

# TechDoc Unofficial PGII Version 2

This Patch fixes 5 bugs and adds 18 improvements in the game. PGII Version 2 (v2-Patch) is mainly created to give PG2 designers more opportunities with campaigns, scenario and equipment design at hand. These additional possibilities will hopefully affect future Efile versions, campaigns and scenarios, so the players will also experience the game in a new way. Not immediately, but gradually more and more.

The Patch Team!  
B.M.M.L.C.  
05/04

## Bug Corrections

- 1) You can no longer pick up used units to the deployment window. With one exception, the game ignores lost movement points of recon class or recon leader units.
- 2) The disembark a unit in last VH crash is fixed. This applies to units dropped from an air transport and units exiting from sea transport.
- 3) Cost calculation to upgrade and reassign units works now with current unit strength.
- 4) The game now supports read only file attributes. You no longer need to "de-select" the read only file attributes from your files.
- 5) The 5th minor country bug is fixed. The "Attack Stance" byte of a player will be no more interpreted as 5th minor country in scenarios.

## Game improvements

### Scenario/Campaign design

These extensions give the designer new possibilities to affect the behavior of the game in scenario playing. All features must be activated individually over a byte in the scenario file to work in the game.

- 1) You can buy experienced units. The scenario designer can set different default experience values for all players in a scenario. You can set values between 0 and 65,535. But at 65,536 the experience will run over to zero. The unit will have one bar per 100 experience, with a max of five. Use the player prestige of turn 40 for the default experience value. The settings affects all new units in a scenario, also prototypes. Activate this feature only if your scenario less then 40 turns long!
- 2) The current strength of a unit will now load from the scenario file, meaning that current strength works correctly now.
- 3) The current fuel value of a unit will now load from the scenario file, meaning that current fuel value works for all units except for core units in the first scenario of a campaign.
- 4) The current ammo value of a unit will now load from the scenario file, meaning that current ammo value works correctly now.
- 5) The scenario designer can now choose to not allow paratroop deploying over ocean hexes in a scenario. This feature did not fix the ocean-deployment bug! This bug is still in the game.
- 6) The scenario designer can choose to not allow prototypes in a scenario.
- 7) You can now set what music you want the game to play in a scenario. You can save two music file names in the scenario file. They will play in a loop during the scenario. But you do not have to use two files. One file will also play in a loop. The music must be \*.MUS format (PCM RAW format - 16bit 22,050 stereo) and be in your Panzer2\SOUND folder.
- 8) It is possible to set a default basic strength for bought/prototype units. The scenario designer can set different strength values for all players in a scenario. Valid values range between 1 and 15. The prestige cost calculation for units now works with a "current unit strength" factor. Thus the player pays/gets the correct prestige when buying/upgrading units or reassigning over-/under strength units. Also the core calculation against the cap in campaigns works with current unit strength.
- 9) The campaign "Brilliant Victory"-Smack works now for non main countries. For US, UK, German and Russian campaigns the game uses the default BV Smack files.

- 10) The deployment window opens now only in the first turn automatically. After turn one you must open the deployment window manually.
- 11) The unit strength icons from 16-20 work correctly now. You must change the UNITINFO.SHP file in your DAT file with the attached UNITINFO.SHP file to enable the feature. The v2-Patch is compatible with the original UNITINFO.SHP file.
- 12) Infantry class units can now be awarded as prototypes.
- 13) Campaign designers can now define a custom timeframe for prototypes in scenarios.

## Equipment Design

For two extensions, 15) and 17), it is necessary to modify SHP and TXT files. You will find a description of file format changes in Appendix.

- 14) The Equipment file limited of 2,000 units and 2,000 icons (G-Patch), has been raised to 4000/4000. But the EQUIP97.TXT file containing the unit names has a size limit of 32Kb (32,767 bytes).
- 15) More countries available. Nations 27, 28, 29, 30 and 31 can now be used in equipment files. Their flags must be inserted into the FLAGS1.SHP file in the same order as the flags of the previous 26 nations and their names added after the last line in the GUI97.TXT. This feature is active if the game finds 124 or more icons in the flags1.shp file.
- 16) It is possible to give non-recon class units recon movement availability.
- 17) Custom Leader and Generals pictures. This feature opens up a new field for equipment designers. This feature is active if the game finds 156 or more icons in the FLAGS1.SHP file. The NAMES.TXT file containing the Leader/General names has a size limit of 32Kb (32,767 bytes).
- 18) The expiry dates for transports works now.

## Compatibility

The v2-Patch is fully compatible with original scenarios, campaigns, equipment, DAT, SHP and Text files.

## How to Install

**Text based on Unofficial Patch v1.02g Readme file by Lasse Jensen 2001.**

This is the Unofficial Patch v1.02h PG2UK102H.exe that has been modified. The Unofficial Patch v1.02h PG2UK102H.exe based on the Unofficial Patch v1.02g PG2UK102G.exe. And at last the Unofficial Patch v1.02g PG2UK102G.exe based on the UK v1.02 Panzer2.exe. The last official executable for UK v1.02 Panzer General II.

If you are the owner of the German or French version, this execute file will not work for you. There is the obvious name difference. The German execute file is named "Panzer3D.exe" and the French "Opanzer.exe", however this is unimportant. The main difference is that the German and French does not use .TXT files, but rather .DEU and .FRA text files. This new execute file does not recognize those. If you have the French or German version you need to modify all your .FRA and .DEU files to .TXT by using Carl Johan Ankerstjerne's DEU/FRA text converter. You can get the converter at Steve's Campaign page:

<http://www.wargamer.com/pg2campaigns/steve/pg2.htm>

You will notice that this file is named PG2UK200.exe, and therefore does not replace your original v1.02 Panzer2.exe file. Simply unzip this file into your main Panzer2 directory and you are ready. But the most features of the v2-Patch must be supported by Scenarios and Campaigns, equipment files and the PANZER2.DAT-file. The download includes two additional ZIP files:

**DATfile2.zip** – Includes four SHP files. UNITINFO and VIEWUNIT are necessary in the PANZER2.dat file to activate new graphical features. Replace these two files in your PANZER2.dat file.

FLAGS1 and DOSSIER supports the attached Efile and can also be used as format templates. If you play with the attached Efile you should use the FLAGS1 and DOSSIER file in your PANZER2.dat file.

Follow the link below for detailed instructions for adding the UNITINFO and VIEWUNIT SHP files into your Panzer2.dat file.

<http://p090.ezboard.com/fjpspanzersfrm4.showMessage?topicID=511.topic>

**Efile2.zip** – Includes a stock SSI 1.02 compatible Efile that supports all new graphical extensions. Use the FLAGS1.SHP and DOSSIER.SHP file in DATfile2.zip in combination with this Efile. Thus you can play all stock SSI campaigns and scenarios with a new appearance.

You will retain your original v1.02 Panzer2.exe file and can start either of them to play. If you want to play with the changes you would start the game by PG2UK200.exe, if not, you start it by your original Panzer2.exe. Now remember this is a version 1.02 Panzer2.exe file. Please make sure the rest of your game files are also from this version! So do not use this execute file on a v1.00 or v1.01 version of the game, or you will get errors.

## **Known limitations/bugs**

**Text based on Unofficial Patch v1.02g Readme file by Lasse Jensen 2001.**

If you do not have the correct v1.02 files, you can get several different \*.DLL file errors. As stated this is a modified UK v1.02 Panzer2.exe file, so therefore for it to work correctly all other files in your Panzer2 directory must also be from v1.02.

## Appendix

The following is a technical description of v2-Patch changes on game basics and file formats. It is mainly interesting for PGII Tool makers, scenario/campaign and equipment designers.

### Unit Prestige Cost calculation

To enable the "default unit strength" feature, it was necessary to change the Unit cost calculation. The new formulas work on a current/basic strength factor.

Buy*	Original formula	12xA
	Extended formula	INT(12xA/10)xD
Upgrade	Original formula (no longer used)	IF C>12 THEN CxB ELSE 12xB
	New formula	INT(12xB/10)xC
Reassign/Cap	Original formula (no longer used)	12xA
	New formula	INT(12xA/10)xC

A: Prestige Cost for unit from equipment file

B: Upgrade Prestige Cost factor for unit

C: Current strength for unit

D: Default Basis strength for new units

\* Extended formula for buying units is only in use, if the "use default strength" feature is active.

### Text files limits

The size of text files used by the game is limited. A text file can contain 32Kb or to be exact, 32,767 bytes. If the file size is bigger the game will not start. But there also exists a text line limit for files. The game can only address a maximum number of text items per file. With more lines then allowed, the game loads the lines up to the 32Kb limit, but this will overwrite used memory space and the game crashes or works incorrectly.

File	Maximum text lines
Equip97.txt	4,000
Gui97.txt	1,000
Names.txt	1,000
Misc.txt	1,000
[Scenario].txt	2,000

### File format changes

It is necessary to modify game files to enable most of the v2-Patch features. The following is a list of all file formats that can be modified to enable v2-Patch features. The v2-Patch is compatible to all original game file formats and G-Patch extensions.

#### \*.SCN (Scenario files)

Most features for scenario/campaign design must be activated by the Designer in the scenario files. Luis Guzman's PG2 Suite support all v2-Patch features. A "How To Use" document for this tool is included in the download. You can get the tool at Steve's Campaign page:

<http://www.wargamer.com/pg2campaigns/steve/pg2.htm>

Section	Section Offset	Number of bytes	Read as	Useable values	Explanation
Scenario data	01h	1	Bit selecting byte (0=off/1=on)	Bit1: +1 Bit2: +2 Bit3: +4 Bit4: +8 Bit5: +16 Bit6: +32 Bit7: +64 Bit8: +128	Use default experience values Use current strength Use current fuel Use current ammo No paratroop ocean deploying No prototype play custom music Use default strength values
	02h	1	Bit selecting byte (0=off/1=on)	Bit1: +1	Use custom timeframe for prototypes

Player Data	Player x48h+46h (Prestige turn #40 player0..3)	4x2	Word	Any value	Default unit experience for player0..3  Do not use this option if your scenario has 40 turns.
General map data	29h	20	Null terminated string	Char	Scenario music #1 file name PCM RAW format - 16bit 22,050 stereo
	3Dh	20	Null terminated string	Char	Scenario music #2 file name PCM RAW format - 16bit 22,050 stereo
	51h-54h (Player0..3)	4x1	Byte	1-20	Default unit strength for player0..3
	55h	1	Byte	1-12	Custom prototype time frame in range between 1 and 12 months.
Unit data	26h (Current strength)	1	Byte	1-20	Current strength value can now assigned to unit Usable range has been raised to 20.
	28h (Remaining Fuel)	1	Byte	Any value	Remaining Fuel value can now assigned to unit.
	29h (Doublet ammunition count)	1	Byte	Any value	Doublet ammunition count value can now assigned to unit.
	35h (Original strength)	1	Byte	1-20	Usable range has been raised from 15 to 20.

#### \*.CAM (Campaign files)

The v2-Patch gives campaign designers the possibility to use an individual after Brilliant Victory Smack for campaigns. The Smack file will play during the campaign after all scenarios winning with BV. Use the unused "Winning the campaign SMK" Text field in the campaign file to save the Smack filename. This feature works only for Minor-countries. For Germany, US, Russia and UK the game use the original Smack files xxPLAY1-2.MUS. This is necessary for the compatibility to original and released custom made campaigns.

Section	Section Offset	Number of bytes	Read as	Useable values	Explanation
File header	04h (Winning the campaign SMK filename)	20	Null terminated string	Char	Campaign "Brilliant Victory"-Smack file name. Works only for minor - countries.

#### EQUIP97.EQP (Equipment file)

The v2-Patch triggers an unused bit in the Unit data section of the file. The equipment designer can use it, to give a non-recon class unit recon movement. It is the third bit of the UNIT SPECIAL2 byte in the Unit data section. Use this option only for units, to which no transport can be assigned. The decision whether a unit can be assigned a transport or not, depends on the movement method. The recon movement leader bug is still in the game, which is why you should not set the recon movement ability to units with the movement methods in the table below.

Section	Section Offset	Number of bytes	Read as	Useable values	Explanation
File header	00h	2	Word	0..3,999	Number of units in file has been raised to 4,000 units.
Unit data	19h	1	Byte	1..12	Month expire now works for transport class units.
	1Ch	1	Byte	Any value	Year Expired now works for transport class units.

24h (Unit special2 byte)	1	Bit selecting byte (0=off/1=on)	Bit3: +4	Give recon movement to unit  Do not use this option for units with the following Movement Methods:  03h: Leg 04h: Towed 0Bh: All Terrain (Leg)  Do not use this option also for Transport class units.
31h (Unit country)	4	Dword	*See country table in equipment spec.	Designers can now use all 31 country slots in equipment files. But the Efile need a supporting FLAG1.SHP file with >=124 flag pictures to enable the feature. Also the GUI97.TXT file must support this feature.

### GUI97.TXT

If an equipment file uses the +5 countries extension, the game needs 5 additional country names. Add the 5 country names at the end of the GUI97.TXT file (line 441-45). If the game finds >= 124 pictures in FLAGS1.SHP file the new country names will be used. To show the correct unit class name in the INSCECT UNIT screen, change also line 139 and 146.

Original format	440 items
Extended format	445 items

139: replace "Panzer General II" with "Flak"  
146: replace "Panzer General II" with "Level Bomber"  
441: name of country #27  
...  
445: name of country #31

### NAMES.TXT

The NAMES.TXT file contains country specific names for Generals and unit Leaders. The v2-Patch supports an extended format of the file for the General/Leader extension. The extended file format includes 32 sections, one for non-nation names and 31 for each country in the supported Efile. Each section can contain 31 specific names for a country. The NAMES.TXT file must match with the Efile country order and should be part of the Efile download. If the game finds >= 220 pictures in FLAGS1.SHP file, the extended file format is active. The Generals and Leader names will be assigned by the main scenario country. Unfortunately, the leader names will not be assigned by the unit countries!

Original format	4x100 names, 400 items
Extended format	32x31 names, 992 items

1-31: non-country names  
32-62: names for country #1  
...  
962-992: names for country #31

### FLAGS1.SHP

The FLAGS1.SHP file is part of the PANZER2.DAT file and contains the flag pictures. To enable the +5 countries and the country dependant Leader extension for equipment files, the v2-Patch supports an extended file format with additional Flags/Leader Roundel icons/Leader pictures and Battle Honor icons in a new order.

Original format	26xA/26xB/25xC/26xD, 103 pictures
Extended format	31xA/31xB/31xC/31xD/32xE/32xF/32xG, 220 pictures

A: Flags part #1  
B: Flags part #2  
C: Flags part #3  
D: Flags part #4  
E: Leader roundel icon  
F: Leader picture  
G: Battle Honor icon

Number of Icons	Actions
< 124	game works with 26 countries order
>= 124	+5 countries extension is active
>= 156	country Leader roundels extension is active, Game use Leader roundels from FLAGS1.SHP
>= 220	country Leader picture and Battle Honor icon extension is active: Game use Leader pictures and Battle Honor icons from FLAGS1.SHP General and unit Leader names from NAMES.TXT file will assigned by main scenario country. The NAMES.TXT file must support this feature (992 name items).

### DOSSIER.SHP

The DOSSIER.SHP file is part of the PANZER2.DAT file and contains all pictures for the Dossier Dialog. To enable the country dependant General/Medal extension for equipment files, the v2-Patch supports an extended file format with additional General/Medal pictures and a new order.

Original format	1xA/4xB/4xC/1xD, 18 pictures
Extended format	1xA/32xB/32xC, 129 pictures
	A: Main Dossier dialog picture B: General picture C: 3 Medal pictures in TV/V/BV order D: unused German medal picture (removed)

Number of Icons	Actions
< 129	game use original General/Medal pictures
>= 129	game use country depending General/Medal pictures

### UNITINFO.SHP

The UNITINFO.SHP file is part of the PANZER2.DAT file and contains unit strength and Leader roundel icons. The game supports theoretical unit strength up to 255. Surely the game uses only correct pictures to support a unit strength of 15. But the attached UNITINFO.SHP file in combination with the v2-Patch raises the supported unit strength up to 20. The v2-Patch is compatible with the original UNITINFO.SHP by supporting the original max strength of 15.

Original format	281 pictures
Extended format	348 pictures

### VIEWUNIT.SHP

The VIEWUNIT.SHP file includes the unit class pictures and some other stuff. In the original version of this file unfortunately there exist no pictures for the unit classes: None class, FlaK, Ground Transport and Level bomber. The v2-Patch supports an extended file format and also the original VIEWUNIT.SHP file. The extended format displays three new class pictures in order: 00h=none, 07h=Ground Transport and 0Ch=Level Bomber. FlaK class units receive the Air Defense class picture. Don't forget to change the GUI97.TXT file for correct unit class names.

Original format	22 pictures
Extended format	25 pictures