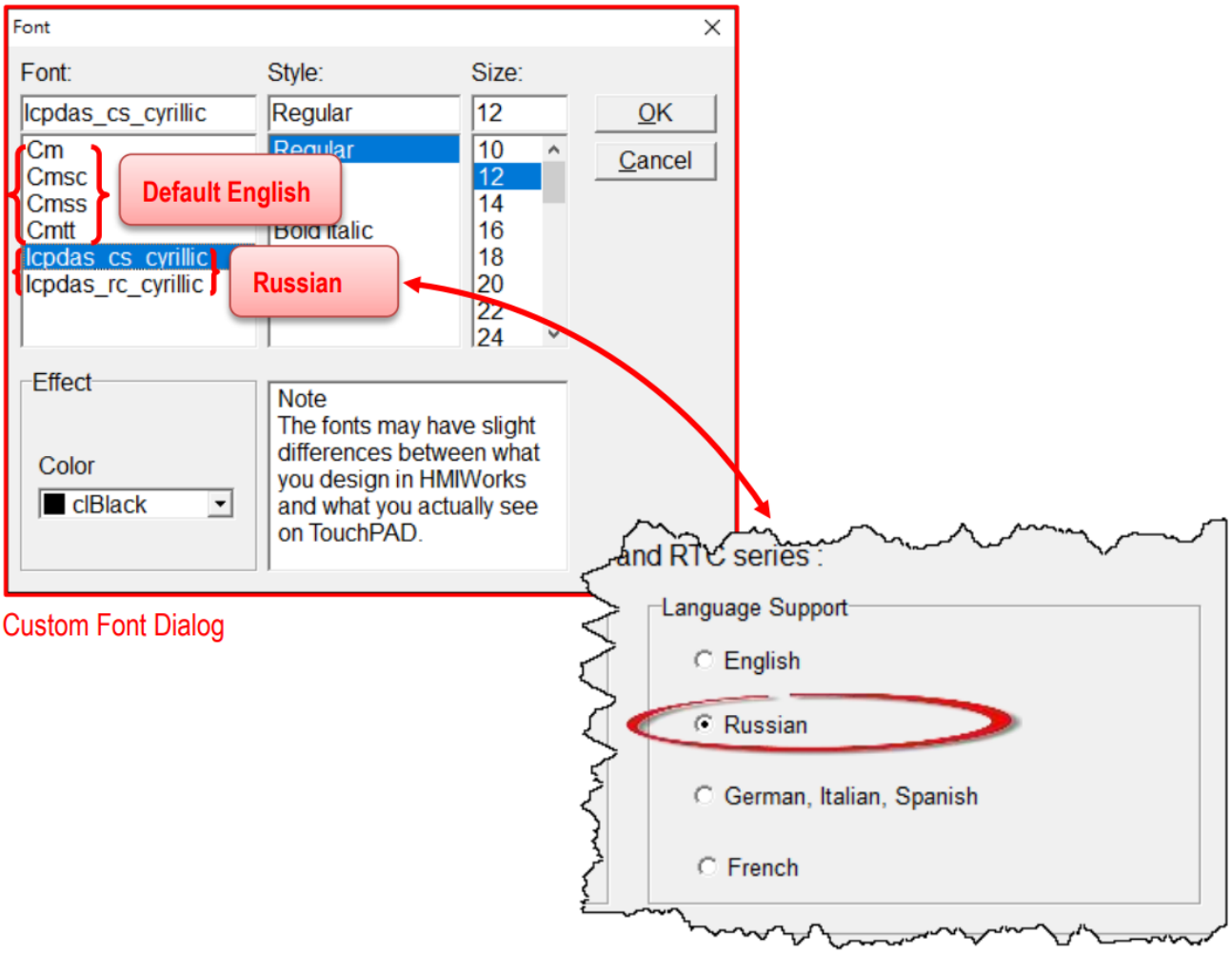

**Step 5:** In the **"Inspector"** pane, click the **"** ... **"** button for the **"Font"** field to open the custom font dialog.




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**Step 6:** Select Russian font (Icpdas_cs_cyrillic or Icpdas_rc_cyrillc)




Custom Font Dialog

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The lcpdas_cs_cyrillic and lcpdas_rc_cyrillic font support characters (does not support red part)

| Unicode | Char |
|---|---|
| U+00B0 | ° |
| U+0410 | А |
| U+0411 | Б |
| U+0412 | В |
| U+0413 | Г |
| U+0414 | Д |
| U+0415 | Е |
| U+0416 | Ж |
| U+0417 | З |
| U+0418 | И |
| U+0419 | Й |
| U+041A | К |
| U+041B | Л |
| U+041C | М |
| U+041D | Н |
| U+041E | О |
| U+041F | П |

| Unicode | Char |
|---|---|
| U+0420 | Р |
| U+0421 | С |
| U+0422 | Т |
| U+0423 | У |
| U+0424 | Ф |
| U+0425 | Х |
| U+0426 | Ц |
| U+0427 | Ч |
| U+0428 | Ш |
| U+0429 | Щ |
| U+042A | Ъ |
| U+042B | Ы |
| U+042C | Ь |
| U+042D | Э |
| U+042E | Ю |
| U+042F | Я |
| U+0430 | а |

| Unicode | Char |
|---|---|
| U+0431 | б |
| U+0432 | в |
| U+0433 | г |
| U+0434 | д |
| U+0435 | е |
| U+0436 | ж |
| U+0437 | з |
| U+0438 | и |
| U+0439 | й |
| U+043A | к |
| U+043B | л |
| U+043C | м |
| U+043D | н |
| U+043E | о |
| U+043F | п |
| U+0440 | р |
| U+0441 | с |

| Unicode | Char |
|---|---|
| U+0442 | т |
| U+0443 | у |
| U+0444 | ф |
| U+0445 | х |
| U+0446 | ц |
| U+0447 | ч |
| U+0448 | ш |
| U+0449 | щ |
| U+044A | ъ |
| U+044B | ы |
| U+044C | ь |
| U+044D | э |
| U+044E | ю |
| U+044F | я |
| U+0401 | Ё |
| U+0451 | ё |
| U+20BD | ₽ |
| U+2116 | № |

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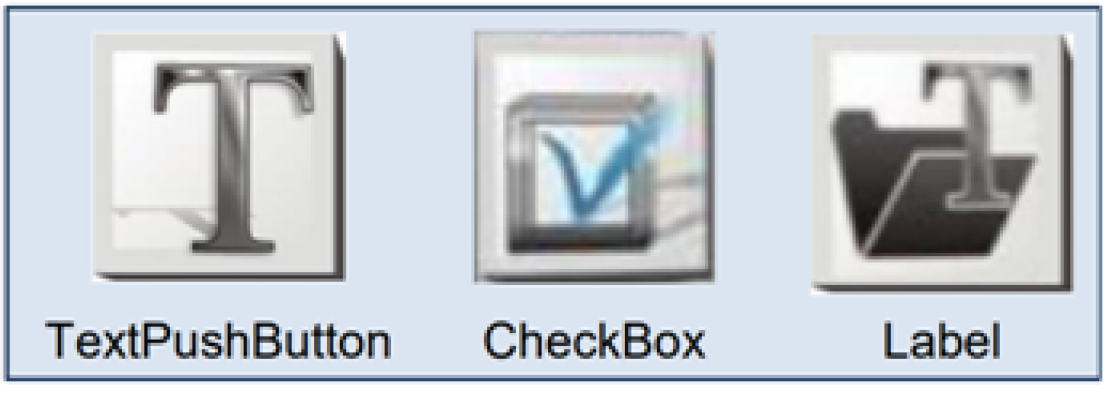

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## ◆ebFont：

This method requires to install ebFont into TouchPAD. For detailed steps, please refer to: FAQ030: How to show multilingual text with ebFont on TouchPAD?. **You can use multilingual characters at the same time.**

**The widgets can be change string when standard C run:**

TextPushButton、Checkbox、Label。




**Support models:**

| | |
|---|---|
| ☑ TPD-28xU-H/Mx | ☑ TPD-430-H |
| ☑ TPD-433-H/Mx | ☑ TPD-43xF-H |
| ☑ TPD-703 (-64) | ☑ VPD-13x-H |
| ☑ VPD-14x-H | ☑ VPD-173N/X (-64) |

**Font style:**

Regular.

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The lcpdas_eb font support characters (does not support red port)

| Unicode | Char |
|---|---|
| U+0410 | А |
| U+0411 | Б |
| U+0412 | В |
| U+0413 | Г |
| U+0414 | Д |
| U+0415 | Е |
| U+0416 | Ж |
| U+0417 | З |
| U+0418 | И |
| U+0419 | Й |
| U+041A | К |
| U+041B | Л |
| U+041C | М |
| U+041D | Н |
| U+041E | О |
| U+041F | П |
| U+0420 | Р |
| U+0421 | С |
| U+0422 | Т |
| U+0423 | У |
| U+0424 | Ф |
| U+0425 | Х |
| U+0426 | Ц |
| U+0427 | Ч |

| Unicode | Char |
|---|---|
| U+0428 | Ш |
| U+0429 | Щ |
| U+042A | Ъ |
| U+042B | Ы |
| U+042C | Ь |
| U+042D | Э |
| U+042E | Ю |
| U+042F | Я |
| U+0430 | а |
| U+0431 | б |
| U+0432 | в |
| U+0433 | г |
| U+0434 | д |
| U+0435 | е |
| U+0436 | ж |
| U+0437 | з |
| U+0438 | и |
| U+0439 | й |
| U+043A | к |
| U+043B | л |
| U+043C | м |
| U+043D | н |
| U+043E | о |
| U+043F | п |

| Unicode | Char |
|---|---|
| U+0440 | р |
| U+0441 | с |
| U+0442 | т |
| U+0443 | у |
| U+0444 | ф |
| U+0445 | х |
| U+0446 | ц |
| U+0447 | ч |
| U+0448 | ш |
| U+0449 | щ |
| U+044A | ъ |
| U+044B | ы |
| U+044C | ь |
| U+044D | э |
| U+044E | ю |
| U+044F | я |
| U+0401 | Ё |
| U+0451 | ё |
| U+20BD | ₽ |
| U+2116 | № |
| U+0405 | S |
| U+0406 | I |
| U+0456 | i |
| U+0455 | s |

| Unicode | Char |
|---|---|
| U+0460 | Ꙍ |
| U+0461 | ѡ |
| U+0462 | Ѣ |
| U+0463 | ѣ |
| U+0466 | Ѧ |
| U+0467 | ѧ |
| U+0468 | Ѩ |
| U+0469 | ѩ |
| U+046A | Ѫ |
| U+046B | ѫ |
| U+046C | Ѭ |
| U+046D | ѭ |
| U+046E | Ѯ |
| U+046F | ѯ |
| U+0470 | Ѱ |
| U+0471 | ѱ |
| U+0472 | Ѳ |
| U+0473 | ѳ |
| U+0474 | Ѵ |
| U+0475 | ѵ |
| U+0476 | Ѷ |
| U+0477 | ѷ |

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