

AlfaCAD v. 1.1 Truly multi-document application now

Next mile stone in AlfaCAD development

This is good news for those who like or need to work with multiple open drawings, to copy blocks, texts and other elements or even all contents of drawing, to check details on one drawing to design something on another one and there are many other reasons why the multiple open drawings feature while all of documents are available for edition in the same time brings big advantage in designing process over single document application.

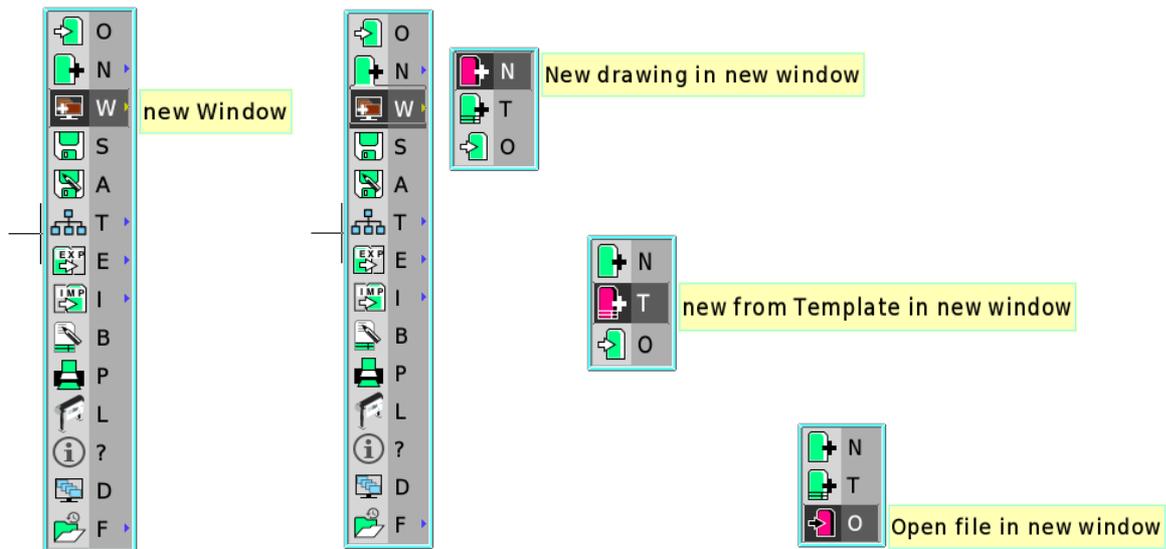
Until now, AlfaCAD had such feature like multiple windows, so multiple documents, however, it was not multiple document application, rather application which could be cloned, so each program instance could open another instance where another drawing could be edited. This feature still exists, however is not supported anyhow by AlfaCAD functions, rather by operation system which is equipped into mechanism letting to switch between applications. AlfaCAD is notified about another open instance, but doesn't support it any-more. Instead, AlfaCAD from version 1.1 fully supports multiple open documents, using own internal Desktop to switch between open drawings, like on the image below. From now, the desktop of AlfaCAD is shared between all open drawings, like before it was shared between open AlfaCAD instances. Instead of opening multiple instances of the program, the only one copy of AlfaCAD lets you edit multiple drawings in the same time. It's faster, requires way less resources and is stable.



While one drawing is edited in AlfaCAD, in **File** menu **new Window** function lets you open another drawing in 3 possible options, as shown of images below:

- New drawing in new window
- new from Template in new window
- Open file in new window

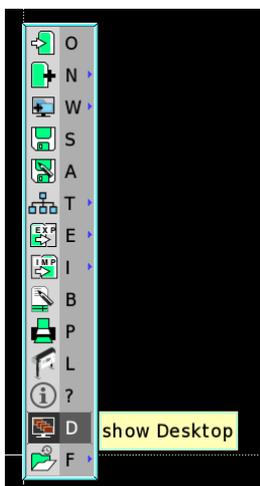
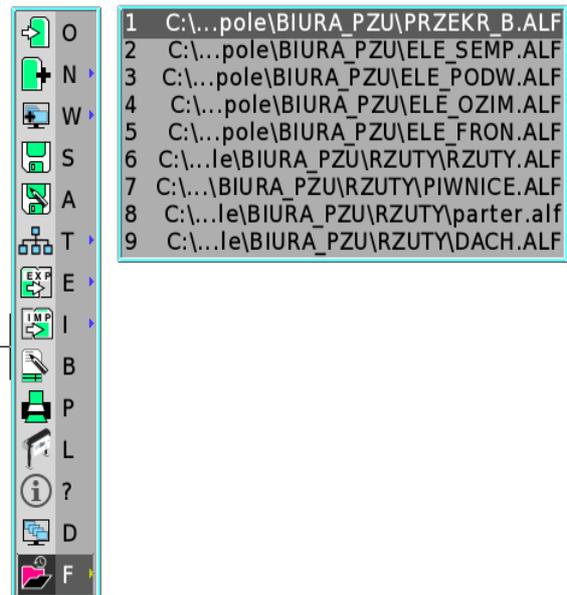
Those functions are nearly identical to functions **File - Open drawing** and **File - New drawing** with options **New drawing** and **new from Template** with this difference that currently edited drawing is not closed, no matter is saved after change or not, rather stays open, residing in memory, and another drawing is open in parallel, or empty (based on default template), or taken from selected template drawing or loaded from file, then is shown on the desktop, being ready to edit.



Using this function it is possible to open in the same time up to 16 drawings (every program has some limitation, so author decided to limit this number to reasonable 16 files; it's unlikely there would be such a need to open more, but this will be a matter of some experience to decide if this number is enough in the future). AlfaCAD is allocating memory segment to store and expand each drawing during editing process. In some cases, amount of memory allocated for drawing can be substantial, especially when bitmap objects are involved (maps, large images). AlfaCAD reserves and frees those resources dynamically.

When new empty drawing is open, in function **File – last Files** always previously edited file can be selected and load.

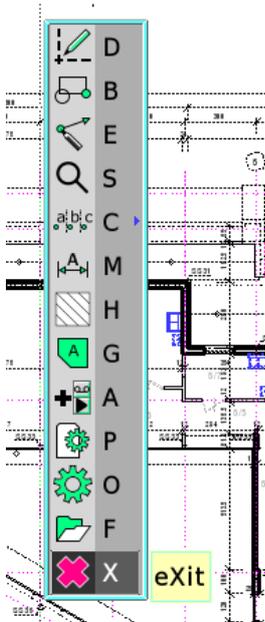
Selecting **new from Template in new window** or **Open file in new window** opens file explorer to select or template for new drawing, or load existing file.



When multiple drawings are open in AlfaCAD, there is easy access to each of them in function **File – show Desktop**.

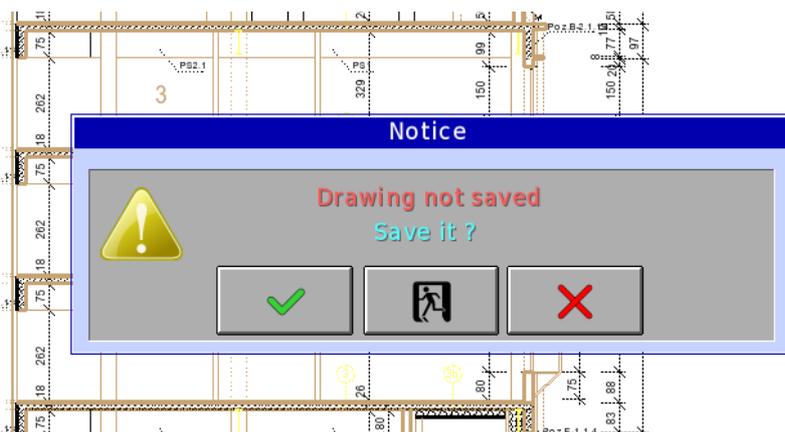
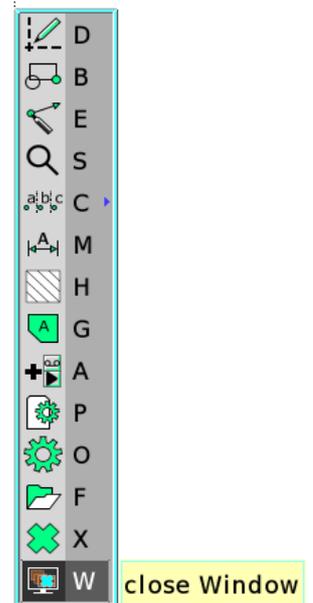
After selecting this function, the view of currently editing drawing is shrinking to the half of the desktop, and on another half of desktop the miniatures of all open drawings are shown, waiting to choose one of them, or press {Esc} or right mouse button, or button with Exit image in right bottom corner of the desktop (image on the first page).

Modified (changed) drawings are marked with the drawing name in blue, while unchanged drawings remain black, like presented on the image below.



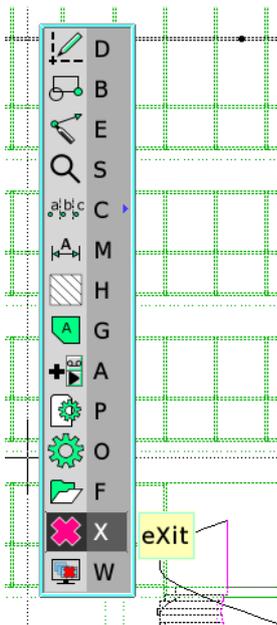
When single drawing is open, in function **eXit** of main menu to leave AlfaCAD, program is checking if drawing was edited but not saved yet. If yes, before exiting the message box appears, like on the image below, asking to save drawing, or to skip saving or to skip exiting (escape from function).

When multiple documents are open, extra position appears in main menu, to **close Window** ("Window understood as a drawing"). There are the same rules as for single document with **eXit** function with this difference that after closing window (drawing), no matter saved or not, program is not exiting, instead is switching to another open drawing, next in the queue. So if drawing 5 was closed, drawing number 6 will appear on the desktop, if exists. If the last drawing is closed, the very first drawing appears.



If currently editing drawing is not saved, and in message box option to escape from function is chosen, drawing stays open for further editing.

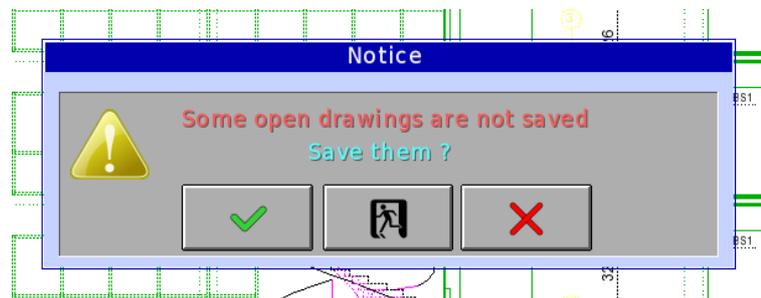
There is no need to save one by one all edited drawings while they were edited in parallel, however it's a very good practice to save them time to time, for safety reasons, to avoid losing your work when something bad happens.



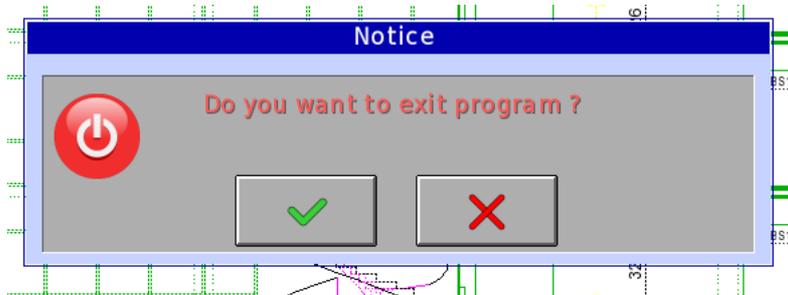
In current version of the program, automatic backup file saving is performed for currently editing drawing, not for all open drawings.

When multiple drawings are open and **eXit** function is chosen from main menu, before exiting program is checking if all open drawings are saved, if they were modified in current program session or since the last saving. If one of them or more are not saved, message window appears similar to message box in **eXit** function with single drawing, but this time expecting to save all changed drawing, to skip all changes, or to escape from the function. If saving is chosen, all not saved drawing will appear on the screen one by one then will be automatically saved.

Skipping the function returns to editing of current drawing without any effect.



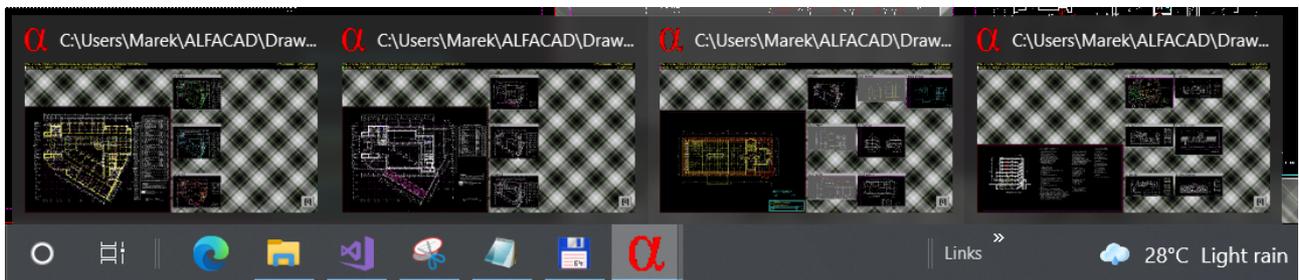
After all drawings are saved, or saving of all changed drawing was skipped, program displays the message box to give a choice to exit program, or to skip exiting, in case of changed minds. If exiting was skipped, all open drawings stay as before, saved or not, depending of previous choice.



Exit confirmation message boxes for single or multiple open drawings are identical.

Couple of instances of AlfaCAD can be open, each one comes with own desktop letting to open up to 16 drawings in parallel. Multiple instances of AlfaCAD has only advantage when 32-bit version is in use on 64-bit Windows system. 32-bit application can allocate up to 3 GB RAM on 32-bit system (if is booting with 3GB SWITCH) or 4 GB RAM on 64-bit Windows. When only 32-bit version of AlfaCAD was available, desktop was shared among instances, to use more memory resources (in case of big drawings where maps or very large images are involved, to make all screen operation fast, images are buffered on virtual screen which can allocate all available memory). 64-bit version of AlfaCAD has not such a limit, all installed in the system memory, and not occupied by another applications can be used. There is no reason to run more than one single instance of the program. Every instance needs to load all necessary resources, including fonts, virtual screens and many others.

If for some reasons multiple instances of AlfaCAD are running, the access to each of them is from the task bar on Windows desktop, after releasing mouse cursor from currently editing drawing, pressing **Ins** or **F11** key, like on the images below.



Memory management details

Every drawings is loaded into the memory chunk allocated to store the drawing while loaded, and expand it when edited. Drawing can expand substantially, so AlfaCAD cannot predict how much drawing data can grow. When new drawing is loaded, the first one or another one in new window, memory chunk of the size set in ALFACAD.INI file section [Directory], variable:

Memory Size For Drawing=640000 ; [KB]

is allocated, if it is possible, it means – if the biggest available free segment of memory is available to allocate. If not, this size is reduced to the current available free memory.

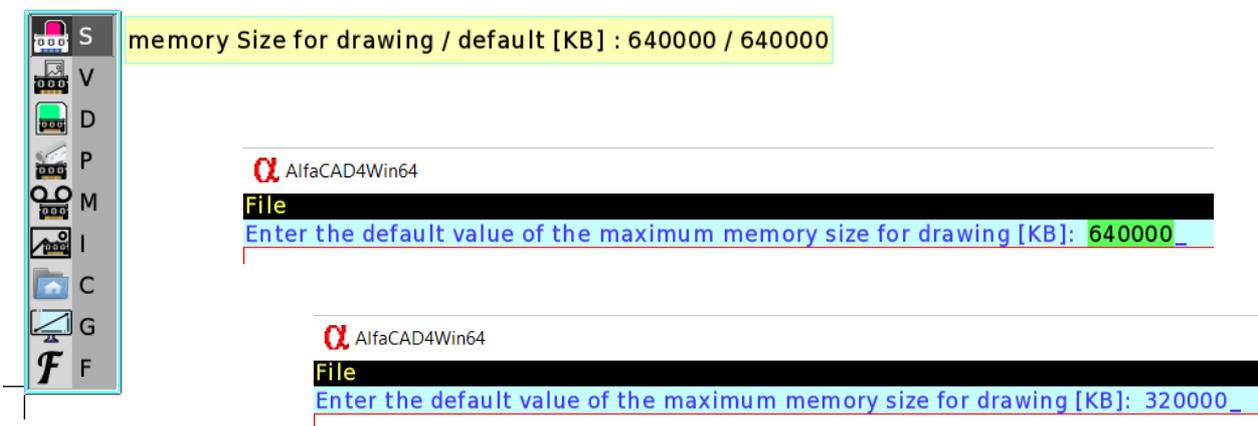
In fact, modern PC has installed quite big chip of RAM. This is substantially increased in 64-bit operation system, where use of memory is not limited to 4GB as it is threshold for 32-bit operation system. But all resources, no matter how big, are exhausted when we keep running many applications in parallel. We need to limit somehow the memory appetite of AlfaCAD too.

AlfaCAD's drawing files are highly optimized with overall size minimizing in minds. It applies to memory consumption after loading too. If mostly vector graphics is performed, drawings are really small in size, usually not exceeding few MB (few thousand KB). Drawings with inserted maps, scans of geodetic sleepers, photos or other large bitmaps can take much more space. Moreover, such

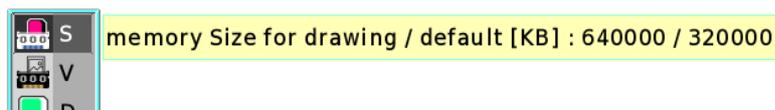
bitmap-involved drawings, to be redrawn fast enough during many editing operations, panning screen, changing scale of presentation etc., are trying to allocate extra memory to store big virtual screen on each whole image in set scale and accuracy is projected. Exploiting of this feature is highly recommended, especially for large images, but also can be switched off in auxiliary menu, **pArAmeters** → **image Buffering** to not take such a big memory chunk, while many other drawings are open with limited RAM installed in the system. Switching this feature off slows down image redrawing operations, and this is necessary only in very rare situations.

Currently allocated memory chunk for drawing is visible in the function **File** → **Info**. On the first position memory size for current drawing is shown, together with default memory size for drawing. Default size is usually equal to the size of memory for current drawing except of the situation AlfaCAD cannot allocate default size of RAM. Default size value is take from configuration file at start of the program, but can be change during AlfaCAD session, to enlarge or limit this size for next open drawing. It is impossible to change this size for current drawing, but changing default value, then closing and opening the drawing again, will effect with default size value allocation for the drawing.

To change default value choose first position from **File** → **Info** menu, then enter new value in KB, like on the example below:



As an effect you will get new default value. Every newly open drawing in this session of AlfaCAD will get this size of memory, if would be possible to allocate it.



To change default value of maximum memory for drawing for next AlfaCAD sessions, change this value in configuration file, for example: **Memory Size For Drawing=320000 ; [KB]**

There are few other parameters controlling the memory consumption of AlfaCAD, like: Macro Buffer, Printing Buffer, Image Buffer. In new version, even if you are editing in the same time up to 16 drawings, all those extra resources necessary to process texts including TrueType fonts, to print on the printer or to save in image format file, are allocated just once.

After exiting AlfaCAD, all allocated memory is returned to the system.

Please manage AlfaCAD memory consumption reasonably.

Enjoy AlfaCAD

author