

Steel Panthers: World War Two

Version 2.07

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Introduction

SP: WWII is an adaptation of SSI's Steel Panthers 2. Hundreds of details both large and small have been altered to modify what was a game of modern-day combat into one that better simulates the World War II era. This project has required nearly 6000 man-hours of work for SP-Camo Workshop and Michael Wood to alter the program, create the graphics and add the data needed to represent the units and equipment of the twenty-five nations included in the game from the early 1930's to the end of 1949.

Installation

To run **Steel Panthers: WWII** you **MUST** have either the Steel Panthers 2 OR Steel Panthers 3 CD in your CD-ROM Drive. This game **WILL NOT** run without either of those CD's in the drive. Once the game has been installed **DO NOT** under ANY circumstances run ANY of the patches available for either Steel Panthers 2 or Steel Panthers 3.

Once the game has been installed it is very important that you run the program called SETSOUND.exe located in the main directory of the game This sets up your sound card. Follow the instructions that appear on screen. When SETSOUND has finished you can then start the game with SPWW2.exe, which is also found in the main directory of SPWW2. The recommended method of running SPWW2 from Windows is with a Windows shortcut.

What is new in 2.0

SP: WWII is essentially a new game. Although it is an offshoot of our earlier work, SP2WW2, the two games are not totally compatible. **Steel Panthers: WWII** is meant to replace SP2WW2.

This is a general overview of the changes made to create **SP: WWII** and does not include the dozens of “Nuts and Bolts” changes made to help improve the game.

Security for PBEM games:

The changes include

- 1) Normal scenarios may now be played as password-protected email games.
- 2) Passwords have been encrypted.
- 3) The number of times each player has loaded and exited a game is recorded and can be displayed by his opponent.
- 4) All email games are auto-saved when the user exits the game.
- 5) The user cannot unzip the game, play it and then unzip it again, to improve his score.
- 6) The user cannot install a second copy of the executable and use one for test playing.
- 7) No saved email game can be edited in any version of the executable.
- 8) Both players in an email game must use identical MOB files, throughout the game - i.e. any change of the MOB is detected as a security violation.

Combat System Enhancements:

- 1) Moving a unit now reduces available shots and shooting reduces available movement points. A unit can lose up to ½ of its shots & movement, this way. The losses are interactive. You will no longer be able to charge in, fire all your shots, then run for cover. Infantry transported in a vehicle will also lose shots depending as to how much the transport moved.
- 2) Movement TO HIT penalties have been removed, but all units except for aircraft and vehicles with gun stabilizers now lose target acquisition when they move.
- 3) Units now gain back some shots at the end of the turn to use for opportunity fire during the enemy movement phase. Up until now, if you fired all your shots, you have nothing left for opportunity fire, which allowed your opponent the chance to charge in and fire pointblank. This amount is randomized, and based on unit experience as well.
- 4) Indirect fire against AFV's has been made less lethal and more suppressive. The AFV should get hit less often and when hit, less should be track hits. The vehicle will take more suppression, however and crews may bail out and run, especially if the tracks are broken and the vehicle is immobilized
- 5) The delay for indirect fire has been increased. In the past, units who self-targeted received no delay penalty. The penalties now range from +1 turn to +3 turns. This will make pre-registered locations and artillery spotters more important in the game.
- 6) The artillery fall of shot spread has been modified. It is generally a more narrow spread than it used to be depending upon the accuracy of the ordinance being fired. Some shots still can fall quite wide of the intended impact point, especially if the spotter has no LOS to the impact point so calling in artillery 'danger close' to your own forces is still quite risky.
- 7) Infantry are now MUCH harder to spot, especially by vehicles or when moving slowly in good cover. Buttoned up, turretless vehicles are the worst at spotting. Size zero, sniper class units of high experience are the hardest to spot. Since infantry is now harder to spot and harder to hit you will notice that firing on infantry will produce fewer kills and more suppression than you may be used to.
- 8) Japanese units will no longer surrender, retreat or rout.
- 9) The USMC will no longer surrender.
- 10) Infantry can now only throw smoke grenades one hex.
- 11) Unit weapons ROF calculation was enhanced. The ROF now considers the size of the round, number of crewmen, unit ROF and crew experience.
- 12) Terrain defensive values were enhanced. All terrain, other than clear, now offers some protection. So, units will take fewer casualties and rout out of stone buildings less often.
- 13) Infantry units can now close assault more effectively. Attacks may now also be on the side or rear armor.

- 14) Computer opponent set up is now less predictable. They may set up near the right or left edges of the map or near both or neither. This way, the player will have to plan to protect his flanks. This has also been set up to be unpredictable. You will not always see the same units doing the same thing with each game. In particular, when advancing versus an AI force, you can no longer assume the top and bottom edges of the map are free of defenders. AI reserve formations will often be there - the old 'form a column and crawl along the map edge' human vs. AI tactic is now extremely risky. Be prepared to be in the middle of a concentric ring of closing AI formations once taking an objective.
- 15) The ROF for artillery using indirect fire has been increased.
- 16) Stacking limits have been removed. Press the keyboard SHIFT key to enter a hex that already contains another unit
- 17) Units moving through hexes that already contain other infantry, vehicles, bunkers, wrecks etc. will have one movement point subtracted for every unit which is already in the hex. This is in addition to all movement penalties imposed for the terrain. For example, a tank moving through a hex that already contains four infantry units and two wrecks will lose an additional 6 movement points on top of the cost of the terrain in that hex.

General Changes and Enhancements:

- 1) Leader leadership and morale values were converted to WW II levels.
- 2) Unit experience and moral values were converted to WW II levels.
- 3) Counter battery values were converted to WW II levels.
- 4) Air superiority values were converted to WW II levels.
- 5) Dates were changed to appropriate period and will now run from 1910 to 1949. For Ver 2.0 we have only supplied MOB's that generally go back as far as 1930, more usually 1935. Future releases or updates MAY extend back further
- 6) Battles will now take place in generally appropriate geographic locations. We have tried to make non-historical battles occur somewhere believable, rather than just being in the desert, as was the case before.
- 7) A number of enhancements were made to the scenario editor, including the ability to place grass and sand dunes on hills.
- 8) The ability to change the side where each force begins the game when creating scenarios was added.
- 9) A cargo aircraft class of unit was added. Taking off costs half the planes movement points and climbing costs 10 movement points. Landing costs all remaining movement points.
- 10) The glider class of unit was redefined and enhanced. This speed of this class is halved each turn, until it must land. Once landed, it may not take off again nor will it rout off map if fired upon.
- 11) The ability to assign individual sound files to unit movement and weapons was added. Note that this will require the **KobHack for SP: WW2** editor. This editor is deliberately not being released publicly at this time, for further explanation, see below.
- 12) Several new sound files were added that are unique to specific weapons.
- 13) A leg artillery forward observer class has been added with enhanced spotting ability.
- 14) Month of UNIT availability and out of service month has been added. NB - formation availability has *not* been addressed yet due to lack of time. Some formations will appear without a corresponding troop type.
- 15) Players with very fast computers can now adjust the map scrolling speed with a hotkey (SEE: HOTKEYS, at the end of these notes).
- 16) The AI will now pick up and carry infantry on tanks in the same manner it did in Steel Panthers 1. As well, if you press the "Load infantry onto nearest vehicle" button in the deploy screen the infantry will load onto your tanks if they have the carrying capacity to do so.
- 18) There are now over 200 *NEW* icons in **SP: WWII** over and above the standard WWII set found in Steel Panthers 1 or the WWII section of Steel Panthers 3. Added to this are dozens of vehicle icons that have been re-done and enhanced. There is also a new set of menu screens, Control buttons, reworked Terrain Icons and a completely new set of factory buildings. You will also notice that many of the flat roofed buildings have been replaced with peaked roof structures.

Highlighted Features:

Gliders

The Glider routine is much improved from SP2WW2. The most noticeable change is that when landed they will stay on the ground. We are hoping to improve this further in Ver 3.0 but an important thing to remember is that these are for HUMAN USE ONLY. Do NOT give these to the AI to use. As mentioned above, each turn gliders are in the air they will lose half their movement points until they **must** land.

At present, landing is still a little too much under the human player's control - we hope to fix this later. Also, note that sometimes an unloaded glider will not be visible to the opponent if he did not have LOS when it landed and unloaded a minor bug we hope to address later.

The number of countries with gliders as also was expanded to reflect that they DID exist in other nations TO&E as well (although rarely used). Gliders are now included with Italy, Russia and Japan.

Gliders are for Human players only. Do NOT give them to the AI to use.

Light Observation Aircraft

Light observation aircraft may land, but once landed may not take off again that turn. They will still "hover" if they are not moved. We strongly recommend that if you are playing a game with them that they be moved their maximum movement allowance each turn even if its at the back of your side of the map. These are NOT artillery spotters. They do not get the spotting bonus that either FO vehicles or leg FOO units get but they can spot for the FO. These are unavailable to the AI so these are strictly a Human controlled unit and are best suited to PBEM games.

For this class and for the air transport class, as with gliders, landing is still far too much under the player's control. We hope to fix this. Also, those classes, which take off, will in future editions require that some form of 'clear runway' path. Currently, you can land and take off in a hex in the middle of a town. Doing this is really 'gamesmanship' - and yet another reason to limit these classes to the human player to be used in the 'right spirit' of the things, and not to bend the rules. Try to limit yourself to landings and takeoffs in a 'believable' place - along a road, say. There are no limits to this as yet, just the players honesty. These classes are currently wide open to misuse by the gamesmanship sort of 'demi-cheater'. If playing a human, agree pre-game on acceptable usage of these things, when negotiating points, realism settings battle type etc.

Air Transports

Air transports have been added for games where you might want to simulate the Air Landing of troop reinforcements but it has also been used in scenarios to attempt to simulate paratroop drops as well. Our plans for ver 3.0 include the addition of paratroop drops from aircraft with the drop zones chosen in much the same manner as artillery is plotted now with the aircraft entering and exiting the map in much the same manner as air strikes.

For now though the Air transports stay on the map (UNLESS ROUTED).

Artillery Changes

- 1) You will need larger guns than before to create craters, and to drop bridges.
- 2) Artillery effects on armor are now mainly morale effects - artillery will break up armored assaults, but by making tanks button up and possibly retreat rather than by destroying them.
- 3) This does not mean that artillery, even mortars, cannot kill tanks. However it's more likely that a track hit will occur, and the crew will bail out if moral is poor. If you want to actually kill tanks, then go for 6 inch (150mm) or larger guns.
- 4) Artillery is primarily an anti infantry weapon, but it does this more by morale strikes than by kills. Artillery kills over time - do not expect one salvo to remove a squad.

Infantry Changes

All small arms will suppress more than they kill. We made infantry harder to spot, which in turn makes them harder to hit which makes them harder to kill.

When troops are pinned they are facedown in the dirt and even harder to spot which in turn makes them harder to hit and kill. So as a result there are fewer kills and more suppression in **SP: WWII** and infantry will more likely retreat to someplace safe and rally then re-enter battle rather than be slaughtered at the first few shots.

Note that sometimes when infantry become pinned, then the LOS is recalculated and can be broken due to the squad having now hit the dirt. So you can have the situation of firing a shot and then no longer having a LOS to the target. The same is true for your own squads that are fired on. When they hit the dirt, their spotting ability is reduced.

Infantry is deadly against unsupported armor. If you run a tank down a road without infantry in support the tank **WILL** die if it bumps into enemy infantry. If you plan to move through territory held by enemy infantry then you had best slow down your tanks, dismount your infantry and move them together to advance. The infantry should advance a hex or two in front of your tanks so the armor can provide direct support should the infantry bump into something nasty. You **CAN** use tank riders to (hopefully) disrupt close assaults, but these guys will tend to pay the price for acting as a form of 'reactive armor'. If you suspect infantry - dismount the squads and let **THEM** find the ambush. They spot better on foot in any case! If you **STRONGLY** suspect an ambush at a particular point - dust it off with artillery, then scout with dismounts, with the tanks supporting them.

Don't blunder into infantry zones - at least drop a barrage, and then follow up close behind this. Artillery is the best cure for infestations of infantry and AT guns you have.

A Special Note on the German Flak 88 in Steel Panthers: WWII

The 88mm German Flak cannon causes much confusion. People keep asking why this AT gun does not shoot at planes as it did in SP1 and SP3. It is an AA gun true, but it takes the role of an AT gun. It is therefore in an anti tank position, with AP and direct fire HE ammo loadout. The battery AAA director and computer together with the electrical hook-ups and the AAA ammo and the fuse setting machine for it are in the rear area.

Just like a GPMG (General Purpose Machine Gun), the 88 is a multi-role weapon, but the GPMG needs the SF (Sustained Fire) kit to be issued to make it an MMG rather than an LMG - it cannot change at whim. So with the 88 as AAA artillery - it needs all the extra AAA fittings to do so.

The British 3.7 inch AA gun could not fire without the director - it had no sights on the gun at all, just the pointers and dials to take the cues from the AA director via an electrical hook-up. When deployed remote from a director, as at Tobruk, the gunners had to braze a lash-up set of AA speed ring sights halfway up the barrel of the gun, and shoot mainly by 'Kentucky windage'. The approved method of using this gun in an AT role, mainly for self-defense, was to pair guns to the AA director and fire by salvo at the target. I myself know of only one occasion when 3.7s were used in a deliberate direct fire support role, in the breakout from Tobruk, and here the guns were moved out at night and set up in dominating positions for the next day's battle. Battlefield mobility was really minimal - this gun was 'strategically mobile' - it took rather a long time to move and set up.

The other time 3.7s were notably used as direct fire artillery was in German hands - they had captured about 80 and thought highly enough of this weapon to set up an ammunition manufacturing capacity for it. This was at Walcheren Island where they severely beat up allied amphibious craft with them.

The 88mm is a medium AA gun, and when firing AA it fires battery salvos under central director control, to lay down predicted flak curtains at medium altitude against bombers flying in formation.

SP planes are down in the weeds individually attacking, and here we need guns that are used to track individual targets. That is why there are **NO** medium AA guns in **STEEL Panthers: WWII** - you are much better off with a 20mm Vierling. It is also why 88mm units had light flak - for self defense against low fliers on flak suppression missions which they themselves could not handle. There are no plans to have

medium or heavy AA batteries in **STEEL PANTHERS: WWII**, as they are off-topic for the tactical level of the game.

In addition, not having your cunningly sited AT guns give their positions away by randomly popping off at passing planes is “A Good Thing”. A standard tactic when fighting a game against the Germans was to fly a Hurricane over with the map zoomed to max out. Then you could make a note of each silly 88 that fired at the plane and plot a massive 25-pounder barrage on each gun so revealed. This method is especially valuable against the AI, which does not move the things.

One of the main reasons these were taken out of the FLAK category was that during an airstrike these weapons would fire at aircraft, then once your turn started you could use these same guns to start shooting at tanks. As stated above this is not possible, the fire control equipment was completely different.

Bottom line - any field gun, or heavy AA gun, found in an AT-gun formation is of class ‘AT-gun’. So the detached field gun will not fire indirect, and the AA gun is looking for tanks to annoy today.

THE MOB's

General Points

SP: WWII has both the month of introduction added as well as the Out of Service month. This is a major improvement over Steel Panthers 2, which only caused things to go in and out of service by the year. (To be fair, the month of introduction is far less critical in a Modern era game but it is essential for World War Two due to the rapid and important improvements made to armor and weapons throughout the course of the war.) Note that this applies to *units* only - we did not have the time to do this for formations as well in this release. Therefore formations may appear on the purchase screen, but not have any units available in them.

You will sometimes find duplicates of things - for example a Stug may be there twice, once as say an assault gun and once as a tank type. This is usually to let the player use that vehicle in 2 different formation types - e.g. in a regular Stug company, or as a replacement for tanks in a panzer company. Sometimes it is just mainly for the AI's benefit. This is because the SP formation type is based on unit class - there is no ‘MBT or Stug’ way of doing them other than duplicating unit types, or formations.

“This machine gun/mortar has 2/3 MGs or mortars”. We reduced the hordes of little singleton MG and mortar units and combined these to form MG or mortar sections, not individual weapons, for most armies. Count the number of crewmen - it'll be 8-10 odds like a rifle squad. This cuts down the unit count. In addition the combined units are much more effective, and so expensive points wise. In addition the Machine guns are either Medium MGs or Heavy water cooled MGs mounted on tripods or wheeled mounts. The LMGs are integrated into the normal infantry squads.

The horse and cart is available in some armies as a medium truck, or a heavy truck. It is mainly of use as a cheap gun shifter - do not try to take infantry into combat on them! There is also a new sound for these as well (Note: the code has been set up to provide a default “horse and wagon” sound F/X for any “truck” class with a speed set to 6 or less)

There are bicycle troops added for a few countries early in the war. These have been put in the Motorcycle class for now but we hope in a future release to give them a class of their own. (We would also like to have Ski troops put into a class of their own as well - e.g. so as only to make them available for purchase when snow terrain is present, and a snowmobile class for sleds and Aerosans)

Some formations have plus (+) and (-) added to them. Those with a + usually in military speak means reinforced; those with a - then something is detached. In general this is the case, but I also use + to note for example batteries with extra ammo load outs. A rifle co (+) may have support weapons added from the battalion support co, or trucks, a (++) when seen often has the weapons with light trucks, or even more weapons than usual. Or an infantry company might be designated light or with a (-) this usually has the heavy weapons deleted. Best way to find out is to look, and compare with other units.

Note that we have lumped most scout patrols together with snipers as ‘sniper’ class - this freed up an infantry class for other use. They are then in scout/sniper formations - choose from a patrol or a marksman as required. PS - unlike other SP editions, the sniper if used correctly by a thinking player is quite a pain to other human players . The chief thing to remember is to place them where there is cover to which they can

retire (break LOS), and to break contact (LOS) when spotted or after a couple of shots - if located they do not last long, so plenty of scoot with your shoot. Then sneak up to (move slowly) another hiding position and engage. Better to sneak into a new fire position on one move, but not to fire until next move when stationary, so less detectable.

SMG range is only 150 yards - 3 hexes, which is an extreme maximum range for the ammunition they used, but it was decided that from a gaming perspective 3 hexes was better than 2. They are deadly at close quarters, but any SMG armed troops trying to fight rifle armed will pay a heavy price if the rifles can engage at over 150 yards - which is most places really. I tend to avoid SMG troops in campaign 'core' forces and only buy them as support if it is say, a city bash. But they can be useful as tank riders, so long as not then caught standing out in the open by someone with even an M1 carbine at range.

STEEL Panthers: WWII tripod mounted MGs now reach out a long way. The key to their use is to engage enemy infantry from long range - beyond rifle range. Or place them a few hexes behind the rifle line, and fire in support of the fire fights overhead of your grunts. They can be very nasty indeed if you place them carefully say behind a hill or building, and then engage from the flank while being protected by the obstacle. If the enemy has no tank force to engage the MGs with direct HE (so early British tanks can be ignored till close) open up with MMG at 20 hexes or so on any soft stuff you see. We hope to give MMGs some form of linear area fire effect into more than just the target hex later on, but this is still just an idea.

By the way - when setting up pillboxes and bunkers, you can actually turn them by right clicking (many people seem to forget this). Thus you can then set up nests of mutually supporting bunkers with crossfire. Or you can set one up behind blocking terrain to fire flank shots at passers by as with MGs above. This adjustment is available in the Deployment Phase only - but if your opponent is not aware of this little feature, it can be quite upsetting sometimes.

In **SP: WWII** AT guns are MUCH more dangerous than in SP1 (or SP3)- there they commonly fired 1 shot, were instantly detected and destroyed by moving tanks. NOT SO NOW! In WW2 the AT gun was a chief tank killer. The Germans in the Desert would often flaunt some panzer at over-keen British armored cavalry units, who would then chase them, while the Germans retired through an AT gun ambush position. Exit British cruisers. Anti-Tank guns in **SP: WWII** are for the most part set to size ZERO to better reflect that these things were easy to conceal and difficult to detect in battle, especially from a tank.

Unlike other SP series games, off map artillery is purchasable in all games. By having an OP unit or an infantry squad in slot 1 of the formation the game logic limiting such to the assault mission is sidestepped. (Similarly if you made a formation with an AOP as slot 1 and strike planes after then you would have a 'cheat' air formation - but useful if say you wanted air in your campaign core force). However there is a drawback here - in campaigns, you cannot upgrade the batteries, so choose what you want for the entire campaign. The campaign upgrade routine will let you downgrade to on-map guns, which are (usually) less useful. The same would go for planes in a core if bought. Note that you CAN upgrade to spotter planes, and gliders but do not use gliders in normal combat please - it's cheating!

The AI will now buy off map artillery in non-assault missions, so you will need to think about counter battery. In general your guns must have the same, or better range than the opponent, and you get more counter battery fires if you leave the battery 'idle' than if you keep firing it. Also, better-experienced gunners fire more often and to better effect. BUT - the better-experienced batteries are the ones that you can plot with lower delays on map. So it is a case of swings and roundabouts - you will have to make the decision.

Steel Panthers: WWII artillery is not cheap and deliberately so. It is quite effective now, and in any case unless the battle was an assault, then most armies would use about 1 battery per battalion in combat - so buying an entire artillery brigade of 9 batteries in a meeting engagement is now more prohibitive.

If you have a force of 3-4 companies or so, budget for one battery if you want historicity. (For those of you who are new to military stuff - a battalion is a group of usually 3 to 4 companies)

Some of these off map 'batteries' come with 1 unit, some with 2. Why? Many armies used a 4-gun battery such as Germany. Others used 6 as a basis, so these nations come with 2 by 3 gun platoons to a battery. The British used an 8 gun organization, so 2 troops (= platoon in UK artillery orgspeak, and cavalry as well. USA 'troops' are company-sized units) of 4 guns in a battery, though sometimes they used 6 for some heavies, and sometimes 4 gun extra heavy batteries.

Note to any scenario designers - do not give the AI any SP mortars. It will not move these, or fire them indirect. This may be fixed later.

There are some light trucks that are classed as 'APC-wheeled' - this is to help the AI, or in some cases to allow a specific light 4WD truck only in formations, not the medium trucks. It helps the AI because it currently will not load infantry onto trucks. We hope to address this problem in a later release.

Nazi Germany

1935 to 1946

The extra year is there to allow a what if the war lasted a bit longer phase, and so some of the more likely fancy projected kit that might have appeared, like the Panther II. They are NOT extended to 1949 for the hypothetical WW3 scenario as there is no way the Allies would have tolerated the remnants of this regime fighting alongside them.

Early on the real tanks should be PzKw I and II's. That is why the Pz II is available as a 'medium' before the war. Panzer III and IV numbers were very limited early on - you should fight France with many Skoda tanks and Panzer IIs as was the case in reality.

Germany was almost as entirely unprepared for WW2 as the allies; the German army and navy were working to a 1943 or 44 kick off. The annexing of Czechoslovakia meant they took over one of Europe's chief armament industries and coincidentally they nearly doubled their tank strength, taking the first Pz38(t) right off the end of the production line. Not to mention that the severe and chronic artillery shortage was somewhat alleviated. The invasion of Poland got the German armed forces into a war footing before they were actually ready for the game.

Germany never had enough to go around, so this army has to be one of the most kleptomaniac ones ever seen. It was always, in other than the key SS and Panzer divisions, an amazing polyglot mix of kit. This mob is mainly German kit, with the key foreign stuff, but if we can expand the number of slots in future releases then expect lots of weird and wonderful captured kit.

As with the kaleidoscope collection of weaponry, there were any number of TOE charts for German units, most of which were in reality pure central command wish lists. Darned few started off on the official footing - many had more - but well under strength was more the rule, especially for units at the front.

There are 2 panzer companies - a 17 tank and a 14. Both organizations were in use by both the Heer and the Waffen SS. A HQ of 2 and 3 4 or 5 tank platoons.

Half-tracks - the heavy half-tracks with weapons are subclassed so only the one per platoon with 37mm or 28mm gun can be selected. The light half-track carries only a half squad, so is in the utility vehicle section - carry scouts or HQ units in these only.

The Nebelwerfers on map are classed as howitzers or SP-artillery for the motorized ones. There are 251 half-tracks with box mounted rockets - one has flame rockets. (NOTE: These 251 HT's with rockets have a MINIMUM and MAXIMUM range. If you find that they cannot be targeted you will have to move them until they can be fired. The acceptable indirect band is quite narrow.)

The Sturmtiger is SP-artillery, so it can fire indirect if desired, but slowly. They are better fired over open sights at close ranges.

Fallschirmjaeger and Waffen SS squads have added range finder and fire control to make them a bit better than the average - so cost more. They may have added AT weapon ammo, or flames for engineers.

The later 15cm sIG has a HEAT round - towed or tracked mounts. The 15cm gun is one of your best grunt-removers, and the USSR AI quite likes grunts (hint!).

Tanks with the NbW92 have multiple smoke dischargers. It could throw a HE grenade shower as well.

The Panther Uhu (Eagle Owl) has night fighting gear - in reality a receptor for IR light from a searchlight on a separate half-track, but beyond the SP game mechanics. Some later what-if tanks have IR as well, but the Uhu was pretty much the only real combat use of night aided vision.

Some later German planes have SD-2HE and SD-4AT bomblets. The SD-2 were 2kg anti-personal bombs and the SD-4 were 4kg hollow charge Anti-Tank bombs carried in boxes mounted under the wing and dropped a hundred or so at a time. In **SP: WWII** the SD-2 have been set up to provide a high HE kill against infantry with very little effect on armor. The SD-4 has high HE penetration values against armor but very low HE kill so these will have little or no effect on infantry. Make sure you drop the correct bombs on the correct target.

Remember: SD-2 HE for infantry, SD-4AT for tanks. The best uses for these is to wait until your opponent has bunched up then bring in the bomblet-carrying plane.

The amphibian tanks are added really for fun, for Sealion. In reality, they ran on the bottom on their tracks with an air float above. SP thinks they can swim and so fire, but then it does this for the DD tank as well. However, these could be a nasty surprise on a map with a lake or large river.

Early PzKw IV's are classed as close support tanks, same as Stugs. This helps the AI as it uses fixed formations. But the Pz IV was the close support tank to Pz III and really only became the main battle tank when the PzKw III turret ring was too small for long 75mm cannon.

The 3-gun light flak section is really for battalion 20mm AA guns. The 2 gun section and 4 gun battery organization is for medium flak - 37mm, and Vierlings.

German SPA has low ammo loads so if used you should consider ammunition carriers as well.

There is a what-if ATGM from June 1945 on. It is the only ATGM in the game.

Poland

1930 to 1949

The expanded dates assume the expatriate Poles stay on the Allied side in a hypothetical WW3 with the USSR.

The ex-patriot Poles were some of the best soldiers in the war. The German-Polish campaign was not quite the walkover many believe it to be. It is worth remembering that no other country was invaded on two fronts by both Nazi Germany and Soviet Russia.

This MOB is focused on 1939, then the Polish remnants in France (assume most armor, aircraft, etc. there is French support units), then as a British ally for the rest of the war. In 1938 or so, Poland had a dispute with Czechoslovakia and annexed some territory (Cieszyn) peacefully - but a nice "*what-if*" for a battle or two.

There was quite a lot of early-war armor, and innovative designs - they had good engineers, but a limited industrial base, and not enough money.

Japan

1930 to 1949

The expanded dates are to allow for an invasion of the home islands, and for it to take rather longer than the Allies would have thought. Assume the A-bomb was a 'fizzle' in that case.

This MOB was based largely on work done by Akira Takizawa.

This was an infantry and horse drawn army. It really was only a threat to the Western Allies in 41 or so offensively. This was chiefly because the British Empire forces had been drawn off to fight Nazi Germany, and the US Army at that time was a few garrisons in the Philippines and not much else even in the Continental USA. And the white man of the time tended to think themselves incredibly superior over little yellow men who wore glasses. The Zero fighters and the Long Lance torpedo came as a rude shock, as did the tenacity of the Japanese soldier. Their brutality should not, for they had been demonstrating this in Korea and China for some considerable time already.

Japanese tanks are simply hopeless against anybody other than the Chinese. We have allowed a few later types, but these were almost hand made, and if any were produced, not more than 50 or so. But a home islands assault would have met a few of these I suppose.

Japanese anti-tank weaponry is also limited. The long 47mm gun can kill Shermans from the flank, but the best weapon against tanks is infantry assault. This can be by 'special attack' (i.e. suicide) Tokkou, in which case lunge mines or satchel charges would be used. The Japanese also used glass gas grenades against tanks - a choking tear gas, or cyanide gas. Use of these would cause a crew bailout and these would then be dispatched. But these were rare. The 70mm infantry gun has a HEAT round later on, but is not much of a Sherman stopper, but Allied Grants and Stuarts were destroyed by such weapons. The 50mm grenade dischargers, erroneously termed the 'Knee mortar' by some, broke the thigh of anyone so stupid as to try firing it that way! It also proved quite effective in AT work.

There is a myth that Japan did not use mines. They certainly did, but did not have vast quantities, and concentrated on AT mines. But they preferred to use engineering obstacles such as tank traps. AT mines therefore tended to be placed manually on tanks by special attack squads.

Japanese planes early on were a rude surprise to the Allies, but this lead did not last long. However they still produced outstanding designs such as the Ki.45 Toryu with a 37mm and 20mm cannon in some variants, and the N1K2 Shiden-Kai with 4 20mm cannon.

The 150mm Type 93 mortar is a siege or trench mortar, which throws a very large bomb but with limited range. The author John Masters who commanded a Ghurka brigade in Burma said that a hit from one of these would wipe out a 4-man slit trench.

The rocket launcher is mainly for scenarios. These could be launched from tubes or simply off their sides on a ramp, but in some cases caused problems for the USMC.

The Japanese made great use of snipers; hence there is a sniper unit that is a team of 2 as opposed to the standard single man.

Japanese artillery was rare, but their mortars were always there and well handled.

France

1930 to 1949

This MOB chiefly focuses on the 1940 campaign. Later it's a British sort-of ally, after Tunisia the Free French repatriated Vichy follow US Army organization. There are also some Vichy and Maquis units, but these are chiefly for scenario designers. If you want to try some of the Free French vs. Vichy French squabbles, then there is a problem as both use this mob, and so the victory hexes are the same flag. There are no plans to do a separate Vichy MOB.

The 1940 French tanks look good on paper, but suffered from many poor design qualities. Chiefly a lack of radios and the use of single man turrets where the commander was also loader and gunner. So these tanks have low radio percentages, low ROF, and poor FC and RF. Still quite tough for the era though. The Somua was good enough for the Germans to keep on and use against the Allies in Normandy, and some were supplied to Italy. Those with the 37mm L21 gun will have a hard time killing a Pz II unless they come within 400 yards or so - this Puteaux gun was developed in WW1 really to throw HE as infantry support. So H-35s will actually do rather well if they act together with leg grunts and concentrate on killing German infantry, smacking MG nests etc.

The French 47mm long tank/AT gun is something German armor of the period will have to treat with respect. Do not get into tank duels at long range with anything armed with this gun. Unfortunately for France, they decided vast numbers of the smaller 25mm gun were a better investment than 47mms.

Mechanized infantry units are provided, but in reality these were very rare.

The infantry tanks use a 5-tank platoon organization. The old WWI Renault models 17 and 18 may not have seen combat in 1940, but over 1600 of these were in deep reserve.

France really was not in a good state for the fight in terms of national morale, especially so after the outflanking of the Maginot Line, it is best to have their Troop Quality low, 65 or so if you are using 75 or

80 for Germany. However some units were significantly better than average, so you may prefer to play against elite's, such as De Gaulle's 4e DCR, or the excellent Colonial troops such as the *Chasseurs Afriques*.

Great Britain

1930 to 1949

This MOB is mainly British Empire forces in the Western theatre. Therefore it subsumes some Imperial contingents - for example the South Africans, Australians in the Desert, and Indian Army forces seconded to the Desert.

British rifle platoons had 1 AT weapon in platoon HQ, and a 2 inch mortar which is ignored since it was used to fire flares and smoke rounds, not HE. Neither are really modeled in SP. 2 inch HE was only ever brought forwards from reserve in places like Italy where WWI like trench systems were very close together - then it was used as a nuisance device in day to day trench tedium. Its only 'sights' were a white line painted down the tube. There was no LMG at platoon HQ, but in fact units usually scrounged extra LMG either from rear Supply Company's allocation, or from captures. The German MG42 was quite popular, there are photos of a carrier platoon in Tunisia where all 3 visible had both a 42 in the 'redoubt' and some Bren guns carried loose in the back. So British leg platoons are 1 'heavy' squad and 3 others. A Humans-only Platoon HQ Section is provided for those who like a 2-inch mortar as a 'grenade launcher'.

Mechanized units could carry an AT weapon per squad. (Note that in the UK 'Squad' is a drill parade term for an ad hoc collection of soldiers, the tactical formation is a 'section') So here they are all heavy infantry. Other than the carrier recon platoon in some infantry battalions, mech. infantry was rather uncommon until Normandy. Even if moved to the battlefield on lorries or APCs, British infantry fought on foot.

For some strange reason the UK branched off to have 2 tank types, infantry tanks to fight alongside the foot infantry and cruisers which acted independently and would have no need of infantry support. Most tank squadrons (companies) had 2 CS tanks in the HQ troop (platoon), with a 3.7-in. howitzer then the 3-in. howitzer, and finally a 3.7-in. (95mm) once more. Some regiments concentrated the CS tanks and used them like a direct fire artillery battery. These CS howitzers reach out to a respectable range now, as opposed to SP1 where they were a point blank weapon. So they can trouble 88mm guns, but if you're opponent has sense he will remove the CS tanks as priority items.

The Valentine squadron is for those Valentines with 3 crew, not 4. British tank squadrons often adjusted the tank quantity to fit the personnel strength, not the other way around. So Grant squadrons would often drop one troop to provide the extra bodies for this tank type.

Later on, it was common practice to add a long gun tank to a troop, making a 4-tank troop. Some units reduced their troop count and others did not. And of course some others preferred a separate Firefly troop. British Lt. Colonels had rather a lot of leeway as to how they ran their battalions.

Despite the 'command tank' label, platoon commanders very quickly learned that the 17pdr armed tanks were the German's 'kill me quick' targets, so it was usually the troop sergeant who got this duty. That is why the tank is number 4 as well, so your opponent cannot single out your commanders for the chop first.

Armored car units used a 3-vehicle troop in the beginning of the war, and then tended to use a 4-vehicle high/low mix of a scout car section of 2 and armored car section of 2. However both types overlapped considerably, and seem to have been a question of the commander or his Brigadiers choice.

Rifle companies usually had a 2-tube section from the battalion mortar platoon assigned and sometimes some MGs from the battalion support Weapons Company as well. Therefore there are several variant rifle companies available for you to play with. AT guns were at one point removed from infantry battalions to be totally under RA control in centralized brigade AT batteries. Naturally the infantry objected somewhat to this and the experiment did not last long. The infantry got their 4 to 6 AT guns per battalion back, and the RA AT batteries stayed as well. These latter were the 17 pdr and SP-AT users, infantry battalions usually keeping the 6 pdr, even till the 1950s.

Artillery batteries are 8 guns, in 2 by 4 gun troops, but heavies are in a 4-gun battery with 2 by 2 gun troops. Off map Div. Arty is the entire Brigade allocation of guns, a 25pdr regiment with an added medium battery from Division. Unfortunately the picker usually makes a hash of this.

The carrier platoon is more of a reconnaissance and cavalry unit than a mechanized infantry unit, one such per battalion. Some early war light tank battalions had a carrier platoons attached or even one per squadron. As with the rest of the British army there was no centrally-commanded 'doctrine', so some battalion commanders would just use the carriers as 'tin jeeps' to bring up hot rations and mail, and for the RSM etc. to run about in.

Royal Marine Commandos and Paratroopers have increased fire control and Range finder to make them more effective, but are not cheap.

The Heavy Cruiser squadron is for Grants really, these were designated as such just at the end of the usage of the Infantry Tank/Cruiser designations was becoming obsolete.

Although Priests are provided, in fact by 45, and certainly post war the Sexton was the prime SPG, the 25pdr was a standard Army caliber, whereas the USA 105mm was a 'special item'.

The Matilda 40 squadron is for that period, in France. The number of Matilda 2s available was not great at that point. Most Matilda 1's were lost in France and the ones that were not were relegated to training so they were not used in the desert in 40. And once they had disappeared, Matilda 2 was just called 'Matilda'. The Matilda 1* is the support version, some had a 0.5 inch mg instead of the rifle caliber.

Centurion Mk1 arrived in Germany just too late to take part in WW2. It is there for the "*what-if*" 1946 UK vs. Germany, or the "*what-if*" WW3 vs. USSR. Centurion represents British tank thought from end war to the present day, firepower and protection is emphasized over speed.

This army's strength lies in its infantry and the Royal Artillery. Its tanks are not great, except in parts. The key to using this army is to using all the support arms to get your infantry close with the enemy. British infantry wants to get to close quarters and kill with the bayonet, not engage in pointless firefights.

Soviet Union

1930 to 1949

The expanded dates are for the hypothetical Allies vs. the USSR World War 3 scenario, or to invade the Japanese Northern islands.

Some of the companies are actually a platoon in game terms and all lumped in one formation. This is historically more realistic, and reflects the poor command and control of Soviet formations. There are also battalions provided which in SP terms are actually companies. These formations are also fragile for morale purposes, just one commander to try to rally himself and nine subordinates. Good formations for USSR 1941 then!

The T-34/76a model is defined as a heavy tank as it was only available in limited numbers in 40-41. Vast fleets of BT and T-26 were the chief tank forces then. Briefly!

The Allied lend lease tanks are classified as light tanks, these were usually deployed in quiet sectors as the Soviets did not think much of them. The only one they actually liked and asked for more of was the Vickers Valentine. The Lee/Grant earned the sobriquet 'the coffin for seven comrades'.

Soviet light tanks (T-60 and T-70 for example) were not really much used for reconnaissance. They were mainly used for infantry close support in quiet sectors, freeing up the better tanks for elsewhere. When used alongside heavier stuff, they accompanied the SU-76 or KV series tanks in support of the infantry line. This is why their speed is not great, they were an auxiliary tank, which could be turned out in reasonable numbers by lesser engineering works (they used truck engines), not a speedy recce design. They usually only had 2 crewmen as well, so ROF is not great.

The T-54 came off the production lines in 1947, but was not available in numbers until 1948. This tank was good for target practice in SP2 Modern, it is a far more formidable opponent here.

Early tank companies used the 7-tank organization, later they were 10 tanks, but both coexisted. Also early on there were some independent tank platoons of heavies or T-34s added to units since the Soviets had read the wrong lessons from the Spanish Civil War, and broke their tanks up in penny packets rather than concentrating them in armored formations.

The Soviet army is a mass army. Artillery is the Red God of War and has been since the days of the Czars. Start with your artillery plan, and work from there. This army is one of the few that is not greatly troubled by German tank superiority, in fact at certain points this one has the superior armor. This is the army that caused the German need for all these super tanks in any case! In addition, your medium tanks are noticeably faster than the opposition. Use this facility to make wide encirclements, or to shift your thrust rapidly from one point to another. Also recall that any Soviet tank is not fully dressed without its tank riders, so take SMG squads and use these in very close conjunction with the tanks, never more than a hex or 2 away if at all.

In the assault, by the end of the Great Patriotic War, the Soviet 'norms' for a breakthrough assault by an Army would be 200-300 guns, rocket launchers or mortars per kilometer of front. A kilometer is 20 hexes in SP. Tank and SPG density would be 70 to 85 per kilometer, and a rifle division's assault sector would be 1.2 to 2.5 kilometers. An Army level assault would be of this density across a 16 to 25 km frontage, and several armies of the Front would attack simultaneously on axes about 20 to 40 km apart.

Always buy hordes of riflemen, they are cheap and cheerful. Recall Stalin's dictum 'Quantity has a quality all of its own'. Where you would use a company in other armies, use a battalion. Advance this mob, with a few KV or other heavies in support behind a creeping barrage. Keep the barrage up continuously, just adjust the guns forward 2 or 3 hexes per shift (select the gun on the barrage dialogue, and hit the HE icon, it targets its last adjustment at low delay so there is not a long wait. Then use the Adjust Fire button to shift 2 or 3 hexes if required. This is how to do a 'creeping barrage' in SP without the lengthy delays. Think of it as a preplanned fire program). Be prepared to keep close behind your barrage, and accept some friendly fires. (The British term for this is 'leaning on the barrage' and like the Soviets, they were prepared to lose a few for the advantages gained arriving quickly on the position while the enemy is still neutralized by the bombardment).

This main force of infantry, heavy tanks and the accompanying barrage is your 'Hammer'. At the same time, use the fast tanks (BT or T-34) to outflank if you can and as deep as you can. This is the 'Sickle' of Soviet tactics. Once in the rear, the Sickle can become the anvil for the hammer, or itself drive forwards as the Hammer, the main force becoming the new Anvil. Either way, the idea is to get the enemy between a rock and a hard place.

Part or all of the outflanking Sickle (and you can also double envelop if the German keeps his force too tightly concentrated. This is wonderful as it also helps with the artillery pounding!) once in the rear can break off and act as an Operational Maneuver Group. The task of this detachment is to sweep up the rear area soft targets, headquarters, supply, and above all artillery. Naturally, the entire Sickle force could perform this function before shifting its axis back into the rear of the enemy fighting positions.

The problem for the Soviets was that in the real world, it was difficult to synchronize their forces to this extent. Execution was often therefore less than the ideal. But SP has no real Command and Control rules, so you as a human player are in pretty much total control.

US Army

1930-49.

Allowed to go beyond 45 for Operations Olympic and Coronet vs. Japan, and for the hypothetical WW3 vs. the USSR.

Mech. infantry 1942 organization - only take the 37mm AT gun here; the 3-inch won't fit with the rest of the troops. The 1943 organization separated the AT guns, but again 37mm were common, and at most use 57mm. These units have a lot of firepower, but dismount strength is low, best used for the delay mission. They are also very good for shoot and scoot mobile defense or as exploitation troops. This was their historic role, they are not meant for, and USA doctrine did not see them as, assault troops. The M2 60mm MMC is the correct fire support half-track, not the 81mm. The M2 60mm MMC has a limited lift capacity. It represents firing the mortar from the vehicle, common practice, and hence no dismounted mortar is provided. As a SP-Mortar it can fire indirect. The M3-MG half-track has extra crew to service the additional MGs, so does not have quite as much lift as the regular half-track so this one and the mortar half-track usually carry the smaller teams.

The USA had a strange idea at this time, the UK was not alone here, they called it the tank destroyer doctrine. Basically, tanks were seen as infantry support and for use in exploitation of a breakthrough with the mechanized infantry. Their job was not to take on enemy tanks, and special formations of tank destroyers were provided to perform this task.

This would have been fine if the Germans had played by the same rules, but funnily enough they did not wait around for the tank destroyers to turn up, and their tanks did not ignore the American tanks either.

The TD doctrine was way ahead of its time really but it needed anti tank helos to properly implement the concept, though the Hellcat is getting towards what a TD should really be. Use the nippy Hellcat to work the flanks of German armor, try not to get into a head to head slugfest! The M10 really had few advantages, not much speed or armor wise, and once the 76mm gun was available on regular tanks, little point in it. The M36 with its 90mm gun is however a very good SP AT gun, but too slow for the proper TD concept of mobility. TD units had a large scouting element of armored cars, the TDs were not supposed to take on the enemy armor during the breakthrough, but to engage them in ambush tactics once the enemy tanks had burst through the lines. AT guns were also parts of the TD units, but received low priority, mobile AT capability was seen as more use.

The drawback to the TD concept was that the main battle tank was not seen as needing much anti tank capability, hence the moderate 75mm on the Shermans. It took a lot of pressure from the troops at the front end to convince the supply end to produce 76mm gunned tanks. And they had to fight to get a decent heavy as well. The Pershing arriving just in time, but would have been rather useful 6 months or a year earlier, which it could have been if the production side had not had such power.

The Jumbo Sherman was some help, but again it was an initiative of the front line troops over the production moguls. There was a limited 76mm gun field modification of this, maybe 20 to 30 total produced in field workshops. Please do not take fleets of this one. It's only made available to human players. A couple or three Pershings were field modified with extra bolt on armor cut from destroyed panthers but not provided here. Too few to justify, we will leave these for scenario designers to manufacture in the editor if required.

American artillery was about the best in the world. In fact the series had been designed in the early 20s, but severe financial budget shortages meant that the new 105mm, 155mm, and 8 inchers were only put into production in the nick of time. But the same basic pieces are still in service today, a tribute to the Westervelt Board, set up in 1918. Before 1940, the US Artillery Park was almost entirely old ex-French and British WW1 stock. The 1940 models are available a bit too early, but in game terms a Schneider 155 is similar to a modern 155, however in a later release I may revisit the pre war guns.

The other strength of the US Army was in its air support. Use your air and artillery assets to counter the German armor superiority. Use the mobile troops to sweep up the mess left after they have done their job! If you do not have air support, drop artillery and smoke on the German heavy tanks, and either take them with infantry assault or bazookas, or sneak round the side with something 76mm armed and hit the weaker armor. Panthers can be taken through the side by the short 75mm if lucky.

But without the air, you will have to use skilful maneuver to deal with German tanks; you will not do well in a head to head. Try to tempt them into close country or towns and deal with them at close quarters with combined arms, tanks and infantry together, engineers with flame-throwers and so forth. Try to remove the accompanying German infantry to make this task easier.

Light tanks like the Stuart may not look very good with only a 37mm gun even in 1945, but in actual fact these are very useful to support the infantry. They deal with German scout cars and half-tracks rather well, and skillfully used can duel with the lighter German SP-guns like the Marders. They can kill a Panther with a close range up the kilt shot - but only try it if you are feeling very lucky...

USMC

1930-1949

Dates are expanded to allow for hypothetical operations Olympic and Coronet vs. Japan, and for the hypothetical WW3 vs. the USSR, as with the US Army.

The best infantry the Americans had, and naturally enough these guys were in the Navy! Unlike the US Army who in this period saw the rifleman as the lowest of the low, the USMC turned that idea on its head completely.

Everybody in the Corps was first and foremost a rifleman, whether he was a gunner, a pilot or a bottle washer. As many Japanese who got into the rear area of USMC units found, attacking the caterers and clerks was not the winning proposition it might have been when fighting against other organizations. The Marines are, were, and always have been right up at the top of the list when it comes to fighting prowess, up there with the Ghurkas, Highlanders, Legionnaires et al.

Their personnel guys were better aware of keeping up unit cohesion as well, so replacements would often return to their units after an absence due to injury or whatever. So they had a form of the rest of the world's 'regimental' system whereby you 'belonged' to some particular outfit, unlike the US Army where you were more of a commodity. Morale and troop quality can be set quite high, but unfortunately your opponent is the Japanese in the main, and they should be high quality as well.

Because they were part of the Navy, you get lots of carrier air support to play with, plus naval gunfire support and amphibious vehicles. There is a very pretty Devastator in the pre-war rig to play with!

Some later squads have a flame-thrower or bazooka. Fighting against the Japanese, anti armor is not high on the priority list; bazookas were mainly bunker busters. The 37mm gun has been redone with canister as a 'weapon slot' - this was a prime use for this weapon as close infantry support. There is no canister ammo in SP, so it has to be a separate 'weapon'. There are one man flame-thrower teams available as the 'Inf.-AT' class for those who want one.

Armor is scarce in an USMC force so your main strength is your riflemen. Historical TO&E for a Marine Division was one battalion of tanks throughout the War. This proportion would likely have grown if there had been fighting through the Japanese home islands. Some later tanks are provided for this scenario, but really you should stick to Lees, Shermans and Stuarts.

Remember that the USMC knew the value of the bomb and bayonet. They were more likely to go for the close assault than the US Army infantry who preferred to shoot the enemy off the objective if they could. USMC infantry doctrine is very similar to British. Fire is used to facilitate maneuver, and the point of maneuver is to get your men up close and personal to the enemy. This tends to settle the argument quickly, rather than wasting time in a pointless firefight.

China

1930-49

Although the nationalist flag is used, this mob also covers Communist guerrillas. There are no plans at the moment for a separate Communist Chinese list, so use RED if you need to fight Maoist vs. Chiang Kai Shek. The expanded date range is set up to accommodate this hypothetical.

Early on, the Chinese warlords had a lot of equipment from German sources, and around 1937 weapons from the USSR. Later on, the Nationalist Chinese were supplied with Western gear, and the Communists received Soviet backing. All used captured or abandoned Japanese hardware when available.

ANZAC

1930-1949

From the acronym of the Australian and New Zealand Army Corps of WW1, this MOB is mainly focussed on the Australian part of that pairing, the Kiwis being subsumed. Also focussed on the war with Japan, it is probably best to use the UK MOB as a basis for desert fighting.

AC1 Sentinel is a home produced tank with around 60 built, 50mm-armor basis, 40mph, but governed to about 30mph. This was relegated to training roles, but one each of a 17 pdr and a twin 25 pdr version were made as prototypes. They are available to the human player only as a '*what-if*'. They were put into production, as the UK could not guarantee tank supply. However in actuality the massive production facilities of the USA proved sufficient to cover their needs, mainly the Stuart and Grant models. It shows what a small country could produce, even with a limited industrial base.

Although there is armored infantry, armored cars etc., most of the fighting in New Guinea etc was an infantry affair, supported by Matildas in the main, along with Stuarts. Some Grants and a few Shermans become available later on. The Matilda Frog was a conversion using a flame-thrower instead of the 2 pdr.

You will also find the ANZAC A-20 has "*Para-Frags*" which were dropped from low flying aircraft and have much the same effect as the German SD-2 HE bomblets.

India

1930-49

This cover the British Imperial forces from Palestine through India to Hong Kong. Its mainly for Slim's 'Forgotten Army', who actually inflicted more casualties to the Japanese than the entire USMC Pacific Island hopping campaign. XIV Army to be precise. Extended to 49 to fight a hypothetical invasion of the Japanese mainland, or to help sweep up in China.

Soldiers of this army could have been British, (mainly) Indian, Chinese, Burmese, East or West African, Gurkha, Karen, Naga or Kachin, to name a few.

Basically a British Army variant, it was poor off for equipment, mostly receiving obsolescent stuff. Most mediums would be Lee/Grants, and by 1945, a few Shermans. A battalion or so of Churchills was shipped out just too late for the war against Japan.

Bulgaria

1930-49

This small nation is there for completeness. Post war it is there as a Soviet Ally for the WW3 "what-if". Mainly involved in the Balkans, this army is likely mainly to interest scenario designers.

About the only claim to fame for this nation in WW2 is that it managed the feat of being jointly at war with both the Allies and the Axis, if only for a short while!

Yugoslavia

1939-49

This MOB covers the Yugoslav nation, and then the various partisan factions of the area. For inter-Yugoslav conflicts, use RED as the other side, as that army is basically this one repeated. After the war it is a Soviet ally.

Belgium

1930-49

This small nation is primarily there for the 1940 campaign.

There were only 8 ACG-1s in the independent Escadron d'Auto-Blindees.

After the fall of Belgium, escapees fought in the British Army, providing it appears a battalion or 2 of infantry and some armored car units of squadron strength. Some of these seem to have been attached to the Canadian Army, presumably serving alongside Francophone units.

Netherlands

1930-49

Again, another small nation primarily there for the 1940 Fall of France, this also covers Netherlands East Indies forces fighting the Japanese in the Pacific.

Dutch armor at home consisted of 12 Landsverk (Swedish) L-180 and 12 L-181, called M36 and M38. The 12 M36 formed the 1e Eskadron Panserwagens, the M38s the 2e. 12 DAF PT3 armored cars, termed M39 were just entering service. They may have been ready or captured part fitted out. They would likely have formed the 3e Eskadron.

There were about 2 FT-17 and perhaps 5 Carden-Loyd Mk IV tankettes available - there is a special formation for these '2 FT-17/5 CL Max' - to remind you not to fleet buy the things. It is doubtful if these antiques were actually runners by that time, in any case. The tankettes were called Poema, Jaguar, Panter, Luipaard and Lynx, for the trivia mongers out there, their unit was called the 'Yellow Riders'.

Dutch escapees fought with the British in both European and SE Asia, though her main contribution was in naval units of excellent quality.

Norway

1939-45

This small nation was invaded in 1940. This MOB covers the Norwegian army of that period, together with the Allied expeditionary force of French and British troops sent to aid them (disastrously). The latter included some Polish forces, but whether as part of the French or British contingents are unknown. It then covers the resistance to the Nazi occupation.

The French sent two independent tank companies to the fighting.

A special unit is allowed for the British - this is mainly for scenarios - HMS Warspite. The British Gladiators whom operated off a frozen lake are also included. Fleet Air Arm Skuas etc are not, as they were used primarily for anti shipping missions. The Hurricanes are not included either as they fought air-air only in this campaign.

Canada

1930-49

Most people think of the Dieppe disaster when it comes to the Canadian army. In fact they provided many units in both the D-Day campaigns and in Italy.

This is a British mob variant, with its own little peculiarities.

The Ram tank was a Canadian design, based upon the US Lee/Grant. However the Canadians did away with the clumsy sponson of this tank and went for a turret. It would appear that this design helped with the genesis of the M4 Sherman - a cross-fertilization of ideas between the design teams. Ram production took longer to get going, and so the Shermans overtook the design. Few Ram gun tanks saw service, if at all. But the chassis was used as an APC, and also the basis for the Sexton SP 25 pounder, which was produced in some numbers. The gun tank is allowed as a "what if".

Ram Badger was a flame-thrower version of the Ram Kangaroo. The Canadian wasp carrier flame variant typically carried an extra crewman over the British version, and usually a 2-inch mortar.

The MOB extends to the end of 1949 for "what-if" WWII play. But you will not find some of the more exotic toys available in either the American or British MOB's. You'll have to fight T-54's with Fireflies as that's all there was available. The Centurion was not available to the Canadian army until after Korea

Greece

1930-49

This small nation fought the Italians off so well that the Germans had to invade the Balkans to pull their allies fingers out of the fire. The resulting campaign diverted many German divisions from Barbarossa, and resulted in the destruction of the paratroops in a Phyrhic victory in Crete. More importantly, it delayed the

planned kick-off of Barbarossa. The Greek diversion just may have cost Germany the entire war, as they did not quite reach Moscow in '41 due to the early onset of an exceptionally harsh winter.

British allies (Valentines and Matildas) are provided for the German invasion. A lot of captured Italian kit is there as well, from the previous successes. The MOB is then a resistance force till post war, when it can act as a Western Ally, likely against Yugoslavia, Bulgaria etc - in the hypothetical WW3 vs. the USSR.

Republican Spain

1936-39

For all the attention paid to WWII, both in history and in wargames, proportionally little has been given to the civil war in Spain. Far from being a "local conflict", the Spanish Civil War could easily be called the opening salvo of WWII. Fuelled by the conflicting ideologies of Fascism and Communism, it brought volunteers from over forty nations to fight for their respective beliefs. France, Germany, Italy and the USSR all committed substantial troops, arms or material. The war became a testing-ground for new weapons and tactics that would be replayed in only a few short years. Over 700,000 combatants and civilians would lose their lives in the bitter struggle.

Many varied units are reflected in the kit. Infantry ranges from militia and special police units who were the early defenders of the Republic, to the EPR (Popular Army) and the international volunteers. Weapons will reflect modern anti-tank and infantry guns, and turn-of-the century trench mortars and machine guns. Aircraft include the R-Z "Natasha" biplane bomber and the Soviet-made I-15 "Chatos".

The Republican forces will be mainly an infantry affair. Tanks and aircraft were always in short supply; ammunition for artillery pieces was very scarce. This is all reflected in increased unit cost, decreased unit sizes and low ammunition load outs. Combat on the offense or defense will be bloody and bludgeoning. It should provide you some distinct contrast to the mechanization and maneuver tactics found in the other SP series games.

Nationalist Spain

1936-1943

This MOB becomes available in July 1936, with the beginning of the mutiny of Spanish troops, which led to the Spanish Civil War. It also includes lot of Italian and German kit, and some captured from the Republicans. Many of the units stay available until September 1941, to allow what-if battles. Afterwards the MOB extends till October 1943 to represent the Spanish forces fighting in the USSR on the German side. Spanish volunteers formed a whole German Infantry Division, the 250th (also known as "Divison Azul"). It was finally retreated back to Spain when it became obvious that the Axis countries would loose the war.

The Spanish Nationalist Forces consisted mostly of infantry; the armor is of poor quality and quite expensive. The artillery is cheaper and is purchased with more ammunition than on the Republican side.

The Blue Division was an infantry division, so the only available armor are assault guns, tank destroyers and armored cars.

The Trubia was a domestically produced Spanish tankette, which was intended as a replacement of the FT-17 tanks bought from France after WW1. A few were used on both sides during the early phase of the Civil War.

The Verdeja was a project to domestically develop a tank, using many parts of the T-26 tanks used by the Republicans. The reason was the inferiority of the tanks delivered by the Germans and Italians in comparison to the Soviet built tanks on the Republican side. Only a few prototypes of the Verdeja were built, although trials showed its superiority over the T-26 and BT-5.

The Camion Blindado is an armored truck. Such vehicles were used on both sides during the Civil War, equipped with MGs and mortars and with firing ports for the transported riflemen.

The Regulares Marroquí (also known as Fuerzas Regulares Indígenas; Moroccan Regulars) were the best units available to the Spanish Nationalists during the Civil War. These units also represent the infantry of the Spanish Foreign Legion (Tercio de Extranjeros), which were elite units as well.

The other infantry squads represent the units of the regular army, the Guardia Civil (a paramilitary police force) and the Guardia Asaltos (paramilitary police storm troops; most fought for the Republicans), as well as the Carlist Requetés and the Falangists. The equipment of the squads differs a lot. Also available are Italian squads of the *Corpo di Truppe Volontarie*.

Italy

1930-49

This covers Italy through the Spanish Civil War, colonial conflicts in Ethiopia etc, the fighting in Albania and with Greece. Then the Western Desert campaign and in Italy itself. Post war it is there as a Western ally for the WW3 what-if.

Also, as a what-if the Italians did not surrender as quickly, or the Allies did not do so well initially, some later Italian kit is allowed with some German supplied stuff. This is allowed until 45.

The Italian soldier was really not as bad as some think. When well led and motivated he would fight well - Rommel rated the Ariete armored division well. It was the mass of conscript infantry dumped out in the desert, with poor supplies of food and especially water that did not fare well. Since they had no transport - one reason the supply situation was so bad (they had to walk out to their posts in the main), when they had to retreat the mobile British forces herded them up.

Italian equipment was not of the first order either. Machine guns typically used an oil lubricating system that sprayed rounds with oil just before ramming them in the breech. Fine on a range in sterile conditions, in the desert this was not quite the most suitable mechanism. The end of the desert campaign focused most production focussed on *Semovente* (Self-Propelled) guns as being less complex to manufacture than turreted tanks.

Italian planes were not that good either; this army was still using biplanes quite late. Later designs were reasonable, but rather lightly armed.

Finland

1930-1949

This small country in Scandinavia fought no less than three wars between 1939 and 1944. In the Winter War 1939/40 the Finns successfully defended their independence against the vastly superior Soviet army. From 1941 till 1944 they fought their own Continuation War against the USSR, but without being really allied with Germany. After signing the armistice treaty with Russia, they had to fight once more, that time the Lapland War against the German troops in northern Finland.

The Finnish armor troops were mostly equipped with captured Soviet kit, and later in the Continuation War they also received German tanks and assault guns. However, the available tanks are usually only mediocre, and very expensive. The infantry however is excellent, and later in the war they get quite well equipped.

The most numerous tanks in Finnish service was the T-26, many of them were captured from the Russians during the Winter War and the first phase of the Continuation War. The models marked with a (+) are former OT-130 and OT-133 flame tanks which had their flame-throwers removed and were instead equipped with a DT bow MG. The T-26e is an up-gunned Vickers 6 ton tank. All T-26 tanks were removed from service in July 1944, but had to be put back into service as the Germans ceased to deliver AFVs to Finns. They were badly outdated at this time, but no better equipment was available.

The BT-42 is a Finnish modification of captured Soviet BT-5 and BT-7 tanks; the 45mm gun was replaced with 4.5-inch field gun. It was a very unsuccessful design.

The T-34/76a (Model 1940) tanks in Finnish service were not equipped with the 76.2mm L-11 tank gun like their Russian counterparts, but with the slightly stronger 76.2mm F-34 gun.

In 1942, Finland bought six Swedish Landsverk Anti II AA-tanks. These vehicles were basically a 40mm Bofors AA-gun mounted in an open-topped turret on a m/36 tank hull. They were used quite successfully to repulse air attacks against the Finnish armor units.

The Panzer IV and StuG III in Finnish service differed a bit from the tanks used in German service, e.g. the StuGs had their sideskirts removed and instead had additional armor plates at the front hull and logs at the sides of the superstructure.

Czechoslovakia

1930-41

This nation was formed after WW1 and the break-up of the Austro-Hungarian Empire. This area had been the main armaments production of the Empire - the Skoda works in particular.

Skoda armaments appear all over Europe - artillery (the Italian 100mm and 149mm are license built Skodas) and tanks in particular. Between the wars Skoda cars were highly regarded, not the butt of jokes they are here in the UK. Czechoslovakian armor designs appear in lots of other armies, chiefly of course, in the German. The Bren gun is based on a Czechoslovakian design and the name is an amalgamation of Brno and Enfield. It is still regarded as one of the best light machine guns ever produced. The BESA was based on a Czechoslovakian design as well, its early problems being due to poor training, not the inherent design.

The take-over of this country was a shabby affair. The Munich agreement gave Hitler the part of the country that had all the major fortresses, so that when he decided to take the rest it was merely a formality. Germany then gained one of Europe's main armaments manufactures, and sufficient modern tanks to equip 2 or 3 panzer divisions. They took over large artillery park and a good small arms supply as well. They also gained some major truck manufacturers - Germany was always chronically short of trucks during the war.

This MOB allows the what if of a possible war with Poland that nearly occurred in 1938, but it is primarily there to let you try what might have been without the Munich stab in the back. In other words, if Germany had had to fight to take the country. The mob is extended till 1941 to allow that Hitler may have needed time to build up his forces before trying to crack this particular nut.

Recall, before you try this one as a German player in 38, that only a very few Pz IV and Pz III tanks were actually around then. Perhaps 100-150 Pz III and 20-40 Pz IV, the bulk of the tank fleet would be Pz II and Pz I. You don't get the 35(t) and 38(t) - these are on the other side! Forget the JPz I as well - that potent little 47mm gun is the Czechoslovakian PUV vz 36.

The LT34 is an early Skoda design the Germans do not seem to have taken up on the capture of the country - perhaps they used it as a training tank or gun tractor? The LT35 is the 35(t) and the LT 38 is naturally the 38(t). The Germans actually took the first production LT38s off the end of the assembly line. The ST39 was a projected design, and seems to be based on the design work done for the Hungarian Turan, this tank would have had the potent 47mm tank gun. There were a few clapped out FT-17s, and some light tankettes. The Tancic 34 is a 'bren' type light carrier - an APC unit representing 2 of these has been provided; though any real mechanized infantry units would be unlikely.

If fighting against a German AI opponent with this army you will have to ignore its buying of Czechoslovakian tanks. Just imagine that they have had to turn captured ones round like both sides used the T-26 in the Spanish Civil War.

Hungary

1939-45

The Hungarian Honved during WWII fought entirely on the Eastern Front. It was well-trained and well-led infantry force, yet it lacked modern equipment.

At the onset of Operation Barbarossa, the Hungarians fielded only 100 light L3/33 tankettes and 38M Toldi. The elite "Rapid Corps", a mechanized-cavalry division had such a shortage of trucks, that horse and wagon transport was needed to move men and material on the advance. This lack of modern weaponry

would plague the Hungarians throughout the War. If not for the provisions of the other Axis armies and captured equipment, the Honved would never have been on equal footing with the Soviets.

Several modifications were made from the standard Steel Panther kit.

Infantry experience and morale ratings, as well as leader rally and skill values were modified in the code above the values set in Steel Panthers. Again, the effectiveness of the Hungarian soldier had more to do with his lack of decent support arms than lack of training or drive.

A few new plane variants were added to the database. Late-war tank destroyers were added (the TDs were actually organic to the Hungarian Jgd Pz Bn). '42-'43 armor is mainly German supplied. Captured Soviet and borrowed Italian tanks have also been included. The Italian kit was not well received by the troops.

The availability dates for the Turans' and Zryini's were corrected to 1944. The 39M CSABA armored car was deleted - it never saw service and was produced in very limited numbers. Finally the Turan III is included as a "what-if" variant.

AI formations run from 1930 to 1945. Playing the Hungarians during the WWII as the human player will now provide a realistic, yet winnable challenge.

Romania

1939-45

The Romanian Army of the late 1930's had become a military mess. The soldiers were poorly trained and equipped. Their commanding officers, which mainly came from upper-class families, flaunted their social status, further effecting morale. In September 1939, the Romanian government asked German military advisors to restructure the Army. Within two months, Romania became an Axis ally and by June 1941, the Romanian Army had become an effective fighting force. In time, Romania would field the largest of the Axis-Minor armies.

WWII-era infantry experience and morale ratings, as well as leader rally and skill values were modified in the code above the values set in Steel Panthers.

Almost all the Romanian armor came from Germany or war-booty. This shortage is reflected in overall higher armor costs. The late-war T34 addition reflects Soviet allotments once the Romanians declared war on Germany in late-1944.

A few new aircraft variants have been added, and include I.A.R. series, Hs 129, and the Bloch MB 152.

AI formations run from 1930 to 1945. Opting to play as the Romanians during WWII should emphasize the challenges of playing with a primarily infantry-based kit.

Blue

1939-43

This army list was really provided for third party development whenever we allow this, probably release 3.0, when the mob file format becomes stable.

In the meantime, this mob is meant to be an AI opponent for the British in the Western Desert - this was primarily because initially its default battle type was Desert.

Up to 1940, this mob is therefore the Italians in the Desert, and 41 to 43 it is the *Deutsches Afrika Korps* with Italian Allies - the Ariete in the main.

Note that this MOB currently terminates with the loss of Tunisia, where the Allies met the Tiger for the first time. It is a mix of Italian and German kit, with captured Allied stuff as well. There was plenty of such - one German formation had most of its artillery made up of 25 pounder howitzers at one point.

Red

1939-49

This mob is really a copy of the Yugoslavian mob. It can be used for various guerilla types, or to fight one Yugoslavian faction vs. another. It will also be used for Chinese Communist guerillas vs. the Japanese - RED vs. Japanese should generate a battle in China.

For Red Communist Chinese use any of the infantry squads, and there may be a turned round ex-Japanese item or two there.

Customizing Steel Panthers: WWII

A Word about MOB Customizing

No SP: WWII MOB editor is currently available to the gaming community for this current release. This has been done for a specific reason.

When version 3.0 arrives there will be major changes to the data file formats, unit classes, and many more things. New fields will be added, and also the MOB slot count will hopefully be larger than 250 or so. As part of the 3.0 design effort, we hope to externalize many of the data tables previously held inside the .exe. Some we have already done so for the 2.0 release.

So anybody releasing modified mobs for 2.0, or their own shapes etc - all this will be made obsolete by 3.0.

However, once we release 3.0, and a MOB editor, then we will positively encourage third party efforts. But until then, any work that would be done would be of use only for the current release. Once version 3.0 is stable enough for third party designers to do some serious work, our editors will be made available, not before then.

A list of countries and their corresponding MOB numbers is at the end of these notes.

Editable Player Files

A few enhancements have been made which will allow the player some flexibility in specific game areas.

Spwwii.ini

This file currently contains a few numbers only. It is found in the \data directory of your game. At present, this file will setup the two default players, Month and Year in the Battle Builder, Editor and Campaign menus. If you open the file, you will see a series of number as below:

9
39
0
2

The 9 means the default month is September. The 39 means the default year is 1939. The 0 means the first default combatant is Germany (MOB00) and the last number, the 2 means the second combatant is Poland (MOB02). A list of the countries and their corresponding MOB numbers has been added to the end of these notes.

So the progression is:

Month
Year
Player 1
Player 2

You can delete the file, in which case the old defaults will appear, or change it, if you like. If you put the following numbers in:

6
44
12
0

The defaults would then be June 1944, USA vs. Germany.

LdrXX.dat files

These live in the \data\NAMES directory of your game. Each XX relates to the mob number. They contain the unit leader names table for each mob. If deleted, a standard set is used - i.e. these tables override the defaults. The list of countries and their corresponding numbers is at the end of these notes.

If your name is Bloggs - you can now have unit leaders called Bloggs in the game.

They are straight text files delimited by a cr/lf as in Notepad. Leader name maximum character limit is 15, do *not* make these longer. Usually longer names will be truncated, but sometimes unpleasant side effects occur. So be careful with name length.

You *must not* add a name to the end of the list. The program is set up to pick a name at random from a fixed number of names. Do *not* increase the number beyond what is already on the lists. If you wish to add your name to a particular country list you will need to overwrite an existing name. Do *not* delete a name either, as this will cause problems as well. There must be exactly 100 name 'lines' in the file, no more and no less.

RankXX.dat files

These live in the \data\RANKS directory of the game. The game uses the following series of ranks:

Private	2 nd Lt.,	Lt. Col.
Corporal	1 st Lt.	Colonel
Lance Corporal	Captain	Brigadier General
Sergeant	Major	

But in an abbreviated format.

Again the XX relates to the mob number. If a RankXX.dat exists for a nation, then those names are used to replace the game defaults. There is no benefit from renaming a lower rank to a higher one.

Limit is 8 characters per name.

NOTE: We have provided abbreviations of national ranks as best we can given the limitations of 8 characters. If you wish to go back to the original ranks used in the SP series, simply rename the file folder RANKS to XRANKS. The program will ignore these new lists and run off of the defaults written in the code. If at some point in the future you wish to use these new lists all you need do is remove the "X". As with the leaderXX files, there must be *exactly* eleven data lines or problems will occur.

Sound Files

There have been a number of new sound files added to **SP: WWII** and some of these are unique to specific weapons. The prime example of this is the MG34/42 sound F/X. What we have done is use pre-existing bytes available in the MOBs to specify certain sound F/X for certain weapons. A MOB Editor with the capability to change these will be available to the end user when we complete ver 3.0 of the game.

NOTE: When a game is saved or a scenario is created a .DAT file is created as well. Much of the information that is available for the units in the game is stored in the .DAT file. Because we have used pre-existing surplus MOB bytes for the new sound files any scenario created for the previous version of this

game (SP2WW2) will NOT play the new sound files. The only way to get the information into the .DAT file is to re-purchase the existing units. The new units in the new MOB's *will* have the information required by the game to access the sound files, the old ones will not. So, if you play a scenario and you do not hear the new sounds it is because the old scenario has not been converted.

Dragons Teeth

Dragon's Teeth will not currently work in a saved game or scenario. This seeming simple problem is anything but and if we could have fixed it we would have. Unfortunately the cure would have been worse than the problem.

Dragon's Teeth *will* work if you sit down and play through the Battle Generator. You must, however, play the game straight through without saving. If you save the game the information the game needs to restrict movement will not be saved to the .DAT file. NOTE: The Dragon's Teeth will still show up in the game, the graphics *will* be saved, but after a save they are mere decorations.

Editing Unit Information in Scenarios with Germany

There is a problem related to saving changed weapon information to the scenario .DAT files involving Germany. Fixing this in code is not as straightforward as you may think but there is a simple workaround to this if you are building scenarios.

- 1] Make the weapons changes you want.
- 2] Switch the Country from GERMANY to BLUE.
- 3] *SAVE THE GAME.*
- 4] Change the Country from BLUE to GERMANY.
- 5] *SAVE THE GAME.*

The weapons changes will have been saved. The problem is related to Zero indexing. Germany is country and MOB00. This is Steel Panthers own little version of the Y2K bug. The changes you make to the weapons do not get written to the .DAT file until you actually *save the game*. The game does not particularly care what country you save it as long as it is *not* country 00 (Germany). The first save is to lock in your weapons changes the second save is to put the proper flag back on the map and bring back the proper German Units for any further editing.

Just remember...you can make all the changes you want to the weapons but save the game first as any country *other than* Germany. BLUE is handy because it is already a DAK MOB and it's also a good idea to get in the habit of doing this the same way each time.

The Preferences Screen

This game cannot be all things to all people. There are far too many differing opinions on what is "realistic" and what makes a fun playable game. Satisfying one segment of gamers is sure to alienate another. During playtesting we encountered this on more than one occasion where some would say a game feature was too little, some would say too much and some would say it's just right. (We knew we had finally reached middle ground when "The Three Bears" debates started).

When SSI originally released Steel Panthers 2 they included a Preferences Screen to allow the end user the ability to modify various elements of the game to suit individual tastes and abilities. We have noticed from our e-mails that many people simply do not understand the functions of this screen or how it can change the game to suit your particular style of play. We have had a number of "suggestions" for code changes that can actually be made simply by adjusting a control in Player preferences.

General Preferences

MUSIC ON/OFF BUTTON- This button allows you to turn the music on or off. If you do not want to listen to the music set this control to OFF.

NOTE: If you encounter a situation where the Music continues to play but this button is set to OFF you have a corrupted *Steel.prf* file in your \SAVE directory. The solution is to shut down the game, go to the \SAVE

directory, *delete* the file named Steel.prf and restart the game. Reset your desired Preferences once again. When you exit the game again a *new* Steel.prf file will be created that will save all of your new Preference settings.

SOUND FX - Click the button ON to select the game sound effects, OFF to play in silence.

HEX GRID - Click the button to switch the Hex Grid overlay ON or OFF

ANIMATION - Click this button to turn ON or OFF animations like tracers, explosions or smoke. There is no real reason to change this - it was only useful to reduce the strain on old 386 class processors, long ago.

OBJECTIVE FLAGS- Click this button ON or OFF to display the Victory Objectives flags. Usually you want this on all the time, but it can be useful to take the flags off to see the hexes terrain more clearly, then switch the flags back on.

UNIT ID TAGS- Click this button ON or OFF to display the small national flags beside each unit. This helps you identify who's who at higher zoom levels, and to spot which tanks are abandoned.

MOVE RADIUS-Click this button ON or OFF to display the number of hexes a unit can move. The movement radius is shown in lighter hexes.

FAST ARTILLERY-Clicking this button ON shows any indirect fire as one explosion per unit/battery. Click this OFF to show each shot arriving one at a time. And remember, when playing PBEM that BOTH sides need this setting to OFF to see the fall of artillery shots between moves on the action replay.

SOUND VOLUME- This is a two-headed arrow. Click on the right side to increase the volume or click on the left side to decrease the volume.

ANIMATION LEVEL- This is a two headed arrow. Click on the right side to increase the amount of animation displayed in the game and on the left side to decrease the amount of animation

MESSAGE DELAY-This is a two headed arrow. This controls how long messages are displayed on the screen. Click on the right side to increase the length of the time and on the left side to decrease the amount of time.

HIDDEN FIRE- This one is very important. When this control is ON and a unit that has not previously been spotted fires, its actual position is rarely revealed after it's first shot. This makes ambushes more effective and "realistic". As well, we have changed the way a pinned or retreating unit actually spots. If you are fired at and become pinned there is now a chance that a previously spotted unit will "disappear" unless another of your units has also spotted the enemy unit - it's difficult to spot someone when you are face down in the dirt. If you set this control to OFF then once a unit fires its position will immediately be revealed. Recommended Setting: ON.

AUTO-RALLY- When this button is ON the computer will attempt to rally any of your troops that are suppressed at the end of your turn and can do so. If you have this set to OFF then all rallying is your responsibility. Recommended Setting: ON

Player Preferences

NOTE: These controls seem to be the most misunderstood and underused controls in the game. This is where you dial in what *you* feel suits *your* concept of game play and "reality". These controls allow you to alter settings and achieve the balance that suits you. Many people would like to leave these alone but these are the controls you need to use if the game "feels" wrong to you. Right now our recommended setting for player preferences are the default settings but really, it is your decision to decide what works best for you.

In addition, these are useful settings to use to adjust how the games AI plays - if you are new, then try lowering some of these values for the AI so as to have an easier time of it. If you are experienced, then try setting some values higher to get a 'tougher' computer opponent. The prime one to try for the AI opponent is the TROOP QUALITY setting. Set this 10 or more points above yours to give the AI better experienced troops which will spot better, shoot better, rally more often etc.

SEARCHING-This control's function has been misunderstood due to erroneous information in both the Steel Panthers 2 manual (where the control is called Spotting) and the Steel Panthers 3 manual. Both of these manuals state that this control adjusts the spotting accuracy for calling down artillery and air strikes.

No, it does not.

The *primary* effect on the game is to *increase or decrease the range* by which you spot other units on the map. In a series of tests involving advancing infantry in the desert with SEARCHING set to the default of 100% the advancing infantry was not spotted until turn 6 when it was 12 hexes away. With SEARCHING set to 250% the advancing infantry was first spotted on turn 4 and was 23 hexes away. With SEARCHING set to 30% the first unit was spotted advancing on turn 10 when it was only 4 hexes away.

So, if you feel the units are being spotted too soon then turn this control DOWN. IF you feel the units are too difficult to spot then turn the control UP.

HITTING-This controls the *direct fire* accuracy. The default is 100%. If you feel that there are too few hits being scored then *turn this up*. If you feel that there are too many hits being made *turn this down*.

ROUT/RALLY- This controls how likely a unit is going to suffer morale loss and break and how easily they will rally. Once again the default is 100%. If you feel that the game causes units to break and run too easily then *turn this up*. If you feel that they stand and fight too long before retreating *turn this down*. To get a tougher AI opponent, try this at 10 points above yours.

TROOP QUALITY-This is used to override the default "Country Training" values we have built into the code. For this button to work you MUST have the "COUNTRY TRAINING" button in the REALISM PREFERENCE box OFF. When you see XXX in TROOP QUALITY that means you will get what we have determined best suits that particular country for that particular year. If you feel these are too high or too low then turn "COUNTRY TRAINING" OFF and pick a number you think works better.

This one is the most important controls in the game. Whenever you set this to a value, as you purchase troops their experience level is set to a number nearby the value you specify (a range spread around the value, but mainly below it). If you set it above the default 70, then your troops will cost you more buy points, and naturally if set under 70, you get cheaper units.

Experience level is what determines whether the unit is anything from 'green' to 'veteran'. The troop quality level is shown when you select a unit on map (you don't get to see in the purchase menu). It is shown as a number, and also as the 'rank graphic'. Green troops have less experience, lower morale, lower rally numbers and other deleterious things apply - troops with low experience get less shots per move for one thing. Veterans naturally get better abilities to hit things, better morale values, better rally numbers, and at the very high levels, more shots per move.

In a single battle this is important, but in a campaign game its vital - as your troops go through the campaign their experience gets better, so the survival of your 'core' troops is important for they will progress in experience. (They also will be 'pointed' more - losing a 120 experience veteran tank to the AI will give it more 'kill' victory points than a similar tank of 70 experience points. Also, the AI will get more buy points as you gain experience during the campaign - as your troops get more experience, their points value increases, and you will likely have upgraded the tanks as well, so double increase in value - more expensive tank with better crewmen)

Remember that the points costs shown in the Encyclopedia are based on the default 70 experience point level. The true cost is shown on the purchase menu or in game by selecting a unit.

TANK TOUGHNESS- This controls how resilient a tank is to damage once a hit is scored. The default is 100%. At 100% the numbers we have assigned to the armor of the tanks are used. If you feel that tanks are being knocked out too easily then *turn this up*. If you feel there are too few kills being scored then *turn this down*.

INFANTRY TOUGHNESS- This controls how resilient your infantry is. If you feel the infantry in the game is too easily killed then *turn this up*. If you feel they are too tough then *turn this down*.

BATTLE POINTS- This controls the number of battle points issued in a game for the purposes of purchasing men and equipment. If you leave both sides to XXX the number of points is chosen randomly by the computer for Player 1 and player 2's points will become a ratio of Player 1's expended points. If you set Player 1's points to something other than XXX then Player 2's points will become a ratio of that number. Or you can set both sides to a specific number. If you do this and play the computer it will take all of the points you give it (one way to 'handicap' yourself as the human player). Also, when starting a

campaign game, this value is what you get to buy your core with, if not set to XXX. If you want to play PBEM with agreed points per side, this is the control to do so.

AIR STRIKES- This overrides the numbers we have placed in the code for the likelihood of airstrikes and the number of airstrikes assigned. If you *do not* want any airstrikes for one or both sides then set this to ZERO. If you want to specify how many airstrikes will be available to both sides then pick a number and enter it. If you want to take your chances then leave this set to XXX. An airstrike as far as this is concerned is one (1) air *formation* - a single spotter plane deducts one from this, as does a two plane strike element, or a multi glider formation. It is *not* a total of the number of planes allowed.

TROOP TYPE- Recommended Setting is to be set to FOOT INFANTRY at all times.

Realism Preferences

BREAKDOWNS- With this set to OFF you will be able to drive through buildings with tanks and APC's without the possibility of damage to the vehicle. You will be able to ford streams and marshes without becoming stuck. If you set this to ON then there is a chance the vehicle will become trapped. Recommended Setting: ON.

AMMO LIMIT- ON sets the ammo loadout we have assigned to various units and vehicles. OFF gives you unlimited ammo. Recommended Setting: ON.

COMMAND- When this button is ON the normal command and control rules are in place, this effects things like rallying your troops. When OFF you are automatically given a permanent link to higher HQ and there are no penalties for not being in contact. Recommended Setting: ON.

MORALE- When this is ON the normal rules for unit and formation morale are in effect. If you set this to OFF the morale penalties are eliminated. Recommended Setting: ON.

SPOTTERS- When this button is ON only the formation HQ units (the "0" units) with a radio are capable of calling and spotting for indirect fire, and the specialist artillery observers. If you turn this control OFF then *any unit* can call and spot artillery. Recommended Setting: ON.

MOVE AND SHOOT- If you have this set to ON then movement will lower accuracy and target acquisition as well as the new changes we have made that reduces movement points available after each shot will be in effect. If you set this to OFF then there are no penalties for moving and shooting. Recommended Setting: ON.

MINES- If this is set to OFF then mines will be disabled. If set to ON then Mines will behave normally. Recommended Setting: ON.

COUNTRY TRAINING- When this is ON the values we have in the code for troop quality will be in effect. If you wish to change this in the Player Preferences section then set this button to OFF. Recommended Setting: ON. However this one is a *major* personal preferences item. If you do not like the troop quality you get for a given nation and year - set it to OFF, or if you want to boost the AI's quality above yours, also set it OFF, then use the TROOP QUALITY selector(s), which are disabled if this is set ON.

General Notes:

British Desert Camouflage

One of the quirks of the SP2 code is that the British will default to Tan uniforms when in a desert. (So will the Americans). There are two sets of Icons in SP2 (and **SP: WWII**) the "regular" set that you see when the Green, Grey and Brown infantry are on the screen and a completely different set for when the "tan" infantry are on the screen.

In **SP: WWII** when the British fight either the Germans or the Italians in North Africa the British uniforms default to tan and therefore draw their vehicle Icons from the "tan" set. We have repainted the Icons that would be available to the British between the beginning of 1941 and the end of 1942 to "desert"

camouflage. HOWEVER, you will NOT see the German or Italian vehicles change simply because both those countries will ALWAYS default to Grey uniforms against the British.

So, in this case we can at least provide one half of the combatants in a more appropriate camouflage although in many cases the Italian and German are not too far off. It's the best we can do given the limitations. The only other alternative would have been to provide the Germans and Italians in the desert with "Tan" uniforms as well but this would have been somewhat confusing and time consuming to code

Steel Panthers Maps:

It is possible to convert most maps that were created for Steel Panthers 1 or Steel Panthers 2 and use them in SP: WWII But it is very important that you remember to TURN THE VICTORY HEX FLAGS OFF with the Editor before you move them to SP: WWII.

And please also remember...SP3 is an *entirely different game*. Many of the graphic files used in SP3 are the same as the other SP games but many files *are not*. It is *not possible* to convert a SP3 map to SP: WWII.

E-mail Security:

Security was added to email games. Security, by its nature, is not user friendly. So, the following restrictions now apply:

- 1) Both players must always save an email game in the exact same slot. (That is if the originating player starts the game in slot 1, the other player must use slot 1 as well).
- 2) No other game may be saved in that slot, during the life of an email game.
- 3) After the initial save slot is chosen, the game will auto-save each time the user loads and exits the scenario.
- 4) Some save/quit buttons are now missing or not functional.
- 5) Users may not test play a game and then copy a fresh copy of the game file into the directory and try to play again.
- 6) Users must play the entire game in the original installation where the game started.
- 7) Users must have absolutely identical MOB files for both sides involved for the whole game.
- 8) Passwords, .AUX files and parts of the .DAT files for email games are now encrypted.
- 9) No saved game can be loaded into an earlier version of Steel Panthers 2 or our previous release, SP2WW2.
- 10) No saved game can be renamed SCEN???.DAT and loaded into any existing editor.
- 11) No email game saved in an earlier version can be played in this one.
- 12) All loads and exits from the game are recorded and may be viewed by either player. (see HOTKEYS)
- 13) Both players must enter a password in an email game.
- 14) Neither player may enter a password in a head to head game.
- 15) When playing secure PBEM games (ones with passwords) the UNDO button WILL NOT FUNCTION. This button will work in all other games but your opponent will no longer be able to "Recon by UNDO" . This also means you must be a bit more careful when you play. Mistakes cannot be erased.

Note that the number of your opponent's loads and saves should always be equal. If they are not, it indicates that the game was not exited normally. It crashed or the computer crashed. This unfortunate event forces the other player to play through an entire turn and then replay the turn if the game crashes before he exits it. But, there are times when the game does crash, so that does not mean he is cheating. If your opponent is having problems with the game or his computer and each turn he has 24 to 36 loads and 1 exit, it might be better to wait until he gets his computer fixed, before you continue the game.

To play an email game, the first player *must* enter a password, and then choose a save file slot and save file name. He must then choose EXIT (and not enter a password for the second player) and quit the game. He must then ship the .AUX, .DAT and .CMT files to the second player. The second player may *not* change the file name or comment. The slot the game is supposed to be played in is recorded and will not function properly if the slot is changed back and forth or another game is played in its slot. The second player *must* then enter a password. If playing a random battle, he will then deploy. If playing a scenario, he will not

have that option. The game will then be auto-saved. The second player should then send the files back to the first player who will deploy in a random game and then start turn one, or just start turn one in a scenario game. After that, the game will auto-save whenever a player loads or exits it either by ending the turn or selecting the quit and finish the turn later option.

REMEMBER:

- 1) Both players **MUST** enter passwords when prompted. (After you have entered a password then press enter on the keyboard then press Continue on the screen)
- 2) The slot used by both players must be the same slot.
- 3) No two games may use the same slot. Each must be the only game being played in that slot.
- 4) Both players **MUST** use the same MOB files. If either has ever been modified, one user will have to email the other a copy of it, before the game starts. (E-mailing the MOB files for the 2 countries being played by player 1 to player 2 at startup is the recommended method. At the end of these notes you will find the list of countries and their corresponding MOB numbers)

If you wish to play a human vs. human game with no passwords, then you **MUST** click on continue without entering any passwords at the start of the game, when prompted. Thereafter, no password screens appear. This is also a way to play UNSECURE PBEM. If you trust your opponent and do not feel the need for passwords or wish to use the UNDO button you can send PBEM games this way.

NOTE: If you wish to stop a PBEM game in the middle of a move for one reason or another you may do so by pressing the EXIT button. A message will appear that will say “ Do you wish to exit and finish your turn later Y/N”. This will allow you to exit the game and have it saved so that you can begin your move from the point you stopped without penalty. Recall that each time you do this and restart then the loaded counter is incremented for your opponent to note.

SUGGESTION: There are only a limited number of email savegame slots. This can be a drawback when playing several games. Also, if the mobs used are not your normal ones (say they are provided by a competition organizer) - then there will possibly be the hassle of loading the game mobs in and then reloading the day to day ones as well. Our suggestion for this since modern hard drives are so large, is to copy the entire game into a second folder, and use that for the PBEM game in question. If you need to play >5 simultaneous games, or if the PBEM is using a non-standard MOB, do this *before* you setup a new game, as moving the path will invalidate any ongoing PBEM game.

As well, when playing *any* PBEM games it is very important to *always* remember that the MOB's *must* be the same for both players. Even opening a MOB and saving without actually changing anything will cause the security to reject the next move. This is very important. This was added to prevent people from altering their MOB's to cheat so the program is now very sensitive to *any* MOB change...even if it's innocent. It is one VERY good reason for player 1 to send the 2 mobs in question in the first move's zip file to player 2 – the correct mobs will be reloadable from this archive, provided that it is not deleted of course!

IMPORTANT NOTE:

It is very important to remember that the added security means that you can play someone and be confident that win or lose it was skill or ability that won the day, not trickery. HOWEVER, this also means that the program is now VERY sensitive to changes. Once you make a move then LEAVE IT ALONE. Do NOT try opening your move after you have sent it to your opponent. Do NOT try “guessing” your opponents password. Both of these activities can cause the game to give you a security violation message which will end the game for both of you. **Remember that ANY change to a MOB while a game is in progress will cause the game to refuse to load. This is FOR YOUR PROTECTION. It ensures that everyone is playing above board. Any differences to either players MOB's will be detected by the new security. DO NOT assume you both have the same MOB's. It is best to compare the date's the files were created. If there are differences then both players will need to agree on who's MOB's are going to be used.**

Secure PBEM Procedures

This is the procedure to set up a two player secure PBEM game. BEFORE the game, both players should agree on the preferences settings, nationalities, type of battle, and which save game slot to use. Both sides MUST use the same Savegame slot in a PBEM game so make sure your opponent does not already have a game going in the slot you want to use for this game.

Both players should also agree on such things as use of aircraft, especially gliders and spotter planes and so forth, mutual agreements not to use Tiger 2 or whatever. Get all of that sorted out between you BEFORE player number 1 sets up the game, or even thinks about doing the set up.

Both players MUST have "fast artillery" set to OFF should EITHER of you want to see the fall of artillery shot. If either of you has this preference set to ON, NEITHER of you will see artillery fall during replays.

Also, if the "fast artillery" control is ON you will NOT see any of the graphic animations OR sound effects when you attack a hex with the " Z " key. (this is also true in any kind of game or scenario)

REMEMBER: BOTH sides MUST use the EXACT same MOB's.

1] When the game starts up click on BATTLE, set the type of battle, set both sides to HUMAN then click CONTINUE. (ALL mutually agreed preferences MUST be set by player one in advance of setting up the game)

2] Player 1 can now pick the forces needed to play. When you are finished click on DONE.

3] You will now be in the Security menu. Click on PASSWORD . Once you have entered a password hit ENTER on your keyboard. Now click on CONTINUE.

4] You will now be in the Save Game menu. SECURE PBEM can ONLY be saved in the first FIVE save slots. Pick an unused one and enter a name for the game then hit ENTER on your keyboard.

NOTE: if you do NOT save the game at this point you will have lost all the effort of the setup

5] The SECURE PBEM games are saved in a folder named EMAIL. There will be three files saved for each game. All three files MUST be passed to your opponent each time. ZIP these files up and sent them to your opponent

The first slot is Email0.cmt , Email0.aux and Email0.dat. Slot 5 is Email4. Etc. In other words, each game is numbered 1 less than you might think. You CAN open the .cmt file in a text editor - it has the GAME NAME in it - do NOT save or alter this file should you need to do this, open it in textpad and exit only. However, this trick allows you to check which email game is which, without having to go back into SPWW2 to look it up. DO NOT try to open the other files. (you have been warned)

6] Player two needs to UN-ZIP the files to their EMAIL folder in SPWW2. Once that is done player two can start up the game.

7] Click on the PBEM game in the Load Game List and then click on START. You will now be able to pick the units and formations for player two. Once you have completed your force selection click on DONE.

8] Player two will now be in the Security menu. Click on PASSWORD . Once you have entered a password hit ENTER on your keyboard. Now click on CONTINUE.

9] Player two will now be at the deploy screen and will be asked to add the password that was entered in the previous screen. Once the password is entered click on either Auto or Human Deploy and set up you units. Once your units are in place click on the " Quit the Deployment Menu " button.

NOTE: Player two can also set up a mutually agreed game length while in the deployment phase. To do this press the " . " (period) key on you keyboard and enter in the number of turns the game is to run.

10] Player two will now be back at the deployment screen. Click on QUIT DEPLOY. Once you click on QUIT DEPLOY the game will be automatically saved to the slot that player one selected. You CANNOT

change the location of the game after it is set up by player one so it is important you both agree which slot you will be using .

11] Player two can now exit the game and go to their EMAIL folder in SPWW2 and ZIP up the game files (remember...all three) and send them to player one.

12] When player one has UN-ZIPPED the game files into the EMAIL folder, start up the game, go to the Save Game menu and click on the PBEM game and then click on START. You will now be in the security Menu screen and the game will ask you for Player Ones password. Enter the password then hit ENTER on your keyboard

13] Player one can now AUTO/HUMAN deploy. When the units have all be placed click on the “ Quit the Deployment Menu “ button. When the next screen appears click on QUIT DEPLOY. Once you click on QUIT DEPLOY you will be asked to enter Player Ones password. Once you have entered the correct password hit ENTER on your keyboard. When the next screen appears click on START TURN. Player one can now make the first move of the game.

14] Once the move is completed click on the “ Auto save and quit the Orders Phase “ button (lower right hand corner beside the save button). The move will be Autosaved to the correct PBEM slot. Player one can now go to the EMAIL folder, ZIP up all three files and send them off to player two. Player twos procedure for starting their first turn (and all subsequent turns) is the same as player ones.

NOTE: If you find that you cannot complete a move in one sitting you can save the game with the “ Auto Save the game and Exit “ button (this is above the “ Auto save and quit the Orders Phase “ button). You will be asked “ Do you want to exit and finish your turn later Y/N? “ Press “ Y “ and you will be able to complete your turn at a more convenient time.

One last thing about PBEM: When the game ends, it will be with player 2. However, the result is phrased for player 1 so if player 2 did very well, he may be upset to find he has been “totally defeated”. That is player ONE that has been totally defeated! Also, the videos that play are for player 1 so you may see German Video footage etc. if you were playing as the USSR. Player 2 gets the score, and can view the 2 force lists as per a normal game.

The game ends THERE, the move is no use to player 1 if returned. Player 2 MUST write the scores down to report to player 1, and the result etc., this is the ONLY way player 1 finds out the result, as a written report from player 2.

Unsecured PBEM Procedures

This allows you to bypass passwords when playing e-mail games. There is no security with this method and the procedure is a bit different than SECURE e-mail games.

1] Set both sides to HUMAN and click on continue.

2]Player 1 picks his forces and clicks on DONE

3] You will now be in the security menu. Click on CONTINUE

4] You will now be at the save game menu. Save the game in any slot EXCEPT a secure PBEM slot (these are the first five slots at the top of the first save game page)

5] You can now zip those up and send them to your opponent. REMEMBER there are THREE files that need to be sent now. One ending in .CMT, one ending in .DAT and one ending in .AUX.

6] When player 2 receives the files, he needs to un-zip them into the SAVE directory . Start up the game and click on the appropriate slot. Player 2 can now pick his forces and then deploy. When finished deploying click on the end turn button and then when the next menu screen appears click on QUIT DEPLOY.

7] Once you click on QUIT DEPLOY you will be back at the save game menu. Player two **MUST** save the game manually. Unsecured PBEM **WILL NOT** autosave. Once the game is saved zip the three files up and send them back to Player 1.

8] When Player 1 receives the files he clicks on the save game slot which will bring him to the deploy phase of his initial set up. Once he is finished deploying click on the end deploy button then when the next screen appears click on QUIT DEPLOY. Once you click on Quit Deploy you may make your first turn moves.

9] When you have finished making your first turn moves click on the End Turn button. You will be prompted to enter a Y or a N to confirm you want to end your turn. If you do wish to end your turn click on Y.

10] Once you click on Y you will be brought to Player 2's start menu window. Player one **MUST** click on SAVE GAME and the game **MUST** be manually saved (Remember.....no autosave with unsecure PBEM)

11] Once the game is saved send the turn back to Player two and repeat the process.

New Hot Keys

A few additional hot keys were added to improve functionality during scenario editing and game play.

Battle Builder / Editor

Key: ` (above the Tab key)

Location: **Map Editor**

Effect: Switch the map side player one starts on.

*NOTE: This works in the MAP editor ONLY . It will not work in the general editor .

Key: [and] (to the right and far right of the P)

Location: **Map Editor and during turn execution**

Effect: Increase or decrease delay in map scrolling and animation:

*NOTE: This is for fast computers only. The] key will slow the scrolling rate down.

Key: 1

Location: **During turn execution in PBEM games.**

Effect: In email games, shows loads and saves for both sides

Preferences Menu

Key: 1

Location: **PREFERENCES**

Effect: Turns on and off computer purchase advantage, use for low point Battle Generator or Campaign games (The game is set up to give the AI a slight unit advantage. In small games this can be too large)

Key:2

Location: **PREFERENCES**

Effect: Allows you to switch from the Hard Drive music to battle sounds.

Key: - and +

Location: **PREFERENCES**

Effect: Increase or decrease music volume when playing from hard drive

MOB List:

This is the list of the current countries and their corresponding MOB numbers. Use these as reference when sending MOB's for PBEM games or if you are changing the Sp2wwii.ini, the leader names or the ranks.

00 Germany	15 ANZAC	32 Republican Spain
02 Poland	18 India	33 Nationalist Spain
05 Japan	19 Bulgaria	34 Italy
06 France	20 Yugoslavia	35 Finland
07 United Kingdom	27 Belgium	37 Czechoslovakia
11 Russia	28 Netherlands	38 Hungary
12 USA	29 Norway	39 Rumania
13 USMC	30 Canada	42 Blue
14 China	31 Greece	43 Red

Frequently Asked Questions

1) I keep getting 'modern' graphics in my install of STEEL PANTHERS: WWII.

That is because you did not follow the installation instructions correctly. Please read again, and install correctly. Also, do not apply of the original patches for SP2 to the installed **SP: WWII** game. The **Steel Panthers: WWII** code is based on the SP2 1.1 code which has been **modified**. As it is now a completely separate .exe, there is no need to patch your game. This .exe comes with the game. SSI patches are for the original SSI products only, and will write new MOB's, pictures, etc and patch the code with undesired instructions. Once more **DO NOT APPLY SSI GAME PATCHES!!**

2) Something funny happens with sound.

One common SP series problem is that sometimes sound goes funny. We have no idea why this happens, but the standard procedure here is to go into the \save folder and delete the preferences file 'Steel.prf'. Then restart the game and reset your preferences as desired once more.

If you are still having sound problems, remember that many modern sound cards did not exist when the original SP game was written. Try running the SSI Setsound utility and experiment with various settings - the original Sound Blaster setting is a good starting point. We have found that if a modern windows PC comes with no DOS mode drivers for its sound card then this setup is one of *the* most difficult to get *any* MS-DOS based game running on without random crashes. It's worth paying a few pounds/dollars for a genuine Sound Blaster card - unless it is built into the motherboard.

Once again - SOP for all SP series games when weird things happen - delete 'steel.prf' and see if it starts behaving again. This really is the "Immediate Action" drill. Then see 3 below.

3) My game crashes at random intervals.

This game is an MS-DOS game; based on code originally written when Windows was a separate application you launched from DOS when required. In particular, its memory manager knows little of modern Windows applications, and can get into conflicts with these. Additionally, Microsoft provides no DOS-compatible mouse driver and sound card drivers with the Windows 95 or 98 CDs.

Some folk manage simply to play the game from a shortcut on the desktop; others have problems, especially laptop users. Each computer is different - different sound card, video hardware etc.

It is often best to play this game from a boot disk - the original Sp2 and Sp3 disks have a utility to do this. This solves most problems, but won't solve them all. This sort of thing was regular back in the DOS days, each game needing its own particular boot disk or menu item in config.sys and autoexec.bat. It's just that most have become used to modern Windows handholding!

IF you manage to get the game going from a W95/98 desktop shortcut but still experience crashes randomly; here are a few pointers to running this game successfully. (It also applies to any other 'legacy' DOS game; the problems are not unique to this product!).

When setting up the properties of the desktop shortcut do as follows, and be prepared to experiment - every PC box is different! (Read your windows documentation or help files for details if you do not know what either a desktop shortcut is, or what 'properties' are).

First, set the shortcut up so that when the game is in the foreground, it has exclusive (or near-exclusive) use of the CPU. (Idle sensitivity). Then switch screen savers off. Set it to idle if in the background. In the screen tab, set it to full screen. In the memory tab, Set all combo boxes to auto, check 'protected' and 'uses HMA'. Set the thing up to run in the same directory as the .exe in the general tab, 'run maximized', and 'terminate on exit'. You will have to experiment to find what your box likes.

The major thing to recall is this is a DOS game and is not happy with Windows programs.

Always run the game after booting Windows as the first application. **DO NOT** 'alt-tab' out of the game and do something (e.g. read email) and go back in. Sometimes you will get away with this, often times not. Remember - run this game on a 'clean' Windows session only.

Above all, have **no background Windows tasks**, especially communication-related programs going when trying to run a DOS game. If you use the 'active desktop' feature of windows, ditch it, especially if its trying to do pointcast stuff or otherwise interrupting the CPU with web downloads. The active desktop is the kiss of death for many DOS apps, and games, and quite a few older Windows applications too.

Have no email sessions going either. If your drive is shared on a network and another user tries to access your drive, or a shared printer while you are in a DOS application, this will likely terminate you with extreme prejudice. Detaching from the network is a good idea.

One key background task that can cause problems is virus scanning software, if it periodically scans memory or disk. Read the documentation for these programs, and tune or turn off as required.

A major user of the CPU and disk space waster exists if you have installed MS Office. 'FindFast' is a program installed by default when Office is put on your PC. Periodically it will scan your entire system for new Office documents, which it then adds to a database in your c: root. If you ever wondered why your PC slows down every hour or so, and have Office (or components - Word, Excel etc) installed - you likely have FindFast enabled.

FindFast seems to trash this game when it runs so is best removed. See your MS Office help for details. If you do not make much use of the 'Find office documents' item, then its worth removing in any case, or scheduling to a more sensible scan rate at the very least.

MS Office also has a startup program in your startup folder - this takes up valuable system resources all the time by default. It handles the Office taskbar etc, so if you never use this - find the shortcut in the startup and nuke it. If you occasionally use it, then cut the shortcut and paste to your desktop so you can start it when required - e.g. you plan to do a lot of Word or Access work. Otherwise it uses system resources to no purpose.

Look at the scheduler for Windows 98 - this can launch applications at unexpected intervals if not set up correctly - like scandisk or defragmenting of the hard drive.

There will be some box that will never manage to play this game well. You may have to go back to the 'good old' DOS days of tweaking emm386 and excluding blocks of HMA until you find the conflicts. Unfortunately, nowadays the emm386 help is not available from the MS-DOS command line - DOS is now archaic. The old DOS stuff is on the win 98 CD under *tools/oldmsdos*. On the Win 95 CD, its in *other/oldmsdos*. You will need to know what you are doing to use these - the help file is **not** a Windows help file, so you cannot read it off the CD using Windows.

You need to copy help.com, help.hlp, qbasic.exe and qbasic.hlp into a directory on your path. However, typing 'help' at a dos prompt will give a file mode error. But double clicking on help.com from windows will run the (MS-DOS) help - choose EMM386.exe and read about all the switches.

4) I saved my attack/defend game and my dragons teeth will not stop the enemy

This is a bug that was introduced in the 1.1 Sp2 code. If this happens to you, i.e. that after a save the field defenses no longer work, then you will have to play assaults right through in one sitting. Unfortunately we were unable to fix this problem before this release. Please remember that this effects PBEM games as well so do not base your entire defense on dragons teeth.

5) In PBEM, I never see my opponent's artillery on the playback, just new craters.

Unless BOTH of you have 'fast artillery' set to OFF then no history of the artillery barrages is saved in the PBEM file. Play PBEM with fast arty off - both of you - to see the shots and messages in the replay. And ensure you have animation turned on as well - or you will not see direct fire shots either.

6) My aircraft seem useless, and cannot hit things with guns/rockets.

If you see the message "attacking hex" then your plane has not been able to establish LOS to the target hex. This is usually due to smoke and dust in the area, but sometimes it is because the target is tucked away behind a ridge for example.

Try to target aircraft, especially if relying on direct fire weapons like rockets, onto targets well out in clear air, and preferably out in the open - on a flat plain as opposed to in a town, wood, or valley. Do not target artillery bombardments and planes on the same target area - this is a major failing of the AI.

If you must hit a target in smoke, flames etc, then try to use planes with bombs, napalm, or PTAB bomblets as these are area fire weapons. Still not as good as a clear attack, but better than random cannon strafing. Remember, very big bombs will kill infantry in the adjacent hexes as well (~1000lbs and more).

You will know if you got a good shot since the message will be 'attacking T-34' or similar and a percentage to hit is usually displayed on the yellow bar at the top of the screen.

To try out aircraft tactics it is best to set up a test game. Set up with both sides human player for everything, and give the side you are testing planes the advance, especially if you decide to let the AI run the targets - then it wont move!

Go to the Preferences Menu and set up the air strikes item to at least *one* to ensure you can buy air. Then when setting up enter no passwords, and for the delaying (target) side, buy the sort of targets you want to test against. Set the target side up in interesting arrays - and its often best to set these up as preplanned bombardment targets ('gold spots') for the advancer to save time waiting for strikes to arrive.

Now play the game; try out various plane types as desired on target types and arrays as desired. Because you are playing left hand vs. right hand, you can inspect the damage from the target's viewpoint. This method is also useful for testing out AA tactics and units as well. Or pretty much anything for that matter, before jumping off to a bulletin board, try a few experimental tests of your own. Many folk just do not seem to realize that they can in fact play both sides, so as to try things out.

7) I bought a 90mm AA (AT) gun formation with trucks but they cannot pick them up.

Some AT gun formations were provided with integral trucks, but the picker will let you choose any legitimate AT gun, howitzer or whatever. In this case there is usually a separate 'Heavy AT Gun/T' formation with 7.5 ton heavy trucks or similar.

What can be picked up is a vexed question in SP. Look for the '*' after some guns, read the manual. But the best way to see what fits what is to set up a test game, buy one of about every type of transport and load item, and try it out in the set up phase of the game, then quit before playing.

This is especially true of some things like say USA mech. Infantry. You should be able to fit most combinations in to the vehicles some way but do not buy 76mm AT guns for example. If offered mortars, you should stick to the correct 60mm sections, as 4.2 inch mortars are both ahistorical, and likely will not fit, or not leave room for that final bazooka team. There is no real easy way to screen out inappropriate choices, learn by experimentation, do not plunge into a game and then find out what lifts what when it is really embarrassing.

8) I cannot spend all my points/ buy any more support troops in a campaign game.

In SP there's a limit of about 130 units maximum (if you buy in big lump formations - e.g. the Soviet 10-tank platoon 'company' you might see 160.... sometimes as high as 200). There is also a limit to the number of formations (platoons) as well - about 48. We may be able to address this in a later release.

Once you reach either limit, you cannot buy any more units, even if you have a lot of surplus points.

This is especially true of Campaign Games. In SP1 you were limited to 24 units in your core, in SP2 there are no apparent core limits, so if you buy a core of 120 units you will only have 12 or so free spots to fill with support troops. It is best to limit your core, to say the 60 or 70 unit mark.

The formation limit means that it is best to buy in reasonable sized platoons of 4 or 5, not sections of 1 or 2. However, avoid things like the 10 tank Soviet 'Company in a Platoon' since when things start going bad for this unit, the leader is unlikely to be able to rally that many subordinates.

9) There is an 8cm-mortar platoon and a 12cm mortar platoon, what is the difference?

Usually, just the number of mortars. For example, 6 tubes in a German 8cm platoon and 4 12-cm tubes in that platoon - one off each in the battalion support company. However, to SP they are all mortars so all are made visible to the buyer. (NB - mortars are sections now - so count the tubes - an 81mm section may have 3 and a 4.2-inch may only have 2 tubes). In a later release we hope to provide a Heavy Mortar class to allow separation.

10) The 'All Formation' key produces unusual results when I try to move a platoon.

This button has never really worked since SP1. Do not bother with it. Its only use is when setting an entire formation's range with the 'Y' key. Select 'all', select any unit of the formation set the range, and all the formation uses the range setting. It saves a few extra clicks. Then remember to turn the all mode off before moving anything or you will get a rude surprise. That's the *only* practical use for the ALL key in SP.

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