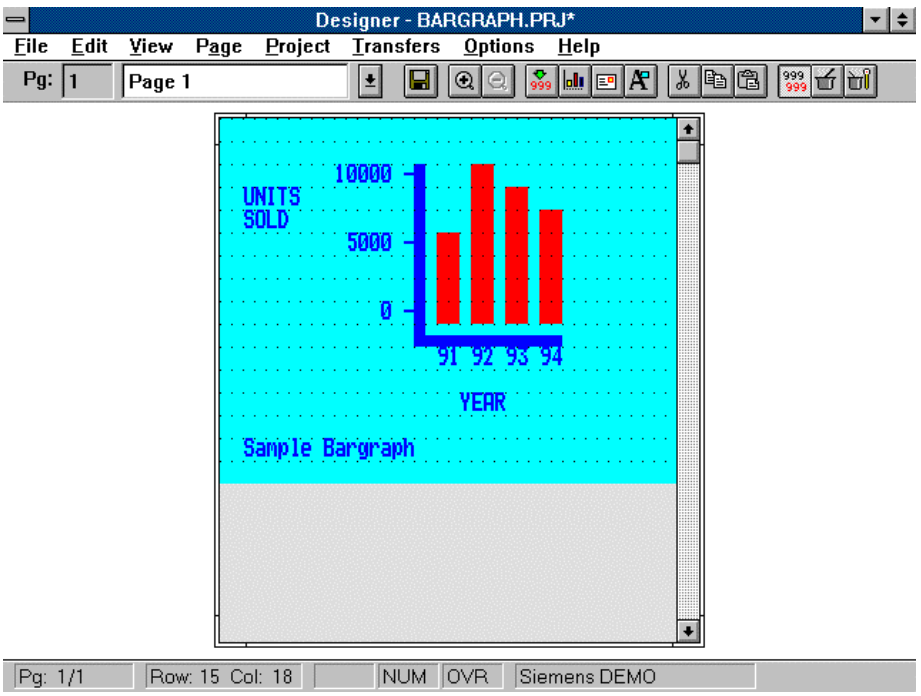
Guide For Using Bargraphs With UniOP

Introduction

Sometimes information is easier to understand if it is presented visually in a bargraph form. This capability is available on the 16 and 25 line display models, and the CP04FG-04. These panels have a semi-graphic display capability, which allows the fonts to be changed or downloaded by the font editior incorporated in the designer software. Bargraphs are a typical example of the semigraphic capability.

Creating a Bargraph Field

1. The first thing to do is click and drag the mouse on the display. This represents the actual size, location, and direction (vertical or horizontal) of the bar graph. Then click the bargraph icon at the top of the page in the Designer menu. The Bargraph define field will automatically appear which allows for selecting an address in which to dynamically reference and set characteristics to the bargraph.
2. The same Define Field screen will appear as did for a numeric field. The PLC Reference field allows for selecting the address in the PLC in which to dynamically reference the bargraph.
3. The Display Format field defaults to HORIZONTAL or VERTICAL Depending upon the direction the baragraph was drawn.
4. The Field Dimension defaults to the dimension of the bargraph drawn but may be changed to whatever the programmer desires. The resulting change will be reflected when viewing the actual screen.
5. Scaling may be set to influence the displayed value relative to the actual value within the referenced location.
6. The Max and Min Value fields set the largest and smallest values the bargraph will accept. Any value outside of the min and max range will display stars (****) the full length of the bargraph. The max value represents 100% of the drawn scale, while the min value represents the smallest value for one resolution of the bargraph. For example, if 300 is the max value and 10 is the minimum value, when the PLC word value reaches 10 the bargraph will display it minimum value, when the contents of the referenced addressequals 300 the graph will display its full length.

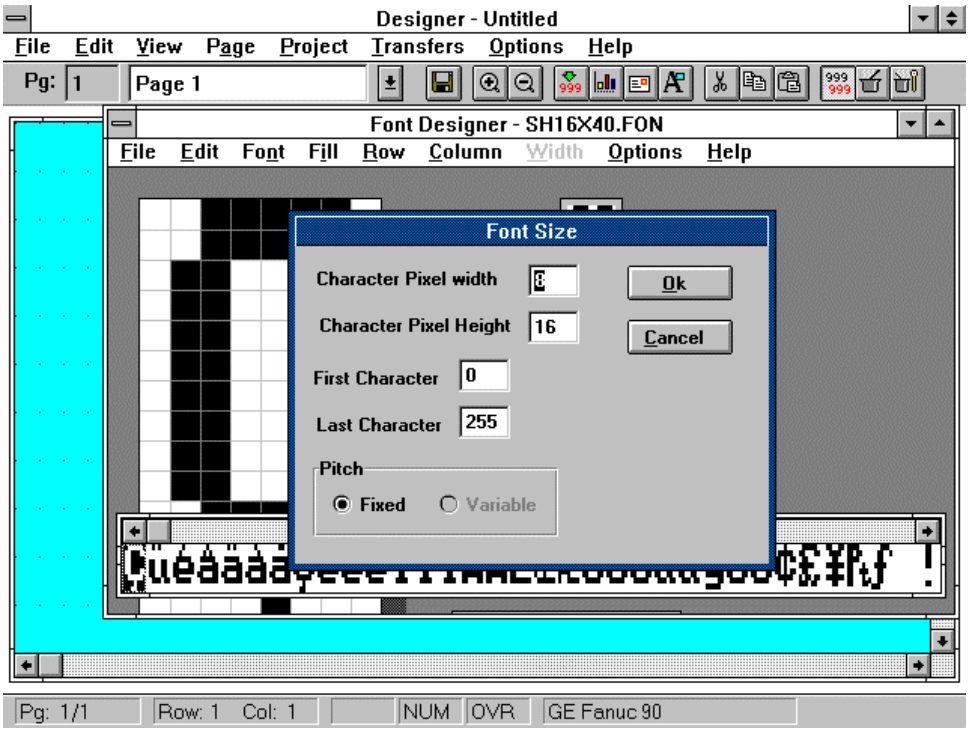


NOTE: You may include your bargraphs with any appropriate semigraphic character which will make the presentation more clear such as putting a box around the bargraph, adding fixed text values or any other desired semigraphic character representation by using the font editor .

Creating a Bargraph Font

Sometimes it may be desired to change the font of the baragraph or the location of the characters which make up the bargraph within the font editor. The following procedure will step you through the operation:

1. Enter the font editor via the **Options/Run Font** Editor menu.
2. In the font editor, check font size of the panel. This is done by selecting **Font/Size.** It is neccessary to know the character pixel width for the horizontal bargraph and the character pixel height for the vertical bargraph. The horizontal bargraph uses *character pixel width - 1* characters in sequence. Likewise the vertical bargraph uses *character pixel height - 1* characters in sequence and <u>must</u> immediately follow the horizontal bargraph characters. From this information you can calculate the amount of character fonts necessary to build the bargraph.

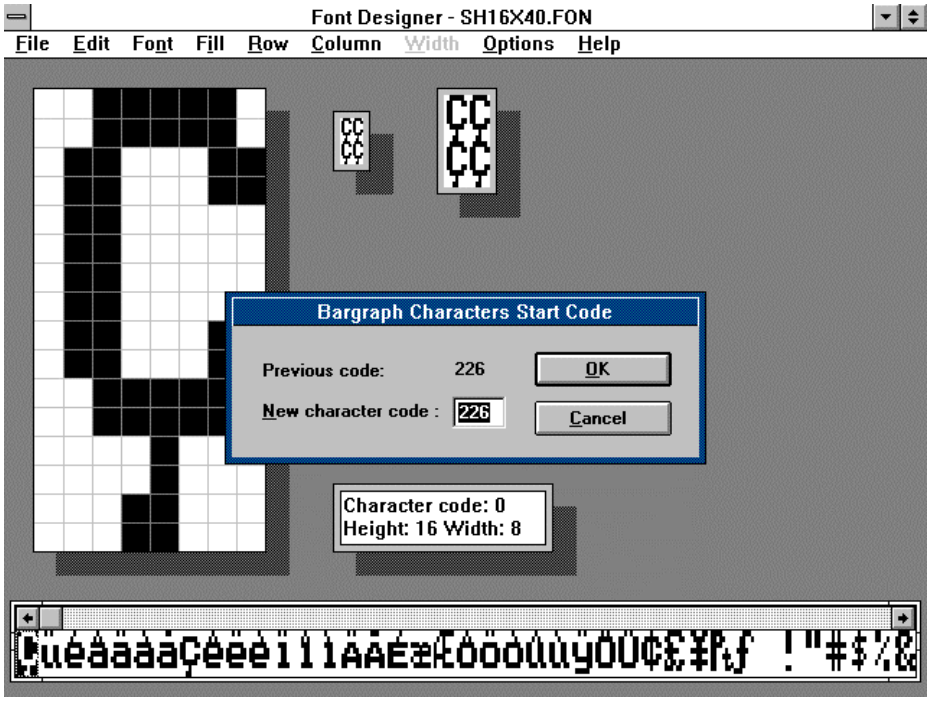


3. Next, in the table on the following page, locate the downloadable characters that corresponds to your panel. This gives you the recommended font locations to make font changes, in this case, the bargraph. Note that the **CP** series panels can have only horizontal bargraphs.

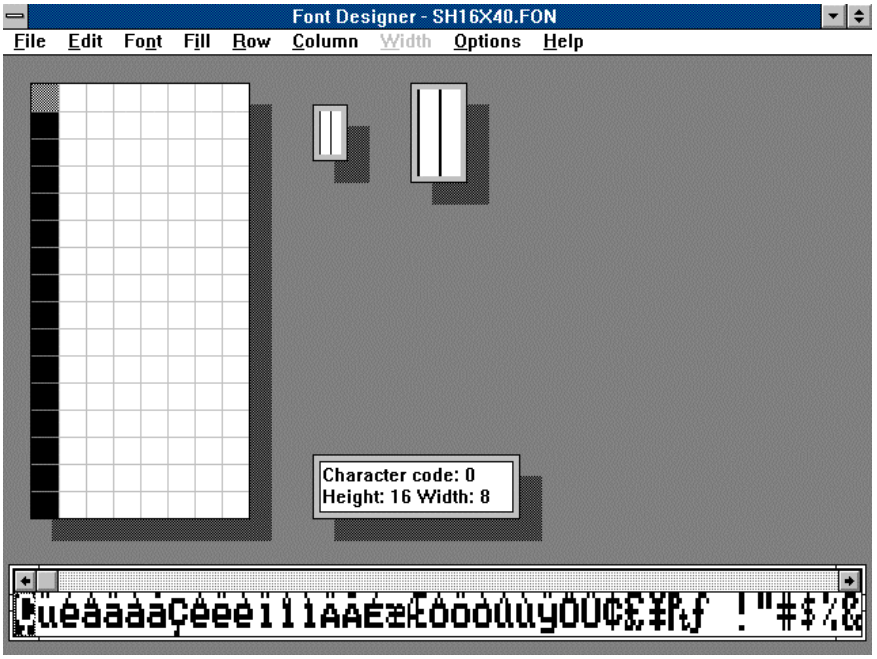
UniOP Display Capabilities

Panel	Display Size	Tech.	Downloadable Characters	Special Font	Attributes
CP01F-02	2x20	VFD	248-254	Katakana	Blink, Highlight
CP02F-02	2x20	VFD	248-254	Katakana	Attributes
CP01R-04	4x20	LCD	128-135	Katakana	Blink, Highlight
CP02R-04	4x20	LCD	128-135	Katakana	Blink, Highlight
CP04F-04	4x20	VFD	205-207	Cyrillic	Blink, Highlight
CP04F-04G	4x40	VFD	0-254 (see note)		Blink, Highlight, Rev
EF-02	4x40	VFD		Cyrillic	Blink, Highlight
EF-04	4x40	VFD	252-254	Katakana	Blink, Highlight
ER-04	4x40	LCD	128-135	Katakana	Blink, Highlight
MKDF-02	4x40	VFD		Cyrillic	Blink, Highlight
MKDF-04	4x40	VFD	252-254	Katakana	Blink, Highlight
MKDR-04	4x40	LCD	128-135	Katakana	Blink, Highlight
EL-16	16x40	EL	0-254 (see note)		Blink, Highlight, Rev
ER-16	16x40	LCD	0-254 (see note)		Blink, Highlight, Rev
MKDL-16	16x40	EL	0-254 (see note)		Blink, Highlight, Rev
MKDR-16	16x40	LCD	0-254 (see note)		Blink, Highlight, Rev
EL-25	25x80	EL	0-254 (see note)		Blink, Highlight, Rev
ER-25	25x80	LCD	0-254 (see note)		Blink, Highlight, Rev
			note: normally only the range 128-254 is available to user		

4. Select **Options/Bargraphs**. This will prompt you to enter the the character position where you want to start your bargraph font(see following page). This number must be a number that will alllow for ample proceeding character positions for both the horizontal and vertical baragraphs (for CP panels vertical bargraphs only).



5. At this point, edit the initial character font of the horizontal bargraph. This consists of filling the entire character font and then editing the leftmost column of pixels. In a typical bargraph this would consist of filling this column with black spaces (see following page), but it could be anything the programmer desires. Next, go to the next character in sequence and again fill the entire character font with white spaces, edit the two leftmost columns of pixels, and fill these columns with the desired white and black spaces. Continue this action until you get to the *character pixel width - 1* character in sequence from your bargraphs starting character. (Note: the designer automatically fills the last character in both the vertical and horizontal bargraphs with a solid black character font.). At this point if you are using a CP panel, you select **File/Save** to save your bargraph or you may select **File/Save As** to save this as a different font. If you are not using the **CP** panel you continue with the next font character in sequence following the last character edited for the horizontal baragraph. Continue the same actions as the horizontal bargraph except you begin editing the bottom row of the font character, with the next character, editing the bottom two rows. Again continue this until you get to the character pixel height - 1 character in the vertical bargraph. When this is completed you may save as before.



6. You may now exit the editor and use the bargraph as stated in the beginning of this technote.