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Last revision: v2, Nov. 21st, 2004. (some annotations about blast size and "Weapons" file).

## Close Combat 2 "A Bridge Too Far"

# The Explode-file

## (Pc- & 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 is now continued by SSI (later by UbiSoft, Mattel Interactive) for PCs only (up to day CC3, CC4, CC5, CCM, RtB). 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 as well.

### Many thanks to CPL FILTH

Many thanks to CPL FILTH ([psaasta@otitsun.oulu.fi](mailto:psaasta@otitsun.oulu.fi)) for his great work. Without his program "SprTool.exe" the easy handling of sprite files of CC2 is nearly impossible and the following work could never be done by myself. Please look at his homepage for further development on CC2-CC3-CC4-CC5-tools: <http://www.student.oulu.fi/%7Epsaastam/>

### Many thanks to ZONBIE

Many thanks to ZONBIE ([zonbie1@hotmail.com](mailto:zonbie1@hotmail.com)) for his idea and texts about implementing airplanes in CC3. He was the one who invented the method of modifying the explosion graphics to get airplane animations in Close Combat 3. His original publication can be found at MGO / CC3-WesternFront-Mod site: <ftp://ftp.militarygameronline.com/pub/CloseCombatWF/planesincc3.zip>

### What do you need

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 (version 2.0b: [www.microsoft.com/games/closecombat/cc2/downloads.htm](http://www.microsoft.com/games/closecombat/cc2/downloads.htm)). For patching the sprites in the file "Explode" you must first extract the sprites from this file by using Cpl Filth's "SprTool.exe". The extracted Targa-graphics can be changed using any graphic program. The compressing of the Targa-graphics to create a new "Explode"-file will also be done by the PC-program "SprTool.exe". Since March 2004 my own tool "CC2Sprinter" is available for MacOS and PC to edit sprite files like "Explode".

### The file "Explode"





The file "Explode" is part of the graphical environment of CC2. In the Mac-version of CC2, it resides on the original CD in the folder "Close Combat:Data:Graphics". In the PC-version it resides (after making a full install of CC2) in the folder "C:\A Bridge Too Far\Graphics". To replace original CC2-files in the Mac-version it is necessary to build up a volume-image of the original CD with read/write-access. In the PC-version it is simple: replace the file in the full installation on the harddisk.

The program “Close Combat 2 : A Bridge Too Far” stores some of its graphical data as sprites. All CC2-files containing sprites have a starting header. The first four bytes of this header are “SPRI”. Files containing sprites are “Explode”, “Terrain”<sup>1</sup>, “VehBxxx”- and “VehSxxx”-vehicle-shadow-files, “Smoke”, “Soldier” and “SoldierB”. All sprites are stored horizontally flipped.







As CPL FILTH stated in the ReadMe-file of “SprTool.exe”, *the files resulting from extracting from a file will be named in sequence from image0001.x.y.tga to image9999.x.y.tga, where x and y are the hotspots of the sprites stored in the image-files. Dont change the names of the files, but feel free to try and change the image sizes or hotspots, that should work.* The file “Explode” contains 588 different sprites. Most of them are arranged as an animation sequence like GIF-animations.

There are three special colors used by CC2, as CPL FILTH stated: *white (0xFFFF) is transparent, the olive greenish is a shadow ( 0xE04E, IIRC ) and 0xE036 seems to be a special color too.* Most of the sprites have also a wide transparent area around the sprite, so creation of new, even greater sprites seems to be possible without disturbing the program. The limit seems to be 256x256 pixels.

### Table of contents – Explode (CC2)

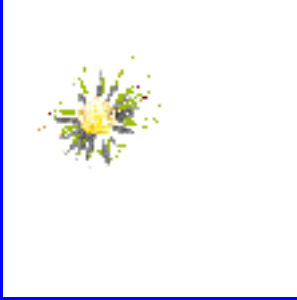
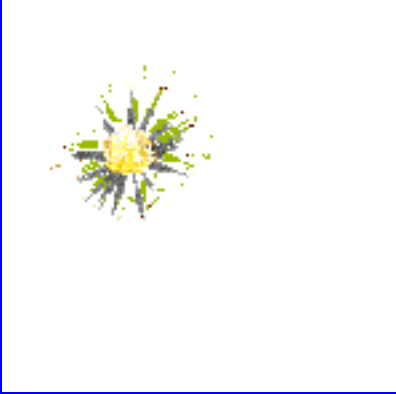
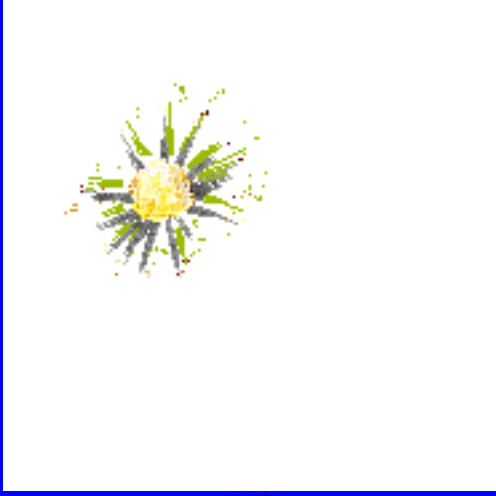

Animation No.	Sprite number	Hotspot position	Size in pixels	graphical example	Guessed identification
I	001-056	30, 38	61x76	 (024)	small <b>rifle or MG fire</b> , grouped in packs with 8 sprites each with different direction (like vehicle shadows), resulting in an animation sequence of 7 sprites in 8 directions
II	057-065	15, 15	30x30	 (060)	Animation of a small double <b>explosion</b> , 9 sprites
III	066-074	20, 20	40x40	 (069)	Animation of a medium single <b>explosion</b> , 9 sprites
IV	075-083	25, 25	50x50	 (080)	Animation of a big single <b>explosion</b> , 9 sprites

<sup>1</sup> See my CC2Guide-Terrain-file.pdf

V	084-195	100, 100	201x201	 (135)	<b>Gun fire</b> , grouped in packs with 16 sprites each with different direction (like vehicle shadows), resulting in an animation sequence of 7 sprites in 16 directions
VI	196-467	44, 57	89x114	 (324)	<b>Bazooka/PzFaust fire</b> , grouped in packs with 16 sprites each with different direction (like vehicle shadows), resulting in an animation sequence of 16 sprites in 16 directions
VII Blast size 0	468-476	15, 15	30x30	 (469)	Animation of a very small <b>grenade explosion</b> , 9 sprites
VIII	477-508	22, 31	46x100	 (498)	Animation of a big <b>flame/fire</b> after a flamethrower attack <sup>2</sup> , 32 sprites
IX Blast size 1	509-520	11, 22	37x37	 (514)	Animation of a small <b>grenade explosion</b> , 12 sprites <sup>3</sup>
X Blast size 2  (may be affiliated to sound #28 or	521-532	23, 45	74x74	 (523)	Animation of a medium <b>grenade explosion</b> , 12 sprites

<sup>2</sup> The flamethrower animation itself is stored in texture files Txtr154 – Txtr173.

<sup>3</sup> in the Base-file "Weapons" are defined 6 styles of blast sizes: **very small**, **small**, **medium**, **large**, **very large** (defined for weapon class 74 = "Explosives" and 65 = "12.8cm L/55") and **humongous** (this is defined for "Big Explosion" = weapon class 3 for bridge-blowing, for "280 DB" = weapon class 76 and in fact used by nearly every gun or exploding vehicles / ammunitions).

#29 ?)					
XI Blast size 3	533-544	35, 68	111x111		Animation of a large <b>grenade explosion</b> , 12 sprites
XII Blast size 4	545-556	47, 89	148x148		Animation of a very large <b>grenade explosion</b> , 12 sprites
XIII Blast size 5  (may be affiliated to sound #31 ?)	557-568	59, 112	185x185		Animation of a humongous <b>grenade explosion</b> , 12 sprites
XIV	569-588	11, 28	35x38		Animation of a small <b>burning fire</b> , 20 sprites

In the Base-file "Weapons" are defined 6 styles of blast sizes: **very small**, **small**, **medium**, **large**, **very large** (defined for weapon class 74 = "Explosives" and 65 = "12.8cm L/55") and **humongous** (this is defined for "Big Explosion" = weapon class 3 for bridge-blowing, for "280 DB" = weapon class 76 and in fact used by nearly every gun or exploding vehicles / ammunitions). The blast size is defined inside the Base-file "Weapons" in the columns 25th .. 29th (or "Y" .. "AC" when using Excel), corresponding to the given type of ammunitions (AP, HE, Heat, Smoke, Spec). "Mortars" like "Big Explosion", mortars, artillery fire, Molotov cocktails, hand grenades etc. use "HE". So you have to set the blast size mainly for the 26th column (blast size, HE).

The blast size entered there corresponds directly to the animation sequences in the graphics file "Explode":

animation sequence VII = blast size 0 = very small;  
 animation sequence IX = blast size 1 = small;  
 animation sequence X = blast size 2 = medium;  
 animation sequence XI = blast size 3 = large;

animation sequence XII = blast size 4 = very large;  
 animation sequence XIII = blast size 5 = humongous.

The animation number VII is used only by small guns against troops or terrain. Explosion animation number IX is used by guns with a "Blast Size" of 1 (AT guns). Some larger guns use animation number X, if they have "Blast Size = 2" set in the "Weapons"-file. The animations for "Blast Size" 3 or 4 are **never** used by ABTF, even if the definitions in the "Weapons"-file are set to this values. All guns or explosives with "Blast Size" 3 or greater use animation number XIII ("Blast Size" 5). Seems a bug inside ABTF to me. The animation number XIII (humongous) is also used by exploding vehicles, blown bridges or exploding ammunitions.

Another problem: it seems to me that the blast size really used during game play not only depends on the values entered for a given weapon but is calculated in the way "shown blast size animation = weapons ammo blast size \* random \* target explosivity". The blast size defined in the "Weapons" file can be expected, but will only occur in approx. 90% of all cases.

## Adding airplane animation (CC2) – ZONBIE's method

Due to the facts mentioned above you must obey the following steps:

- animation for "blast size" 5 is not suitable for patching, because this animation is reserved for bridge blowing and exploding vehicles / ammunitions. See what happens if you modify the animation No XIII:



Several planes at one time by pressing "blow bridge" with plane in animation No XIII

- The animations No XI and XII are never used by ABTF, so it is not effective to patch them.
- The animations No VII contains only 9 pictures, the result will be a too short sequence.
- The remaining suitable animation slots are No IX and X: it doesn't matter which one you will use (or both). Take care that other weapons in the file "Weapons" must get different "Blast size" values than your "airplane(s)". Increasing the "Blast size" of the other weapons to 3 or higher will always let them use the animation No XIII.
- If you are using pictures larger than 256x256 pixels in the animation sequence, it will cause strange effects:





"splitted" plane graphics if the picture is 300-400 pixels large

As Zonbie described, it is necessary to implement a forward air controller team to get close air support on your maps (in CC2 and CC3). The team (defined in the Base-file "Teams") must consists of one or more soldiers (defined in the Base-file "Soldiers") carrying the "weapon" "close air support". This weapon must be defined in the Base-file "Weapons". I think it is suitable to define this weapon as a long distance mortar. Avoid to cause a multiple explosion impact (which would be recommended for heavy artillery patches). Another way of implementing plane or rocket animations may be the altering of the flame-thrower animation in the files Txtr153-Txtr172. But be carefull: the graphics of this files are expanded by ABTF if you increase the range of the flame-thrower. Make your own tests. The first working implementation of an airplane animation was done by me for my CC2-Afrika-Mod. I think more airplane-mods (perhaps with two different planes) will come in the future for CC2.



Me-110 flying by after dropping at target (CC2-Afrika-Mod)

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<http://members.fortunecity.de/closecombat2/>

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

<http://www.geocities.com/cc2revival/>