

Welcome to Mobhack For Windows

Mobhack is a data file editor for the SSI modern wargame Steel Panthers 2. It works on the files known as mobs from their format mobxx. Each one is used for a specific nation, eg mob00 is West Germany, mob12 the US Army etc..

Mobhack is freeware - see [How to Register](#) for details on how to get the full version, and read the [licence](#) for the legal bits, distribution etc..

Start at [Using Mobhack](#) if this is your first time. If you are new to SP2, try the SP2 guide at the mobhack home page - see below - also at the wargamer SP2 section, and in Compuserves SSI forum, in the SP2 library.

Note - I use the terms 'screen' and 'form' fairly interchangeably in these help notes.

Mobhack also works best with large screens - it should (just) fit on 640, but is better at 800 or better width - I use 1024x768 on a 17 inch monitor. Mobhack was deliberately developed in 16 bit Delphi, so that it may be used by Win 3.X users. It also works fine in Win 95.

Mobhack can load several mobs at once, however see the caveats in [Setting Startup Preferences](#).

See the Mobhack Home Page <http://freespace.virgin.net/a.gailey/> for SP2 and SP1, stuff, eg the SP2 guide, to see links to other SP sites, eg for Jim Bellos's Win 95 only editor SpObEdit, to the Wargamer (a good SP2 discussion forum here), and to contact the author. Upgrades, if any, will also appear here.

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Version 1.01 changes:

Tidied up formation viewer, fixed some bugs there, and added extra error checking.

Added [Renationalise](#) button to [Selector Screen](#).

Printing now functional:

- complete print dump at [Selector Screen](#) level for weapon, unit or formation data.
- single unit/weapon/formation dump from appropriate viewer screen.

Printing is to a text file called OUT.TXT, so you can edit in a word processor before printing. All printing to OUT.TXT is appended to the file.

Mobhack Main Screen

Contents

Using Mobhack

The main screen is the entry point to Mobhack.

Main Menu

Here you can affect various Menu Items.

Mob List

If any files with name mobxx are found in the current directory, then these are shown here. Any that are normally expected, but not found, are shown with a ? preceding them - these are then non-selectable. There is no need to copy all Mob Files to a work directory. The selection defaults to the first 'real' mobxx found.

Either double click on a filename, or select it then hit the edit/view button to open the mob for editing or viewing - once this happens a Selector Screen for that mob will appear.

Directory Navigator

This shows the current drive and work directory graphically - and allows you to go to another work drive and directory with the aid of the mouse. Choose the drive from the drive combo box, and point and click the directories to navigate.

The current work directory is shown at the top of the form, just below the Main Menu. Note that loaded files keep their path, which will be shown on the top lines of the mobs screens - hint - shallow directory structures are best, as surplus path info is truncated!. Thus a mob file loaded from c:\fred\hack will be saved back to c:\fred\hack by default. There is thus no need to copy multiple copies of the mobhack .exe to work dirs, unlike Mobhack for DOS.

Buttons

Help Button - Calls help.

Edit/View Button - depending on the read only menu item being checked, the next mob file will be opened for edit or viewing - the text on this button changes to indicate mobhacks state. NB - the status only applies to any mob files loaded AFTER the menu item is checked.

Exit Button - Exits Mobhack, but first checks to see if any mobs are loaded as a safety measure.

Status Line

Currently only used for debug purposes, eg showing resources free. may be removed from released version.

Selector Screen

This screen is the 'owner' of each mob file you load - this is where you do most things with the mob. Right click on this form to return to the [Mobhack Main Screen](#). This form can be resized to see more. The original file name and path is listed at the top - but long ones will likely be cropped!. Certain actions are only allowed on files which have been edited, and hence are 'dirty'.

Selection Lists

One for each of the 3 databases in a [Mob File](#).

Select a list using the tabs at the foot of the list. Use the scroll bars to find a particular item then double click on it, or simply hit the edit key to open the appropriate viewer:

[Unit Viewer](#)

[Formations Viewer](#)

[Weapon Viewer](#)

Buttons

Help - Calls Help.

Move to - Calls the [Copy to Dialogue](#) sub screen where you can copy (move) files.

Print - This prints the entire weapons, Units, or formations data - it prints what is currently selected via the tab control. All output is written to a text file called out.txt in your current work directory, and each print run APPENDS to this file. NB - remember also that <alt>+<Print Screen> together will copy the current screen to the windows clipboard, and you can then paste this into a bitmap editor, word doc etc. In addition, see the copy button help in [Formations Viewer](#) - this behaviour is valid for all 3 viewer types. Also, if you have a spreadsheet program, see the CSV item below, for another way to export data to an intermediate form which can then be pretty printed.

[Write CSV](#) - writes the comma separated data files for the mob, for use in a spreadsheet or database external to Mobhack.

[Renationalise](#) - allows an easy way to renumber all units and formations in a mob.

Save - Saves your work by overwriting the original. Only visible when the mob is dirty.

Exit and Save - First saves your file, as for Save button, then exits. Only visible when the mob is dirty.

Exit - closes the mob, losing any edits in progress, and returns to the [Mobhack Main Screen](#).

Weapon Selection

Select a weapon for the slot.

Also See:

[Weapon Viewer](#) (end of)

Select Weapon Class

Select a weapon class from the given list.

See Also:

[Weapon Viewer](#)

[Unit Viewer](#) (end of)

Class List

Choose a unit class

see also:

[Unit Class](#)

Choose Nationality

Choose the nation from the list - the 'mobhack scratch' ones are for hacker use only, and are not recognised by SP2.

NB - nations outside those of the mobs nationality are ignored in SP2 - an easy way to make something unavailable therefore is to flip the nationality to another country.

Choose a Formation

Choose a formation (platoon) from the list.

See also :

[Formations](#)

[Platoons](#)

[Companies](#)

Formations Viewer

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Using Mobhack

The formation viewer is, naturally, where you get to tinker with formation data. The file and path name of the victim mob file is displayed at the top of the form. Navigation is as for the [Unit Viewer](#), as are the buttons setup. - see this if you need this sort of info. If you do, simply do NOT start with formation editing first!! - and read ALL of the references below first.

Formations

Units

Companies

Platoons

[The AI's Pick List](#) - this one is quite important!

Before you start here. Formation editing is the most difficult to get 100% right, so take it easy at first!

Fields

Name - up to 15 characters describing the formation name.

Nation - Which SP2 nation we are talking about. If not=mob xx number, this will not be selectable. Side button selector.

Availability - From YY to YY - YY is 50 to 99, and it is really best if the Until is bigger than the From!

Page - which [Purchase Screen Page](#) this will appear on - side button for a selector box.

Type - which [Formation Type](#) this is - side button selector.

Slot 1 - this can ONLY be a unit, so 3 digits, no formation selector side button, only a unit selector button.

Slots 2 - 10 - these can be formations, so both selector buttons are provided.

Indicators

Light Bulbs - by slots 2 through 10 - lit if occupied by a formation, unlit if its a unit.

Time - => Dates Available - only shown if bulb lit - show the start and end dates for the sub formation to help avoid

possible clashes.

Not shown for units - a future edition may parse through the units list to look for gaps - maybe!

Unit Count - under the formation lister box - shows total no. of units in the formation. Warning in red if over 40.

Lister Box

This tries its best to show the makeup of the unit - it is NOT 100% guaranteed to follow the game's interpretation, especially with regard to erroneous constructs, so its a guide only. It tries to look like what the purchased unit will appear as in the buy screen right panel. It uses the separate convention of 0 for a leader element, (ie what a formation goes to in a campaign game) rather than consecutive numbering as this helps differentiate the bossmen.

Formation Type Selector

Select formation type from the list.

see also:

[Formations](#)

[Formation Types](#)

Movement Class Select

Choose a movement class to override the default, or set to default for that Unit Class.

Select Purchase Screen Page

This dialogue box allows you to choose which of the sections, or pages, in the troop purchase section of SP2, that your Formation will come up on.

The 'HQ' page is of course for admin only - the HQ is bought automatically, so there can only be ONE HQ Formation, and it must be available from 1950 to 1999. The unit in slot 1 need not be a 'headquarters', but it MUST be available right through from 50 to 99 - for most armies, a rifle squad or Main Battle Tank will fit OK as A0.

If 'Default' is selected, it appears on whatever page SP2 decides, based on the Unit in slot 1 - so if it is an infantry squad, your formation will appear on the infantry buy page, artillery on the artillery page etc.

Choosing one of the others will force the formation to appear on the selected page - eg. an armoured cavalry unit with a scout squad in slot 1 may desire to be presented on the Armour page.

Also, a very important note - the number of slots on each of SP2's buy pages is limited - items beyond this limit 'fall off' the bottom of the page - there is NO scrolling. So for some armies with many formations (eg. USSR infantry), some of these HAVE to be moved elsewhere. This also means the full 199 formations are normally unlikely to be useable!.

Unit Selector

Select a unit to place in the slot.

See Also:

[Units](#)

[Formations](#)

Unit Viewer

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[Using Mobhack](#)

[Units](#)

[Unit Class](#)

[Unit Fields](#)

[Cut/Paste Dialogue](#)

The unit viewer is the main point for the editing or viewing of unit data.

NOTE - remember that the [Commit](#) button is the means of saving your edits.

Navigation

Use the VCR keys to move forwards or backwards through the unit list, right clicking on the buttons produces a short or longer jump. You can also go directly to a particular unit by going back to the [Selector Screen](#) that is the parent of this form, scrolling through the list, and double clicking on the desired item. The easy way to get back is to right click on this form - this takes you back to the parent form. Your outstanding edits, if any, are LOST if you move to another unit without committing the save - this is deliberate!.

Editing Fields

Either type into the fields directly, or better yet, where provided beside a field, use the selector buttons to directly choose a value. The program does some validation on the data entered, but cannot cover all possibilities.

For field descriptions best see [Unit Fields](#). Some have side buttons which cause a pop up dialogue box to appear from which you can choose items of the appropriate type by point and click.

Buttons

Minimise - reduces the form to an icon (Win 3.x), or to the taskbar (Win95).

Cut - Removes (clears) the unit data, moving it to the paste buffers for future use. [Must still [Commit](#) to save edit]

Copy - As above, but does NOT clear the unit data. In addition, a bitmap copy of the current form is copied to the Windows clipboard on pressing this button - this may then be pasted into eg a word processor. If this effect is all you desire, cancel out of the copy dialogue without saving to a paste buffer slot - the bitmap will still be in the clipboard.

Paste - Overwrites the current units data with data from one of the paste buffers. [Must still [Commit](#) to save edit]

Print - Appends the current `_Committed_` data to OUT.TXT.

Help - Calls up help

Restore - This button restores the edits to the position of the last Commit action.

Commit - This button saves your edits in the RAM copy of the mob, NOT to disk - to save to disk, use the Save button on the [Unit Selector](#) screen that is the parent of this form.

Exit - Closes the form, with NO checking - any saves are lost. Also, the close button of the dialogue window has this effect.

Editing Ideas

NB - some SPA have plenty of ammo, but in real life carried none, but the crew and ammo travelled in a separate APC and/or load carrier(s) - just assume that the piece includes these 'extras' as SP has no real way of simulating it, same with SAMs or AAA which would in reality have separate director radars - just assume the last one in the formation that gets blown up had the director, or for indirect artillery the Fire Direction Centre. Same with some jeeps with suspect high RCL round counts - have you ever seen what 20 106mm RCL rounds look like <G!> - a 120mm Mobat/Wombat round is about 4 to 5 feet long!! - assume a second jeep/ammo carrier or an ammo trailer!.

You can do some funny things with weapons that were not supposed to be used by particular types - eg I put FASCAM on a FRG tornado, and it dropped mines as if it had a minelet dispenser - unfortunately, its attack was very wierd, one pass per minelet or so dropped, so it would likely have been shot at for each 'sub pass' - I dont know as it never got beyond test state!.

Armoured ammo truck - use the graphic for the French VAB, placed in a copy of the regular ammo truck, and give it armour. For the British stalwart load carrier, I also gave it a swim capability.

For helos, try moving the missile to slot 1, then you will see its hit% guesstimate when you use the 'T' key, rather than the 7.62 minigun you likely do not much care about!.

The US and FRG, not to mention British 120mm cannon have been given NO HE by SSI - a truly daft set of affairs, as the British 'HEAT' round is in fact HESH - ie a solid brick of plastique! - and the HEAT round of the FRG and USA 120mm has secondary Apers values (though you CAN shoot mortars with HEAT - wierd!). It is best therefore to edit the guns in question to have HE values, and to put a few HE in the shot lockers - for British tanks, it would be safe to go well over the max rounds, as each 'HEAT' is in fact an HE round.

For aircraft, the rocket pod 'weapon' is in fact a generic for a salvo of about 7 or 8 57/68/70mm, or less of larger - note that there are NO 68mm/16 or 68mm/32 'weapons'. What this means is that SSI has underplayed most rock pod aircrafts loads - they tend to be 1 or 2 - but the Soviet transport helo (6x32x57mm) gets 10 a side.. In other words, a 32 rocket 'can' is worth, mmm.. , say 3 to 4, mebbe 4 and a bit 'pods'. So recalculate your air pods - a 7/8 rock pod = 1, a 14/16 say 2, a 32 'can' is 4. so a Harrier with 6 x 32 RP = 24(+) is best represented as, slot 1 = cannons, 2,3,4=8 68mm 'pods' each. But remember the Points Values!.

The Soviet tanks are overloaded with HE rounds - this may be 'doctrine' but I feel that in reality more AP would be carried if a tank battle was expected - so move some HE to AP or HEAT. This is most definately the case with other end users - why should India for example, be saddled with the mega-HE loadout on its T72s - and while at it, fix thie Vijyanata Bison to have some HE, and give them some motor rifle units, as although SSI provided BTR60 and SKOT, they forgot the formations to use these, other than in the 'misc' section.

Better yet, download my modified mobs from the mobhack home page, then edit away the bits you dont like!!.

Weapon Viewer

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Using Mobhack

The weapon viewer is, naturally, where you get to tinker with weapon data. The file and path name of the subject mob file is displayed at the top of the form. Navigation is as for the Unit Viewer, as are the buttons setup. - see this if you need this sort of info.

Remember, if you change a weapon's data, you may need to look at the using Unit(s) Points Values.

Fields

The best way to get an idea how the values are used is to simply troll through a weapons database and note the usage!.

Name - A 15 character field.

Accuracy - a number which shows where a 50% hit chance can be expected, in hexes, before any other game modifiers are applied. Some weapons (eg ATGM) have acc > range - this is deliberate!.

Weapon Class - this affects weapon noise, but mostly characteristics - AA and SAMs get to shoot hairyplanes etc, etc.

Weapon Size - can also affect sound effects, carrying the thing etc.

Projectile Size - seems to affect the bang graphic etc, crater sizes whatever. May have a small affect on kill probability.

HE Penetration - max penetration of armour by this weapons HE round.

HE Kill - how good this weapon is at killing soft, squishy things!. Note - most HE effect is limited to 1 hex, but the 2000lb bomb is an exception - possibly as its HE value is over a key value (100?) - provides thought for an Honest John or FROG rocket!! - Nb some other LGB have values over the 100, so may also affect things in the next hex - and for some reason the 1000 Paveway LGB is about 120, vs the regular 1000lb bombs 75 ish - I wonder why the guided version makes a bigger bang??. Quite frankly, the A/C bombs HE values could do with raising - a 250 lb bomb has more HE content than an 8 inch shell... but then again a 16 inch battleship shell is only 32 HE value. Compare and contrast with some mgs etc - arty and bombs need work, should you feel like going through the entire mob set!!.

AP Pen - the best penetration of the regular Armour Piercing round, in cm. The 222 value is used for some HEAT only weapons as an internal code.

AP Kill - this field seems unused in SP2, but feel free to experiment.

Sabot Pen - the best penetration of the 'supercharged' AP round, in cm.

Sabot Range - the max range of the sabot round in hexes - this can be less than the AP round for HVAP. Also used for some weapons as a MINIMUM range field - ATGM, SAM, Mortars to name a few.

HEAT Pen - Best penetration of the HEAT round, in cm.

AP&HE Range - the range of these 2, and HEAT (ie everything bar sabot!) in hexes. Special codes of 200+ are used for off map artillery - look some of these types. Also look at long range SAMs as well, and those missiles such as Maverick that get 'standoff' attacks.

Sabot

Its best to ignore SSIs sabot definition - some weapons which in reality had APDS or APFSDS are classed as mere AP in the game - eg the Soviet 115mm tank gun (a smoothbore APFSDS chucker) and the NATO L7 105mm gun (whose regular AP round is in fact APDS - no full-bore AP shot ever designed

for this gun - and the Sabot is therefore either APFSDS or APFSDSDU). Also, for this gun, if you take the opinion the 'sabot' is actually APFSDS, then there is scope for an APFSDSDU round, better than the 51 odds of the sabot round - say a later M1/105mm, with AP=51 (ie the APFSDS round) and some APFSDSDU (sabot, pen=?65/70?).

So, just look at the 'sabot' as a supercharged round. In particular, many US and Soviet tanks in the 50s and 60s used HVAP (APCR), and SSI has given these far too long an effective sabot range - often 30 to 40 hexes (1.5 to 2 km!) - when most HVAP was less effective than regular AP at beyond 750 to 1250 metres range, due to the rapid drop off in speed caused by the drag of the retained lightweight shroud - unlike true APDS which discarded the wrapper. (But then, in SP1, they also had a very over optimistic view on US HVAP, not to mention the 37mm popgun! - hmm, now which country do SSI come from?). And the British 17 Pdr and 20 Pdr guns should have sabot range = AP range, as these actually fired true APDS, at a time the USA were still way behind, using WW2 style HVAP. if you do modify the US, Soviets etc to more realistic HVAP rounds, as I did in my mob (an early D10T 100mm gun) - remember the Points Values of the using units will need playing with!.

How to Register

Okay - originally, this program was going to be shareware, but unfortunately UK banks want about £7 to £10 per foreign check processed, and slightly less for International Money Orders. And USA based shareware companies want a chunk, then send a USA check - catch-22!. So either I sold it at a silly price - \$40 odds, or give up on the idea. I gave up on the idea as the market was too small, and also I dont have to have the admin hassles - so the only support for this product wil be as and when its required!.

So there is no need to register - the product is entirely freeware, despite having crypto stuff built in - do NOT play with the user name and ID in the .ini file, or the thing will revert to the restricted shareware format. Also, you can ignore anything mentioned about the restricted shareware limitations etc.

Using Mobhack

Mobhack can be used to edit or view the mobs - set the read only flag on the Main Screen menu. Edit mode is the default. If this is your first time, see before you start hacking away...

Only one instance of Mobhack can be run at any one time.

Mobhack is set to default to giving hints as well - just hover the mouse over a field or button, and the hint will eventually pop up - you can turn these off via a menu option as well. The delay is purposely quite long - about 2 seconds - in order to be less irritating.

Each mob opened at the main screen will produce a Selector Screen form (NB - the shareware version is limited to one file open at a time). Use the tab set control at the foot of this form to open the viewer forms for that mob - double click on a selected item to open the particular viewer. These viewer forms are where you do your edits. Right clicking on a viewer will pop its parent to the top, to provide an easy way of moving back up - the Selector form will take you back to the Main form if you right click on it.

The Unit Viewer form is where you will likely spend most of your time. Here you edit or create new toys to play with, set their armour, weapons and crew etc.

The Formations Viewer allows you to muck about with the companies, platoons etc into which your units will be organised. Formations give the most grief - setting them up is subject to a few gotchas, so the help is quite extensive here...

Finally, the Weapon Viewer allows you to tweak existing weapons which your units will use, or to create completely new ones.

Navigate through the list of items with the VCR type buttons at the bottom of each form - note that right clicking on the buttons will produce a short jump or a long jump depending on which you click. In order to jump to a specific item some way away, go back to the selector form (hint right click on the current form), scroll to the desired line item and double-click - this pops the viewer back up at that one.

Note that in each viewer, you must specifically save any edits via the Commit button for each form - this saves the edit to the RAM copy of the mob file under edit, NOT to the disk. If you make a mistake, use the Restore button to reload the data - this will be to your last commit action. In particular, Mobhack is set up to ignore your edits if you move on to another item - deliberately, there is no irritating save/cancel routine here. The philosophy is to only save when you ask!

In order to save your changes, you must go to the Selector form for your mob, where, if changes have been made, the save button will be lit. The act of saving clears the 'dirty' flag for the mob, greying this button. Mobhack considers any editing activity to have 'dirtied' the file, even if you say, restore the values.

To exit a viewer, use the exit button - once again, no namby-pamby questions if you press this - your current edits, if any, are lost. The same applies to a top level selector for any open mob, but attempting to exit Mobhack with loaded mob files will produce an alert box to confirm your desire to abandon.

Note that mobhack will only open files with the 'mobxx' file name structure. It does not do much checking on reading such a file beyond its name, and a length check. This thing is for hacking, and deliberately does not attempt to wrap you in cotton wool. It will recognise mob type files as you navigate - if a directory is pointed to that does not have one or more of the normal mob file ids present, then these names will be preceded with a '?' character, and will not be selectable.

Mobhack allows a few 'nationalities' not recognised by the SP2 game - the 'Mobhack scratch' so-called 'nations'. These files are for use as scratch files for work in progress etc., do not expect SP2 to recognise them at all!. You can move mob files to/from these as stores/scratchpads.

Menu Items

File

Edit - opens the currently selected mob (for viewing if Read Only is ticked}. Same as Edit/View button.

Exit - exits Mobhack, tests for open files first. Same as Exit Mobhack button.

Options

Read Only - If ticked, files subsequently opened will be for viewing only, if unticked, for editing. Default = Unticked (ie Edit Mode).

Show Hints - If ticked, pop up hints will appear after a 2 second display, otherwise not. Default = Ticked (ie Hints On).

Preferences - takes you to the [Setting Startup Preferences](#) dialogue, where you can change the defaults for the previous 2 options, and others.

Help

Contents - Takes you to the help introductory page.

About Mobhack - Displays the About box. This has version and contact info.

Mob Files

A mob file contains the data for a single nation in SP2 terms - however, you can fit others in there as well, for example I have made a Danish mob with added Swedish troops - but as far as SP2 is concerned these are all 'Danish'. IE the Nationality flag must be the same for all troops in the mob.

Each mob contains 3 databases, one for the weapons used, one for the Units - individual tanks, squads etc. - and one for the Formations - the companies and platoons.

The weapons database contains many weapons unused by the army in question - this is normal. The weapons in each mob are used by that mob only, so if you change say the 90mm Mxyz in one mob, only that user is changed - other users of 90mm Mxyz ar not affected, unlike in SP1, where the weapons database was shared by all the obxx files.

These 3 databases relate directly to the 3 Mobhack viewers

Unit Viewer

Weapon Viewer

Formations Viewer

A button which saves your current edit to RAM. If you dont use this button, your edits will be lost if you leave the current item. NB, to save to disk, use the save button in the [Selector Screen](#).

A button which restores your edit to the position of the last commit action.

Licence

Mobhack for Windows
Windows Steel Panthers 2 data editor.
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Licence

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Before you start hacking away...

Remember that Mobhack is a data file editor, and that any edits you make and save will permanently affect the Mob File in question!

Therefore, before you start hacking away, back up your original files somewhere safe, in a special backup directory, say. Better yet, once you have done this, archive them into a single zip or similar compressed file. Mobhack cannot read compressed files - so a zipped backup is completely safe from unintended editing!

Next, prepare a working directory where you will do your hacking, and copy the mobs from your \steel2 directory there - do not hack in the \steel2 directory, for safety's sake!. Although, naturally you can view the files there (preferably with the read only flag set - on the Menu).

Before you start editing, use the program to review how the original mobs are put together - note how SSI have done things first in other words, look for patterns etc. Then at first anyhow, do a small edit or two to see the effect, rather than diving in with a complete reorganisation of an entire mob. Leave formation editing until you know a bit more about mob hacking, as this is the area with most gotchas.

The button on the selector form which actually saves your edits to disk.

Companies

A company formation in SP2 is made up of several units like for a platoon, but additionally it can contain Platoons as sub Formations. This is its main difference over a Platoon - ie that it acts as a container for platoons as well as units. A company cannot be a sub formation to another formation, so in the formation selection button on the Formations Viewer, only platoons are listed - if you manually enter a companies code number here, the results are undefined - sometimes you get the company leader unit from the company, sometimes a bunker.

The first slot in a company MUST be a unit - this is the company commander. You can then put several single Units under him - these will be added together to form a company HQ platoon.

You can then add platoons, these go under the company commander for rally purposes in the game. Platoons inside a company are denoted by 1000 plus the formation's code number, so a tank platoon (formation no 11, say) is referred to as 1011 in a company slot.

Any singleton units added underneath a platoon slot are formed into the preceding platoon, for example in an armoured cavalry unit:

Slot X = 1xxx => Tank platoon (4 tanks, say)

Slot Y = 0xxx => SP Mortar (M106, say)

Will produce a platoon of 5 units, ie 4 tanks and a 5th unit of a SP Mortar.

Note that a company cannot contain more than 40 units total. Any 'excess' is chopped. The formation viewer will alert you if you attempt this. Even SSI forgot this - eg the AMX10 mech inf platoon in the French Mob. Also note, the 'Batallion HQ' is in fact a company type formation, so may have platoons added to it if desired.

Platoons

The platoon is the basic unit in SP2 (unit in the military sense, not SP2 Units).

A platoon is made up of between 1 and 10 units. The first unit in the platoon will become the platoon commander, and it is also what determines which page in the SP2 buy screen the unit will appear, unless modified by you as described at the Select Purchase Screen Page.

Note that Formations inside a platoon are invalid, and cause hiccups to the game, so the Formations Viewer tries its best to alert you of this problem!.

Each unit is just a placeholder for whatever is available of that unit's Class at that date. Thus a Sherman tank in a US tank platoon could be replaced by an M1 at the appropriate year, should the formation be available that long. Try to ensure that a unit of the chosen class IS purchaseable at each date across the availability of your platoon - in particular, look for gaps. For example, the Israeli mob as-issued has an attack helo section of 2 helos, but in the middle there is a gap where no attack helos are purchaseable - this is why this formation appears on the buy screen during the included Arab-Israeli canned campaign, but nothing happens when you click it - there is a gap between the end date of the Alouette and the start date of the Hueycobra, but the formation is available across the gap.

I have seen this behaviour with artillery units for some strange reason - despite sections of an appropriate type being available, before or after some key date, the section appears and acts as for the Israeli helicopters - the only cure for this is to have formations covering both sides of the 'divide'. In other words, once you create a platoon type, go into SP2 and try purchasing AND placing it for each year from 50 to 99 (or whatever its availability is) just to be sure it works fine.

The unit Class is the main differentiation in what is bought - mixed platoons of 2 or more different versions of the same class of object do not really work well. A typical example of this is the British armoured car and light tank troops, where the mob designers have given them 2 different pairs of light tanks etc - say 2 scorpion, 2 scimitar - both 'light tank' classification. On going into the purchase screen, sometimes 2 scorps and 2 scims appear, sometimes all 4 are one or the other. In particular, clicking on another type makes all 4 become that - say on selecting an armoured car troop, you see 2 ferret and 2 fox - you would like 2 ferret and 2 salad, so hit salad - all go to salad, as all units are 'armoured car'. In especial, the purchase screen makes a dogs breakfast of companies of mixed platoons - each platoon gets a random selection of toys, and if the user clicks one type, all get changed to it. If you want mixed platoons, the best way is to copy say the heavy armoured cars to another slot, and to reclassify as something the army does not use - say close support tank, or airborne AFV, play with move class etc, then replace 2 armoured cars in the platoon with this - the user can then choose 2 of the light, and 2 differing 'heavies' - and, if you left the 'heavy' as a regular armoured car as well, he has the option of a pure platoon of these too.

See also The AI's Pick List.

Formations

In SP2, formations can be the Bn HQ, Companies, and Platoons. Naval is for amphibious assaults only, and appears on the artillery page - these formations are for Naval Gunfire Support (NGS).

Companies can contain units or platoons, but a platoon can only contain units.

The Bn HQ is a special formation, which you do not get to select - SP2 automatically buys this for you, it is the unit shown at the top of the buy list. It is normally a single Headquarters infantry type unit, but naturally with Mobhack you can edit the Bn HQ formation to add extras to the thing, have a Main Battle Tank as A0 etc, etc.

Note that as the Bn HQ is auto-bought, you will get no choice in the units the game buys for this should you place troops here - if the A0 is a MBT, SP2 will choose one at random on entry to the buy screen from what is currently available - the only answer to this is to exit the buy screen and try again should you not like what you initially see. In addition, the Unit in slot 1 - what will become your A0, ie your Bn commander - MUST be of a Class that is available from 1950 to 1999 - therefore you are usually limited to rifle squads, MBTs etc. There is no point in making A0 an attack helo, say, if attack helos are only available from 66 to 99 in your army, as odd things happen in SP2 if a unit type (ie class) for a slot is not available in the year of play. In other words, pre 1966 in this case. See also The AI's Pick List.

This is an important point - the Class of unit for a formation slot must be available throughout the availability dates of the formation in question. If not, either the unit in question will not appear, or other odd things may happen. So if you produce a formation with either Platoons or Units that do not comply with the parent formations availability dates, it is best to note these dates, save, and try buying the formation at all the clashing years inside SP2 to see what it does, and also to continue on to the placement screen as well, as sometimes null items are replaced by bunkers. This is why the years for formations are shown, as these cause most problems - invalid units usually simply do not appear, but invalid sub units of a company seem to be the bunker producers.

In addition, if the unit type for a formation slot is 'edited away' then you can be into bunkeritis - for example, in a South African 'Green' variant, I had an armoured car company with an HQ of 2 Panhards - the platoons were made up of Panhards as well. I then removed the Panhards from the mob and replaced them with the SA versions, and remembered to edit the platoons to be the new SA armoured cars - but not the HQ of course! - on attempting to buy the company for the first time, I got a Co HQ of 2 bunkers..

Bunkeritis is also a hint that the mob and the saved file are not in synch - for example, if you have a PBEM game where your opponent is using a different mob - either yours is hacked or his is, one or other of you can see odd things. So in PBEM games ensure your mobs are in synch, and the same goes for scenario games too - if you design a scenario needing a modified mob, distribute the mob in the zip with the scenario, with instructions for those end users who find things like copying files difficult - remember to remind Joe end user to back up his original mob somewhere safe before loading your one as well!!.

Finally, remember that in SP2 there is a finite limit to the numbers of both formations and units - lots of small 1 or 2 vehicle/squad formations use up the formation count, and lots of compulsory tiddly little mgs, agls, etc in formations can soon use up the unit count.

Units

In terms of SP2, a single vehicle or weapon or infantry squad, represented by a game icon. A playing piece in other words, not a Formation as the word tends to indicate to most military types, where a 'unit' is a Platoon, Company, Bn, Brigade etc.

In SP2, we effectively command a Battalion combat group, made up of a collection of Companies and independant Platoons directly under our Bn commander - the A0 unit.

In our hacking, wherever a unit is placed into a slot in a formation, be it a platoon or a company, it is important to realise that that unit is just a PLACEHOLDER for whatever units of that Class are available in the particular year. So placing, say an M1A2 in a formations slot, means that in the buy screen you will get the choice of whatever MBTs are available for that year.

Also, remember that if you introduce a new unit of a class that does not appear in any formation, then nobody can buy the thing!. So if you introduce, say, half tracks into an army without halftracks before, you will need a formation that contains such to use it.

Note that the second digit in a units radio field is a rarity factor flag in Sp2, which affects the AIs buying of the unit, but not the human's who is free to choose at will -

0 = Common

1 = Rarer

2 = Even more rare

3 = Will ONLY be purchased by the AI if it is the unit ACTUALLY used as the placeholder type in a formation.

And also remember to have a look at the Points Values of any unit you hack.

And finally - remember that if the nationality is not the same as the mobs, then the thing will not appear - handy for making things unavailable, but if you copy and paste from a 'foreign' mob, you may have forgotten to change the nationality - I do this all the time in Mobhack for DOS, so there will likely be a change to the cut and paste behaviour with Mobhack for Windows!.

Unit Class

The class of a unit for our purposes, mainly affects what types of unit are purchaseable in a given slot.

However, the class also has side effects - engineer tanks can clear mines, helicopters fly, ammo trucks replenish rounds, artillery sections are only available at certain times, and some classes have default move behaviour - eg trucks are wheeled vehicles. (The Move Class can be altered to a non default type - so you could have a new truck type, but give it, say track mobility). Inf AT and Inf SAM always use the 'bazooka crew' icon, no matter how many men. Some unit classes are allowed smoke rounds - eg I reclassified the FV432 with 30mm Rarden cannon as a 'close support tank' in order to keep it out of the mech pls, and SP2 allowed the 30mm cannon to fire main gun smoke. NB - this could be a cure for the SP mortars which in SP2 do NOT get smoke rounds - but it might not then let you fire indirect. Experimentation is sometimes the only real way to find out what does and does not work.

In addition the AI has no idea what to do with certain classes - for example, it will not fire SP mortars indirect, or move them either, it treats trucks, jeeps and AOP vehicles as expendable kamikaze scouts - so try to avoid formations with these as compulsories if you can, for its sake.

The classification of infantry, does not affect much - a 'sniper' gains no sneakability - this comes from his size of 0!. The infantry types of 'heavy', 'light', 'Infantry', 'scout' are really only meant to let us differentiate between squad types purchaseable for a formation. For example, an infantry platoon may be 1 'heavy' squad and 3 'light' squads - in this case, our heavy squad types will likely be say, platoon HQs with perhaps a light mortar and an AT weapon, the light squads being regular grunty type squads. All the infantry types gain men on thier icons - a 2 man sniper team will show with 2 guys, a 6 man scout team with 6 grunts, up to a limit of 13 - do not make these, or on table weapon crews, larger than this - crews are a special infantry sub class, and have a limit of 13 as for squads for when thier vehicle, bunker, or crewed weapom is deserted by them. In particular, leave the crew unit alone, in its as defined place, and make NO additional 'crew' types, as SP2 has a 'special' use for them. By all means give them SMGs instead of pistols if you desire!

EG, if we have an army which only uses, say plain infantry, and heavy infantry (in its mech formations), we have the ability to use the scout and light infantry types to do our own thing. For example, you might want commando type units - make 'light infantry' units, and commando formations to make them available to the user. you might want a half squad in your mech pls - say to have the last APC have room for 1 or 2 support weapons, without losing too much bayonet strength - use the free 'scout' type to make half squads, and place in the mech pls, and you could THEN as a side benefit use these as scouts or fire teams as well.

You might want a special load carrier APC in formations - eg one which can carry mortars etc in the fire support section - say an MT-LB, but in other formations you want the MT-LB as a regular APC-Tracked to carry grunts. Simply copy the MT-LBs data to a new slot, reclassify as 'halftrack' (if your army does not use this type), and change its movement class to track, then in the fire support platoon, use the unit number for the new load carrier MT-LB 'halftrack'. This dodge also works eg where you want, say RCL jeeps or a light tank/tank destroyer available in the support section, say of a leg infantry company - copy the light tank to a new unit slot, and reclassify as per the RCL jeeps type (say SP-Gun), and remember to change its move class to track. Now your inf co has the choice of jeeps or armoured gun support.

Some unit classes only become available at certain times - air types when you have the air, and off table artillery, fortifications, etc in the assault battle type. However, the availability logic in SP2 only tests the unit in slot 1 for this, so you can sidestep this - see the USA air mobile co for an example. So we can have off table arty when we want it, if we say, make a platoon with unit 1 as a FO vehicle(say) and 2 and 3 as sections - and these can be purchased in our campaign cores as well!. Just note that the upgrade logic is strange in campaigns for fixed wing planes and sections (ie you are basically stuck with what is bought at the start), and that very occasionally, if you use the 'deploy all' key, the off table sections will appear as M1 icons, with no movement - so dont use the auto deploy!. In fact, dont use the auto load or auto deploy functions of SP2 as they are stupid - the auto load happily puts things from formation A into formation B's vehicles etc.

The AI's Pick List

SP2s AI does not, unlike in SP1, make a semi-random selection from whatever formations are available at a given point in time. Rather, it picks its forces from a script, which I have christened its Pick List, based on Year, Battle Type, and Posture, as well as aircraft availability, and to a certain extent, the total points available.

The AI Pick list does NOT have a slot which says 'now pick a mech inf co' - its slot says 'now get formation No. 4 (or whatever)' - it then goes DIRECTLY to that slot number, attempts to buy those units, ignoring the availability dates for the formation AND for any sub formations. This is how the AI USA gets to buy APC mech cos in the 50s, but the human has to wait till the 60s. I know it ignores subunit availability because my first attempt to have the Soviet BMP MG platoons only available from post 80s was unsuccessful in AI-bought forces (the human, of course was not offered them).

There are usually a few critical dates in the Pick list when things change - for example, before about 1960 the West German AI only buys leg rifle cos, and post 60 only mech inf. sometimes, before a certain date it picks tank platoon A, post, it chooses Type B - usually at the right date for the handover, but not always - the programmers of the game are not 100% in synch with the mob designers!. the West German AI always uses the one type of mech inf formation, despite the fact post 60 there are 2 possibles.

In order to see the pick list in operation, start up a battle. Set up the preferences and battle type, and choose the nationalities as normal, but choose computer for BOTH sides, and computer chooses forces for both, BUT set both bottom switches to HUMAN DEPLOYS - this allows you to look at the forces at deployment time, for both sides in succession, then exit without the bother of wasted AI setup time or having to hit the space bar to interrupt an AI-AI fight. Look at the forces bought, both as a list and on the HQ 'tent icon' menu (as this one lets you see the formation NAME), and after a few tries you will soon establish a pattern - do this from 1950 to 1999 in 10 year jumps or so - if a change occurs in the pattern, you can narrow it down. Note that I stated AI player for both, since if human player is selected, but computer chooses, 2 units at the top of the list (usually an SPA battery and a tank platoon) do not get chosen - these are an AI benefit.

You will soon see an overabundance of mech (or foot in early times for some) companies, and not many tanks or others. Also, some armies have certain quirks - the FRG always buys a recon co about position 5 or 6 in the list, the British a recon light tank platoon similar AND 1 or 2 light tank pls following each MBT pl (hence the swarms of Scimitars in an AI Brit force!), and the French is set up to buy an AMX13 light tank platoon after each MBT platoon - despite the fact these are not available after 88? it still tries to buy such a pl, instead it ends up with 1 solo obsolete light tank for each tank pl, even in 1999!. Note - dont look at the platoon order, look at the FORMATION order of the pick list. NB 'green' is the only AI pick list I have yet looked at in detail that was platoon based - most others buy companies, at least of mech inf. Also, when points are restricted, see how it mangles the end unit(s) - usually apcs disappear from mech cos, or a single infantry squad of a co hq appears. Also, the AI seems to make no real attempt to use up left over points by going back and upgrading things either. Some armies get particularly broken before about 1960 if chosen as AI opponents - try an Israeli mech inf co (not my modified mob, natch!) before 1960, look at unmodified SO pre ATGM vehicle availability (58?) - lots of single scout cars (pl HQ) in the defence/delay!. Egypt and Red both buy several single landrover/jeeps if buying AA - the SA-7 this should carry only become available about 68, but the AI happily buys these AA formations right back to 1950..

When the AI is set to have no air, it buys AA units - these slots seem to be used for planes when the opposite is true. Note that SP2 was set up on the premise that only one side will have air - the AI will buy no AAA if its given 1 or more flights, even though in 1.01 and above, you can grant both sides the air now.

So how does this affect us hackers??. Well, firstly, any bright shiny new formations you introduce will be totally ignored by the AI! - unlike SP1. More importantly, deleting or moving the few key formations the AI DOES use can produce unintended results such as AI armies entirely of mech inf etc. This one leads us to another item of hackery of interest only to the bravest hearts - we can play with the AI force composition once we have a grasp of the Pick List for a particular army!. Now how do we do this?.

Well, simply by moving formations about. However, as this form of hackery can have the greatest side effects, do this for but ONE formation at a time, then be prepared to start up AI/AI 'battles' as described above for ALL battle types for 50 to 99, and if air related changes, both with and without air, to provide a quality control check for our work.

The simplest changes - if an army is set up to buy Sp mortar units, which the AI cannot properly use, is to move the Sp mortar formations to blank slots in the formations database, and copy over them with something it will use, but either a) does not ever normally select in its Pick List or b) a special unit we made up. For example of a, perhaps it never picks a ground fired mortar platoon - simply copy over, and for b, make say an artillery battery of 6 howitzers, rather than the usual section of 3, and place where the SP mortars were.

Another thing, is to reduce the vast fleets of mech inf the AI buys. Several ways to do this - eg if the AI only ever buys tank platoons - most Western forces, but NOT the Soviets, who buy both single pls and whole cos of both 10 and 13 tanks - is to swap the tank co for the tank pl, and then remember to point the co pls to the new numbers of course!. Thus wherever the AI wanted a platoon of tanks before, it will now buy a company. Where a changeover occurs - eg from the FRG 5 tank pl to the 3 tank pl, then you will have to do this for both tank co and platoon pairs. Now the APC and tank counts are more even.

Say the AI insists on buying fleets of 2 different APC types - one is useless (in the AI's hands anyhow) - eg Soviet BTR cos. In this case, swap the platoon over for the co as for the tanks, and only 1 pl gets bought instead of a co - for the Soviets this was necessary, rather than completely removing them, as before 68 or so no bmp type cos are bought, despite them having the BTR50PK available.

Where the AI buys both tank platoons and companies, you have more of a problem - the best way is to make AI specific units, and name them so - this is why there is an 'AI's tank Pl' in the South African Green variant Steve Gilliard and I put together - its exactly the same as for the regular 4 tanker, but covers a switch over date. For placing cos, use a special AI tank co, replacing the normal PLATOONS it chooses, move the platoons elsewhere, and then point the regular tank co AND the 'AI Tank Co' both at the new location of the platoon(s) you just moved. Inform the end user in your readme file that the 'AI' units are specials, and whether to ignore them or use if he desires.

Other ones to be careful with - engineers/engineer tanks, the BGHQ - ALWAYS formation 1 !! - the barge carriers, air sections, helo sections, gunship sections, AA units - be very careful before moving these. Artillery - also be careful, but here you can swap it to take say, batallions of off table sections in the assault, rather than batteries..

Where you want 2 separate nations covered by 1 mob, then its best to ensure that when the AI plays the mob, it only has the choice of 1 nation - in the case of the SAOB, to keep the Rhodesian and Homelands stuff separate I made formations separately for these, away from the AI used ones, plus, I also made all thier units radio %ages x3s (33, 83 etc..) - so the AI would not choose them instead of SA ones inside SA formations - so the SAOB mob in the AI's hands plays purely as South Africa. Similarly, for the Swedish stuff added to the existing Danish, new Swedish formations were added, and the Swedish units rarity factor was set to 3 (the radio % flag again), with 'SW' used as a prefix in most names eg 'SW pbv302', so the user not au fait with Swedish designations would not pick Danish items by mistake. Again, in the AI hands, this remains still a Danish mob.

Move Class

This field can be overridden to provide different movement from the default for a given class - eg a truck can be given say 'AT-Wheel' (Which seems to stand for All Terrain - Wheeled, NOT Anti Tank - Wheeled) to represent, say a more mobile light truck or ATV.

Points Values

Remember, if you change something in a Unit, that this may make it more or less effective - so remember to change its points cost when you edit it. Also, sometimes you do not know at the outset if the changed item will be a real killer or not, so be prepared to return to it and alter the cost after some game play experience with it during your testing - part of your testing will be to make a judgement on the units cost effectiveness.

Also, if the unit is available unchanged for a long time, it may in fact be a bit of a dog in its end years, although very effective early on. You may wish then to make an early version, relatively expensive, and a later one where the points are downsized - and/or a few later period modifications - eg the later one might have a better sabot load than the earlier one.

Unit Fields

General Fields

OK, like the unit viewer, there is an awful lot of this help screen - but I preferred to keep it all together in one place than splitting it up onto separate topics.

Name - 15 characters maximum.

Unit Class - affects many things..

Nationality - a 2 digit code, either a recognised SP nation, or one of my scratch names - not recognised by the SP2 engine so possibly of use. note also that unused things usually have a 0 nation - so are listed as West Germany - I wish the designers of SP2 had used say '99' as an 'unknown/unused' nation!.

Move Class - you can override the default.

Points Value - you can change its cost

Crew - has an effect on squads and guns mainly, but AFV with small crew and lots of weapons can find difficulty manning them all (ie low shot numbers). each damage '*' inflicted on an armoured vehicle usually seems to kill a crew member as well - so large crews are more survivable.

Size - This affects hitting, or spotting - smaller is more difficult.

Speed - the basic movement allowance in hexes, as affected by Move Class and terrain - see the SP2 manual for details of the deductions.

Swim - if better than 0, this thing can cross water. Note that SP2 does not differentiate swim types, eg there is no wait to set up bilge pumps, trim vanes etc, and DD type vehicles can still fire, despite being in a screen, a couple of feet below water level.

Graphic - this is the number of the icon SP2 uses - mainly for vehicles, some classes are 0 here as they use a special icon - eg infantry - thus inf-AT or inf-SAM will always use the bazooka-crew type icon. See Pictures.

Picture - this is the picture displayed on the purchase screen - these are .lbn files, see Pictures, also see there for how to see pix of units in Mobhack, if you get bored of the Chieftain!.

Available - From a year to a year - usually a good idea if the Until is > the From field!.

Radio% - the first digit is the percentage chance of a radio, 9x max, the second digit is a rarity factor code - see Units for details.

Lift - A code indicating how many men the vehicle can lift (last 2 digits). Units with Xnn codes can carry heavier things than men and mgs etc - 1xx lighter things (mortars etc) 2xx heavier things etc. See something like landing craft for the real heavy lifters. Remember the Load Cost of the passengers affects lift - see below. If you are having problems with fitting enough infantry into a particular APC, use the excuse that 1 of the crew is the squad commander who dismounts, decrease the APC or IFV crew by 1, and up the lift by 1 to get that last bayonet into your squad. Or just up the lift by 1 or so to make it work - who cares about the 'published' figure in Jane's or similar, as we are juggling SP2s load factors here, not a *real* figure!. Oh yes - giving a helo a heavier lift code allows mortars and things to be lifted - eg Chinooks, Pumas, Sea Stallions etc. Be careful though with real high values, as unintended results will happen - eg a helo capable of lifting MBT - although YOU may be honest, another player may not be, and the AI will happily try it!. In particular, sometimes far too much arty can be carried - eg 3 or 4 howitzers in a chinook (mod from 44ish men to 144). Just try to be honest with these hacks - or take the risk of losing a large amount of arty. Also recall that if you select 'air portable' in the preferences screen, the AI will try to stuff your stuff into as few big helos as it can get - ie fewer, tastier targets.

L/Cost - Load Cost - this affects the liftability of the unit. Many infantry teams have a lift cost of 1 - eg Mg

teams etc, these cost more than the basic crew cost to lift. Vehicles cost more to lift, as do artillery pieces - best to look at typical examples than to describe. Load cost and lift together can cause problems, especially for infantry platoons etc - ensure your squads and their support weapons can fit inside the APCs and AIFVs - and really, the only sure way of doing this is by testing in SP2 - ie buy the platoon, for all years and APC variants, and try loading, and even if you get this right, the AI often screws up the 'auto load'...

If you have an APC type that is way off the others, either you make all your mech squads small enough to fit this one, as SSI tend to do, or better yet, make that one a 'special' - eg reclassify as an airborne AFV or halftrack etc, with a special infantry squad for it - but in this case you will need a 'free' infantry class - say scout, if not used, and then make a special platoon, and company, with this new APC and squad pairing.

Vision - this is the number of hexes the unit is able to see at night etc. 10 or so is basic Infra Red, 20 Vehicle Infra Red, some starlight scopes etc, and 30 is LLTV, Image Intensifiers etc on vehicles. 40 is the magic number for Thermal Imager sights - in SP2, a unit with vision of 40 or greater sees through smoke etc, even in daylight. 60 is a radar - eg on Apache Longbow, but also Ground Surveillance radar in for example, some AOP vehicles - very rare. NB - other than 40+, these numbers are guidelines - feel free to have a unit with say 25 vis or whatever you feel is best.

Weapons Related Fields

A unit has 4 weapons slots to play with - however slot 1 is the 'primary' weapon, and has special characteristics.

Fire Control - This represents on board computational equipment which enhances first round hit probability, especially at longer ranges. 0 is none, 3 is about WW2 best tank rating (in SP1, 5 was best - eg Tiger 2), going up to say 45 for digital computers in Leopard 2 etc - some may be better even than this!. basically, this number moves out the base chance of a 50% hit chance (the weapon's accuracy number). Numbers of 100 or better are used as a special code for radar directed AA weapons - guns or SAMs - so 100 equals basic radar AAFC.

Range Finder - This represents any range finding equipment the vehicle may have, from 0 (none) to 14 or so for lasers. Works like Fire control, so 45 FC and 14 R/F is better by far than 45 FC and R/F of 0!.

Stabiliser - Represents any equipment which allows some motion by the firer without as much degradation of the to hit percent chance, and also higher numbers have to move further before they start losing shots. 0 is none, 5 is about the maximum.

Rate Of Fire - the number of shots the thing gets - but only veterans usually get full value, average or green get less, and elite can do better than the indicated ROF. 9 seems to be the maximum.

Smoke Dischargers - If the number is over 0, this unit has Sd, and can deploy these with the 'D' key in the game - note, unlike as first thought, this is not a boolean field - so 2 here gives the unit 2 SD salvoes etc.

Weapon slot 1 -

Type - the number of the weapon in the weapons database, 0 if no weapon.

HE - the number of High explosive rounds carried for that weapon.

AP - the number of AP rounds carried for that weapon.

Sabot - the number of sabot rounds for this weapon - only this slot can have this ammo - see below.

HEAT - and finally, the number of HEAT rounds for the weapon in slot 1 - again, see below.

NOTE - the counts for sabot and HEAT are not displayed on the purchase screen - which leads to the usual newbie FAQ of 'I went to purchase a TOW jeep, but it had no ammo'.

ALSO - only the slot 1 weapon can have sabot and HEAT rounds. However, due to the special '222' HEAT code used by most - but NOT all - such weapons, if a missile is needed in a vehicle whose primary weapon needs to chuck sabot etc, then the missile count becomes the AP count. See the later Soviet MBTs, or US Sheridan for examples, and also BMP-2, Bradley etc. Unfortunately, because the tube launched missile in Sheridan, T-90 etc is in Sp2 terms a separate weapon, then it fires both a main gun and a missile round simultaneously from the same breech - an inbuilt Sp2 limitation. This 222 code is how

infantry bazookoid weapons are handled as well, despite being usually in slot 3 or 4 for a given squad. It may allow you to design large squads with an inbuilt ATGM such as Milan, without having to waste a unit on a separate inf-at team, replacing say the LAW, or the hand grenades.

AIRCRAFT - use the AP count for the number of cannon, and so can only use special HE-round only air cannon - these are all grouped together in the weapons database, so do not use regular mg or cannon here. Their HE AP lines are beefed up to allow for some AP rounds in the belt. It used to be thought that helos followed this, but this does not appear to be the case - this affects 1 or 2 US helos with twin miniguns only, so is not a problem. find these and give them 2 separate miniguns. Therefore, helo cannon in slot 1 should be able to use regular APC type cannon, with any AP or sabot type ammo as is available to them - experiment!. Aircraft missiles go in the AP column, and use special air launched missiles (although some, such as maverick, have a HEAT value, and so may possibly be vehicle-deployable) - again, to the end of the weapons database. The missile count is the AP number.

Weapons slots 2, 3 and 4 - as for slot 1, but HE and AP counts only apply.

MAIN GUN SMOKE - FAQ - this is calculated internally, from the unit class, by the game, and is random - it is not editable, except in the scenario editor, which can access the field as the unit has then been purchased - its an in-game field, together with damage etc.

Protection Fields

Mainly Armour here.

Survivability - This number affects the ability of the crew to survive a vehicle or forts destruction. Higher is better, ie more guys are likely to make the bailout. For aircraft, I used to think this was irrelevant, eg some helos have non-zero values here, but I seem to recall a campaign game where a couple of helos fireballed, but at end game I got the 'B2 improves and becomes veteran' message - so possibly the game in campaigns, treats bailed out helo crew as a special off-board case, ie the number gives them some chance to make a long walk back home.

Armour - the aspects are for the Sp2 game aspects.

Steel - is normal tinsplate, ie what most AP rounds or HE rounds with AP values have to get through. HEAT also, if none of the following types are present. For aircraft, the number for the hull front is the DURABILITY - ie how much damage the plane can take - and any number over 0 for the hull side is its armour rating, 360 degrees.

HEAT - this is special laminate or spaced armour which only affects HEAT weapons. If present, the HEAT rounds use the values here over the plain steel - remember to place all values here, as I have seen some modified mobs with 1 or 2 aspects given HEAT armour, with 0 in the aspects not covered - this actually means those aspects have 0 anti-HEAT defence. So fill them all in, even if some aspect is unchanged from the regular steel value!.

Reactive - Explosive Reactive Armour or ERA - this is another anti-HEAT armour type, although some modern Soviet ERA is designed to shear sabot rounds penetrator tips off as well (not currently modelled in SP2 - the designers beefed up steel instead). This value is NOT a thickness value - it is a %age. Thus a 9 in this field means that when the first HEAT round hits, there is a 90% chance of the ERA defeating the HEAT warhead. If it fails, the HEAT round then has still to attack the steel or HEAT armour underlying this aspect. Win or lose, the ERA value for the aspect is then decremented by 1 point - so the 9 ERA can defeat 9 HEAT rounds, if very lucky! - assuming it defeated the first, or this failed to penetrate, the next HEAT hit on that aspect would be on an 8 - ie an 80% chance to defeat it.

Pictures

LBM

The files used for SP2 are in a format known as LBM - an old Atari paint package.

They are stored in your \steel2\pic directory, and the format is pmxxxx.lbm.

The xxxx is the number shown in the Unit Viewer.

Unknown pictures are stored as 0 - so the pm00000 picture is displayed - this is why you keep seeing the Corsair plane photo - it is pm00000!. Some units have a pm number which points to a non-existing file - eg the British charioteer, in which case in SP2 the last loaded picture displays. In Mobhack, you will see the Chieftain with 'Mobhack for Windows', even if you loaded pictures (see below).

SHP

The format used by SP2s icons - this is NOT a commercial format, but is SSIs very own internal format, not released, so no hacking possible. SP2 uses a different .shp format from SP1, as SP2 units have 2 colour schemes (normal and 'desert'), so not interchangeable between them. Also, SP1 shapes had all pointing possibilities in them it seems, while SP2 seems to use a rotation formula on the basic hull, turret or whatever.

Someone supplied me with a SHP viewer (not commercial so do not ask me for it!) - basically, there is NO one to one relationship between the unit graphic number and the SHP files, unlike the LBMs. The shape data is spread throughout the SHP files at pseudo-random, and obviously there must be an internal table of pointers to the sub-elements (turrets etc) for each units graphic number - what this means is that it is unlikely that any SHP hackery is likely, and certainly no easy way for me to display even the basic overhead view as per the SP2 database.

This should cover the FAQ - every couple of weeks someone seems to come up on the SP2 bulletin boards asking this old chestnut.

Adding Pix to SP2

Get Paintshop Pro - see below. Open up an existing lbm, and copy its palette. Get your scanned file, and resize to the same size as SP2 uses. Convert to lbm, and apply the palette, save as pm-some-new-number, and edit a unit to use the new number. Go to the SP2 buy screen, see what SP2 thinks, repeat till you have the palette etc right!. in other words, very very fiddly.

Adding Pix to Mobhack

Ok, but you want to see pretty pix in the unit viewer - here is how.

Step 1 - get a hold of Paintshop Pro. This package can view LBM files, and also convert to bmp etc. In the UK, Personal Computer World magazine has this - both 16 bit and 32 bit 30 day trial versions - on its front cover CD each month in the 'essentials' section - with Pkzip, Netscape, etc, trial copies. No doubt, US mags are similar. Or search the internet, PSP is downloadable, but I do not know the URL, and there is likely a forum in CompuServe or AOL for it as well.

Step 2 - learn how the 'batch convert' function works, and check your disk space. There are 500 odds files to convert...

Step 3 - open PSP, go to your \steel2\pic dir, and batch convert all the lbm to .bmp files. Mobhack will now be able to show pretty pix!.

If your bitmaps are not in c:\steel2\pic, then go into the options Menu Item and enter the path to your pix.

Formation Types

This can be :

HQ - the one and only BGHQ you have, must be formation no. 1. NB - it is also a Company, so may have platoons added to it. It is NOT restricted to a single HQ unit - with the proviso that the AI will choose anything placed here, not the human player.

Platoon - the basic formation type.

Company - a Formation which can contain both platoons and Units.

Naval - a ship for NGFS in the amphibious battle type.

SP2 note on the purchase/selection screen - if you buy a company, then click on one of its platoons on the selection screen 'VDU display', this platoon is deleted. The next individual platoon you buy replaces this platoon. So, this is one use for those compulsory AOP vehicles - click on the thing, it goes away, then select say a mech platoon if it was a tank co you bought, or vice versa, and you have a mixed task force, as the singleton platoon so added is under the company commander.

Setting Startup Preferences

This dialogue box allows you to set some of the start up options of mobhack, by writing to the mobhack.ini file. Remember that any changes will only come into effect once you restart the program.

Startup Mode : Allows you to set the default mode at start to be either Edit Mode or to Read Only Mode.

Hint Mode : Allows the pop up hints to be enabled or disabled at the outset.

Max Mobs : This allows you to open between 1 and 10 mobs at once. Severe caveats here though - the restriction to the number of open windows is based on windows systems resources, - more than your total RAM, as Mobhack forms use lots of buttons and fields, each requiring a Windows resource handle. so if you get warning messages about insufficient resources, this is why - I find it quite possible to read all 10 mobs in, on a 16 meg P100, under Win 95 - Win 3.x may differ - but only 2 or 3 can appear to have all their sub forms (viewers etc) open simultaneously. So, be prepared to experiment, and remember shutting other resource hungry applications, as well as any viewer you currently are not using, should also help. Around 3 seems to be the most you can play with all the subordinate forms open, but you might manage 4 or 5 with only, say unit viewers open.

Start Directory : Mobhack defaults to the directory it is installed in (ie where the exe file is) - if you enter a fully qualified directory string here, the program will point to it at startup instead. Use something like C:\steel2\hack. 80 Character limit.

Pix Directory : Similar in effect to the Start Directory, this lets you point to where you have stored your .bmp files converted from the .lbm format (see [Pictures](#)), should you not use the default c:\steel2\pic directory.

Paste Manager

Use this dialogue box to review the items you have copied or cut into the paste buffers for weapons, units, and formations.

See Also:

[Cut/Paste Dialogue](#)

Cut/Paste Dialogue

This dialogue comes up when you Cut, Paste, or Copy an Item, to or from any of the weapons, units, or formations viewers.

Each line shows the paste buffer number, then the name of the item, in square brackets the nationality of the mob the item was PULLED from, and then the name of that mob. NB - if you copy something from, say West Germany [Mob00], then paste that to say France [Mob06], copy it once more from France to another paste buffer, the nationality for this second copy will be France - ie this field is the mob you pulled it FROM, NOT the Nationality Flag internal to the data (Units, Formations, not Weapons) - which will remain unchanged. PS - remember to change this nationality flag (Units, Formations, but not Weapons) should you copy from mob A to mob B - or the unit or formation will be invisible to mob B. Common mistake to forget this point!

See Also:

[Paste Manager](#)

Cutting

Select the paste buffer into which you wish the data cut from the viewer to go, by double clicking on it in the list, or by clicking it, then pressing OK. The viewer data will be cut (set to null) after this operation - HOWEVER you must still [Commit](#) your data at the viewer in order to save your changes - therefore the [Restore](#) button will work if you made an error here.

Copying

Select the paste buffer into which you wish the data copied from the viewer to go. This option is available even if the mob is being viewed in read only mode, unlike the other two items here.

Pasting

Select the buffer you wish to copy data from, either by double clicking it, or by selecting, then pressing OK. The data will then overwrite that in the viewer. HOWEVER, as with Cut above, you must still hit the [Commit](#) button to save the changes, and the [Restore](#) button is available should you have made an error.

NB - pasting from an unused paste buffer is a quick way to zero out an item.

Bug reporting

Please report bugs via the mobhack home page, listed on the About box.

CSV output

Hitting this key writes 3 .csv files for the selected database:

[path]+mobxxU.csv - the units data

[path]+mobxxW.csv - the weapons data

[path]+mobxxF.csv - the formations data

Thus c:\andy\hack\mob00 will save its 3 files in c:\andy\hack\mob00u.csv, etc.

Most spreadsheet programs, and some database programs, as well as a few word processors can read .csv files - in addition, if you can program, these files are straightforward to read in for messing with. Simply open the files in a programming editor (even DOS Edit should do), and look at the field structure.

The weapon and unit data are dumped in rows and columns format, one row per item - this is the easiest form for writing spreadsheet or database macros and procedures with this data. Eg, to produce pretty printouts with a report generator. Note that null items are listed - usually as 'forts' , so your first task before printing a report may be to delete rows with nonsense/useless data. Also, in a spreadsheet for example, you will have to resize columns, perhaps retitling from the default mobhack column headers to make the columns smaller, and you may wish to remove columns you have no interest in before printing a report. Also, small size fonts, and using landscape paper layout, will help you kill less trees!.

Placing the data into a database takes most effort, but then you can create reports which only print the desired items - eg you may want only a list of the APCs, aircraft or whatever.

The formations data is laid out in an almost-report format which is easier to print right out from a spreadsheet.

A simple spreadsheet program such as Works for Windows is all you require, and is relatively cheap.

Copy to Dialogue

This dialogue box allows you to copy the current mob to another location, or to overwrite existing mobs.

It has no safety features, and will overwrite files without warning.

Use the drive combo box and the directory list to navigate to the directory in which you wish to save the file, should you wish to save it to a directory other than its original source directory.

This dialogue shows the entire list of mobxx file names - however, any mobxx files ABSENT in the target directory will be shown surrounded by angled brackets, eg <Mob00 - West Germany> means that mob has not been found. This is your only safety net!

The dialogue box does not exit on saving, so that you may save to multiple targets.

Renationalise

This dialogue allows you to renationalise (renumber) all units and formations of a given nationality to another.

Clicking on the OK button will renumber - but without exiting, as you may have imported several nationalities into, say a new mob, which you want all to be renationalised.

One major use I have for this is for PBEM 'military chess' games - eg when both players wish to use the same army in a game. If both sides choose the same army, its pigging difficult to tell who owns which victory hex!! So, move a copy of the army mob in question on top of another (say, red or green), then this facility allows you to easily renumber the formations and units, without having to individually go through them.

