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Author: Mafi; [closecombat2@claranet.de](mailto:closecombat2@claranet.de)

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## Close Combat 2 "A Bridge Too Far"

# Patching the Resources of the Mac-version of CC2

### What it is

"Close Combat - A Bridge Too Far" (abbreviated CC2, ABTF, CC2-ABTF) was the second game of the CloseCombat-series created by Atomic and presented by Microsoft to the Mac-community. It was also the last game of this series for the MacOS. The series was then continued by SSI (now by UbiSoft) for PCs only (up to day CC3, CC4, CC5). The game was released in 1997 on a hybrid-CD, running on PCs and under the MacOS 7.5 up to 9.2.2 / MacOS X 10.2.6 / 10.3 (in Classic environment) as well. Later (localized) releases of CC2 were for PCs only. Some of the differences between the two installations will be described here (no at all complete):

The main differences between PC- and Mac-version of CC2-ABTF are

- differences in the directory structure of the original CD,
- differences in the installation size,
- graphical and textual user interface datas are stored in different files,
- different sound files,
- no "LF"-chars in the text-based files of the Mac-version.

Common to both versions are all the files relating textures, vehicles, units, maps, battles and campaigns (that means: the "LF"-chars are missing in the common text-based files of both versions). If you look at the common graphics files (map files for example), you can see that the pixel values are encoded in BIG ENDIAN style (Motorola- / MacOS-like), so I think that the main development of all common elements was done by the original developers on MacOS computers. Only some PC special files ("Intrface.cc2" for example) are encoded Intel-like LITTLE ENDIAN.

### What do you need on the Mac

First of all you need the original CD "Close Combat : A Bridge Too Far" (hybrid PC /Mac) and the last available update from the internet. For patching the resources of the files "A Bridge Too Far" and "UI" you need Apple's "ResEdit 2.1.3". For editing the text-based files (strip off the LF-chars if they are modified by PC users) you can use Apple's "Simple Text" or the more advanced shareware editor "Tex-Edit". For creating new pictures or patterns you can use any graphic program (very suitable is the "GraphicConverter").

## Differences in the directory structure between the PC- and MacOS-version of the original CD

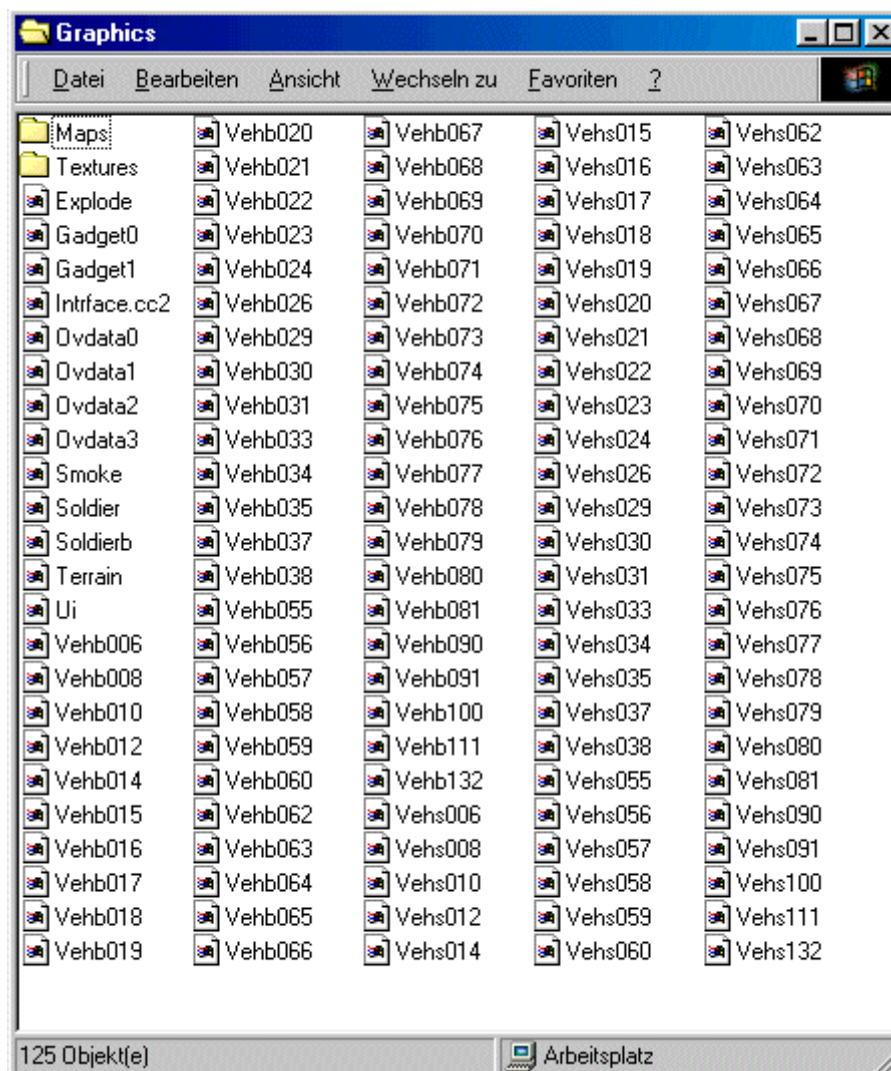
The first difference is obvious when you open the CD. In the PC-version there resides two folders ("Data" and "Windows") and two files ("Readme" and "Autorun") in the root directory. In the Mac-version you can find also two folders ("Data" and "Mac") and two files ("ReadMe" and the alias

“Install”) in the root directory of the CD. The folder “Windows” contains much more items than the folder “Mac” do. Let’s have a look on the directory structure / file hierachy of the original CD:

<b>PC-version:</b>	<b>MacOS-version:</b>
<b>Close Combat</b>	<b>Close Combat</b>
<b>Data</b>	<b>Data</b>
Data	Data
Base	Base
Battles	Battles
Brief	Brief
Campaign	Campaign
Maps	Maps
Ops	Ops
Graphics	Graphics
Ovdata0	Ovdata0
Ovdata1	Ovdata1
Ovdata2	Ovdata2
Ovdata3	Ovdata3
Explode	Explode
Gadget0	Gadget0
Gadget1	Gadget1
<b>Intrface.cc2</b>	<b>Intrface.cc2</b>
Smoke	Smoke
Soldier	Soldier
SoldierB	SoldierB
Terrain	Terrain
VehB006	VehB006
VehB008	VehB008
VehB010	VehB010
VehB012	VehB012
VehB014	VehB014
VehB015	VehB015
...	...
VehB024	VehB024
VehB026	VehB026
VehB029	VehB029
...	...
Maps	Maps
Textures	Textures
<b>UI</b>	<b>UI</b>
Videos	Videos
<b>Autorun</b>	<b>Install (alias)</b>
<b>Windows</b>	<b>Mac</b>
Sounds	Sounds
Sounds.cc2	CC Sounds
Setup.exe	Install
Setupenu.dll	
DirectX	
Goodies	
CC2.hlp	
CC2.exe	
CC2hlp.dll	
<b>CC2src.dll</b>	
Dsetup.dll, Dsetup16.dll, Dsetup32.dll	
Dxmedia.exe	

Eula.txt	
Tahoma, TahomaBd	
<b>Readme</b>	<b>ReadMe</b>

There are no differences between PC- and Mac-version in storing or using the graphical resources in the files "Gadget0", "Gadget1", "Explode", "Ovdata0" – "Ovdata3", "Smoke", "Soldier", "SoldierB", "Terrain" and "Vehb006" – "Vehs132". Only the file "UI" has in the PC-version the size 0. It is a special file for the Mac-version. The filesize 0 occurs because all of its resources are stored in the resource-fork and the data-fork is left blank. Viewing a hybrid-CD under a PC-operating system will only show the size of the data-fork of a MacOS-file. Viewing the same part of the CD on a Mac will show the real filesize: 10.2 MB. On the other hand the file "Intrface.cc2" is not used by the Mac-version of CC2, but can be found in the Mac.version of the CD. Also the sound-files are special to each version. Special to the PC-version are also all files in the folder "Windows". The file "CC2src.dll" is therefore a special file for the PC-version.



Picture: The folder "Graphics" and its contents in the PC-version of the original CD of ABTF.

## The installation differences between the PC- and MacOS-version

Installing "Close Combat 2 - A Bridge Too Far" on a Mac from the original CD offers the user only a single type of install: the "easy install". The install program notifies the user: "This installer will install Close Combat : A Bridge Too Far and any necessary components on your computer". You can only

select the volume/folder for the installation. Beginning the installation, the installer creates a folder "A Bridge Too Far f" on the selected volume. The created files there are

"A Bridge Too Far f:A Bridge Too Far" (the main program),

"A Bridge Too Far f:ABTF Help",

"A Bridge Too Far f:Icon" (hidden).

Then the creation of the following folders takes place:

"A Bridge Too Far f:Temp",

"A Bridge Too Far f:Videos",

"A Bridge Too Far f:Games",

"A Bridge Too Far f:Games:Battles",

"A Bridge Too Far f:Games:MYOB",

"A Bridge Too Far f:Games:Replays",

"A Bridge Too Far f:Games:Save",

pasting in the hidden file "Icon" into each of the above folders. Then the file "Game000.CC2" is installed into the folder "A Bridge Too Far f:Games:Save". Then the folder "A Bridge Too Far f:Sounds" is created, pasting in the two files "Icon" (also hidden) and "CC Sounds" (which can be found on the original CD). Also the following QuickTime-Player files are installed (into the folder "A Bridge Too Far f:Videos"):

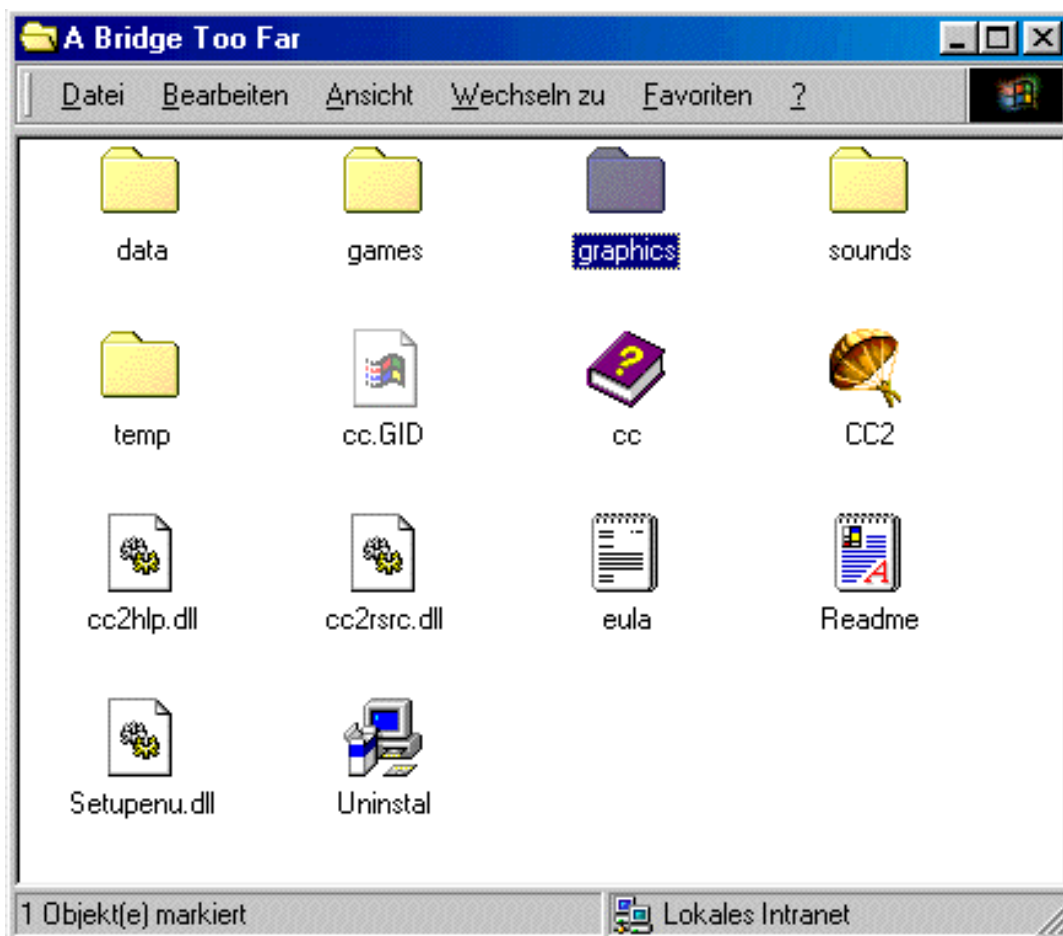
"aadv", "aaiv", "aavv", "acredits", "aadv", "aeiv", "aevv", "agdv", "agiv", "aguvv", "agvv", "amusic", "andv", "aniv", "anvv", "atomlogo", "gadv", "gaiv", "gavv", "gedv", "geiv", "gevv", "ggdv", "ggiv", "gguvv", "ggvv", "gmusic", "gndv", "gniv", "gnvv", "h10v", "h11v", "h1v", "h2v", "h3v", "h4v", "h5v", "h6v", "h7v", "h8v", "h9v", "hfaust", "Hhalf", "Hm10", "Hmg", "Hpak", "Hpanth", "Hpanz4", "Hsherm", "Hstuart", "Hstug", "Htiger", "intro", "mcredits" and "mslogo". They do not contain any really movie data but internal links to the MPEG-movies on the original CD. At least the installer installs the system extensions "Thread Manager" and "Apple Guide" in the system extension folder. These last two files can be removed when running under MacOS 8 or newer. They are only necessary for System 7.5.3 - 7.6.1. The complete installation requires approximately 34 MB. The remaining necessary datas resides on the CD and will be taken from there on runtime.



Picture: The folder "A Bridge Too Far f" after installation on a MacOS-harddisk.

This differs from the installation on a PC. There you can select between a "small installation" (similar to the Mac-install) and a "complete installation", where everything is pasted onto the harddisk.

Patching datas on a PC (like integrating new units, new maps, changing the campaigns and so on) requires subsequently a complete installation, so no datas from the CD are used during runtime.



Picture: The folder "A Bridge Too Far" after full install on a PC-harddisk. Notice the hidden file "cc.GID".

For the Mac there exists only the method to install patches to ABTF on an image of the original CD. This is reported by Matthew Hills (<http://www.stanford.edu/~hills/CCIIabtf/>), Xian (<http://www.xian99.demon.co.uk/cc2/hardrive.html>) and Chris Ellens (<http://cc2.20m.com/hd.html>) on their homepages. As mentioned by Xian the best way was reported by Frank Fijneman to get CC2 to run with out the CD (slightly modified):

### How to install and use Mods for CC2 under MacOS:

1. Take your original CD.
2. Place it your CD-ROM-drive.
3. Install the program on your harddisk (small install).
4. To use Mods it is not necessary to change the installed files.
5. Replace the main program "A Bridge Too Far" with the updated version found on the web site of Microsoft (version 2.0b).
6. Increase the memory for "A Bridge Too Far" from 19408 KB up to 48000 KB if you want to use very large new maps like the "Airfield"-map by Adam "The Man" D'arcy.
7. Create an uncompressed disk image file from the original CD using "Disk Copy" or something else. Be sure not to make it read only. The volume's name must remain "Close Combat".
8. Place the Mod-Files at the correctly on this image as described in the author's ReadMe-files.
9. Strip all "LF"-chars from the "TXT"-files of the Mod, if they are coming from PC's.
10. Remove the original CD from your CD-ROM-drive.
11. Leave the disk image mounted (activated).
12. Start the main program "A Bridge Too Far" from the harddisk.
13. If the program asks for movie-files (xxxxxxx.mpg not found), press the "abort"-button and click the mouse or double-click it. Even if the program asks for the CD in the SCSI-drive press the "abort"-button. Do not make a search, it will fail!

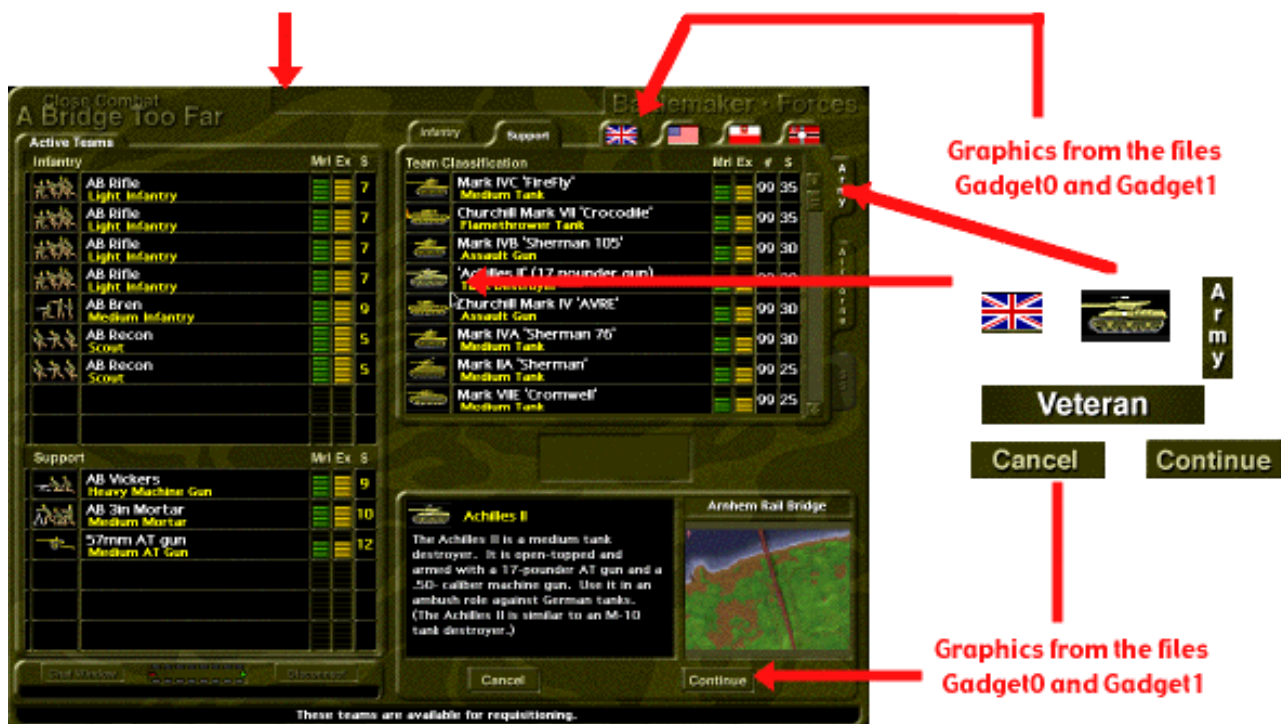
14. The program now will start, showing the new maps (or battles, campaigns), when you scroll down through the menu. Not replaced old maps will be also shown.
15. Select in the "Preferences"-option "Videos off", and you will be no longer asked for the CD or movies, but now the intro-picture will be displayed starting the game next time.
16. If you run into error message "out of command space", quit the program, quit all other applications except of the Finder and then start the program ABTF again.
17. After finishing the game, you can delete the disk image or leave it for the next day, DO NOT MAKE ILLEGAL COPIES OF THE SOFTWARE.

## Differences in storing the user interface

As described by das\_fuchs ([http://members.nbci.com/das\\_fuchs/effront.html](http://members.nbci.com/das_fuchs/effront.html)), in the PC-version the two files "Intrface.cc2" and "CC2rsrc.dll" contains data for the graphical user interface, working together with the files "Gadget0" and "Gadget1". In the Mac-version the graphical part of the user interface is stored in the resource fork of the file "UI", using the same files "Gadget0" and "Gadget1" like the PC-version for buttons or small graphical informations. But the text-based datas and the window definitions of the user interface (strings and dialog boxes) are stored in the DITL-resources and the stri-resource in the resource fork of the main program "A Bridge Too Far":

PC-version	Mac-version	
Intrface.cc2	resource fork of the file UI	"Intrface.cc2" and "UI" contain the data for the graphical user interface, that is, the background graphics that the user sees when the game starts and during menu selections.
Cc2rsrc.dll	DITL- resource and stri-resource in the resource fork of the main program "A Bridge Too Far"	"CC2rsrc.dll" is the file that contains information that is included in dialogue boxes and buttons. In the Mac-version this strings are stored in the resource fork of the main program.
Gadget0, Gadget1	Gadget0, Gadget1	combined, "Gadget0" and "Gadget1" contain 1,639 individual graphical images that are used in conjunction with the interface files. These graphics depict buttons or information images displayed on the background graphics coming from "Intrface.cc2" or "UI".

**Background graphic stored in the file  
Intrface.CC2 and the resource fork of the file UI**



Picture: The "Battlemaker – Edit Forces"-screen of "A Bridge Too Far" as an example how ABTF uses background graphics modified with small "gadgets".

Many of the authors, who created modifications to CC2–ABTF (for example new units or new campaigns) changed not only the unit-related files ("Gadget0", "Gadget1", Vehicles-files, Textures-files) but also the strings displayed in the menus or during the game and even the complete background graphics. If the modification was created on a PC, they could not create the Mac-specials, because PC-users have no access to resource forks of MacOS-files. And vice versa, if the modification was created on a Mac, it might be difficult to patch the "\*.dll"-files correctly.

## Using of graphical resources in CC2

Most of the graphical resources in CC2 are used as sprites and are stored in files that are not different between the two installations. In the PC-version of CC2, greater pictures (for example the background-graphics (intro-picture, background-pictures for the menus, sector-maps ...)) are stored in the file "**Intrface.cc2**". In the Mac-version of CC2 this graphical resources are stored in the resource-fork of the file "**UI**" (be carefull: this file has no data-fork) and can be viewed / manipulated using Apple's "ResEdit 2.1.3" (can be found at: [www.apple.com](http://www.apple.com)). The PC version of Close Combat 2 takes this resources only from the file "Intrface.cc2", the pictures here are stored uncompressed and encoded in Little Endian. Under MacOS the game takes them only from the file "UI" and they are stored as compressed PICT-resources (Big Endian encoding). Both files resides on the CD and are accessible under MacOS (see above). Due to the compression of the PICT-resources the file "UI" is smaller than "Intrface.cc2".

### The file "UI" of the Mac-version

This file has only a resource-fork and can be viewed / manipulated using Apple's "ResEdit 2.1.3". It contains four groups of resources:

- grct
- PICT
- ppat
- TMPL

#### The "grct"-resources

- grtc-Resource-ID 129 "UI gadget rects", Size = 3954
- grtc-Resource-ID 1000 "UI gadget rects", Size = 1690
- grtc-Resource-ID 1001 "UI gadget rects", Size = 3954

Function not yet explored completely. The template for manipulating this resources in "ResEdit 2.1.3" is stored in the TMPL resource with ID=128. The grtc resources contain rectangle information (coordinates, sizes) for the position of buttons, pictures and other graphical elements of the user interface. Most of these graphical elements are stored in the files "Gadget0" and "Gadget1". Perhaps "grct" stands for "graphical rectangle".

#### The "PICT"-resources

In the Mac-version the background-pictures have all the size 800 x 600 pixels and the sector-overview-maps the size 314 x 491 pixels. All these pictures are stored in compressed PICT-resources (with the resulting filesize of 10.2 MB, which is less than the size of the PC-version's file "Intrface.cc2", where the pictures are stored uncompressed). They can be viewed or cut/copy/paste-manipulated using the "PICT"-template of "ResEdit 2.1.3". The numbers and the names of these PICT-resources in the file "UI" are as follow:

- PICT-Resource-ID 1000 "splash" --> "Intro-Picture" (800 x 600 pixels)
- PICT-Resource-ID 1001 "Command" --> "Command Menu Screen"
- PICT-Resource-ID 1002 "Debriefing" --> "Debriefing Menu Screen"
- PICT-Resource-ID 1003 "net" --> "Multiplayer Connection Menu Screen"
- PICT-Resource-ID 1004 "Details" --> "Debriefing Details Screen"
- PICT-Resource-ID 1005 "Video" --> "Background for presenting the videoclips"

- PICT-Resource-ID 1006 "Requisition" --> "Requisition Menu Screen"
- PICT-Resource-ID 1007 "Briefing" --> "Briefing Menu Screen"
- PICT-Resource-ID 1008 "Supply" --> "Supply Menu Screen"
- PICT-Resource-ID 1009 "Main" --> "Battlemaker Main Menu Screen"
- PICT-Resource-ID 1010 "Maps" --> "Battlemaker select by Map Screen"
- PICT-Resource-ID 1011 "Battles" --> "Battlemaker select by battle Screen"
- PICT-Resource-ID 1012 "Forces" --> "Battlemaker force edit Screen"
- PICT-Resource-ID 1013 "over" --> "Overview Map Netherland's East" (314 x 491 pixels)
- PICT-Resource-ID 1014 "over arn" --> "Map Arnhem Sector" (314 x 491 pixels)
- PICT-Resource-ID 1015 "over nij" --> "Map Nijmegen Sector" (314 x 491 pixels)
- PICT-Resource-ID 1016 "over ein" --> "Map Eindhoven Sector" (314 x 491 pixels)
- PICT-Resource-ID 1017 "about" --> "Copyright Screen with logos of Atomic & Microsoft"

### How to replace PICT-resources in the file "UI" on the Mac

You have to take a suitable graphic program (best example: the shareware "GraphicConverter" by Thorsten Lemke, demo can be found at <http://www.lemkesoft.com>), create a new file with filesize of 800 x 600 pixels at 16-bit color depth (because ABTF on the Mac is not able to handle millions of colours). Design now what ever you like in this new file. Save the new file as a resource, that means, place it into a resource-fork of a new file as a PICT-resource! (in GraphicConverter: File/Save as .../ with Format: "PICT in Resource" and Option: Extras: Add Resource "ON"). Now open the resource-fork of this new file using Apple's "ResEdit 2.1.3" program (<http://www.apple.com>), select the resource by clicking on the PICT-icon, select your new created picture by double-clicking the now presented preview and you will see the entire picture in 100%-scale. Use the "Copy"-command from the menu. Then open the file "UI" using again "ResEdit". Select the PICT-resources by clicking on the PICT-icon and select the picture you wish to replace by double-clicking it from the now appearing preview of all PICT-resources in "UI". Use the "Paste"-command of the menu and the new picture will be now in the file "UI" as a resource. Use the "Save"-command from the menu and you will be able to continue with other pictures the same way. If you will not use the "Save"-command, you will probably run into memory troubles.

In some cases you will be able to "Copy" and "Paste" PICTs from any graphic program into resources opened by "ResEdit". But it's not guaranteed. Be sure to use 16-bit graphics and to fit the correct size of the PICT-resource you are going to change.

### The "ppat"-resources

Only one pattern-resource is stored in "UI":

- ppat-Resource-ID 128, size=2142

and cannot edited by a predefined template of "ResEdit 2.1.3". This resource contains the background color-scheme for the main battlefield screen-border and all scrollable menus. Size of the pattern is 128x128 pixels, in the original version with 1-bit colordepth! Background color is black, foreground color is olive green.

### How to replace the old 1-bit colordepth ppat-resource by a new one

You can keep the size of 128x128 pixels, although it is not supported by a "ResEdit"-template. Take a suitable graphics program (like "GraphicConverter" by Lemkesoft) and create a new picture with the size 128x128 pixels and 16-bit color (or less colordepth). Draw anything you like as a background pattern. Save the picture as "ppat"-resource. GraphicConverter is able to do that (no saving options necessary).

Then launch Apple's "ResEdit 2.1.3" and open this saved file. "ResEdit" will open only the resource-fork and will present a lot of icon-, PICT- and much more resources. Select the ppat-resource, it will also have the ID 128. Copy it. Then open the file "UI", select the only ppat-resource and paste the new ppat in, overwriting the old one (if the IDs are not identical, you have to delete the old one manually, pasting the new one in and set the resource-ID to 128). Afterwards you have to save the file "UI". When you launch ABTF now, you will see the new created background-pattern in the scrollable menu-area, where you can select saved games or saved battlemaker files or for example in the border and message/unit status area in the main battlefield screen. It works with 16-bit color-ppats as well as with 1-bit singlecolor-ppats or 4-bit- or 8-bit color-ppats!



The original ppat



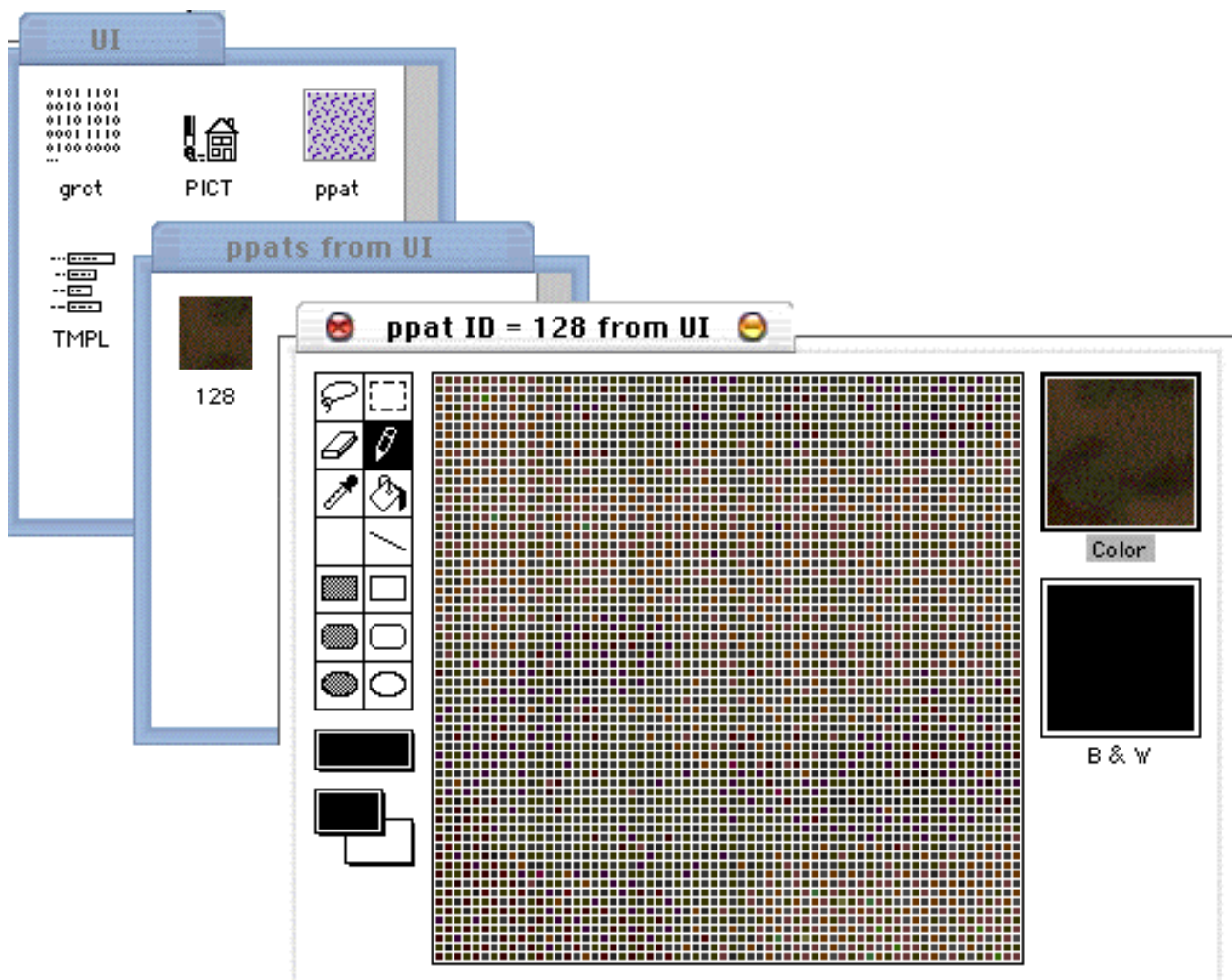
"Kreta"-like ppat



ppat for my Afrika-Mod

### How to create a complete new ppat-resource without a graphic program

You can create a pattern resource using "ResEdit 2.1.3" without any further software. There exists a ppat-editor in "ResEdit". Open the file "UI" using "ResEdit". Select the "ppat"-resources, open them, select the only one ppat-Resource with ID=128 and delete it (Menu: Edit -> Clear). Create a new one. (Menu: Resource -> Create New Resource). The ppat-editor will open with the size 32x32 and colordepth 1-bit.



Picture: Editing the ppat-resource of "A Bridge Too Far" using Apple's "ResEdit 2.1.3".

Change the size to what you like out of 8x8, 16x16, 32x32 or 64x64 pixels (Menu: ppat -> Pattern size...). Change the color to what you like out of 4 grays, 16 grays, 16 colors, 256 colors, Apple's icon colors or "recent colors" (Menu: Color). Design your pattern or paste a pict in and set the resource-ID to 128! Once you have finished, save the file "UI". Although "ResEdit"'s ppat-editor is limited, it is possible to store greater ppat-resources than the limit 64x64 pixels, and ABTF uses this

functionality of Apple's resource-system. And ABTF will use any ppat-size stored in the file "UI", if the resource-ID is set correctly to 128. I have tested ppat-Resources with the size 64x64 and 128x128 pixels.

### The "TMPL"-resources

There exists only one template-resource in "UI":

- TMPL-Resource-ID 128 "grct", Size=62

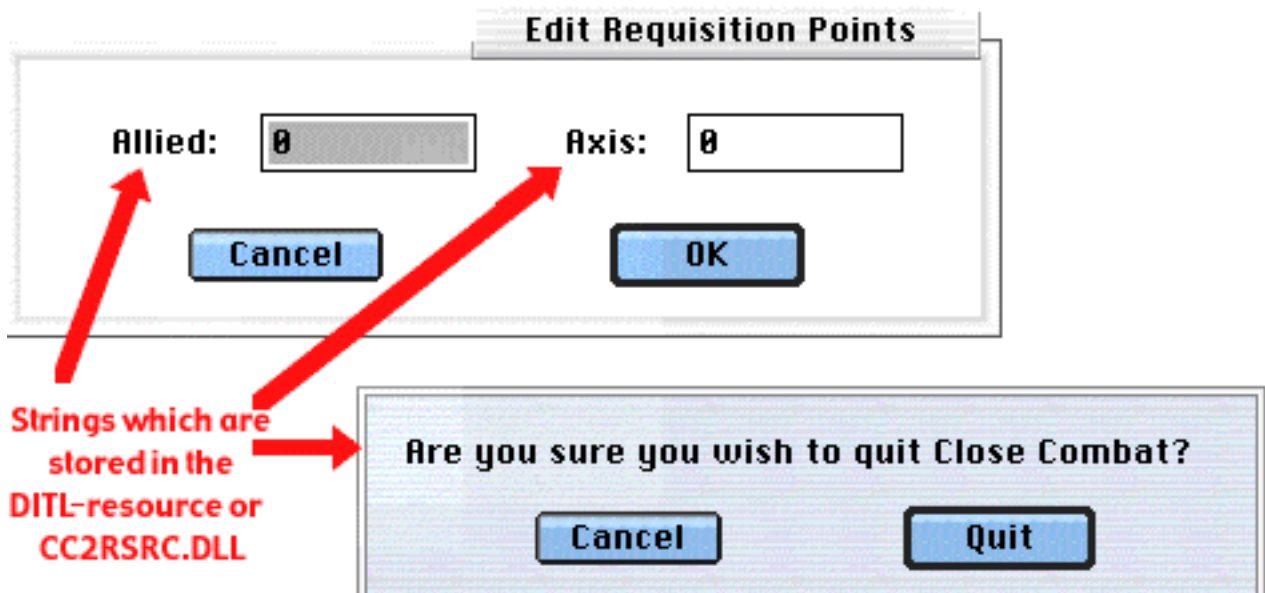
Function not yet explored. "TMPL"-template for manipulating in "ResEdit 2.1.3" available. The resource contains 7 label/type-combinations:

- 1) Label "Num"; Type "OCNT"
- 2) Label "Gadget"; Type "LSTC"
- 3) Label "Top"; Type "DWRD"
- 4) Label "Left"; Type "DWRD"
- 5) Label "Bottom"; Type "DWRD"
- 6) Label "Right"; Type "DWRD"
- 7) Label "" (empty); Type "LSTE"

It looks like a record-description for a rectangle in an enumerated list. And it is the recommended template for editing the grct-resources of "UI" when using ResEdit 2.1.3.

## Using of text-based resources in CC2

On PCs the game takes its necessary text-based resources (strings like "The Allies have won" ...) from the file "**CC2rsrc.dll**" (size 102 KB). Under MacOS this text strings reside in the resource-fork of the main program "A Bridge Too Far" itself. The strings relating to messages displayed during the battles you will fight are stored in one **stri-resource**, not editable with regular string-resource templates of ResEdit, but only with the universal hex-template. Strings for dialogs interacting with the user in separate dialog boxes are stored Mac-like in **DITL-resources**, easily editable with regular templates of ResEdit. Due to the lack of a separate textual resource file under the MacOS-version of CC2, modifications have to be done directly in the resource-fork of the Mac-version of the main program, a "mission impossible" for Windows-user (because they have no access to resource-forks of MacOS-files).

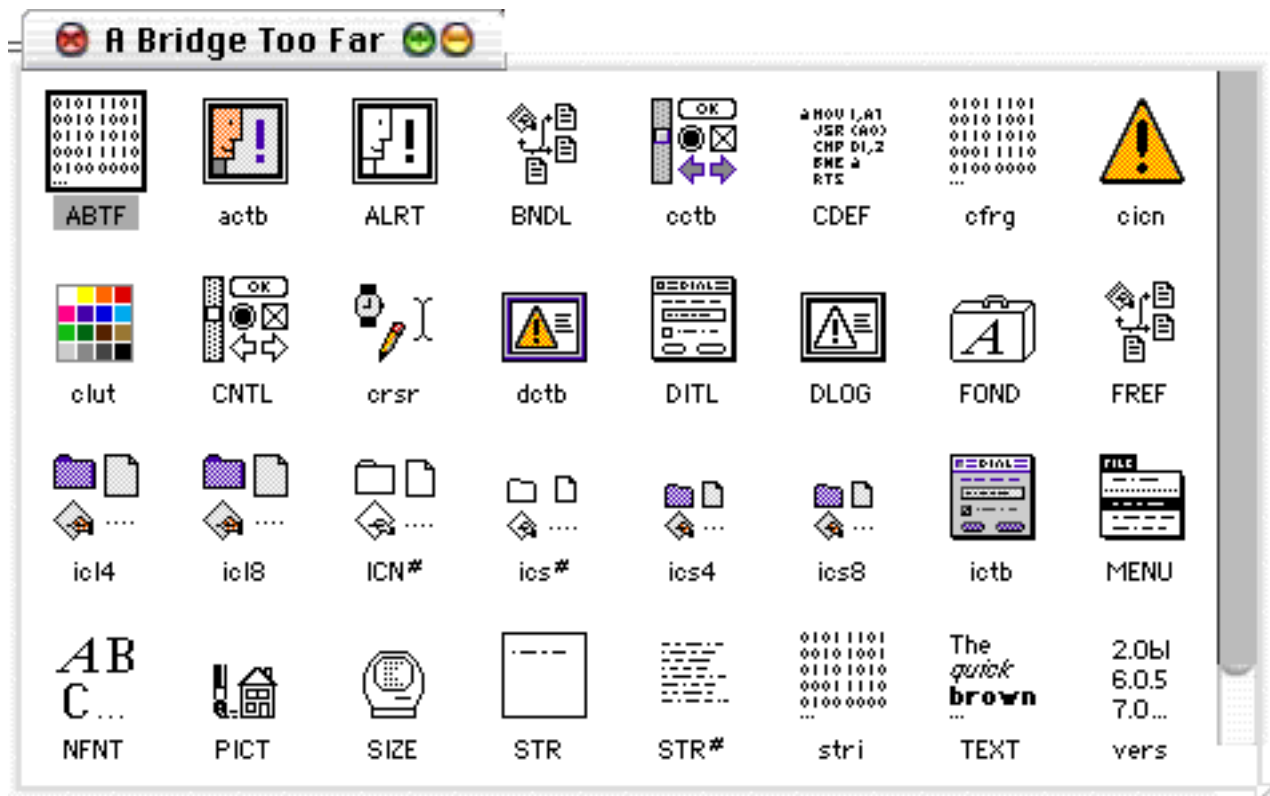


Picture: Modeless and Modal Dialog Boxes used by the Mac-version of "A Bridge Too Far", using strings stored in the DITL-resources of the Mac-version of ABTF or in the file CC2rsrc.dll of the PC-version of ABTF.

## The resource fork of the program “A Bridge Too Far”

Using Apple’s “ResEdit 2.1.3”, you can easily view the contents of the resource fork of the program “A Bridge Too Far”. There exist 32 different groups of resources:

- ABTF: owner resource,
- actb: color alert boxes,
- ALRT: b/w alert boxes,
- BNDL: bundle resource (works together with the owner resource ABTF and FREF),
- cctb: color tables (?),
- CDEF: color definition grayscale,
- cfrg: (?),
- cicon: one color icon for alert boxes,
- clut: color look-up table,
- **CNTL**: window definitions for dialog boxes (titles are interesting),
- crsr: cursor definitions,
- dctb: color dialog boxes definitions,
- **DITL**: dialog boxes (texts are interesting),
- DLOG: dialog boxes,
- FOND: the fonts “Espy Sans” and “Espy Sans Bold”,
- FREF: file reference resource,
- icl4: color icons large4,
- **icl8**: color icons large8 (all interesting),
- ICN#: b/w icons large,
- ics#: b/w icons small,
- ics4: color icons small4,
- ics8: color icons small8,
- ictb: (?),
- MENU: definition of the pull-down menus,
- NFNT: bitmap fonts,
- **PICT**: 4 pictures: “the paratrooper logo”, quick-help text and 2 separation bars,
- SIZE: size-resource,
- STR: serial-number string,
- STR#: string-list with error strings,
- **stri**: one resource containing zero-delimited strings (“The Allies have won” etc.),
- TEXT: one resource containing the text “80”,
- vers: version resources.



Picture: all resources in “A Bridge Too Far” as shown by Apple’s “ResEdit 2.1.3”

Some differences between the first version of CC2-ABTF and the last update (Mac version only):

	First version	Last update available
Version number as stated in the version resource with ID=2	1.0.0	2.0.2 (2.0b)
Can be found at	on your harddisk after installation from the original CD	<a href="ftp://ftp.microsoft.com/deska pps/games/public/closecomba t/cc2-20b.Bin">ftp://ftp.microsoft.com/deska pps/games/public/closecomba t/cc2-20b.Bin</a>
Works with	19405 KB of RAM	19408 KB of RAM
Works better with large maps with	30000 KB of RAM	30000 KB of RAM
Filesize	<b>1.558.143 Bytes</b>	<b>1.561.160 Bytes</b>
Size of STR-resource with ID=128	24 bytes	24 bytes
Size of STR#-resource with ID=1000 (Error Strings)	1136 bytes	1136 bytes
DITL-resources	26 entries	26 entries
CNTL-resources	6 entries	6 entries
PICT-resources	4 entries	4 entries
Icon-resources	3 entries	3 entries
Size of stri-resource with ID=1000 (CC Strings)	<b>25975 bytes</b>	<b>25981 bytes</b>
Offset addresses in the stri-resource with ID=1000 (CC Strings)	<b>924 (039Ch)</b>	<b>925 (039Dh)</b>

### The CNTL-resources

- CNTL-Resource-ID 1101 "Screen Size" --> window definition with title "Location Value:",
- CNTL-Resource-ID 2000 "Screen Size" --> window definition with title "Screen Size:",
- CNTL-Resource-ID 2002 "Game Speed" --> window definition with the title "Game Speed:",
- CNTL-Resource-ID **2003** "Allied Strength" --> window definition with the title "Allied Strength:",
- CNTL-Resource-ID **2004** "German Strength" --> window definition with the title "German Strength:",
- CNTL-Resource-ID 2005 "Sound Channels" --> window definition with the title "Sound Channels:".

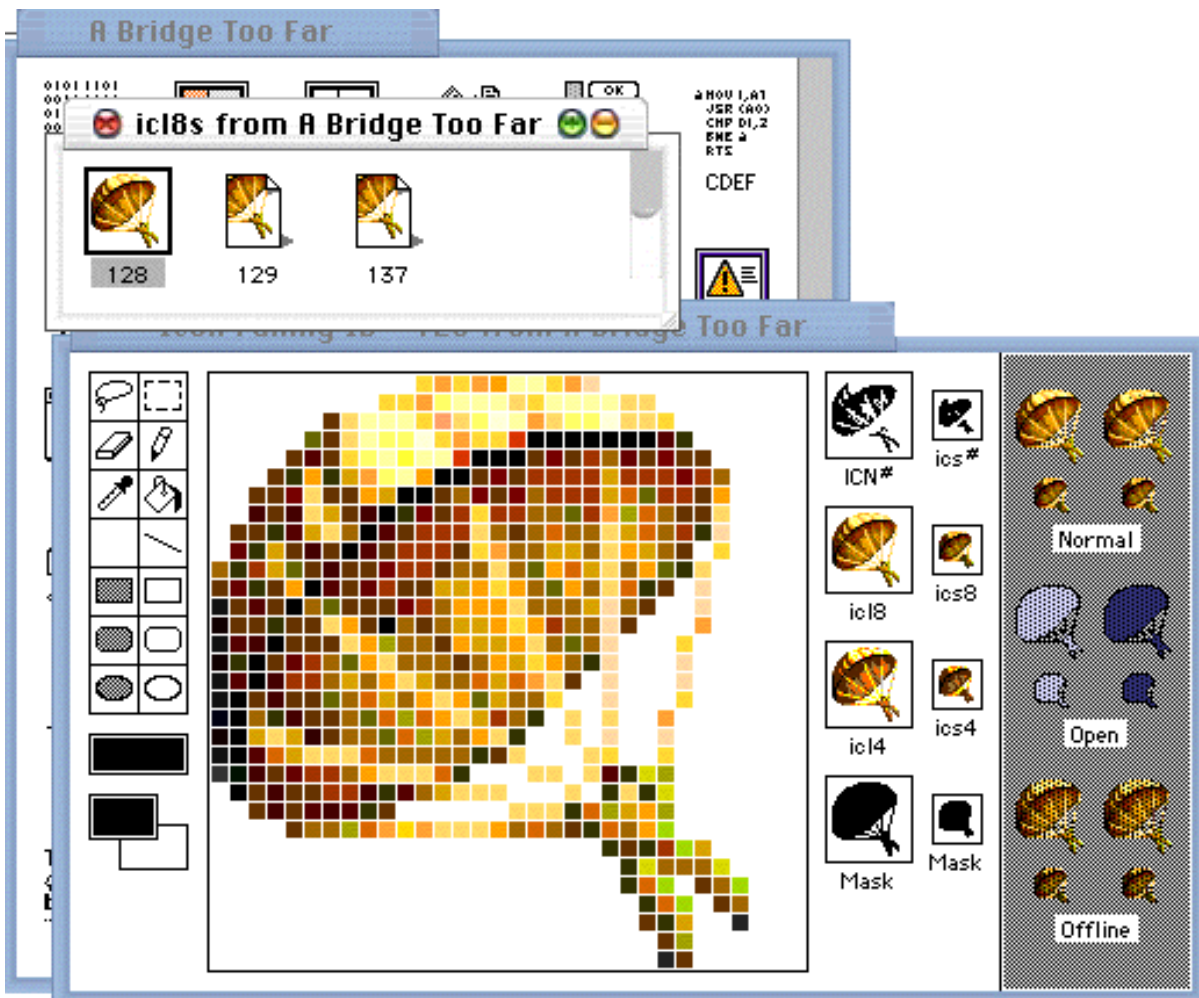
The titles of the definitions in the CNTL-resources with the ID 2003 and 2004 might become subject of patching once you will build up a new storyline. This resources can be easily edited with a template of ResEdit.

### The DITL-resources

There exist 26 definitions for dialog boxes:

- DITL-Resource-ID 500 --> an universal dialog box with one "OK"-button. Text will be pasted in during runtime,
- DITL-Resource-ID 501 --> "CC was unable to start up. Please re-install CC and try again.",
- DITL-Resource-ID 999 --> dialog box for TCP/IP-connection,
- DITL-Resource-ID 1000 --> an universal dialog box with one "OK"-button. Text will be pasted in during runtime,
- DITL-Resource-ID 1001 --> dialog box for setting up the game speed,
- DITL-Resource-ID 1002 --> dialog box for hosting games over the net,
- DITL-Resource-ID 1003 --> dialog box for setting up the commander name for net-campaigns,
- DITL-Resource-ID **1004** --> dialog box for "Allied Strength / German Strength / always fearless and so on",
- DITL-Resource-ID 1005 --> quick-help dialog box using the PICT-resource with ID 129,
- DITL-Resource-ID 1006 --> an universal dialog box with "the paratrooper logo" (PICT-resource with ID 128) and one "OK"-button. Text ??,
- DITL-Resource-ID 1007 --> "Creating a new campaign game:",
- DITL-Resource-ID 1008 --> "Replay name:",
- DITL-Resource-ID 1009 --> copyright dialog box with "the paratrooper logo",
- DITL-Resource-ID **1010** --> dialog box for "Allied Strength / German Strength / always fearless and so on",
- DITL-Resource-ID 1011 --> dialog box for changing the monitor resolution,
- DITL-Resource-ID **1100** --> an universal dialog box asking "Allied / Axis",
- DITL-Resource-ID 1101 --> dialog box asking for "Location Name / Location Value",
- DITL-Resource-ID 1102 --> dialog box asking for "Battle Name / Battle Description",
- DITL-Resource-ID 2000 --> "You are about to withdraw from the battle. Do you want to do this?",
- DITL-Resource-ID **2001** --> "Are you sure you wish to quit Close Combat?",
- DITL-Resource-ID 2002 --> an universal dialog box with "the paratrooper logo" (PICT-resource with ID 128) and one "OK"-button. Text will be pasted in during runtime,
- DITL-Resource-ID 2003 --> an universal dialog box with "the paratrooper logo" (PICT-resource with ID 128) and "Yes"- and "No"-button. Text will be pasted in during runtime,
- DITL-Resource-ID 2004 --> "Do you want to end the battle and return to the Command Screen? Nothing will be saved.",
- DITL-Resource-ID 5000 --> "Assertion failed" dialog box with "Exit to Debugger / Finder",
- DITL-Resource-ID 5001 --> an universal dialog box with "OK"- and "Cancel"-button. Text will be pasted in during runtime,
- DITL-Resource-ID 9999 --> dialog box asking for "Rand Seed".

The texts used in the dialog boxes of the DITL-resources with the ID 1004, 1010, 1100 and 2001 might become subject of patching once you will build up a new storyline. This resources can be easily edited with a template of ResEdit.



Picture: The Icon-template editor of Apple's "ResEdit 2.1.3" showing the icl8-resource with ID 128.

### The Icon-resources icl4, icl8, ICN#, ics#, ics4 and ics8

Each of this icon-resource group contains 3 icons:

- icon-Resource-ID **128** --> desktop icon for the main program "A Bridge Too Far",
- icon-Resource-ID **129** --> desktop icon for files created by ABTF,
- icon-Resource-ID **137** --> desktop icon for files created by ABTF.

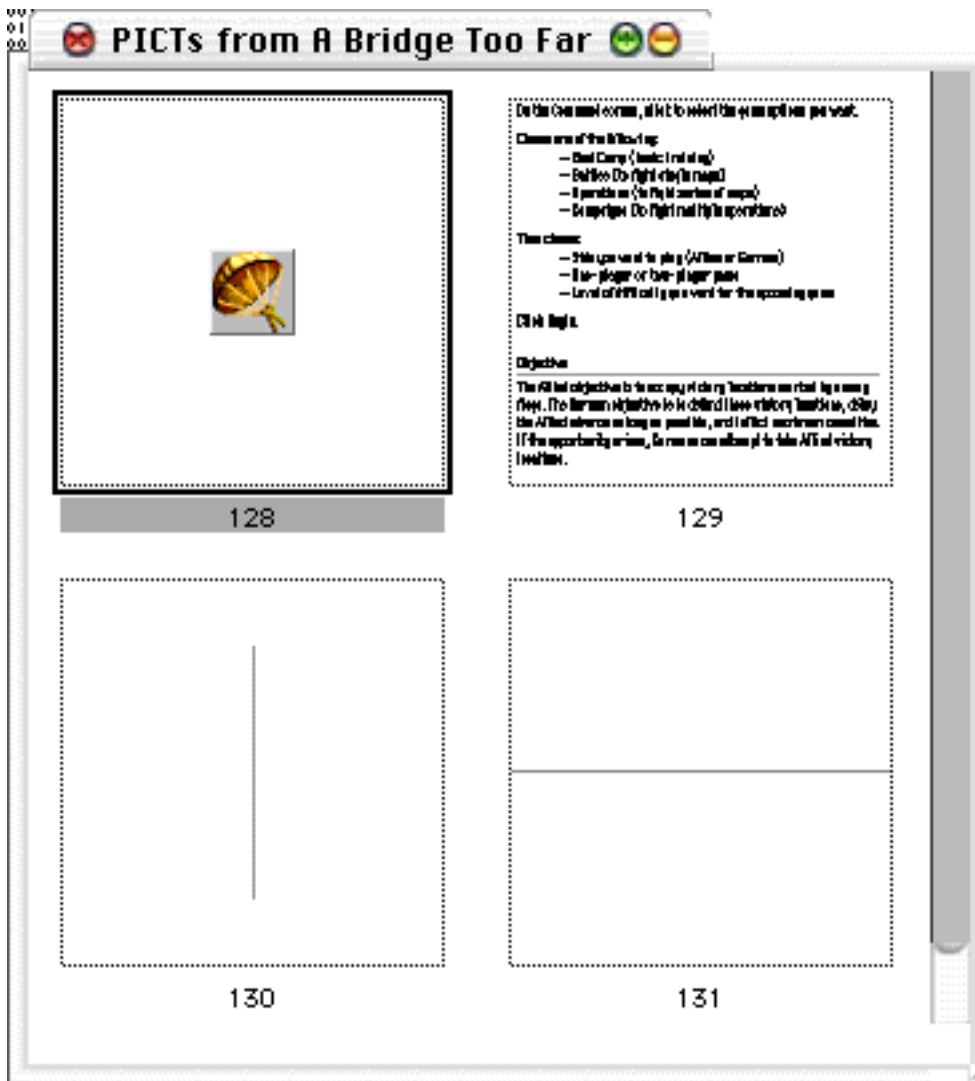
All these icons can be easily modified by the same icon-template integrated in Apple's ResEdit and will become a preferred target of patching.

### The PICT-resources

4 pictures of different size and purpose are stored as PICT-resources:

- PICT-Resource-ID **128** --> "the paratrooper logo"-picture, used by the DITL-resources 2002 and 2003,
- PICT-Resource-ID 129 --> the quick-help picture, displayed by the DITL-resource 1005,
- PICT-Resource-ID 130 --> a small vertical bar,
- PICT-Resource-ID 131 --> a small horizontal bar.

The PICT-resource with ID 128 might become a target for patching like the icons. PICT-resource editing is described in the section concerning the "UI"-file (external graphic program, pasting datas in from other PICT-resources).



Picture: All 4 PICT-resources in “A Bridge Too Far”.

### The stri-resource

This resource group contains one single big resource:

- stri-Resource-ID 1000 “CC Strings”, size 25981 bytes --> table of zero-delimited strings.

The stri-resource-type is not mentioned in “Inside Macintosh”. As stated in the Apple-book “Inside Macintosh - Text”, page 5-9: *Working With String Resources: Since many of the strings in your Macintosh applications are specified in resource files, you need access to those strings. Strings are defined by two different resource types: the string ('STR ') resource and the string list ('STR#') resource. To work with the string resource, you use the GetString function, and to work with a string list resource, you use the GetIndString procedure. The GetString function reads a string resource into memory and returns the handle to the string resource as its result. GetString does not copy the string, so you must create your own copy if you are going to modify the string in your application. If the resource has already been read into memory, GetString simply returns a handle to the string. If you use a number of strings in your application, it is more efficient to specify them in a string list resource rather than as individual resources. This is because the system software that reads in the resources can operate more efficiently when reading a collection of strings from a file than when reading and storing each individually. To work with an element in a string list, use the GetIndString procedure. It reads the resource, locates the string, and copies the string into a Pascal string variable you supply. You can then use the NewString function to create a copy of the string in the heap, if you wish, you can see that the stri-resource-type is not supported by Apple's MacOS and therefore not supported by Apple's ResEdit.*

So this string-table is not editable with a predefined template of ResEdit but only with the universal hex-template. But here are the same strings located that the PC-version stores in the file CC2rsrc.dll:

the message strings used during the battle (“We have taken a hit”) or after the battle (“The game was a stalemate”):



Picture: Strings from the stri-resource (Mac) or the file CC2rsrc.dll (PC) in action.

Most of the strings might become subject of patching when creating a new story line, as the whole bunch of modified CC2rsrc.dll-files from the PC-world shows. If we want to do the same thing to the stri-resource of ABTF we first have to analyse the resource. It is not a typical Mac-alike resource. The easy way is to overwrite the strings using the universal hex-template of ResEdit without changing the length of each string (and therefore without changing the size of the resource!).

### Analyzing the stri-resource of the last available update (version 2.0.2)

1. first 4 bytes containing the text “stri”,
2. the next 4 bytes containing the number of strings in the resource, 925 (in version 2.0.2),
3. the next 3700 bytes containing a offset table with the addresses of the 925 zero-delimited strings in the stri-resource, the first pointer points to the address 0000:0E74h, that means, that the first 8 bytes of the stri-resource will be ignored by the program on calculating the addresses after importing them into memory. To find the start of a string in the resource just add 8 to the address:  $0000:0E74h + 8h = 0000:0E7Ch$ . The last pointer points to the address 0000:6553h
4. beginning with the 3709th byte (= 0000:0E7Ch, if the first byte is 0000:0000h) the table with the zero-delimited strings begins. The end of each string is marked with a “null” byte (00h), as it is commonly in the programming-language C. The first string beginning at the address 0E7Ch is “Move”00h. The last string beginning at the address 655Bh is “Map %d, elem %d already occupied.”00h.

To patch the stri-resource properly it is necessary to create a separate “stri-resource-editor”, which is capable to recalculate all the 925 offsets and building up a new stri-resource after changing the length of even one single string. It seems to be impossible to do it manually.

**Be careful:** there are differences in the stri-resources between the first released version 1.0.0 (contains 924 offset addresses) and the last available update 2.0.2 (contains 925 offset addresses)!!!!

Unfortunately, the PC-pendant to the stri-resource, the file CC2rsrc.dll, is completely different in size and structure and contains also datas which are stored in the Mac-version in the DITL-resources. It is not possible to paste simply in the datas from modified CC2rsrc.dll’s.

## Summary

To change the look of the graphical user interface of CC2 in the Mac-version it might be sufficient to have the necessary background-pictures (for example as JPEGs). After saving them as PICT- or ppat-resources, they can be saved to the resource-fork of the file "UI" using Apple's "ResEdit 2.1.3", replacing the original resources of the game. To modify the message texts in the Mac-version it is necessary to patch the stri-resource of the main program. To change the dialog boxes of CC2 in the Mac-version the patch has to be done directly in the DITL-resources of the main program, also using Apple's "ResEdit 2.1.3".

Continued in the files:

- CC2Guide-stri-Res\_(MacOnly).pdf
- CC2Guide-DlogBoxs\_(MacOnly).pdf
- CC2Guide-UI\_Intrface\_OvData.pdf

MAFI

**closecombat2@claranet.de**

<http://www.geocities.com/cc2revival/> - <http://members.fortunecity.de/closecombat2/>

<http://www.closecombat2.claranet.de/> - <http://www.cc2.claranet.de/>

<http://www.dieppe.claranet.de/>