



# PopChar Control Panel

Version 1.10, © 1990,1991 by Günther Blaschek

## Using PopChar

PopChar is a little Control Panel document (also known as a cdev) that enables you to generate every possible character that is available in the current font without having to remember keyboard combinations.

Suppose, you are working with MacWrite (which you probably are when you read this documentation) and you would like to insert the character “◊” in your document for some reason. Looking it up with Key Caps can become quite cumbersome, especially when the character you're looking for can only be generated by first pressing option-“n”. Another simple way to quickly find the desired character would be to use the Character Map DA (written by myself for exactly this purpose).

Now there is an even more convenient possibility to do this. Once you have PopChar installed by copying it into your System folder, all you have to do is to move the cursor to the very top left corner of the screen and press the mouse button. Do not press any modifier keys, and do not let the mouse button go too early. Depending on the type of your machine and other installed software, it may take up to half a second before anything happens. Anyway, a menu with all characters available in the current font will pop up eventually. The following screen dump shows how this menu will look like when Monaco is the current font:



Simply move the cursor over the character you want and release the mouse button. The character will get inserted in your text as if you had typed the proper key combination on the keyboard.

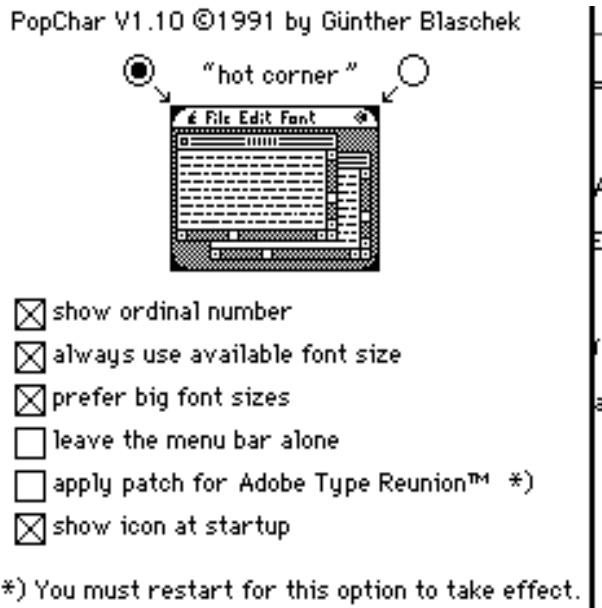
If you need the same character again and again, it will be more efficient to press the appropriate keys. PopChar provides some help for such cases by displaying the keyboard equivalents of the current character in the top right corner of the menu.

How does PopChars know about the current font? Well, this is the main trick and also a possible source of incompatibility with certain applications. PopChars first inspects the menu bar by looking for a checked font name. If it finds one, then this is the current font. Otherwise, the current font of the frontmost window is used. If there isn't any window, PopChars will display the Chicago font. This means that PopChar will very likely not work as expected when the application doesn't display the current font in any of its menus.

By the way: It doesn't matter whether the fonts are listed in a “regular” or in a hierarchical menu. PopChar looks through all levels of menus.

## Configuration

Since PopChar is a “cdev”, you can configure it in the Control Panel:



In the “hot corner” area, you can specify in which corner PopChar should look for mouse clicks. PopChar is preconfigured with the top left corner of the main screen as the hot corner. If you use other utilities which also look for clicks in this corner, you may want to configure PopChar to come up when the mouse is clicked in the top right corner of the main screen. By the way: PopChar does not conflict with OnCue™, since PopChar uses a much smaller sensitive area in the very corner of the screen. It will not come up when you click directly on the OnCue icon.

Note that PopChar is deliberately confined to the main screen (i.e., the screen that contains the menu bar) for configurations with multiple monitors. The hot corners are always located in the menu bar, and the character table will also always be displayed on this screen.

“show ordinal number” makes PopChar display the ASCII code of the currently selected character in decimal and hexadecimal, as shown in the following figure.



“always use available font size” affects the way PopChar selects the font size it uses in the display. When unchecked, PopChar looks for an available screen font in the sizes 12, 10, and 14 (in this order). If it doesn't find such a font size, PopChar will give up and use the font size 12. When the box is checked, PopChar will make an additional attempt by searching for an available font size in the range 8 through 48.

“prefer big font sizes” changes the default search order for available screen fonts to 14, 18, 12. If no matching screen font is found in any of these sizes, PopChar uses the font size 14. If “always use available font size” is also checked, the sizes 14 through 48 are searched before trying to get a 12 point size. This feature is dedicated to “Snuffy” Smith and all others who suffer from bad eye-sight, although other users might also find it convenient to enable this feature. Leaving the check box clear is recommended when PopChar is used with compact Macs (Plus, SE, and Classic) because of their small screens.

“apply patch for Adobe Type Reunion™” applies an additional patch at startup time that disables Type Reunion when the mouse button is pressed in PopChar's hot corner. Since this patch is only applied when the Macintosh boots, you have to restart your computer if you changed this setting. See the section on Type Reunion below for details.

The PopChar window normally appears on top of the menu bar. This can cause problems with some non-Apple monitors and with certain INITs that draw into the menu bar even when PopChar's window

is shown. An example for that is Møire's clock feature. Checking "leave the menu bar alone" makes PopChar move the window below the menu bar, so that such interferences cannot happen any more.

“show icon at startup” makes PopChar display its icon on the bottom of the screen when you (re)boot you Mac.

## PopChar and Adobe Type Reunion™

The struggle for ATR compatibility began when I received the first complaints that PopChar did not recognize fonts that appeared in ATR's hierarchical menus. When I found out that ATR can be disabled temporarily by holding down the shift key, I included a patch that made ATR believe that the shift key was down when the mouse was clicked in PopChar's hot corner. This workaround worked reasonably well — until System 6.0.7 was released. For some unknown reason, PopChar disabled ATR entirely on machines equipped with System 6.0.7. I desperately tried different things to work around this problem. One day, I removed the patch again and was surprised to find that everything was fine — until one user running System 6.0.5 complained that PopChar was incompatible with ATR...

Another month later, I had to discover that this incompatibility had absolutely nothing to do with the version of the System file. I must admit that I still do not know under which circumstances PopChar conflicts with ATR. Lacking this knowledge, there seems to be only one reasonable way to make PopChar cooperate with ATR: to place the burden on you, the user.

When you find that PopChar does not recognize stylistic variations in submenus, you should check the “apply patch for Adobe Type Reunion™” option and restart your Macintosh.

When PopChar seems to disable ATR entirely, you should try to uncheck the “apply patch” option and restart.

I cannot guarantee that this procedure will work in all cases. There is still a chance that PopChar refuses to find stylistic variations in submenus when the option is unchecked **and** disables ATR when the option is checked. In this case, you should uncheck the option and hold down the shift key when you click in PopChar's hot corner. Pressing the shift key temporarily disables ATR and flattens the hierarchical menus so that PopChar can find the current font. I sincerely hope that you will never need this workaround, but experience shows that one can never be sure...

There is also no guarantee that a particular setup will work forever. I received one report where PopChar worked together with ATR until another utility was installed. Strange enough, removing the utility in question did not cure the problem any more. Should you discover an incompatibility, try to change the setting of the “apply patch” option.

If everything fails, please send me a report with as many details as possible. Your contribution could help me to find a general solution to this problem.

## PopChar and TrueType

Version 1.4 of PopChar was released at about the same time as Apple's TrueType. US users were the first to discover that PopChar did not work with TrueType fonts. I spent many hours to figure out what went wrong and finally discovered that the FMSwapFont toolbox routine produces funny results when called for a TrueType font. Since this routine provides the only way to figure out which characters are available in a given font, I could not find any way to fix this bug (which was not mine). Versions 1.5 and higher of PopChar contain special code that displays all characters with the ordinal numbers 32 through 255 (except 127) in the PopChar window, when a TrueType font is detected. This range can contain so-called “missing characters” which are then displayed as rectangles. This is for example the case with the Symbol font.

I will make further attempts to find a workaround for this problem, but in the meanwhile you will have to live with this interim solution.

TrueType uses a character cache to keep track of already generated characters. It is fast in most cases, because the characters are generated only on demand. When you activate PopChar with a TrueType font, you will find that it takes excessively long to fill the pop-up window with *all* characters of the font. For example, it takes almost 10 (=ten!) seconds to display all characters of Times on a Macintosh IIx. When you watch PopChar filling the window, you will realize that there are considerable pauses when unusual characters (e.g., accented letters) are drawn. This is because these characters have not been written before and hence are not yet available in the character cache. If you activate PopChar a second time for the same font, the display is much faster (unless the character cache has been cleared again, because many other characters in different fonts have been drawn in the meanwhile).

You can avoid the above problems altogether by installing the most frequently used font sizes as bitmapped fonts together with each TrueType font. For example, my System file contains both the TrueType version of Times and the sizes 9, 10, 12, and 14 as bitmapped fonts. When the “prefer big font sizes” option is off, PopChar uses Times12, when it is on, PopChar uses Times14. The bitmapped characters can be displayed much faster than their TrueType equivalents, and the problems with determining the available characters do not occur any more. Another advantage (which is not related to PopChar) is that characters in small sizes are more readable in the traditional bitmapped fonts than in TrueType fonts.

## **Installation and Deinstallation**

To install PopChar, simply move it into your System Folder and restart your Macintosh. When PopChar is installed, it permanently takes up 7310 bytes of memory. To temporarily disable it, hold down the mouse button during restart. To permanently remove it, drag it out of your System folder.

## **Possible Problems**

There is a known incompatibility between older versions of the Mover cdev and PopChar. When both are installed, PopChar will crash with an address error or a bus error when you release the mouse button. I was not able to find the source of this conflict. You must therefore remove Mover if you want to use PopChar. However, I was told recently that PopChar works together well with version 3.0 of the Mover cdev.

Some users reported a conflict between PopChar and several versions of MacWrite. I also use MacWrite together with PopChar, but have never experienced this problem. I have therefore not yet been able to find the source of this incompatibility.

A similar situation exists with RagTime versions 3.0 and higher. While PopChar worked with previous versions of RagTime, it was reported that PopChar does not find the current font. Since I do not own RagTime, I have to rely on such negative reports and cannot even attempt to resolve this incompatibility.

Some applications use custom keyboard mappings or rely on key codes rather than character codes. Examples for that are the applications tn3270 and SoftPC. PopChar will display the current font in these application, but an attempt to insert the selected character will not produce the expected result. There is no solution for this problem.

Although PopChar is compatible with System 7.0, I received a single report that it does not work when 32-bit addressing is on. I was not yet able to confirm this.

## **Version History**

Version 1.0 of PopChar was an INIT. It worked in principle, but had a couple of nasty bugs and inconveniences.

Version 1.1 was turned into a Control Panel Document. The ability to define the hot corner and to suppress the icon display at startup was added.

Version 1.2 had two additional features: The first was that PopChar displays a nicer pop-up window when running on a color monitor or on a monitor with at least 16 shades of gray. The second was the display of the character's ordinal number.

Version 1.3 also had two new features. The “always use available font size” check box was added, and a first attempt was made to make PopChar compatible with Adobe Type Reunion.

Version 1.4 corrected some minor bugs and included the “leave menu bar alone” option (which unfortunately introduced a new bug).

Version 1.5 corrected the bug in the “leave menu bar alone” option and introduced an ugly special case for compatibility with TrueType (see above).

Version 1.6 was made “more compatible” with Adobe Type Reunion under System 6.0.7.

Version 1.7 introduced the “big font” option and a workaround for the nasty ATR problem.

Version 1.8 included a couple of cosmetic changes. The Control Panel display was redesigned, and color icons were included for System 7.0. This version was never publicly released.

Version 1.9 included a new routine for drawing color icons during startup and introduced the “apply ATR patch” option.

Version 1.9.1 corrected an error that caused crashes under System 7.0 with both virtual memory and 32-bit addressing enabled.

Version 1.9.2 corrected an error that caused the character table to be displayed incorrectly on systems with multiple monitors.

Version 1.10 also displays the size of the currently displayed font in the pop-up window.

## Frequently Asked Questions

Q: The top left and the top right corner of my screen are already occupied by other utilities. Can I still use PopChar?

A: Perhaps. You could try to rename PopChar so that it loads before or after the other utilities. PopChar uses a rather small sensitive area right in the corner of the screen. One of the other utilities might be more tolerant, so that you can use the same corner for different purposes. For example, you can activate OnCue by clicking on its icon and PopChar by clicking in the very corner.

Q: Could PopChar be customized such that it activates by clicking in a bottom corner of the screen?

A: No. When PopChar recognizes a click in the hot corner, it first passes the original click to the application before displaying the pop-up window. The application must react to the click by updating its menus, which is only possible when the click was in the menu bar.

Q: Could PopChar be modified so that it displays only those characters which require special key combinations? The window would become much smaller, because the letters and digits would not have to be shown.

A: PopChar deliberately shows *all* characters of the present font. Although this might seem too much of a good thing for fonts like Geneva or Times, it is absolutely necessary for fonts like Symbol, Cairo, Mobile, or Zapf Dingbats, as these fonts contain special characters which correspond to letters and digits.

Q: Since I live in Wonderland, my Mac has a keyboard with a different key layout. PopChar suggests wrong keyboard combinations in some cases. Can it be corrected such that the Wonderlandish keyboard is recognized?

A: PopChar scans the currently active KCHR resource in the System file to determine the proper key combination. This is correct in most cases. There are, however, countries where additional translations are made which are not reflected in the KCHR table. This is, for example, the case in Austria and Germany. I have not yet found a way to determine the correct key combination in all these cases. You will have to live with that (as I have to).

Q: To insert a character from the System font, I always have to select “System” from the Font menu first. Couldn't PopChar be modified such that pressing the option key makes PopChar display the Symbol font and insert the selected character in this font?

A: This is possible in principle, but would require PopChar to feed the application with a sequence of “user” input: a) menu selection of Symbol, b) key press, c) menu selection of the previous font. Faking a menu selection is a fairly complex task, which would make PopChar much bigger with only a little gain of power.

Q: I use PopChar primarily to find unusual letters in foreign languages (for example, Greek). It is rather cumbersome to pull down the PopChar window for every letter. Wouldn't it be possible to tear off the PopChar window from the menu bar and place it elsewhere on the screen so that I can easily generate several characters in a row?

A: Again, this is possible in principle, but would require a complete redesign of PopChar. Furthermore, converting the PopChar menu into such a "floating window" would probably introduce another source of incompatibilities with certain applications.

## **Distribution**

PopChar is free, but I reserve all rights to it. This means that you may use it without paying for it, and that you may give it to others without charging for it — nothing more and nothing less. If you like PopChar very much, just send me a picture postcard of your home town with some nice words on it. It is this sort of feedback that keeps me publishing utilities like this one for free. By the way, it would also be great if you could find some unusual stamps. My son collects them all.

Bundling PopChar with your product or including it on commercially distributed media requires my explicit consent. Contact me under the address below for details.

You are encouraged to upload PopChar on any bulletin board you know of. The only requirement is that PopChar must be distributed in its original form and that this documentation must go along with it. If you have access to a bulletin board and would like to help me to distribute new versions of PopChar, please contact me under one of the e-mail addresses listed below.

## **Any Problems?**

Should you experience any problems with PopChar, PLEASE provide me with as much information as possible. Your report should include

- Macintosh model (also: which keyboard type, which monitor, color mode, etc.)
- System version
- PopChar version
- What exactly happens when you do what?
- Which other INITs and cdevs do you use?
- With which other product (which version) is PopChar incompatible?

Before reporting a problem, you should try different configurations and see whether the problem persists. For example, try to

- use PopChar on another Macintosh or with another System version
- disable other INITs until you find out which one causes the conflict
- rename PopChar to load it before or after other INITs.

I will make every reasonable attempt to improve PopChar. However, I cannot promise that I will ever be able to fix your problem (in particular, if I do not have the hardware or software to reproduce your problem) or that I will find the time to do so.

Please do not send diskettes, asking me to send you an updated version of PopChar. I don't want no money for PopChar, but neither do I want to spend money for distributing it.

## **Credits**

Many PopChar users have contributed their ideas and sent me their wish lists. I am obliged to all of them, but in particular I would like to thank

- ALF (alias Alexander Falk), who spent hours on the phone during remote debugging sessions.
- Gary Holland and Joe Buccino, who provided the information I needed to make PopChar compatible with Adobe Type Reunion.
- Tony Affigne, who kindly acts as my gateway to CompuServe.

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