



Pixel Characterizer

version 0.50

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Introduction:

Enclosed is my Visual Basic program - *Pixel Characterizer*. The purpose of the program is to map each (two) pixel of a small bitmap picture to a character. Then you are able to put/edit graph in your non-graphic text/terminal. And pretty pictures/icons/signatures can be put in your regular text files. This version can do the reverse job too. i.e. ASCII texts can be translated to bitmap pictures. Don't hesitate to give it a try. Dump it to your trash if you don't like it.

e.g. A Bitmap picture is shown as:



Use Pixel Characterizer to convert it to:

```

      @ @ @ @ @ @
    @ @      @ @ @
      @          @ @ @
    @      XX @ @      @ @
  @      XX @   @      @ @
@ @   XXX @ *X @          @ @
@ @X @ @ @ *X @X   @ @X      @
@   X @ *   *X @X @ @X      @
  @X @ *          @ @ @   *X @X      @
    @ *      X      @   *X @X      @
  @ *   X @   X      *X @X      @
@ *      X X @   X      @X      X @
@ *   X @   X X @      *X @      *XXX @
@ *      X X @   X      *X @X      *XXX @
@ *   X @   X X @      *XX @ @      *XXX @
@ *      X @   X      *XXX @X @X      *XX @ @
@ *          X @      *XXXX @X @X @ @ @ @
@ *          *XXXXXXXX @      *XXXX @
@ *          *XXXXXXXX @ @      XXX @
@ *          *XXXXXXXXXX @ @ @ @ @ @
@ @ **      *XXXXXXXXXXXX @ @
  @ @ **      XXXXXXXXXXXX @ @
    @ @ **      XXXXXXXXXXX @
      @ @ **      XXXXX @ @
        @ @ **      XXX @ @
          @ @ *X @ @
            @ @ @

```

How to use:

1. you need to have visual basic runtime library vbrun200.dll in you path.

Bitmap to ASCII

2. prepare the bitmap picture which you want it to be converted. It could be either on screen or the clipboard.
3. click **Capture** button to capture a bitmap on screen or click **Clipboard** button to paste bitmap to **Pixel Window**
4. change number of rows/columns if needed. The default size is 24x72. Because the regular terminal is 24x80. I use 72 instead of 80 due to the reason of using VI editor(set number is used).
5. change the color number if needed. The default color is black(0).
6. change output character if needed. The default character is *.
7. click **1-Char** button, or **Char-Scale** button to convert bitmap to **ASCII Window**. The converting time depends on the configured number of rows/columns.
- 8a. using **1-Char** in 1-Pixel row any pixels which match specified color are converted to the specified character; other pixels are converted to space.
- 8b. using **Character-Scale** in 1-Pixel row button pixels are converted to appropriate characters according to their gray-scale numbers(or luminosities) and depth selection.
- 8c. in 2-Pixels row using \Rightarrow **Single-Char** , every two vertical pixels are converted to a character according to the combination. The mapping characters are configurable and shown in sky blue boxes. This scheme is similar to the PBMPLUS utility.
- 8d. in 2-Pixels row using \Rightarrow **Char-Scale** , every two vertical pixels are converted to a character according to the combination and their gray-scale numbers (or luminosities) in three depth. For the time being the mapping characters are not configurable. This scheme is not yet been implimented by others so far as the author knows.
9. use **Send Text to Clipboard** button to send text in **ASCII Window** to clipboard.
10. paste text in clipboard to your editor/dumb terminal/e-mail.
11. enjoy yourself.

ASCII to Bitmap

2. Prepare the ASCII text which you want it to be converted in clipboard.
3. click **Get Text from Clipboard** button to paste text to **ASCII Window**.
4. change the color number in the destination picture if needed. The default color is black(0).
5. change the character which will be converted if needed. The default character is *.
6. click **Color-Single** button to convert text in **ASCII Window** to a bitmap picture. Any characters which match the specified character are converted to the specified color pixels; other characters are converted to white pixels.
7. use **Copy to Clipboard** button to send picture in **Pixel Window** to clipboard.
8. paste picture in clipboard to your graphic editors/converters/viewers for post-processing.
9. enjoy yourself.

Tricks:

1. Clicking any pixel of a bitmap picture in ***Pixel Window*** shows its color number in ***ASCII Window*** using hexadecimal system.
2. In addition to above function, ***Alt-Click*** assigns the color number of the clicked pixel to the ***color # box***.
3. The color number in this program is in Visual Basic convention, where hexadecimal value is used.
4. The default convertible size is 24X72. Click ***Clipboard*** button to switch between maximum and default size or Choose ***Maximum*** in ***Size*** menu to let all picture be convertible if necessary.
5. The default depth is 4 and luminosity is evenly divided into 4 ranges. Character-Scale depth and mapping characters can be configured as you wish. Test it by yourself.
6. Text in clipboard can be pasted to ***Pixel Window*** using system font. i.e. You can convert non-english language into ascii if non-english language window system is used.

Limitation:

- * The width of convertible picture size is limited in *Pixel Window*.
- * The maximum convertible width of a bitmap picture is 79.
- * 2 Pixels to 1 Character scaling is not configurable. It will be added in the next version.

Contact:

Users are welcome to send me any comments/bugs/encouragements.

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Original purpose:

I designed this program to show Chinese in dumb terminal. It is very difficult for me(or other Chinese, I believe) to read pinyin(or romanized) Chinese in any English operation system. Using this I can send out Chinese(or pictures) to dumb terminal users (They, unlike me, can't access graphic terminal or Chinese system easily). This program can enhance the communication in a more elegant style. Believe it or not, it works for other language system too.

History:

- 0.00 11/26/92 the 1st release(VB version 1.0 is used).
- 0.05 11/29/92
- * add scroll bar for **Pixel Window**.(larger picture can be shown).
 - * bitmap picture size is shown in **Text Window**.
 - * row and column numbers reduce when smaller bitmap picture is loaded.
- 0.06 12/10/92 convertible picture height is not limited in **Pixel Window** any more.
- 0.07 12/11/92
- * message box is reorganized using 2 buttons.
 - * release to anonymous ftp site.
- 0.08 12/12/92 enlarge the width of **pixel window** to cover 79 pixels
- 0.09 12/20/92 output character is choosable.
- 0.10 12/21/92 change part of the color on the icon file.
- * fix the bug while larger bitmap is moving up for converting.
 - * change waiting message to row number counting.
- 0.12 12/29/92
- * add the test color function in **pixel window**.
 - * mouse pointer changes to cross-hair on the top of bitmap picture
 - * converting is not limited to black anymore. add a color number box.
 - * add three menus: Color, Size, and Help
 - * alt-click enhancement in changing color numbers.
 - * restore the picture position after converting.
- 0.13 01/01/93
- * write pixchar.doc and compile it to pixchar.hlp file.
 - * simplify pixchar.txt for short browsing.
 - * change Help menu and delete **How to use** button.
 - * the correct small Courier font size is used to show text.
- 0.15 01/02/93
- * add bitmap to Help file.
 - * add my Chinese name in Help file.
 - * correct some typos in Help file.
 - * warning message for row number smaller than 1.
 - * The first trial to add Character-Scale scheme.
 - * add one more click to obtain maximum convertible size.
- 0.16 01/03/93 shows RGB and luminosity number while clicking.
- 0.20 01/08/93
- * swich to VB 2.0
 - * add depth menu and 4-depth character-scale dialogue
 - * design Character-Scale configuration icon.
- 0.21 01/09/93
- * 100 can't be put in editable box in the configuration window.
 - * make configuration option button and depth check menu consistent.
 - * numbers in configuration box is forced in ascending order.
 - * only numerical keys are allowed in the row and column boxes.
 - * only hexadecimal keys are allowed in the **color number** box
 - * only hexadecimal keys are allowed in Character-Scale configuration box.
- 0.25 01/24/93
- * add built-in capture function.
 - * add bitmap menu.
 - * redesign the location of buttons.
- 0.26 01/25/93
- * mouse pointer switches to hourglass during converting.
 - * fix the bug for wrong size capturing.
- 0.27 01/28/93
- * compact the source codes.
 - * add execution yielding during long converting (thanks to Matthew Harrell).
- 0.28 01/31/93 Text in clipboard can be pasted to **Pixel Window** using system font.
- 0.30 02/10/93
- * ASCII to Bitmap is implemented. (only one specified character is convertible)
 - * add more buttons for clipboard data handling
 - * reorganize buttons
- 0.31 02/10/93
- * fix the bug for wide ASCII to Bitmap conversion
 - * widen text box of column
 - * change fonts for some labels
- 0.32 02/11/93
- * fix the bug while the captured picture is a little larger than **Pixel Window**
 - * delete some redundant declarations

0.33 02/23/93	<ul style="list-style-type: none">* text in History section of Help file shows up correctly* Help file is rebuilt using Microsoft Help Author* remove some redundant declarations* fix the bug in executing some commands from Color menu* change part of icon's color
0.34 02/25/93	fix the bug about wrong size of pasting bitmaps from clipboard
0.40 11/20/93	<ul style="list-style-type: none">* add double-pixels to single-character scheme* make characters for above scheme configurable
0.50 5/31/94	<ul style="list-style-type: none">* update to 5 depth converting scheme* reorganize Form 1 window* change my contact e-mail address* add character menu* add 2 vertical pixels to single-character 3 depth scheme

which is my real Chinese name

which can be found in many popular archive sites for Microsoft Windows

ftp.cica.indiana.edu is one of them.

