

How does the dialog manager calculate the average width of a character?

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Some time ago, I explained that [the `MapDialogRect` function requires the handle to a dialog box](#) because the mapping from dialog units to pixels is dependent upon the default font of the dialog box, so you need to know which dialog box you are converting.

I noted that if you don't have a dialog box, and you don't want to find or make one, then you can simulate the calculations yourself using the standard formulas:

8 vertical dlu = 1 character tall

4 horizontal dlu = 1 average character wide

According to [Knowledge Base article Q145994](#), the calculation of the character height and width are performed as follows:

For height, call `GetTextMetrics` and use the `tmHeight`.

For average width, get the text extent of the string

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

and divide it by 52, rounding to the nearest integer. Do not use the `tmAveCharWidth` from the text metrics. Despite its name, it is not the average of anything. It's just the width of the character `x`.

Bonus chatter: Maybe the font people interpreted it to mean “the width of an average character”, rather than “the average width of a character.”

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