

FSP V10.2 Manual

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Installation Procedures

You must have Direct-X 9.0+ installed in order for FSP V10.2 to run. You should NOT install the v1.1 (or any other) patch to the game before installing FSP V10.2 All official patches are now included with FSP. DirectX9+: <http://www.microsoft.com/directx/>.

- 1) Make sure you have the original Fighting Steel game properly installed (with the scenario editor option).
- 2) Download the FSP 10.2 installer.
- 3) Double-click on the installer – it will search your hard drives to make sure you have the original game installed before proceeding.
- 4) When the installer gets to the "Choose Destination Location" screen, **make sure** that the Destination Location specified by the installer is the correct location of your Fighting Steel game -- If it is not then enter or browse to the folder that holds your Fighting Steel game.

NOTE: If you already have an earlier version of FSP installed, you do NOT need to uninstall and reinstall, you can install this version of FSP over the earlier version. Please note that any custom scenarios may need to be updated to work properly with this version of FSP if the scenarios are very old.

That is all; you should be able to play FSP now!

Hardware Requirements to run FSP

We recommend a minimum of 800 MHz Pentium 3 or Athlon processor, with 256Mb Ram and a Direct-X compatible video card with 32+ Mb of texture memory to run FSP. For larger scenarios, a machine with a 1.5GHz+ CPU, >256Mb of RAM, and a fairly modern video card (such as a Geforce 4/FX or ATI 9500+) is highly recommended.

".INI" FILE EXPLANATIONS

[DBZLIB]

FULLSCREEN = 1	1= Run in Fullscreen, 0= Run in a Window
HARDWARE = 1	Not Used
SCREENX = 640	Screen Width & Height -- having anything but 640 x 480 causes game to crash.
SCREENY = 480	<----->
VIEWPORTTOP = 0	Location of top, left, and bottom of the
VIEWPORTLEFT = 0	3D view screen...causes CTD if changed
VIEWPORTRIGHT = 640	<----->
VIEWPORTBOTTOM = 480	Default distance for 3D view from ship
VIEWDISTANCE = 30000.0	Width of view in degrees for 3D view
FOV = 60.0	1= Show Title Screen, 0= Dont
TITLE = 1	1= Show Intro Screen, 0= Dont
INTRO = 1	Unknown
WRAPPERS = 1	1= Show popup mouse help, 0= Don't
MOUSEHELP = 1	1= Show game Frames-Per-Second, 0 = Don't
SHOWFPS = 0	-Not Used-
CAMPAIGNLOG = 0	1= Show Gunnery Log
GUNNERYLOG = 1	-Not Used-
3DLOG = 0	-Not Used-
PERFECTFORM = 0	Path to FS CDROM(w/full install not used)
CDROM = D:\	0 = Disable sound, 1 = Enable sound
SOUND = 1	0 = Low quality graphics, 1 = Higher quality graphics
GRAPHICS = 1	1= Use AGP video calls, 0= Use PCI calls
AGP = 1	1= Run syscheck, 0= Dont run check
SYSTEMCHECK = 0	0 = Do not show torpedo tracks, 1 = show torpedo tracks
TORPEDOTRACKS = 0	0 = Do not play in-game movies, 1 = Play all movies
PLAYMOVIES = 1	0 = Crew Fatigue level does NOT affect gunnery, 1 = Crew Fatigue level affects gunnery
FATIGUEGUNNERY = 1	1 = Show shell splashes on every salvo, 0 = Only show shell splashes if target is straddled
SHOWALLSPLASHES = 1	1 = Min. requirement for # ships applies, 0 = Min. requirement does not apply
MINCAMPAIGNSHIPS = 0	1 = Display new (FSP 9.5+) structure damage icon on ship tags, 0 = Display old structure damage grid
TAGS= 1	

FIGHTING STEEL PROJECT UPDATE HISTORY

FSP v10.2 UPDATES

1. Fixed issue with guns not loading different ammo type when it runs out of selected ammo type in one magazine. Ships will now fire salvos with whatever next-best ammo type is left in the other magazine if the requested ammo type is unavailable.
2. Fixed non-firing issue caused when changing ammo while guns are under manual control.
3. Added 5-tube torpedo mount to submarine; required replacement of existing model and re-issuing game catalog.

FSP v10.1 UPDATES

1. Fixed missing text on the lower left side of the gunnery and other screens.
2. Fixed issue with CTD caused when viewing gun penetration of Q-Ship main battery.

FSP v10.0 UPDATES

PLEASE BE AWARE: As a result of changes made in FSP v10 some saved games & campaigns from earlier versions may not work properly.

1. Armor penetration algorithms updated with latest data and formulas by Nathan Okun. All gun stats are now hard coded into game; the 'Guns.txt' file is no longer used and changes made to that file will not affect the game.
2. Torpedo stats hard coded into the game, and torpedoes for the new nations (France, Italy, etc) have now been added.
3. Electrical power loss - armament will now fire at half the previous rate and with a reduction in accuracy instead of simply not firing. This accounts for the fact that most ships had independent/backup power/manual transverse for most mounts.
4. Ship Fire changes - resultant wind vector now taken into account for spreading/ reducing fires.
5. AI will now consider use of blindfire if circumstances/conditions warrant in scenario.
6. Visibility changed slightly to take account of AI changes in (5). More account now taken of gun flashes at night. Number and size of guns in salvo now has an influence on range to spot gun flashes. Expect to see contacts at the limit of visibility to 'flash' in and out of contact as they fire. These changes will also affect the visibility modifiers on the 'Gun Modifiers' display.
7. Completely changed ammo selection routines. Fire control is now more selective about which type of ammo to fire at different classes of target. Divisional ammo selection is now virtually redundant - the AI will let each ship choose ammo individually. There should now be no 'leftover ammo' problems as reported earlier. When local targeting and manually choosing your ammo;- if that ammo runs out then ammo selection reverts to automatic. Auto ammo selection in all cases is indicated by the 'auto select' icon illuminating (Captains hat icon). The ammo it has selected will also illuminate. To revert to manual ammo selection just click on the ammo you require and the 'Auto' icon should go out. You cannot however select manual ammo selection when the targeting is automatic divisional (threat, battleline or range).
8. More battleline targeting bugs found and fixed
9. Problem with having ships from more than one Navy in a single division is now fixed.
10. Acceleration changes - ships will no longer have a constant acceleration rate, they will have a progressively reduced acceleration the closer they are to their maximum speed.
11. Cannot unfortunately implement speed decreases when turning due to the way the division code works in current game. All that happens is whole division slows down as each ship turns and then the last slowing down ship gets detached!
12. Multiplayer mode should be a lot more stable. Found a couple of bugs which have been fixed. Have also decreased the amount of network traffic as well which has also helped. As a result players will notice the following omissions :
.....No shell whistle for shells fired by remote
.....No torpedo splash tracks for torps fired by remote
.....No tracers for shells fired by remote (I don't think this ever worked in any case)
13. Changes to effect upon ships according to structural damage level:
 - a) A ships spotting ability now reduces as its structural damage level increases.
 - b) Both gun accuracy and reload times had a linear reduction factor in FSP, but this is now adjusted to be more non-linear. This gives a small improvement over the linear at low levels of structural damage, the same at about 50% structural damage but after about 70% structural damage both start to really increase to give loss of gun accuracy of 80% and reload times of 4x at 100% damage. This is intended to encourage more realistic use of disengagement of ships with high levels of damage.
 - c) AI tweaked to better disengage ships with high levels of damage.
14. AI was not using its maximum possible speed in many cases; this has been changed so that the AI will use its maximum speed whenever possible. This will help equalize the AI compared to the human player.
15. Transports and convoys: The AI will now recognize transports in -any- type of scenario (not just convoy ones) and treat them appropriately.
16. The AI will now scatter the transports in a convoy (in a convoy mission) upon detection of the enemy.
17. Speed loss was based on the -highest- of either the flooding effect upon speed or the propulsion loss effect, which was incorrect. It is now based on a combination of the two factors, with an appropriate combination effect level. My thanks to those who asked about

this, as it was shown as already implemented in my (WM) notes when it was not in fact changed in the code (my error in overlooking it...).

18. Added pumping capacity to ships, which gives ships ability to remove some floatation damage and to possibly counter lower levels of flooding. This pump capacity will -not- function when damage control is out.
19. The odds of fires starting on larger ships has been reduced somewhat, based on a curve generated by comparative volumes of each ship against the volume assumed for a fire of 'standard' severity. In layman terms this means that fires aboard larger ships will be less common than before.
20. Proper torpedoes for the Soviet Union, France, and Italy have now been added to all ships of those nations (since the previous torpedo-data issue that prevented this has now been fixed).
21. USN and RN ships now will automatically use torpex-warhead versions of the RN MkIX and USN Mk15 torps after certain dates in the game (May 1944 for the RN and Dec 1943 for the USN). The torpex-warhead versions will average ~ 40-50% more damage than the older warhead versions did.
22. All FSP-added ships are now allowed in the Fantasy Campaign in the game.
- 22) Soviet Kronstadt BC: Main battery guns were mis-linked on model, fixed.
- 23) USN Fletcher DD armor thickness for superstructure and con tower corrected.
- 24) Ammo loads for USN Sumner and Benson class DDs corrected.
- 25) Serious torpedo CTD issue corrected.
- 26) Ammo loadout for USN Arkansas corrected.
- 27) IJN Kuma class CL (Kuma, Tama, and Kiso) removed from IJN Tenryu class and added as a separate class - these use the Nagara model since they are virtually identical to that class in gun layout and general appearance.
- 28) Replaced existing AP ammo loadouts on various ships with SAP loadouts due to the fact their guns only used SAP/Common/CPC/etc type shells (in particular this affected all RN 6" guns). These guns actually had the proper penetration for SAP shells when using the AP rounds, but due to changes in the gun penetration code these must all now be set to Common.
- 29) Changed 5.25" mount on USS Vanguard to new 5.25" M1 mount (this has twice the ROF of the older 5.25" mount used on the KGV and other ships).
- 30) Various data & other corrections, including:
 - *Soviet Kronstadt BC: Main battery guns were mis-linked on model, fixed.
 - *USN Fletcher DD armor thickness for superstructure and con tower corrected.
 - *Ammo loads for USN Sumner and Benson class DDs corrected.
 - *Torpedo CTD issue (from pre-v9.52) corrected.
 - *Ammo loadout for USN Arkansas corrected.
 - *IJN Kuma class CL (Kuma, Tama, and Kiso) removed from IJN Tenryu class and added as a separate class - these use the Nagara model since they are virtually identical to that class in gun layout and general appearance.
 - *Replaced existing AP ammo loadouts on various ships with SAP loadouts due to the fact their guns only used SAP/Common/CPC type shells (in particular this affected all RN 6" guns). These guns actually had the proper penetration for SAP shells when using the AP rounds, but due to changes in the gun penetration code these must all now be set to Common.
 - *Added 5.25 M1 mount to gun data for RN Vanguard BB

New ship classes included in FSP v10:

- 1) Generic CV class for RN, IJN, USN, and KM.
- 2) Generic CVE class for RN, IJN, USN, and KM.
- 3) Generic surfaced submarine for RN, IJN, USN, and KM.
- 4) Des Moines CA (USN)
- 5) Navigatori DD (RM)
- 6) Destroyer escorts for the major nations:
 - Hunt Type II (RN)
 - Matsu DE (IJN)
 - Spica TB (RM)
 - La Melpomene TB (MN)
 - Buckley DE (USN)
 - 1935 Type TB (KM)

FSP v9.52 Updates

- 1) Fixed the issue wherein clicking on the 'Turn' icon (to turn a division) caused the game to crash to the desktop. This issue is caused by changes introduced by Windows XP Service Pack 2 in Windows XP, and may also be caused by installing DirectX v9.0C on any Windows OS (not just Windows XP).

FSP v9.5 UPDATES

- 1) Royal Sovereign class main gun changed to 20-degree-elevation version of 15"/42.
- 2) Horizontal (deck) penetration values shown for some guns were too low, this has been corrected.
- 3) Deck armor value on Scharnhorst (and Scharnhorst_15) changed to 5.1".
- 4) Front turret armor for IJN Takao and Agano corrected to 1.5" from the old 3" value.
- 5) Deck armor values for Mogami, Takao, and Nachi corrected (wrong modifier was applied in their calculations).
- 6) Ammo loads for IJN Furutaka and Aoba altered, they normally carried about 100rpg + illumination rounds.
- 7) IJN Yamato secondary turret armor reduced to 1.3", and only AP rounds now carried for its 6.1" gun.
- 8) Missing names on ship viewer for RM 'Doria' class added.
- 9) 2D Graphic for RM 'Abruzzi' (used for ship viewer) corrected.
- 10) Hit-chances shown in gunnery log now rounded to 2 decimal places, makes gunnery log easier to read.
- 11) New display system for structure damage, that more accurately demonstrates the way structure loss affects the ship. The structure damage display on the ship data tag will now show either a green, yellow, orange, or red superstructure 'icon', depending upon how badly damaged the structure is. Green is light or no damage (<=25% structure loss), yellow is moderate damage (26-50%), orange is serious damage (51-75%), and red is critical damage (76% + damage). There is a switch added in the 'DbzLib.ini' file that allows you to switch back to the original structure damage (with the squares showing 2% damage each): Change the line that reads 'TAGS= 1' to 'TAGS= 0' to show the original game structure-loss tag.
- 12) Progressive flooding. Ships can now sustain damage that causes progressive flooding, which like ship fires in the game can grow worse or be contained by the crew. Flooding levels are from level 1 (minor flooding) to level 5 (critical flooding). Nationality does affect the ability to control flooding, much like for controlling fires. Flooding will generally be worse the faster you go and the worse the sea state is.
- 13) Ships are now limited as to what speed they can safely sustain without causing additional flooding (assuming they have suffered any flooding damage). The ships new max speed will automatically be set to this maximum safe speed if you sustain flooding.
- 14) AI changes for AI 'fishtailing' in single-ship combat. This should also give more sensible AI ship courses while firing.
- 15) Fixed CTD at end of campaign (January 1943 date).
- 16) Searchlight on/off commands should work more logically. The AI will still not use searchlights at present; this will be added in a near-future update.
- 17) System hit modifier based on ship class and shell size added.
- 18) New punch thru routine added -- the odds of a punch-thru is now more in line with previous research done by Nathan Okun, and more recent research and calculations by the NWS staff.
- 19) Penetration values for HE shells now based on shell diameter and type of armor struck. This will give much more accurate penetration values for HE shells.
- 20) System hits now possible with dud/punch thru shells -- The odds of the dud/pass-through shell causing system damage depends upon a comparison between shell size and the size of the ship area hit: for example, a 14" shell dud/pass-through shell striking an unarmored 5" gun mount is very likely to knock the mount out, while a 5" shell hitting an 11" gun mount is much less likely to knock it out.
- 21) Flotation damage chance modified with range for hull hits -- at very close ranges the odds of obtaining a hull hit that causes flooding is decreased, while at longer ranges the odds of a hull hit causing flooding will increase.
- 22) Bombardment scores should now work correctly in bombardment missions.
- 23) The brief flash of ships name & icon in some situations (when it should not be seen) has been fixed, at least for most occurrences.
- 24) Obscure torpedo firing CTD fixed.
- 25) Shell splashes will now show up based on how accurate the salvo was: if the salvo is a straddle, the salvo will appear in a pattern around the ship, while if the salvo did not straddle it will appear in a pattern away from the ship, the less accurate the salvo the farther from the target the salvo lands. Please note that in very rare cases a "missed" salvo may appear near or around another ship (other than the target), but this has no affect at this point.
- 26) Scharnhorst 15 (15" variant) -- an error in the model caused only one gun per main turret to fire -- this has been fixed.
- 27) KM light cruisers (K-Class, Leipzig, Nurnberg) main battery ammo load out corrected.
- 28) New ship classes for FSP 9.5:
RM Cavour BB, RM Soldati I DD, RM Soldati II DD,
SU Sovetskii Soyuz BB, SU Gangut BB, SU Kronstadt BC, SU Kirov CA, SU Gnevnyi DD

Note that the Soldati classes can be used to represent other RM DDs, as some other classes were very similar.

FSP v9.2 UPDATES

- 1) Bug fixed in collision-avoidance code which stopped division from turning simultaneously to avoid other ship(s).
- 2) AI 'forward looking' time window increased to spot more potential collisions (ship and torpedo).
- 3) Sinking ships now veer out of line and have a residual decaying forward velocity. Not a lot but enough to stop the ship behind from ramming it all the time if the AI anti-collision doesn't spot the sinking ship in time.
- 4) Extra magazine armor is now only checked for hull & deck hits. It was originally also checked for turret hits which were incorrect.
- 5) Hull penetrations now do -not- always automatically cause floatation damage. There is approx. a 50% chance of floatation loss on hull penetration by a shell. (The logic behind this is that hits can vary in location on the hull, not all will be near/on the waterline or cause significant flooding).
- 6) Electrical system loss rate significantly reduced. Electrical system loss should now be rare.
- 7) Magazine explosion chances reduced.
- 8) Maneuver system loss rate reduced.
- 9) Calculated torpedo damage reduced (by ~ 10% to 21%, depending upon torpedo warhead size). This is due to differences in floatation system made in previous FSP versions.
- 10) Shell hits do about 2/3 the floatation damage that they previously did.
- 11) Italian Sauro and Turbine class ammo load ratio corrected...it was 80% AP when it should have been 40%.
- 12) Changed USS Brooks (Flush Deck DD) to USS Young, as it was also in the database as an APD, which could cause problems if tried to use both ships in a scenario. (Thanks to Ben Maddox for catching this)
- 13) Smaller ships (ships < 8000 tons displacement) now have floatation values that are significantly greater than previously, and as a result are harder to sink.
- 14) Dutch De Ruyter and Java classes changed from CA to CL designation.
- 15) Bug in scenario editor fixed wherein repair/damage times for some items would be multiplied by 60 if you returned to the item and attempted to change the repair/damage time.
- 16) The Scenario Editor will now allow up to 6 initial divisions per side, however due to technical limitations a 6th division may only have up to 9 ships, not 10.
- 17) The game code will now allow up to 28 divisions per side w/o the previous reported problems...this means you can initially create up to 6 divisions per side in a scenario, and can detach all of your ships without any missing graphics as occurred previously.
- 18) Many ships that were set as "unavailable" for the historical campaign have now been reflagged as available -- this was behavior from the original game that we could find no explanation for.
- 19) The AI is now much less likely to torpedo its own ships -- it may still occur, but the occurrence rate should be a fraction of the previous rate.
- 20) Major work on the AI gunnery code: Previously, the AI would concentrate on either a single ship or a single ship in each player division. The AI now has a more sophisticated set of algorithms, wherein it spreads its fire over the greatest threats within range, normally on a one-firer-to-one-target basis if the ships or numbers involved are equable.
- 21) When selecting scenarios the game will now show a warning message on the scenario description pane if the scenario was not created for the version of FSP you have installed.
- 22) German capital ship ammo loadouts altered: these ships now carry 40% AP, 30% common, and 30% HE. While the proportion of ammo was typically 1/3 for each type, in some cases additional AP ammo was taken aboard if engagements with enemy capital ships were possible.
This change affects the following KM ships: H Class, Bismarck, Scharnhorst, Scharnhorst_15, Deutschland, and Hipper.
- 23) All submitted scenarios and original game scenarios have been updated to account for the new floatation and ammo load values. If you have any existing private scenarios, you will need to use the scenario converter tool to convert them to the current version.
- 24) In order to gain the benefit of evading/salvo chasing, a target now must have a minimum speed of 18 knots or greater, instead of 12 knots or greater as in previous releases.
- 25) If a firing ship is both turning and evading, it will now show a greater evading penalty but no turning penalty on its gunnery modifiers section.

SHIP CLASSES ADDED IN THIS VERSION: RM CL Montecuccoli, RM CL Duca D Aosta, RM CL Abruzzi.

FSP V9.0 UPDATES

- 1) Fixed speed of Transports in Scenario Editor, was set at 8knts in one section when they should have been 10 knts.
- 2) Some errors in text shown in the German Version of the game were fixed, thanks to Frank von Schirach for his assistance!
- 3) Fixes to magazines for Richelieu and Dunkerque class ships in the scenario editor databases -- you may need to manually correct older scenarios with these ships.
- 4) Error in turret labels on models for Arkansas and Flush Deck DD in USN fixed.
- 5) Italian Trento CA had error in torpedo mounts where torp mounts would not show up in game -- fixed.
- 6) Rangefinders somewhat more difficult to knock out than previously.
- 7) "Excess damage" system removed from game...previously, damage to structure (after structure points were exhausted) went into floatation points at a 6-to-1 ratio, but this will no longer occur.
- 8) Hits by larger shells now do more damage than previously, mostly due to removal of "excess damage" system.
- 9) Fix for secondary targeting CTD caused by mixed divisions of DD and CL/CA.
- 10) Fix for disabling secondary targeting for ships in mixed divisions with no secondaries.
- 11) Fix to 'All ships' page - all ships are listed in full at the end of scenario, no matter what is/was their contact rating.
- 12) Some ambiguities due to new day/night and dawn/dusk transitions fixed.
- 13) Radar performance now degraded slightly due to crew fatigue/experience levels.
- 14) Fix to secondary gun status popups - this only became apparent for French BB/BC with peculiar secondary arrangements.
- 15) Fix for Main and Secondary gun panels - should now show the star symbol (*) against all starshell firing main and secondary mountings.
- 16) Starshell Fixes:
 - a. Fix for Starshell display - should now show the correct starshell firing mounts in both target boxes (P1, P2, A, Y etc.).
 - b. Ships with tertiary guns - one starshell target will switch to a tertiary mount if range is less than 9000 yards. Displayed as 'TT' in the Starshell target box.
 - c. Main guns of BB, BC and CA will no longer fire starshells.
 - d. Maximum range of starshell round limited to 15000 yards. Only targets within the two ranges, max (> 15000) and min (< 4000), will show up as starshell targets in the target boxes.
 - e. A main or secondary gun mounting selected for starshell firing will take time to train onto the target. Firing the starshell will produce smoke and sound effect as for a normal shell. The tracer will be sent on a more realistic higher curved trajectory to the target. If a double/triple/quad mount is picked to fire starshell, then all the guns in the mount will fire starshell at the same time. There is a small random variation in heading and pitch to stop the starshells all being in the same place. None of this applies to tertiary starshell.
 - f. All starshells, when detonated, will have a residual (decaying) vector due to the original shell velocity and direction. All starshells will now have a 'sink' velocity of 1meter/sec, and the lit starshell circle will vary in direct proportion to the remaining altitude. Also the starshell will now get blown by the wind.
 - g. The starshell life is now 200 seconds. This means the starshell will sink 200 meters during its life, so its initial height was increased from 200 to 300 meters to give the light a bit more 'range' at the end. Very occasionally a starshell will burst at a lower height which introduces a bit of randomness.
 - h. Starshells mounts should now fire a new shell at target before old starshell burns out.
- 17) All gun mountings have a small delay added - 2 seconds - between a turret training onto its target and the guns firing.
- 18) Fix for torpedoes which would miss their target when running in the 'accelerated time' modes.
- 19) Improved torpedo collision code - reduces chances of bow/stern hit and increases side on hit chances
- 20) Modified torpedo routine for firing torpedoes while a division is turning. Slight increase in AI torpedoing its own ships -- this is an AI problem which will be corrected soon.
- 21) The turret reaction time logic has been improved - turrets should bear onto targets quicker after 180 turns. Also any turret is dropped from the salvo if it cannot bear on the target within 5 seconds of the fire command.
- 22) Due to changes made in the torpedo collision code, it is now possible to tell exactly where on the ship the torpedo has hit. At present the ship is divided into two parts (front and rear) and the damage routine is altered to take this into account. So a forward hit will not cause a maneuver system hit, and a magazine hit will damage the relevant magazine.
- 23) The torpedo splash tracks have been altered to give splashes whenever the torpedo comes within sighting range. The .ini modifier which always shows splashes for all torps will still work. If however this is inactive, you will still see torpedo splashes as follows:-
 - In divisional mode: All enemy torps within spotting range of your division are 'splashed'.
 - All torps fired by your division are also shown.
 - In non divisional mode: All enemy torps within spotting range of your side are 'splashed'.
 - All torps fired by your side are also shown.This is in addition to the cones produced by your own torpedoes.
- 24) Fix in torpedo code in divisional mode which causes CTD when newly detached ship is fired at.
- 25) Rewrote the sink rate code and ships now sink a lot slower. For now, ships that are sinking cannot be rammed by other ships (they will simply pass through them).

- 26) Corrected # of HE rounds in aft main magazine for USN Alaska class.
- 27) Minor change in deck armor penetration algorithms.
- 28) Punch through damage corrected, it was too low as a result of an missed multiplier.
- 29) Due to changes in the way modifiers are applied in the code, the penalties for the firing ship turning and/or using evasive maneuvering have been significantly increased.
- 30) Modifier for structural damage to ship slightly increased...at 100% level it is now a -40% gunnery modifier compared to -33% before.
- 31) The to-hit chances for gunfire at very long ranges (> 18K yards) were based on a near-perfect set of environmental conditions. This has now been changed so that optical gunnery past 18K yards is less accurate, in some cases >50% less accurate.
- 32) Radar controlled gunnery at long ranges (> 18K yards) is now much more accurate when compared to non-radar controlled gunnery. The mostly "fixed" radar bonus has been replaced with one that gives an increasing bonus the farther away the target is. At long ranges, radar bonus will exceed 100-200% (double or more your base PH). Lest you think this is excessive, tests with late-war radar FC at extreme range produced 2 to 5 times as many hits as did optical-only gunnery!
- 33) Clarification: since FSP 8.0, modifiers to gunnery are individually multiplicative -- before, all modifiers were totaled and then turned into a fractional modifier, while now each modifier has an individual fractional effect, which is more realistic considering the way gunnery worked in real life.
- 34) Crash in secondary guns targeting in some scenarios fixed.
- 35) Changes to the campaign game, to the minimum number of ships requirement:
 - The DbzLib.ini file now has a new line, "MINCAMPAGNSHIPS", which determines how the game treats this in a campaign:
 - If set to "MINCAMPAGNSHIPS = 1" : This is the default value and campaign should behave as in the original game.
 - If set to "MINCAMPAGNSHIPS = 0" : If the number of ships per class goes below minimum per class due to combat losses, the campaign penalty will not be invoked, and all future battles will still be fought. If however the number of ships per class goes below minimum per class due to ships resting up in port, or is already below minimum due to combat losses and further ships are then rested up in port as well, then this WILL cause the penalty as usual.
- 36) Discovered and fixed a bug that could cause (in a few cases) random "null" values to be assigned to a ship during play. This very well may have been responsible for ships sinking for no reason in a previous version.
- 37) Target ship armor values are now not displayed until the target is identified by name -- before, if a target was identified by type (BB, CA, etc) this information was displayed, which was not realistic.
- 38) HE shell damage reduced from 2.0 x AP shell base damage to 1.67 x AP shell base damage on a penetrating hit. COM shell penetration modifier increased from x0.4 to x0.6 because of change in penetration formulas.
- 39) Bug in multiplayer game where torpedo hits caused a CTD fixed. Multiplayer games should be very stable now. [Important Note - *always* assure that all players in a multiplayer game are using the same "DbzLib.ini" settings and have the same exact version of FSP installed!]
- 40) Previously, when playing a transport mission with encumbered DDs. the transporting player would get all the VPs when all the intercepting ships were sunk, regardless of the status of the encumbered DDs. This has been changed so that so VPs *only* come from DDs successfully unloaded (even if subsequently sunk) in all cases.
- 41) Changes to the gunnery log system:
 - All gunnery logs will now appear in their own "GunneryLogs" folder. The game now names each gunnery log according to the scenario producing it, and no longer as a generic "GunneryLog.txt". A scenario will produce a .txt file of the same name, eg "Denmark Straits.txt", "Battle of the Komandorskis.txt" and so on. A campaign battle will produce a file bearing the date of the battle in the campaign e.g. "Campaign - May 3, 1942.txt". This means that campaign gunnery logs will no longer write over the previous logs, and they can all be viewed at the end of the campaign if required. More importantly a saved game can be restarted at a later date and the gunnery log produced originally will be updated (if it still exists unmodified!). The downside is that if a previously produced gunnery file exists of the same name, that file will be appended to instead of a new file being produced. If you want to keep a previous gunnery file, it will need to be renamed something else.
- 42) End-of-scenario file was not properly accounting for torpedoes expended during a scenario, this is now fixed. (Thanks to Fredrik Wallin for pointing this out!)
- 43) USN 5"/38 base Rate-Of-Fire reduced by ~17%...non-rounded values are now able to be used in the data, which allows for more accurate ROF number. Other guns will be adjusted as time permits and as needed...
- 44) Graphics changed for division selection in Division menu and division flags on 2D map -- only divisions 1-14 were being showed, now graphics for up to 28 divisions on either side will be shown.
- 45) USN Iowa model updated -- bridge and funnel design improved.
- 46) Ships added for this release:
 - USN Montana BB (3 ships in class added)
 - USN Lexington BC (3 ships in class added)
 - RN Lion BB (3 ships in class added)
 - KM Scharnhorst 15 BC (Scharnhorst with 6 x 15"/47 guns)
 - Ne De Ruyter CA (added to RN ship database)

Ne Van Ghent/Van Galen DD (6 ships, added to RN ship database)
Ne Java CL (added to RN ship database)

Our Thanks to Graeme Carter for his hard work on many of the above items!

FSP V8.0 Updates

- 1) Train (skew) rates for USN 16" guns fixed, they were set at 2 deg/sec instead of 4 deg/sec.
- 2) RM Littorio turret armor increased based on additional and submitted research.
- 3) Ships added: RM = Trento CA, Zara CA, Sauro DD, Turbine DD. USN= Cleveland CL
[The USN Baltimore CA has an improved model in this update...]
- 4) Fore and Aft Magazines on USN Brooklyn were reversed, fixed.
- 5) MAJOR changes/additions to Radar in the game:
 - a) Radar now has a "Blind-fire" rating – all "Good", "Excellent" and "Superb" radar may blind-fire - "Poor" and "Average" radars may not blind-fire. ["Blind-fire" is the ability to fire at a target without visually spotting it]
 - b) "Good" radar has a -70% penalty when blind-firing, "Excellent" has a -33%, and "Superb" a -20 %.
[Note that the *bonus* of the radar still applies, so a "Good" radar has a *net* -50% penalty, "Excellent" a -3%, and "Superb" a +20% when blind-firing]
 - c) Radar *will* now fire through smoke!
 - d) The range at which radar can *search* for a target will generally be greater than the range at which it can blind-fire at it – on the average an "Excellent" radar can blind-fire at about 80% of its max search range in the game, for example.
 - e) If either (1) the firing ship has "search only" radar, or (2) the current radar contact is outside of blind-fire range, then a radar "contact" will show up as a contact, but will not be selectable as a target (until it is spotted visually or comes into blind-fire range)
 - f) Torpedo attacks may not use "blind-fire" capability. Although this ability was added late in the war for the USN, it has been removed from the game until we can tag all ships in the code that could use this ability.
 - h) On the Gunnery Modifiers Display (in the Single Ship Main/Secondary Display Panels) the "H" column is now called "Visibility/Radar", and the "I" column is now called "Radar FC". The "Visibility/Radar" column will now show the difference between the ships blind-fire penalty and the normal radar bonus, while the "Radar FC" column will still show the base radar bonus for the class of radar carried. When firing on a visual target, the best value of this computed radar penalty and the normal visual penalty will be used. As a result, during daytime combat you may see a value appear in the "H" (Visibility/Radar) column, which indicate the ship is currently blind-firing.
- 6) Day/Night and Visibility has major changes and fixes:
 - a) Day/night and night/day transitions will now work. There is now a window 30 minutes either side of sunrise and sunset where the visibility will change – however some cosmetic effects will not change: the 2D map will still remain "dark" when transition to daytime occurs, etc (this will be addressed in future patches).
 - b) Enemy and Friendly ship spotting has been substantially re-worked:
[Note: *In all the following points 'team' refers to your side in 'Standard Mode' but refers to your division when fighting in 'Divisional Mode'*]
 - (1) In **3D mode**, all ships & tags are displayed with regard to the selected ship. The names on the tags are with regard to your team. In **2D mode** all ships & tags are displayed with regard to your team.
 - (2) Once a ship is identified to a certain level, (contact, class, name) this level will not reduce until that ship is out of contact of all the ships in your team. This will mean that you may get radar contacts, for example, with the full ships name under it.
 - (3) Smoke will block LOS contacts, although they should still show up as radar contacts. Other ships will also block LOS contacts, but these will **not** show up as radar contacts.
 - (4) Torpedo hit messages are now only given out if the target is visible to your team. Also torpedo evading messages are now only given out for ships evading your teams torpedoes. It was possible for you to receive an 'evading' message if an enemy torpedo went close to an enemy ship :-).
- 7) Star-shell fixes/changes:
 - a) Starshell targets under a certain minimum targeting range will not show up in the starshell targeting windows. Similarly for searchlight targets for those targets over the Searchlight's maximum range.
 - b) The AI was firing multiple starshells at a single target, now it will only fire a single starshell at most targets. This prevents the AI from tying up too many of its guns.
- 8) The straddle logic has been altered so that a more accurate statistical spread over a smaller sample is displayed. While the overall shell to-hit PH is not significantly affected, the net per-straddle PH will be more accurate. Also, when a ship is "spotting" salvos, (i.e. it is not on target and is ranging in) a slight additional time period is added to cover the time required for the gunnery crew to report the range/bearing data for the salvo.
- 9) Several code sections have been optimized, so that the game should show a speed increase over the previous version.

- 10) A bug in the torpedo hit code was fixed that could cause a CTD with certain multiple torpedo hits resulting from a spread.
- 11) Added a GUNNERY LOG. This file, named "GunneryLog.txt" is placed in your main Fighting Steel folder and is updated during a scenario. It shows each gun hit that occurred in the scenario, and contains the following information about each hit:
 - (a) Exact time of the hit, (b) The Firing ship, (c) The Target ship, (d) Range to the target for that hit,
 - (e) Which battery (Main or Secondary) fired the shell and what type of shell, (f) Hit chance of the shell, (g) Area of target hit, (h) Did shell penetrate/duded/punched-through, (i) Hit Points inflicted, (j) Floation points inflicted, and
 - (k) Target ship systems affected by the hit.

[It will also show if a magazine exploded, if the ship sunk as result of the damage, etc.]
- 12) AI changes and additions:
 - a) AI ships will now primarily use evasive maneuvering while withdrawing/under heavy fire, and while they are closing for a torpedo attack.
 - b) The AI should respond a bit more intelligently on bombardment missions (the timing of checks has been increased, the checks were occurring too far apart, among other items).
 - c) The AI should now choose the higher-ranged section of its most effective attack range instead of it's lower ranged section. This means that the AI will tend to stay a bit farther away from the enemy in many cases than before (the AI tended to try to drive it's ships too close to the enemy in some cases).
 - d) Several bugs in the AI firing code were fixed that prevented the AI from firing torpedoes in some cases (the AI mistakenly thought it's own ships were in the way in some cases where they were not).
 - e) The AI will no longer use emergency turns when it is disengaging. This should greatly reduce the incidence of AI ships seen circling while disengaging.
- 13) Added "Director Damaged" and "Director Repaired" messages to the message list in the game (this tells you when a director is damaged and repaired, which was a new capability in FSP v7.0, but the messages indicating this were not implemented in that version).
- 14) "Ship-under Fire" Icons re-added: Any ship under fire will show an icon with three tiny firing ships on its data tag.
- 15) Bug where an incorrect magazine could be damaged when a turret was hit has been fixed.
- 16) Magazines which have already been damaged *cannot* blow up if hit again, as was the previous case. We assume that any ship whose magazine was hit/on fire/destroyed would have flooded the magazine, greatly decreasing the possibility of another hit setting it off.
- 17) "Enemy Turning" modifier: The speed of the enemy ship when turning is now taken into account in this penalty.
- 18) Minor adjustments and fixes to ship data and game code...
- 19) The game should show an added degree of stability for some users due to optimizations and bug fixes.
- 20) Ships will now receive significantly fewer electrical damage results in combat – this value had yet been altered in the previous FSP version after the damage system changes made.

FSP V7.0 Updates

- 1) Fantasy Campaign game crash when exiting to Results Screen fixed.
- 2) End-game status for each ship in last scenario played is now output to a text file.
This file is always named "_End Of Engagement.sce", and is found in the "\Scenarios" sub-folder in your main Fighting Steel folder. It is a plain text file that you can read in Notepad or other text editors.
- 3) At zero Structure points ships no longer automatically go out of action. This does away completely with the artificial limitations imposed by the "Out of Action" status: Ships will still be controllable at zero Structure points, and will lose systems as per normal combat.
- 4) Ratio of Structure damage to Floation damage is now 6-to-1 when no Structure damage points remain.
- 5) Mistaken maneuver chances reduced by approximately half.
- 6) KM straddle bonus reduced over time, due to fatigue and other elements.
- 7) Added an .ini setting to allow splashes to be shown all the time, or only on straddles:
0 = Only show splashes when ship is straddled, 1 = Show all splashes (default)
- 8) A total of 160 scenarios are included in this release!
- 9) Reports of Campaign game re-using ships that were sunk: Tests did not show this occurring. A ship that is *SUNK* will not return in a later scenario, but one that was *OUT OF ACTION* would be repaired and return in a later scenario, this may be what was being seen...
- 10) Torpedo hits will now affect a greater number of ship systems than previously.
- 11) Nationality modifiers added for Italian ships: generally RM ships/divisions will be slightly less aggressive, and will attempt to disengage quicker in adverse situations than some other nations. Many RM ships also have a harder time straddling targets due to the less-than-ideal dispersal rate of their salvos.
- 12) Switched game to use hardware mouse instead of software mouse, may help some users and speed up game.
- 13) AI Aggressiveness levels tweaked.

- 14) Division Re-ordering bugs fixed. (When certain combinations of turns were made ship order in a division was flipped in some cases).
- 15) Incorrect display of secondary armor values fixed.
- 16) Sideways "shift" on secondary ammo graphic fixed.
- 17) "Destroyer Contact Range Circle" in 2D map was broken, fixed.
- 18) Fires have been better scaled to the ship size: since each level of fire is of the same severity on each ship regardless of size, now the larger the ship, the smaller is the probability of an equal effect causing a level of fire.
- 19) Increased Disengagement time and distance parameters.
- 20) Iowa Class deck armor rating was incorrect (typo), it has been fixed.
- 21) Structure/Floatation damage ratio increased for smaller ships, smaller ships will take somewhat more structure instead of floatation point damage on many hits.
- 22) Split Firing bug fixed-- This occurred if MG turrets are split firing against two targets. Unless both 'split' batteries fired simultaneously, every time one battery fired, it increased the 'G' modifier (salvo penalty) of the other battery to maximum. Same thing happened to the secondary guns if there were two secondary targets.
- 23) Ammo loadouts for a number of ships adjusted (more reliable information obtained).
- 24) CCF factors on several ships corrected.
- 25) Plunging Fire/Direct Fire probabilities adjusted -- the old method generated too high a degree of plunging fire at closer ranges.
- 26) Shell damage ranges adjusted for a wider variance in possible outcomes.
- 27) Changes to system damage methods -- for example, destroyed turret locations were not previously counted as being possible to be hit -- now a destroyed turret location can be hit again. This had skewed the system somewhat towards losing main turrets faster than should have been.
- 28) Gun barrel smoke (when firing guns) adjusted; the smoke was sometimes closer to the turret than the gun barrel.
- 29) Ship Point Values recalculated for a slightly different scale -- should allow the AI to work more accurately.
- 30) Minor tweaks to various combat parameters.
- 31) Sumner torpedo mounts fixed, a typo in the torpedo name caused them to not function.
- 32) A number of combat sound effects have been improved.
- 33) New ships included in this version:
 - USN Arkansas Class BB
 - RM Littorio Class BB
 - RM Andrea Doria Class BB
 - KM Schlesien Class BB
 - MN Dunkerque Class BC

We would like to give a *huge* thanks to Graeme Carter, who was of great help in bug hunting and fixes for those he found!

Thanks,

William Miller

Christopher Dean

Naval Warfare Simulations Staff

FSP V6.1 Updates

- 1) Fixed flag error in USN Baltimore Class -- thanks to Seth Gaines for pointing this out.
- 2) Replaced temporary USN Omaha model with original model.
(We used a temporary model until we were able to fix a turret code problem on that class...)
- 3) Corrected captain insignia in Campaign Start screen...thanks to "camerona_1999" for catching this.
- 4) Some of the new player submitted scenarios had not been updated for FSP standards when they were submitted, resulting in odd occurrences [like the (in)famous 39 knot Yamato]. Fixed.
- 5) Fixed rogue "No Battle This Turn..." popup in the campaign game.

FSP V6.0 Updates

Note: There are several major realism additions in the game mechanics for this release. This will generally mean that battles will not be quite as decisive (as before) in the same time frame, since the reload and salvo logic has been improved.

- 1) Straddle logic in FSP has been altered. Before, the game would show shell splashes on each salvo fired. You will now ONLY see shell splashes when the target is straddled, and at that time the target may be hit by the shells. If the target is not straddled, you will NOT see shell splashes as the target cannot be hit by the salvo. This will not make a significant change in the -overall- gunnery to-hit rate, but the to-hit rates when the target is straddled will now differ somewhat, and be more realistic.
- 2) Ships will now wait to fire their next salvo until after their last salvo lands *if* they have not straddled the target. This

allows for the need to spot the shell splashes until you straddle the target. Once the target is straddled, the reload time will go back to normal. The reload time display on the single-ship gunnery panel will still show the actual reload time, not this "spotting time".

Something close to this was to have been implemented in the original game, but did not make it in...

3) Major change in rate of Floation Point loss after Hull Hit Points are gone -- before, when Hull Hit Points reached zero, additional Hull damage was translated into Floation damage at a 2 to 1 ratio. This has been changed to a 4 to 1 ratio, which means that it will require more hull damage to cause the ship to actually sink (Please note this does *not* mean more floation damage to sink). This was done for two reasons: a) Ships would sink too quickly after going out of action, and b) The Hull-to-Floation damage ratio was too low, and not realistic enough.

4) Target Evasion Modifier: The target's evasion modifier now depends up the targets range *and* speed. The target still must have a speed of > 12 knots to evade.

5) IJN ships now have a reduced "Firing at Night" visibility modifier due to the low-flash powder used by most of their guns.

What this means in game terms is: The gunnery "to-hit" bonus and spotting range for a target firing at night is 10% less for IJN ship targets.

6) There is now an additional penetration check to see if a shell can penetrate a magazine's armor *before* that magazine can explode. Armor values for magazine sides and tops have been added to the ship data for this purpose.

7) Night Combat modifiers adjusted again -- visibility reduced by roughly 10%...

8) Scenario Editor modified so you can create scenarios from Jan 1939 to Dec 1945 (instead of Dec 1942).

9) Fixed error in Scenario Editor where "Average Radar" range ring was at a slightly smaller radius than it should have been.

10) Corrected ship counts in Scenario Editor that could cause a crash with unusual combination of forces.

11) Original game error with aft wing turrets fixed -- this would cause ships with a "T" or "U" turret (only the USN Omaha class had these) to not fire guns to starboard in many situations.

12) When a ship's radar is hit, there is now a 20% chance it is destroyed instead of just damaged for a time.

13) While a ships electrical power is out, the ships main gun turrets will now NOT traverse or fire at targets. This was another original game bug that we thought had been fixed before, but had reappeared.

14) Corrected several errors with some ships CCF values and armor values.

15) Gun Director # 2 was not being damaged/destroyed in many cases as it should have been -- fixed.

16) Total number of ships allowed in a scenario increased to 32 (from 25). Total number of ships allowed per side increased to 28 (from 20).

17) Tertiary guns changed to use a more accurate gunnery formula than original, plus they do not all do the same damage, they do damage based on the actual tertiary gun type and number :-)

18) Captain's insignia now correct in all screens.

19) Campaign Game insufficient ship penalty -- penalites are now as follows:

1st Turn = -75, 2nd Turn = -150, 3rd and subsequent turns = -300

This was -100/-200/-400/-800 originally, which was too steep...

20) Q-Ships will now, by default, be targeted first by HE shells, then by common, and lastly by AP if no others are available.

21) Added code to handle new navies. For now, we will be "doubling up" on the navies, i.e. new ships will be placed in an existing Navy. We have added a flag to each ship class to differentiate between them.

22) Starshell burn time doubled. It was approx. 20-30 seconds, they now will burn 40-60 secs. "Real" starshells would actually burn for 2 to 2.5 minutes, but since ships in FS will only fire a replacement starshell when the old shell has burned out this was shortened.

23) Chances of a weapon mount being hit in direct-fire reduced by ~4%. Additional research data allowed us to fine-tune this value (yes, we are picky people).

24) All new ship models are now textured!

25) New ship classes added in this version:

1) (RN) French Richlieu Class BB. 2) (RN) French Bretagne Class BB.

3) (RN) French Suffren Class CA. 4) (RN) Le Fantasque Class DD.

[All French ships placed in RN database for now]

5) IJN Shimakaze DD. Only one in class was build out of 16 planned. Speed was 39 knots in use!

6) IJN Kitakami Class. These are implemented as having 4 mounts of 10 Long Lance torps each, instead of 10 mounts of 4 each. (Can't fit 10 torp mounts on a ship in FS).

6) RN Vanguard Class BB.

26) 24 new or revised scenarios added!! Thanks to Matt Campbell, Ed Durkin, and Lawrence Trevethan for their submissions!

27) Removed the RAN (Australian) ships from the USN database to avoid a possible conflict when playing RN versus

- USN campaigns. All scenarios in FSP have been updated to reflect this.
- 28) Fixed small error in Iowa class hit/floatation points (value was too low by 2%).
 - 29) Revised ship profiles and 3D views added for all new ships.

FSP V5.5 Updates

- 1) The Random Battle Generator apparently rejected a data change in FSP 5.2 -- this has been corrected and it now will function properly.
- 2) "Ghost" secondary guns were showing up on RN D-Class and Emerald Class CLs...fixed.
- 3) KM Scharnhorst main battery changed from C28 to C34 class guns.
- 4) RN Royal Sovereign belt armor value corrected.
- 5) Several tweaks to guns Rate-of-Fire in the databases.
(Thanks to Graeme Carter for pointing many of these out!)
- 6) Corrected Admiral's insignia in Campaign setup screen.
- 7) USN Omaha CL would not fire to starboard arc -- this has apparently been around since the original game was released! We have put in a new Omaha model until the old turret problem can be fixed.
- 8) Night Combat Improvements!:
 - a) Crew Night Fighting rating modifiers altered significantly, as the original numbers were *far* too generous.
 - b) Night gunnery visibility modifiers for Starshell and Searchlights were too good, these have been lowered. Night gunfire should prove to be less deadly i.e., more realistic ;-).
- 9) We have gone through all original FS scenarios in the FSP scenario pack and corrected the ships' radars to what quality they actually carried during the time period of the battle.
- 10) Victory Point Modifiers for all original FS scenarios in the FSP scenario pack have been adjusted for the revised ship point values.
- 11) The fourth USN Q-Ship was omitted from the Scenario Editor, it has now been entered.

FSP V5.2 Updates

- 3) Damaged ships could normally be repaired in anywhere from a few days to a few months...building a new
- 1) Changed "GRAPHICS = 1" to "GRAPHICS = 0" in the DzbLib.ini file settings.
This will set the game to the highest graphic quality. If you have any problems with this setting, change it back to "=1". Thanks to Will Baldwin for catching this incorrect setting.
- 2) Changed the "Admiral" difficulty level graphic in the game to an actual "Admiral" (well, Vice-Admiral) sleeve.
Thanks to Allan Cameron for reminding us of this!
- 3) Fixed error with two of the German Q-Ships that had been set to show up in campaign games as light cruisers. They should not do so now.
- 4) Changed the names of two of the Baltimore Class CAs so the game will not be confused selecting ships in random battles with existing ships of the same name.
- 5) Modifiers for firing ship evasive maneuvering/turning reduced by 5 additional % for ships with Excellent/Superb radars.
(Stable Zenith Mountings on these types of FC radar/systems negated most of ship movement modifiers)
- 6) Ship target size values adjusted to handle a wider range of ship sizes better.
- 7) Q-Ships point values adjusted downward to reflect their absolute combat value, instead of a "combat/economic" hybrid value...
- 8) Changed the way damaged ships are counted for Victory Point determination -- damaged ships are now on a sliding scale for what % of their damage taken counts for Victory Points:
Examples:
A ship that has taken 15% of its damage capacity would count about 5% of its total PV towards VP instead of 15%.
A ship that has taken 50% of its damage capacity would count about 30% of its total PV towards VP instead of 50%.
A ship that has taken 75% of its damage capacity would count about 60% of its total PV towards VP instead of 75%.
A ship that had taken 90% of its damage capacity would count about 80% of its total PV towards VP instead of 90%.
As you can see, the more minor the damage to a ship the less that damage counts towards victory.

This is based on the following logic:

- 1) You have to replace that ship that has been sunk with a new one to maintain your fleet levels.
- 2) Sinking an enemy ship is a much bigger political and psychological boost than merely damaging one.
ship can take years.

As always, a ship that is sunk counts as 100% of its VP value...

FSP V5.1 Updates

- 1) Fixed errors in some tertiary guns on data tables.
- 2) Added ship views for new ships in "Single Ship Status / Damage Panel" Display.
- 3) Fixed RN Transport hit/floatation point error in data table.
- 4) Added a SURPRISE ship class! You will have to look carefully to find it...hehehe

FSP V5.0 Updates

Large Merchant (20000 tons, 15 knts max speed)
Small Merchant (5000 tons, 10 knts max speed)
USN Baltimore CA
USN Alaska BC
USN Sumner DD
RN Mod Dido CL
Added 8 x 5"/25 to USN Texas as Tertiary battery
Added 2 x 3"/40 to IJN Nagara & IJN Sendai as Tertiary battery
Added 1 x 3"/40 to IJN Tenryu as Tertiary battery

- 1) All ships Point Values have been recalculated for more realism. A vessel's armor, speed, firepower, torpedoes, fire-control, and displacement are all taken into account in these values.
- 2) Transports max speed increased from 8 knots to 10 knots.
- 3) Created a "Radar Guide" document to help scenario designers set the radar type on ships. This covers all ship classes in the game from 1939 through 1945. This is available for download at the NWS site.
- 4) Added 10 new scenarios to the FSP scenario pack! (Included in the install)
- 5) Added 7 new ship classes:
*Q-Ship/Auxiliary Cruiser/Raider (KM,RN,IJN, and USN versions) [loosely based on the KM Atlantis raider vessel]
[*These ships do not suffer quite as much of a hit/floatation penalty as regular merchants due to better damage control and combat fixtures. They have been added as "CL" type ships because of game limitations...]
- 6) New model for the USN Iowa BB.
- 7) Tertiary gun range increased from 5000 yards to 9000 yards. This makes the tertiary guns both more realistic and more useful.
- 8) Close Combat Factor (CCF) range increased from 2000 yards to 2500 yards.
- 9) Radar visibility ranges adjusted -- ranges increased for several types.
- 10) Changes to modeling of how Fires are handled in the game:
 - a) Chance of starting a fire on a superstructure hit slightly reduced.
 - b) Probability of a fire spreading decreased by 5%, and probability of a fire lessening increased by 5%.
 - c) The modifier for fires spreading on IJN ships was too high...this was decreased. Fires will now spread more slowly on IJN ships than before.
- 11) Minimum ship disengagement ranges and times increased by 25%. This means ships will not be disengaged by the game as fast as before.
- 12) Chance of magazine explosion altered (smaller shells have a reduced chance of causing magazine explosions).
- 13) Added the name data in the Ship Viewer for all new ship classes added in FSP.
- 14) Added gun data for KM 3.5"/76
- 15) Ship Changes/Fixes:

FSP V4.5 Updates

- 1) Fixed Battle Generator.
- 2) Fixed listing for "Excellent" and "Superb" radars in ship status display. They now will show the correct radar rating.
- 3) Fixed problem with "Excellent" and "Superb" radars not showing up on the 2D Map.
- 4) Fixed inability to add ships not allied to nation-side in the scenario editor. You can add ships of any nation to any side in a scenario.
- 5) Added 2 new ship classes: The RN "S/T/U/V" Class DD (included are a dozen of the class), and the IJN Agano class CL (all four of this class are in the scenario editor). We used closest-match existing models for the graphics.
- 6) Effective range for "Good" type radar was slightly too long.
- 7) Torpedo tracks are more subtle...they will be harder to spot, especially at night.
- 8) The "Fatigue Issue" final setup for FSP:
 - a) To clarify Fatigue Effects: Fatigue now still has an effect on all non-gunnery items in the game, as before (Reload Time, Spotting, etc.) The effect of fatigue upon these items has been reduced by an average of 40%. We believe that fatigue -does- affect these things, but not to the extent as was portrayed in the original game.
 - b) We have implemented an ini switch called "FATIGUEGUNNERY" -- what this does is allow you, the player, to decide

of you want fatigue to apply to gunnery or not. "= 0" to remove it and "= 1" to activate it. (Default = 1)

We have also changed the fatigue modifiers for gunnery to what we believe are more realistic levels:

Level / Old Modifier / New Modifier

Fresh / +0% / +10%

Normal / -10% / +0%

Tired / -20% / -10%

Fatigued / -40% / -20%

Added 6 x 3.5"/76 to KM K-Class & KM Leipzig as Tertiary battery

Added 8 x 3.5"/76 to KM Nurmberg as Tertiary battery

Added 3 x 4"/45 to RN D-Class & RN Emerald as Tertiary battery

Added 8 x 3"/50 to USN Omaha as Tertiary battery

FSP V4.0 Updates

- 1) Changed timing for the message "Sir, a ship is slowing down the division" from being repeated every 4 minutes to being repeated every 10 minutes.
- 2) Fixed error in Radar Fire to-hit bonus for "Average" and "Good" radars. They had been set 10% too high in previous FS versions, although the display of the data was correct...
- 3) Added late-war radar types: "Excellent" = +30 % to-hit, and "Superb" = + 40 % to-hit. Both of these radars are capable of firing blind, i.e. engaging a target without visually spotting it, but with a penalty. (Presently spotting or firing through smoke using radar is not possible but we are working on it.)
- 4) Fixed existing bug that sometimes caused a crash when ships were detached from a division. Thanks to Roy Gibson of DBZ for his assistance in this.
- 5) Added USS Wichita and USS Iowa Classes as a test for adding new ships. We used the original North Carolina and Portland 3d models for these two additions for now until we can do more testing with custom designs. USS Wichita was armed with 9 x 8"/55 Mk12rf guns, higher ROF than those on the Portland class, when the experimental auto-assisted loading devices worked properly (a later, and more reliable version of them was used on the Des Moines class). The Wichita was also armed with a heavier 8" shell than was normally used on other US CAs.
- 6) Changed USN Colorado Class to carry 16"/45 Mk 5 guns, firing 2240 pound AP shell instead of 2700 pound shell. The Mk5 gun could -not- fire the 2700 lb shell.
- 7) Target size now varies slightly due to range to target. Target size will be larger at close range, and smaller at longer ranges. This takes into account a slight difference in the ratio of gun dispersion to gun base to-hit probability at different ranges.
- 8) Removed Crew Fatigue Modifier. No changes to scenarios are required. This means that the Crew Fatigue modifier in scenarios is ignored.
- 9) Sea State modifier now varies based on range to target. At closer ranges the relative motion caused by rough seas is proportionally less than at longer ranges due to the increase in perceived target size.
- 10) Straddle Probability reduced slightly, but the chance to-hit if you straddle the target increased.
- 11) Roy Gibson was able to send us the source code for the revised version of the Scenario Editor (we only had the source code for the original SE before), so we have updated it and included it in FSP 4.0. 12) Corrected a few errors in Hit and Floation Point values in the Scenario Editor databases. Thanks to Joe Sanders for catching a couple of these.
- 13) Added an .ini switch to allow skipping all movies in the game: "PLAYMOVIES = 0" will turn playing movies off, while the default setting, "PLAYMOVIES = 1", will show all movies as normal.
- 14) Added an .ini switch to allow torpedo tracks to be visible in the 3D View: "TORPEDOTRACKS = 1" will show torpedo tracks, "TORPEDOTRACKS = 0" will not show any torpedo tracks. Torpedo tracks will only be visible after the torpedo runs for 60 seconds.
- 15) Some improved sound effects for explosions, shells in flight, and splashes.

FSP V3.5 Updates

- 1) Fixed error where 2 secondary guns being destroyed instead of 1 in some cases.
- 2) Corrected 11"/54.5(m1928) gun (On Spee/Scharnhorst): It had incorrect shell weight and gun quality class.
- 3) Fixed error in Fire Control Quality rating for 2 ships (Exeter and Leander classes).
- 4) Magazine system damage % for turret hits decreased...the value was slightly too high under the revised damage system by about 2%.
- 5) Disabled the systemcheck in the .ini...sometimes this would report an incorrect amount of video card memory and not allow the game to start.
- 6) Implemented ships' Torpedo Defense Value chances of being reduced by a torpedo hit. It had not been implemented in

the game before (see FS Manual, page 97).

7) Fixed incorrect Floation Point values for ships in several scenarios -- this may have caused crashes in some circumstances in these scenarios.

8) Torpedo damage randomizer altered for a damage range that is more realistic.

9) Altered torpedo to-hit modifiers for more realistic hit odds at longer ranges (> 5000 yards).

10) Fixed pre-FSP error in torpedo code that may have caused crashes in some cases with torpedoes hitting some targets.

11) We are currently tracking down problems with the interface that can cause crashes when some interface items are clicked during combat, especially in "Division Commander" mode in night combat. These will be addressed with a patch as soon as they are resolved.

FSP V3.0 Updates

1) GUNNERY SYSTEM:

A) The base to-hit-value routines have been redesigned. All guns have now been divided into three ballistic "Classes" for to-hit calculations, with each class having five variations, so in effect there are 15 classes. All values have been calculated from official gunnery table data and other related information, compiled from several nations after WWII. Many hours of data curve fitting, linear regression, and other techniques were utilized in order to create as accurate as possible gunnery formulae. The formulae also have correction factors built-in for special situations.

B) Each and every gun has been given a "Quality" rating that modifies its accuracy -- this rating is based on the gun's manufacturing quality, its dispersion rate, mounting problems, its accuracy loss after prolonged firing, and several other factors. The Quality rating may give the gun a bonus to its accuracy, a penalty, or no modifier at all (which would be the "average" quality weapon others in its Class are judged by).

C) The maximum base to-hit chance is now 99% instead of the previous 50%. The final max to-hit chance is now 99% instead of the previous 90%.

D) Minimum to-hit values now vary by gun class.

E) To-hit Modifiers:

a. New To-Hit Modifier: "Damage Received" -- For every 3 percent Hit Point damage a ship receives, it has a -1% to-hit modifier. So, at 30% damage it would have a -10%, at 60% damage a -20%, at 90% damage a -30%, etc... This simulates other problems caused by the ship taking damage, such as crew members being wounded or killed, the psychological effect of the hits upon the gun crews and fire control personnel, ship's support equipment being destroyed, turrets suffering minor damage, etc... This modifier is shown in the modifiers section as modifier "D" in the single-ship gunnery panel.

b. Opening salvo penalties changed completely...they now are dependent upon the range to the target...a target that is very close will have a smaller ranging-in penalty than a target that is very far away.

c. Target size calculations re-written to more realistic values.

d. Target aspect modifiers lowered somewhat due to research of target aspect on gunnery.

e. "Fatigued" crew penalty reduced.

f. Penalty for "secondary" guns reduced from 40% to 30%.

g. Sea-state penalties on gunnery decreased for lower sea-state values.

h. Over-concentration penalties now occur at slightly closer ranges.

i. Evasive maneuvering penalty increased slightly for the firer, and now is variable for the target depending upon the range, a lower modifier at closer range and a higher modifier at longer ranges (longer shell flight times mean more time to evade at longer range...). A ship must be sailing faster than 12 knots in order to receive the evade bonus! The ship's Fire Control Quality will affect the penalty for firing while evading. The higher quality directors had better equipment that negated some of the negative effects of the ship's evasive maneuvering upon its gunnery.

j. Target turning penalty now dependent upon range, although not as much as evasive maneuvering. Turning at very close ranges results in a lower modifier, while turning at very long ranges results in a higher modifier value. k. Turrets firing in Local Control (all gun directors destroyed) have a greater Fire Control penalty than before, but are also now dependent upon range to the target. Example: At 20,000 yards, the penalty is -60%, at 10000 yards it is -40%...

l. All individual ships now have Fire Control ratings...Excellent = +20%, Good = +10%, Average = 0%, and Poor = -10%. The "Nationality" to-hit modifier has been deactivated.

m. Ship "Type" to-hit modifier altered to take into account the new individual Fire-Control ratings for each ship.

BB= +10, BC = +5, CA = 0, CL = -5, DD = -10, TR = -20.

n. Firing Ship Turning Penalty: The penalty for the firing ship's gunfire accuracy while turning has been increased. The ship's Fire Control Quality will affect the penalty for firing while turning. The higher quality directors had better equipment that negated some of the negative effects of the ship's turning upon its gunnery.

F) Target "straddle" logic: The way the game calculates when or if a target is straddled by a salvo has been completely rewritten. The straddle logic should now show more realism, with several modifiers taken in account to the straddle probabilities:

- a. "Under-Salvoing" (firing too few shells in a salvo) will lower your chance of straddling a target somewhat.
- b. Target size effect on achieving a straddle has been reduced. The target size plays a larger role in whether the target is hit after it is straddled than in the chance of it -being- straddled.
- c. If your last salvo straddled the target then your next salvo is twice as likely to do so. This simulates the fact that is easier to straddle the target once you have "found the range".
- d. If you straddle the target your base chance of getting hits is increased, from moderately to very greatly, dependent upon other factors.
- e. All KM (German Navy) ships now have a +20% straddle bonus, due to their excellent optics and training (and as shown by historical accounts of their ability to straddle targets quicker than their opponents). This will result in KM ships straddling the target more often, and will indirectly result in a slightly greater number of hits on the average.

2) DAMAGE SYSTEM:

A) Ship Hit Points:

- a. Calculations of hit points changed from a straight "linear" scale to a more realistic non-linear scale. The ship's hit and floatation point values are still derived from the ships displacement, but it is no longer a 1-to-1 relationship for most vessels. Example: An average 10,000-ton warship will have 9509 Hit Points, while a 20,000-ton one will have 16557 Hit Points.
- b. All non-warships have fewer hit and floatation points due to lower standard of watertight integrity and lack of as efficient damage control facilities.
- c. Ships have been assigned a modifier to their hit and floatation points based on the construction standards of the period they were build. Later ships tend to have more advanced protection schemes, and hence will have greater hit and floatation points than a ship from earlier eras with the same displacement.

B) Shell Damage and Penetration Values:

- a. The damage values for shells have been changed from a linear system to one that shows the difference in damage caused by shell relative to their sizes more realistically. The larger a shell is, the less damage *per pound of shell mass* it will cause (A larger shell -will- do more damage, just not as great of an increase as before)...Example: a 1000-lb shell does 786 damage, while a 2000-lb shell does 1369 damage.
- b. Guns are now placed in one of over 20 penetration "classes". Each penetration Class has formulas to calculate vertical and horizontal penetration values for that class. Each formula was derived from official penetration tables, using curve fitting and other techniques, as well as manual "tweaks" for certain areas.
- c. COM and HE type shell penetration values reduced to more realistic values.
- d. Non-penetration damage of COM type shells increased.
- e. Damage done to transports/merchants set to more realistic levels.

C) Odds for turrets to be hit have been slightly increased for both direct and plunging fire.

D) Chance for a magazine to be hit if a turret is penetrated increased.

E) Chance for a magazine hit for plunging-fire deck hits increased.

F) Chance for a magazine explosion if magazine is hit increased.

G) Floatation Hit Chances for CA, SL, and DD lowered slightly for greater realism.

H) All Fire Chances for penetrating hits reduced, so you will see fewer fires per hit.

I) Reduced chances for radars and searchlights being hit on structure hits.

J) "Electrical" system damage now fixed. If your electrical system is out, your radars and main gun turrets will not function until the electrical system hit is repaired.

K) Chance for gunnery Directors to be hit on structure hits slightly decreased.

L) Chance of a "Passthrough" for shells versus thin armor lowered by ~20% for HE type shells, and by ~10% for AP or COM shells.

M) Secondary turrets now will be destroyed at approx a 35% higher rate than before.

3. MISCELLANEOUS SYSTEM CHANGES/ADDITIONS:

A) The number of ships allowed in the game has been increased. The total number of ships allowed in a scenario has been increased from 20 to 25. The number of ships allowed per side has been increased from 14 to 20. The scenario editor also been modified to allow for these new limits. We recommend that you have a fast CPU and 128Mb or more of system memory to run scenarios containing 20 or more ships.

B) Areas of the ship will now show a variable (random) armor thickness when hit. The Deck area will vary from 75% to 125% of nominal armor protection, the Structure area will vary from 90% to 110%, the Belt area (Hull) will vary from 65% to 105%, and Turrets from 80% to 105%. This is designed to model the variation in armor thickness in these areas.

Examples: The Armor Belt on the hull was normally thickest over the central section of the ship, and tapered off towards the bow/stern of the ship. The Deck Armor was usually thickest over the magazines, and thinner over other deck areas.

Effective armor thickness also may be greater than the listed value if a shell strikes at a lower than expected impact angle,

etc... C) All ship armor values have been rechecked, and changed for the new damage and penetration system where needed. The armor data now shows the "effective" armor thickness based on the type of armor (i.e. "Wotan-H", etc...), its angle of presentation versus the most likely attack angle for that area of armor coverage, and an adjustment for backing plates and such. Deck armor is the average of the armor above the main magazines and the main through-deck armor thickness.

D) Turret top armor values no longer calculated as a percent of the turret face, actual turret top armor values are now used for penetration checks.

E) Dud shell probability for KM (German Navy) shells reduced from 30% to 22%.

F) Dud shell probability for IJN shells increased from 10% to 12%.

G) Torpedo damage calculations altered to conform to revised damage system.

H) Torpedoes may now do less damage (or almost no damage) based on the targets "Torpedo Defense Value" and Armor Belt strength. A ship's armor belt may lower the amount of damage the torpedo does (depending upon the torpedo warhead power), while the Torpedo Defense Value (representing anti-torpedo bulges, void hull sections, etc) has a small chance for the system to absorb most of the torpedo's blast effect. The Belt Armor value will vary for torpedo damage protection purposes, since it is thickest in the central belt area and thins out near the ends. As an example, take the Yamato: it has a very thick armor belt, and excellent torpedo defense...it will now take approx 50% more US MK15 torpedo hits to sink it as it previously did -- which is more in line with reality and historical fact...

I) Torpedo dud probabilities modified in light of extensive research. USN has slightly lower dud rate than before (but it's still very high), others have higher/lower/same rates depending upon year and nation.

J) Note on torpedo minimum ranges...torpedoes have a minimum run time of 20 seconds before they arm. If it strikes a target before 20 seconds of running time, it will not explode. For a 45 knot torpedo, this equals a distance of approx 500 yards, which is an average arming distance setting during WWII.

K) Auto-Camera rotation rates have been slowed to about half of their previous rates. We received a number of reports that the rotation was too fast...

L) Auto-Camera viewing times for many "events" in the game increased.

4. DATA ENHANCEMENTS FROM FSP V2.1

A) Over 550+ data enhancements encompassing the scenarios, weapons, and ship data.

5. OTHER CHANGES (AFFECTING HARDWARE, ETC)

A) Support for AGP port now implemented.

This should give somewhat higher frame rates on machines with AGP video cards, as AGP ports have faster data throughput than PCI video does. If you have a PCI video card, you should set "AGP= 0" in the "DbzLib.ini" file, which will disable this feature.

B) Compiled under Direct-X 8.0a SDK: This has many effects, the main one for you the player being that the game will require Direct-X 8.0 or 8.0a be installed in order to run, but it should have greater stability and be easier to be expanded for future work.

C) Due to how the game now uses Windows mouse & graphics calls (this is a result of compiling the game under Direct-X 8.0a) it is recommended that you disable any Desktop Themes or custom mouse cursors while playing the game. On some systems the mouse may flicker or other graphic anomalies may occur if desktop themes or custom mouse pointers are used.

D) Fighting Steel is not an "Alt-Tab" friendly application. Do not jump to another application while you are playing the game or the game will either have severe graphics corruption or may even lock your system up.