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RNS NASHVILLE clawed at the fabric of space as her howling drives fought to push the ship round in a crash turn. Captain Garrett tried to ignore the waves of nausea as her ship's gravitic compensators struggled to keep pace with the huge gee-force shifts that would otherwise have reduced her crew to thin red smears.

On the tac plot, Garrett watched the red trails indicating the incoming missile spreads just fired from the FSE warship. She had ordered Nashville into a frantic turn before the Feds launched, on that sixth sense that starship skippers either learn quickly or die; if she had waited until her sensors had picked up the missiles inbound, it might well have been too late.

The Fed captain, on the other hand, had expected the Nashville to keep coming right down the line, trying to close the beam range - although he'd tried to hedge his bets by spreading his missile salvos well apart, Garrett could already see that one flight was going to run wide of her ship by enough margin that its sensors could never get a lock on. The other salvo was a different matter....

"Ma'am, confirm one salvo tracking us on active, point defence is responding!" Garrett's Tac officer called as he stared at the plot with a familiar feeling of helplessness - no human could react as fast as the computer systems, and the fire direction of Nashville's point-defence lasers was already out of his hands. The rapid-pulse laser clusters spat coherent light at the incoming missiles, with the ship's smaller beam batteries adding their own fire - built for antiship combat, they were much less effective than the dedicated PD systems, but there was no point in holding anything back.

The plot flared with simulations of the huge energies being released outside the ship as Nashville's defences sought the threat tearing down on her. The hypervelocity missiles consumed almost all their drive power in the first seconds of their flight, pouring it out in a frantic burst of acceleration - but they retained just enough to allow terminal homing on to their target provided it stayed within the limited range of their sensors. Of the six missiles in the salvo, five achieved sensor lock on the Nashville and bore in for their attack run. The flaring PD clusters ripped two to fragments, and one of the ship's beam mounts scored a lucky hit on a third, but two slipped through the maelstrom of energy and closed on their target.

"Confirm two birds through!!" shouted the Tac officer, and a moment later the Nashville bucked and shuddered as the missiles' warheads released their violence against her hull. Alloy and armour rent and split as energy and shrapnel tore through the ship's midsection. Air howled from ripped compartments and fourteen of her crew died mercifully fast in the sleet of charged particles and hard radiation.

The bridge gradually stopped shaking, and Garrett could see the red lights peppering the normal green of her ship systems repeater board. "Damage control, status please?"

The helmeted face of her chief DC officer appeared on one of the small comm repeater screens: "Aye, Ma'am, reading structural damage between frames twenty-six and forty-one, decks C through F, but hull integrity still showing within safety limits. Total decompression in six compartments, but all other seals and bulkheads seem to be holding. We've lost one of the secondary mounts on the starboard side, and point-defence two is offline - may be just the tracking system, I'm still getting a response from the projector and we may be able to slave it across to PD one's tracker - I'm getting a team on it now. Looks like we were lucky on vital systems - drives and environmental are reporting green. Wouldn't like to take another hit like that till we've had the chance to patch things up though."

Garrett smiled briefly at the pickup, then replied in a grimmer tone. "Thanks, Jim. Get me a casualty count as soon as you can, please. We'll do our best to stop the Feds getting another chance..... Helm, come about to 0100; Gunnery, lock all batteries on that bastard, and fire as you bear....."

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Many grateful thanks to everyone who has helped in the development of this book, and apologies to anyone we've missed out!
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This book is dedicated to the memory of Adam Delafield.

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INTRODUCTION & DESIGNER'S NOTES

INTRODUCTION

This is the first volume of (at least) two Fleet Books that we intend to publish for **FULL THRUST**, to provide players with a resource of pregenerated ship designs that tie in with the GZG ranges of Starship Miniatures. This book concentrates on the major HUMAN fleets of the timeframe of the game background; volume 2 will cover the *ALIEN* forces (the Kra'Vak, the Sa'Vasku and maybe a few other races as well) and, time and interest permitting, we may also do a volume 3 that will cover minor nationalities and miscellaneous ships.

The Full Thrust (Second Edition) rulebook was first published in 1992. Since then, we have printed and sold well over ten thousand copies, a fair number for what started out as a "small press" system! The book you are now reading is the second official supplement for FT, and the first to be published since More Thrust in 1993; in this volume we have taken the opportunity to update a few things about the game in the light of our own and players' experiences with the rules over the past six years.

None of the changes are just for change's sake - they are to improve and update the game, and to correct some of the mistakes and loopholes in the original rules. There is a completely updated and revised ship design system that removes some of the odd effects of the old system while being just as easy to use and much more internally consistent; we also provide a complete alternative movement system for simulating "true" vector movement of ships, which it must be stressed is COMPLETELY OPTIONAL and may be used in place of (or even as well as) the conventional "cinematic" movement as you prefer.

Aside from a couple of basic items (for example, the revised Fire Arc rules), the actual gameplay of Full Thrust will be changed very little by the new rules, though you may find the new possibilities opened up by the new ship design mechanisms will cause you to look hard at your tactics!

The most important thing, as we always emphasised in the original Full Thrust, is that you should feel free to modify and adapt the game to the personal preferences of yourself and your gaming group - use as much or as little of the new material here as you wish, and don't let anyone else tell you are doing it wrong!

DESIGNER'S NOTES

THE "OFFICIAL" SHIP DESIGNS

The bulk of this book consists of designs for the ships depicted in the four major human fleets of the Full Thrust miniatures range, which represent the space navies of the four main human "superpowers" of the late 22nd Century in the GZG future history. Each entry is a representative example of one particular class of ship for a given fleet, and in most cases is not the only class of vessel that fills that slot in the fleet inventory. For example, the New Anglian Royal Navy has several different classes of Destroyers in service aside from the Ticonderoga class shown - some are much older designs, while others are new construction that will supplement and eventually replace the current classes. In addition to there being many other classes of ships in service, the specific classes shown will all have minor variations of weapons or system fits on individual ships within the class. Players should therefore feel free to modify the listed designs and/or to create their own new ones while still remaining within the guidelines of the background provided.

It should be noted that the designs presented in this volume have been configured to fulfil sensible roles within their fleet structures, and as such are not "rules-lawyered" or maximised to exploit the limits of the designs system. If you set out to build a perfect fleet to beat a given type of opponent in a one-off game, you can probably come up with designs that are a lot more effective than those listed here, but that is not the way "real" navies work - they have to have the flexibility to perform many varied missions against different potential enemies, and this is what we have tried to reflect in the designs of the ships in this book.

For those of you who do not use the "official" background setting, the designs in this book should still provide an invaluable resource of pregenerated ships. Need a Heavy Cruiser? Just pick any of the ones listed, modify it (or not) as you desire, and call it whatever fits your preferred background!

NOTES ON THE NEW SHIP DESIGN SYSTEM, AND COMPARISON WITH FT 2nd EDITION

Using the design system given here, ships will end up with much higher MASS ratings than the comparable classes in FT2, but with broadly similar offensive and defensive capabilities. Under the new system of variable hull strengths, the Damage Point values of some ships will be a little higher than under FT2 (especially when using Average strength hulls or better), but this will be balanced by the slight increase in offensive power of most weapons due to the reroll rules and the increased vulnerability of some ships caused by the new style damage tracks. Overall, we think most of these factors will balance out and the game play should not be too unlike FT2.

So, why bother with the new design system at all? Well, its main advantage is that it offers increased flexibility. While an AVERAGE ship (average hull strength, medium thrust levels and a balanced weapons fit) should be broadly similar to its FT2 counterpart, the new system removes a lot of the artificial limitations of FT2 design and gives players the opportunity to experiment with decidedly strange design concepts if they so desire. It is now possible to try out ships with hugely powerful drives and little else, designs with massive armour and hull strength but very weak engines, all-offence ships that can dish out huge amounts of damage but have to rely on other ships to protect them, and so on.

Another very important point is that the new system removes the artificial "break points" that plagued the original design system - there is now no arbitrary division of ships into Escort, Cruiser and Capital sizes, and the construction system works on sliding scales from the smallest to the largest ship. Players used to the FT2 design system will notice that they now have to expend mass and points for such things as Fire Control systems that used to be "free" under the old rules, but no longer will there be the odd problems caused by the old mechanisms, whereby the larger ships of one category were much more effective (and cheaper) than the smaller classes of the next group up.

For every gain, there will have to be sacrifices made - every design will be a juggling act between offence, defence and mobility, and there will never be room for the best of everything. Some may be better than others in certain roles, but the ship that is perfect in one type of battle against one particular opponent may find itself in deep trouble against another fleet with a different design strategy.

USING FT 2ND EDITION DESIGNED SHIPS WITH THE NEW RULES

If players wish to make use of existing ships while using the new rules given here, a rough comparison of force strength can be made using the points values of both old and new designs. While the old and new systems differ greatly in the cost of individual ship components and weapons, the overall points costs of ships are similar enough that an approximate balance between fleets can be made on a one-to-one basis.

It should be noted that forces using both FT2 and new design ships should NOT be balanced on MASS ratings alone, as equivalent ship classes have a much higher overall MASS under the new system - normally between two and three times higher.

The most important difference between FT2 and the new designs for actual gameplay (as opposed to design) purposes is the fire arcs; for this you can choose to either play the FT2 ships with their original 4-arc system, or make simple conversions to the new 6-arc rules; in the latter case we suggest that systems with one-arc facing in FT2 be given either one or two new arcs as seems most appropriate to the individual ship design, 2-arc FT2 weapons have 3 new arcs (180 degrees in both cases), and 3-arc FT2 weapons become 5-arc (i.e.: all but Aft).

Note that mixing the two systems like this will NOT be guaranteed to give an exactly balanced game, but then nothing will short of 100% identical forces. We don't claim that there will be no contradictions or rules clashes if you try to mix designs between the old and new versions of the game, but we're sure that most of you are sensible enough to sort out any that occur in the true spirit of the game.

WEAPON TYPES AND BACKGROUNDS

In MORE THRUST we gave rules for a number of different "alternative" weapons and systems, including cloaking fields, the Wave Gun and even some downright silly ones such as the Reflex Field. The intention behind many of these was to simulate certain special weapons seen in certain TV series or films, to enable battles from those settings to be fought under the FT rules. What has happened, however, is that many players have used ALL the optional systems and weapons in their games. Now, there is nothing inherently wrong with this EXCEPT that, as some of the weapons were never meant to fit in with the basic game system, they can do very weird things to the game balance.

The following systems and weapons in particular are ones that were never intended to fit into the "standard" FT background: Wave Guns, Nova Cannons*, Reflex Fields, Cloaking Systems. (* OK, so this was in the basic rules and not in More Thrust, but it was still intended to be a token "ludicrous mega-weapon" .....)

We would strongly recommend that these systems are used with discretion, and then only with the express agreement of all players; they are not recommended for games where there is any kind of "competitive" element in play or in fleet design.

Please note that we're NOT telling you not to use any or all of these systems if you wish - just to be aware that their indiscriminate use may throw up anomalies in the game, and you should be prepared to deal with this as you see fit. It should also be noted that the use of Kra'Vak technologies (their railguns, scatterguns, armour and advanced drives, as per the More Thrust rules) on human or other ship designs will also have a potentially unbalancing effect on the game, and should be used with discretion if at all. Volume 2 of the Fleet Book series will address the alien weapons and systems in detail, and provide some modified rules to fix the inconsistencies in the More Thrust rules for them.

VECTOR MOVEMENT SYSTEM

This is a completely OPTIONAL alternative movement system, which players may use instead of the standard FT movement rules described in the basic rulebook. To differentiate the two systems, the new system presented here is referred to as VECTOR MOVEMENT, while the standard FT movement rules are termed CINEMATIC MOVEMENT (because they allow ships to move as they are most often depicted in the SF media, with much less regard for the laws of physics!)

The Vector movement rules give a much more accurate portrayal of how objects really manoeuvre in space; they are also a little more complicated than standard FT movement, though far less so than certain other rules' attempts at the same thing! Whether you choose to use them or not will depend entirely on personal taste and whether they fit the particular background you are using - if you are recreating a film or TV series where the ships clearly do NOT move in a true vector fashion, then you will obviously not want to use these rules.

Using the vector movement rules will become very straightforward once you are used to it, but we suggest taking a short while to read through the rules and examples carefully, and to plot a few movement examples out with a ship model to get the feel of the system before starting your first game. Radical course changes become much more difficult to do under the vector rules, especially at high velocities - remember that the faster you are moving, the less manoeuvrable your ship will be under the vector system. It may also take you a while to get used to the fact that the ship is not always pointing in the direction it is moving!

If you are using the "official" GZG background, or one of your own devising, then you may feel free to use either system at the agreement of your players, or even to mix the two to reflect older and newer ships in the timeline or differing levels of technology. Because the Thrust Ratings of ships are used in similar ways in both systems, any given ship design may be used with either movement system without modification - the only thing to be aware of is that ships with low thrust ratings may prove VERY unmanoeuvrable under the vector system.

It is perfectly possible to mix both vector and cinematic movement in the same game, to represent ships with different drive systems or technology levels - each ship simply follows the relevant rules according to its own drive system.

COURSE AND FACING

Under the standard Cinematic FT movement, a ship will always be facing in the same direction that it is moving; under the VECTOR system the ship may be moving one way and facing another. The direction in which the ship is actually MOVING is termed its COURSE, while the direction in which the ship model is actually pointing is called its FACING. The current COURSE is indicated by a small arrow marker placed next to the ship's stand, and this marker is also used as a reference point during the process of moving the model. It should be noted that the FACING of a model should always be one of the 12 "clockface" points, though the mechanics of the vector movement mean that the COURSE will usually NOT correspond exactly to a clockface direction.

MAIN DRIVE THRUST

The THRUST RATING of any ship is the amount of thrust that can be produced by its MAIN DRIVE - the "big engine" at the back. Each point of thrust applied in a turn will accelerate the ship by 1 inch (or other movement unit) ALONG THE AXIS OF THE SHIP, so if a ship that is facing in its direction of travel (i.e. its "course" and "facing" are the same) and currently moving 6" per turn applies 4 points of thrust from its main drive, it will end up moving at 10" per turn. If the ship's facing and course are NOT the same (i.e.: the model is pointing one way and moving another) then the application of thrust from the main drive will alter the ship's course AND velocity. To DECELERATE using the main drive (as opposed to using the forward "retro" thrusters), the ship must be turned so that it is pointing "backwards" relative to its current course. When writing orders for your ship, Main Drive thrust is written as MD followed by the number of thrust points being applied - so MD4 will move the ship 4" in the direction of its present facing.

If using existing ship designs (whether from this book, from FT2 or elsewhere) then the thrust level shown in the ship's drive icon is the rating used for the main drive.

MANOEUVRING THRUSTERS

In addition to the main drive, all ships have THRUSTERS - small drives positioned in clusters around the ship, pointing forward, port, starboard etc. (in reality ships would also of course have "up" and "down" orientated thrusters, but as we are not concerned with 3D movement in FT we can ignore these except for their use in rolling the ship).

The thrusters may be used to "push" the ship to alter its course, or to rotate the ship onto a new facing. The power available to the ship's thrusters is equal to half the thrust rating of the main drive - so a ship with a main drive TR of 6 would have 3 manoeuvre points available from its thrusters; unlike the Cinematic movement rules, thruster use is allowed in addition to applying full available thrust with the main drive - so that a ship with a Thrust Rating of 4 could apply 2 points of thruster use and still use all 4 thrust points from its main drive.

We have not depicted the Thruster systems as separate icons on the ship diagrams, in order that any design may be used with either movement system without alteration. For the purposes of damage, assume that the thrusters are driven by the same power systems as the main drives - when the main drive takes damage, thruster power is halved or lost accordingly.

ROTATION

Rotation of a ship around its axis requires much less power than actually changing its vector. When the thrusters are used to rotate a ship onto a new heading, ONE manoeuvre point from the thrusters allows the ship to be rotated by any desired number of facing points. Thus, for the expenditure of one point of thruster power a ship can be rotated to face in any of the 12 possible facing directions, regardless of the thrust rating of its drives (the only difference between rotating 30 degrees and rotating 180 degrees is simply that, once the thrusters have started the ship spinning, the ship is allowed to rotate for longer before the thrusters burn again to cancel the spin). Note that a ROTATION changes the ship's FACING only, and never its COURSE.

Note: when thrusters are used to rotate the ship onto a new facing, it is assumed that several of the ship's thrusters are fired in unison to achieve the desired effect - for example, to rotate the ship to starboard it would fire the PORT FORWARD thrusters and the STARBOARD REAR ones simultaneously to spin the ship around its centre of mass. It is assumed that, in the same turn, a compensating burst is applied as the desired new facing is reached in order to stop the ship's rotation - the combined effect of these operations constitutes one "rotation" action.

ROTATION orders should be written down as TP (Turn Port) or TS (Turn Starboard), followed by the number of points of heading change - thus TP2 indicates a rotation to port of 2 clockface points (ie: 60 degrees).

THRUSTER PUSHES

A thruster "push" is firing a combination of manoeuvre thrusters to alter the course and/or velocity of the ship, WITHOUT affecting its actual facing (i.e.: the ship ends the turn with its model pointing the same way it started, although its course may have changed). Pushes may be made to PORT, STARBOARD or REVERSE (using the forward "retro" thrusters to slow the ship down without having to spin it round and use the main drive). It requires ONE manoeuvre point of thrust applied to displace the ship by one movement unit; a push of 3 with the port-side thrusters will shift the ship 3" to starboard (for simplicity of play, this is referred to as a STARBOARD PUSH - to avoid confusing of orders we always use the direction of the EFFECT rather than the location of the thrusters being used). Note that a PUSH changes the ship's COURSE (and/or VELOCITY) only, and never its FACING.

PUSH orders should be written as PP (Push to Port), PS (Push to Starboard) or PR (Push in Reverse), again followed by the number of thrust points applied - so PR3 would be using 3 manoeuvre points from the retros to push the ship 3 units "backwards" relative to its current heading. Pushes may only be applied directly to port, starboard or rearward relative to the ship's facing at that moment.

COMBINING MANOEUVRES

If desired, a ship may combine both ROTATION and PUSH uses of its manoeuvring thrusters in a single game turn, but no more than ONE of each, provided the TOTAL of manoeuvre points expended does not exceed the total available. It is quite acceptable for a ship with (say) 3 manoeuvre points of thruster power available to make a rotation (using up 1 thruster point), then apply a main drive burn, then use the remaining 2 manoeuvre points for a 2" thruster push to port, starboard or aft as desired. The final position, course and velocity would be measured after ALL manoeuvres are completed.

ORDER SEQUENCE

The actual sequence in which thruster and main drive burns are applied in a single turn will make a difference to the final course and velocity of the ship, so it is necessary to rule on what order things are done in. Each effect is applied to the ship strictly IN THE ORDER THEY ARE WRITTEN DOWN BY THE PLAYER. If the player writes TP2, MD6 then the ship will first be moved according to its starting vector (as always), then turned 2 points to port (TP2) and then moved 6" along its new facing (MD6). If, on the other hand, the order is written MD6, TP2 (thus applying the main drive burn BEFORE rotating the ship to its new facing) then the result will be VERY different in terms of the ship's final vector and position - plot each one out and you'll see what we mean!

COLLISIONS

If there are any objects on the board that are deemed big enough to pose a collision risk, such as asteroids or very large space installations, such a risk will only occur if the line between the ship's STARTING and FINAL positions intersects with the object. In effect, it is this line (as shown by the tape or rule when measuring the final velocity of the ship) that most nearly approximates the "true" path followed by the ship during the turn - the position of the ship model at any other time during the movement sequence is merely for calculation purposes and does NOT indicate that the ship actually occupies that point at any time. Of course, even doing it this way is an over-simplification of the true mechanics - but we feel it is close enough for game purposes!

VECTOR MOVEMENT SYSTEM

MOVING SHIPS UNDER THE VECTOR SYSTEM

Once the orders are written by all players, all ships are moved simultaneously in accordance with their starting vectors and any relevant manoeuvre orders. When moving a particular ship, ALWAYS start by moving it according to its starting vector - i.e. move the model in the direction of its present COURSE (as indicated by its course marker arrow) a distance equal to its current VELOCITY, being very careful to keep the FACING of the model exactly the same as at the start of the turn; at this stage, LEAVE THE COURSE MARKER IN ITS STARTING POSITION. Now apply any thrust (main drive and/or thrusters) indicated in the ship's orders, making sure to apply each effect in the sequence it is written down. Where the model ends up after all thrust has been applied is its finishing position for that turn; now place the tape measure or rule between the course marker and the ship's final position, and read off the distance - this (rounded to the nearest whole inch or other movement unit) is the ship's final VELOCITY for the turn, and should be written in the "V" box on the order sheet ready for the next turn. Finally, move the course marker up to the stand of the model again, with its arrow pointing in the direction of the ship's new COURSE - i.e.: parallel to the tape-measure. The ship's VECTOR at the start of the next turn will now be in the direction of the course marker arrow, at the new velocity written down.

VECTOR MOVEMENT EXAMPLES:

i) The ship in Diagram 1 is facing in the same direction it is moving (ie: its COURSE and FACING are currently the same), and its current velocity is 10. The ship starts the turn at position A. The player writes movement orders of TP3, MD6. Firstly, the ship is moved along its present course by 10", to position B - it is then rotated 3 points (90 degrees) to PORT, to position C. Now, it is moved along its new facing by the amount of its Main Drive burn, ie: 6", to its final position D. Finally, the distance between starting and finishing positions (A and D) is measured - rounded to the nearest whole number it will be 12", and this is recorded as the starting velocity for the next turn - and the course marker is moved up to the model again parallel to the line between positions A and D.

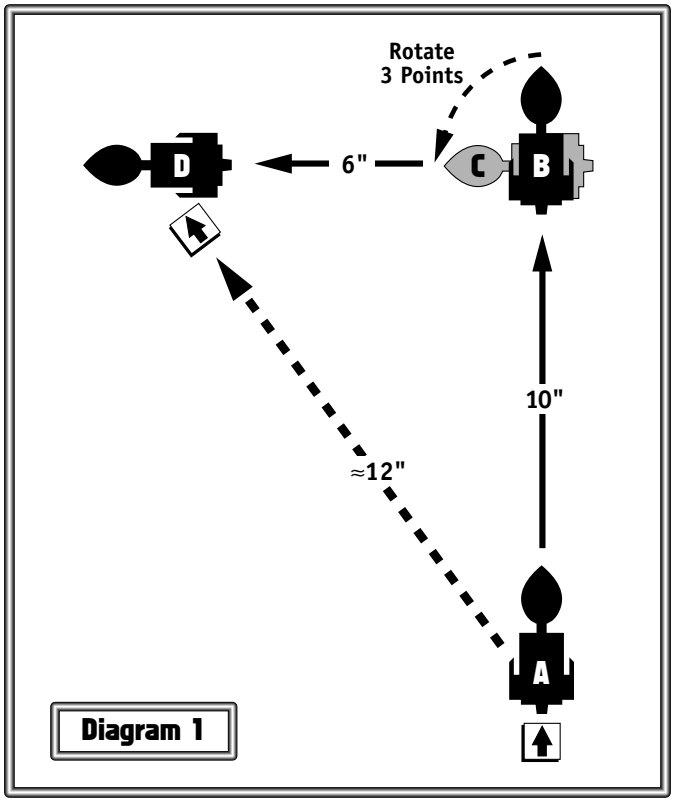


Diagram 1

ii) The ship in Diagram 2 is facing in the same direction it is moving, and its current velocity is 6. The ship starts the turn at position A. The player writes movement orders of PS2. Firstly, the ship is moved along its present course by 6", to position B. Now, the ship's side thrusters fire to push it 2" to starboard, to the final position C, without changing its facing. The distance between starting and finishing positions is measured - rounded to the nearest whole number it will be 6", and this is recorded as the starting velocity for the next turn - and the course marker is moved up to the model again parallel to the line between positions A and C.

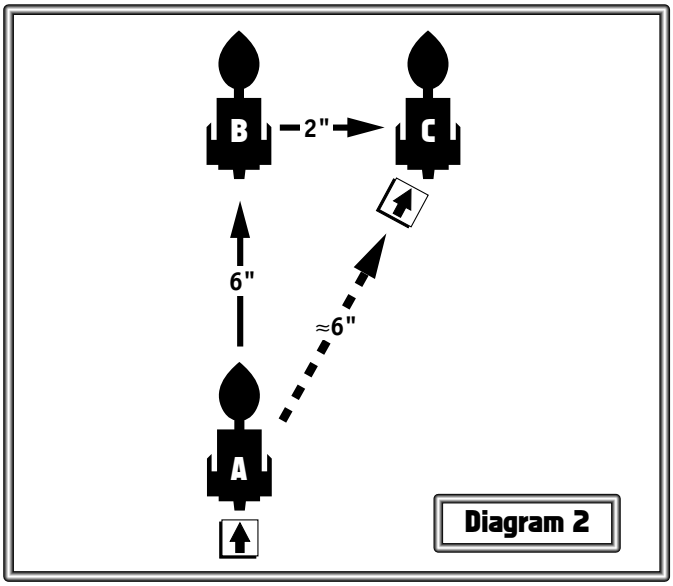


Diagram 2

NEW FIRE ARC RULES

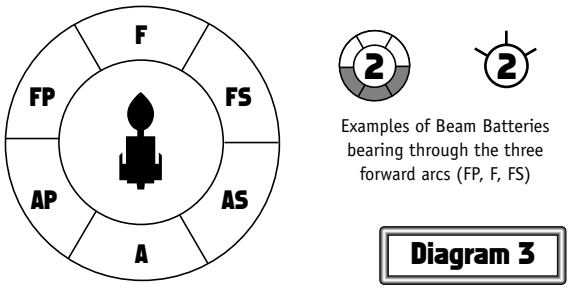
ARCS OF FIRE

The four 90-degree fire arcs originally used in FT are now replaced with SIX arcs, each of 60 degrees. The new arcs are indicated in Diagram 3, and are designated (clockwise, from dead ahead) FORE (F), FORE STARBOARD (FS), AFT STARBOARD (AS), AFT (A), AFT PORT (AP) and FORE PORT (FP). This brings the fire arcs into line with the 12 "course points" used in movement, and also makes fire arcs much easier to judge by eye from the hexagonal or clockface-style bases that most players mount their ships on.

All weapons that are capable of bearing through more than one arc may have this indicated either by the "pointers" used in FT2, or by putting a ring of six segments round the system icon, and blacking-in the segments through which fire is NOT permitted. Examples of both these methods are also shown in Diagram 3. The old "pointers" method may be easier to hand-draw for your own ship designs, though the segment method is more visually attractive and has been used for the designs in this book.

Weapons or systems that can only bear through ONE arc have this indicated by the orientation of the system icon on the ship diagram - ensure it is pointing clearly towards the relevant arc.

Systems that have no "directionality" to their icon (eg: PDS) have all-round (6-arc) fire capabilities.



Examples of Beam Batteries bearing through the three forward arcs (FP, F, FS)

Diagram 3

OPTIONAL RULE: AFT-ARC FIRE

The FT (2nd ed.) rules prohibit any weapons fire (except point-defences) through the aft arc of a ship, and no weapons are mounted to bear through that arc in the FT2 ship designs. You will note that some of the designs presented under the new system in this volume DO have weapons bearing directly aft (those weapons mounted in all-round (6 arc) turrets). As an OPTIONAL RULE, players may decide to PERMIT aft-arc fire (by weapons that are mounted to bear accordingly) on any game turn in which the firing ship did NOT use any thrust from its main drive engines. Course changes (if using Cinematic Movement) or Thruster use (if using Vector Movement) are permitted without affecting fire through any arc, but any acceleration or deceleration applied by the main drives blocks any outgoing fire through the aft arc in that turn only.

ROLLING SHIPS

Although FT makes no attempt to simulate 3-dimensional movement or combat (as explained in the FT rulebook, we feel that the additional complication far outweighs the benefits gained), there is one simple rule addition that we are including here: the ability to "roll" a ship 180 degrees on its central axis, thus effectively swapping the port and starboard sides (the ship is "upside down" relative to the other ships on the table). This manoeuvre can be very useful when ships start to lose systems due to damage, as it can allow undamaged weaponry to bear on targets that would otherwise be on the wrong side of the ship.

To perform a roll, the player simply notes RO in his movement orders for that turn; the roll expends 1 thrust factor, which comes off the "turning" allowance - i.e.: a thrust-4 ship, normally capable of 2 points of turn, could only turn 1 point if it also rolled that move (but it would still be able to use its other two thrust factors to accelerate or decelerate as normal). The roll then occurs at the start of the ship's movement, and a "rolled" marker is placed by the model to indicate its inverted condition. Rolling has no effect on combat EXCEPT that the ship's port batteries now bear to starboard, and vice-versa. An inverted ship may, of course, roll back "upright" in any subsequent turn, or may remain inverted as long as the player wishes.

For simplicity of play, it is suggested that rolled ships should still have their movement orders written in relation to the actual miniature rather than their theoretical inverted condition - thus an order written for a Port turn will still turn the model to the left, even though to the inverted ship this would actually be a "starboard" turn. Keeping to this convention should, hopefully, avoid a lot of potential confusion and arguments!

ODD-NUMBERED THRUST FACTORS

It is permitted to design ships with odd-numbered Thrust factors (eg: Thrust-3); such drives operate just as for even-numbered ones except that to determine the thrust available for course changes the thrust rating is halved (as normal) but is rounded DOWN, so that a ship with Thrust-5 is only capable of 2 points of course change. Note, however, that ships which (through design or through drive damage) have a Thrust factor of 1 may always change course by 1 point per turn, but may not accelerate or decelerate at all while doing so.

HULL DAMAGE TRACK

For all classes and sizes of ship, the total number of hull damage boxes (which is equal to the MASS used for Hull Integrity) is divided into 4 rows to make up the "damage track" on the ship diagram. Each row should be of equal length, but if the number of damage boxes does not exactly divide by four the extra boxes are placed in the upper rows - so a ship with just 2 damage boxes has one box in each of the two first rows and nothing in the last two, and a ship with 15 boxes has three rows of 4 boxes and one of 3.

APPLYING DAMAGE

As the ship takes damage, these boxes are crossed off, one row at a time, from left to right. At the end any one attack, a target ship that has had the last box in a row crossed off during that attack must immediately take a Threshold Check (exactly as per original FT2 rules); the threshold number is 6 for the first row, 5 for the second and 4 for the third. When the last box in the fourth row is crossed off, the ship is effectively destroyed for game purposes. If a ship suffers enough damage in a single attack to push it over more than one threshold check, make only one check (for the last row destroyed) but add 1 to each die roll for each extra threshold point passed in that attack. [Note that "one attack" is defined as the ship being fired on by ONE other ship, regardless of how many or few weapons are fired at it; it also counts as "one attack" if the ship is under fire by any number of missile salvoes and/or fighter groups at the same time.]

REROLLS (PENETRATING DAMAGE)

This is an OPTIONAL rule, but one that we recommend is used - the new design system results in ships that are somewhat larger and may (depending on chosen hull strength) have more damage boxes than FT2 standard classes, and the extra damage potential of the Reroll option goes some way to redressing the balance.

Simply, when firing any weapon system that is capable of penetrating damage (as specified for each type of system), any roll of SIX inflicts the usual damage AND allows a "reroll" - roll an extra die, and apply any further damage that is indicated by the result. If this reroll is ALSO a six, then apply the damage and roll again. There is no limit to the number of rerolls you can make if you keep throwing sixes (but if you get more than three in a row maybe you should go out and buy a lottery ticket this week...!).

If the target ship has no screens or armour, any damage done by the reroll die is counted exactly as for normal damage by that weapon type - e.g.: if a beam battery shot scores a six, then apply two points of damage and reroll - on a reroll score of 1-3 there is no further damage, on a 4 or 5 apply 1 more point, and on a 6 apply two (and reroll again).

If the target ship has SCREENS active, then the effects of the screen are deducted from the initial attack dice as usual (if applicable), but NOT from the result of any reroll dice - the reroll is assumed to have already penetrated the screen, and any further damage done is applied directly to the ship itself.

Reroll damage is applied to ARMOURED ships in a similar manner - any damage from the basic die rolls of an attack is applied to armour boxes on the ship, but if a six is rolled then it knocks out two armour boxes and any damage caused by the REROLL die is applied directly to the ship's ordinary hull damage boxes, irrespective of whether it still has armour boxes remaining.

CORE SYSTEMS (OPTIONAL RULE)

While weapons, fire control sensors and screen emitters are all "surface" features on most ships and are thus very vulnerable to incoming fire, there are certain vital systems that are usually buried deep within the ship's hull; these are the "core" systems, and consist of the Command Bridge (which also includes computer systems, avionics etc.), the Power Core and the Life Support System.

If using the "core systems" rules, these three systems are grouped together on the ship systems diagram, with a box drawn round them. Whenever the ship reaches a threshold point, the systems within the core box are each rolled for as normal, but at +1 to the current threshold number - thus at the first threshold point, where systems are lost on rolls of 6 only, the core systems do NOT need to be rolled for (as they would only be lost on a "7"). On the second threshold, where normal systems go down on rolls of 5 or 6, the core systems are only hit on rolls of 6, and so on.

Notes: i) The core systems, and their basic "protective" box, do NOT need to have MASS allocated to them during ship design - they are assumed to be part of the essential structure of all ships. ii) If using Needle Beams, the core systems may NOT be targeted by these weapons; Needles may only fire at surface features on the ship, such as weapons, sensor grids, drive units etc.

EFFECTS OF THRESHOLD DAMAGE ON CORE SYSTEMS

COMMAND BRIDGE HIT

If the Command Bridge takes a hit, then a further D6 roll is made immediately - if the roll is 1 to 5, then the ship is "out of control" for that number of turns, until command can be restored through backup links and secondary command systems. If the roll is a 6, then the ship is PERMANENTLY out of control for the duration of the game. While a ship is "out of control", it will continue on its present course and velocity, and may not fire weapons, launch fighters or take any other offensive action. Passive defences (screens) are still operational, though active defences (PDS etc.) are not. Once control is regained (after the number of turns indicated by the die roll), all undamaged systems come back on line. Damage Control parties may be used at any turn to try and restore control earlier, using the normal damage control rules.

POWER CORE HIT

If the Power Core takes a hit, it is damaged and may "go critical" and explode, destroying the ship. It continues to supply power for the ship, but the safety systems that control it are damaged or destroyed, and each subsequent turn the player must roll a die at the start of the turn - on a 5 or 6, the core explodes. Damage Control parties may be used as normal to try and stabilise the power core - such attempts are made before the roll for explosion for that turn, and success will bring the core back under control and negate any further effects (unless the core is then damaged again, when the process will repeat). Each turn, BEFORE rolling the die, the player may make a choice - he may abandon ship, or he may "dump" the core - this avoids the risk of explosion, but leaves the ship without power for anything but emergency life-support (from backup batteries) - the ship is intact, but unable to do anything further in this battle except continue to drift on its present vector. If the player chooses to abandon ship, the ship continues to drift while still rolling each turn to see if the core explodes - in this case, however, the needed number for an explosion drops by 1 each turn, as the core is running out of control with no-one to damp it down; thus it WILL explode eventually and the ship will be lost. A ship that dumps its core will be no further use for that battle, but may be salvaged afterwards and its power restored.

LIFE SUPPORT HIT

If the Life Support Systems take a hit, then a further D6 roll is made immediately - the number rolled indicates that the life support will fail after that number of turns. Damage control parties may be allocated to try and repair the LSS as for any other system. If the LSS fails before being repaired, then the crew must immediately abandon ship or be lost. A ship without LSS become a drifting hulk, though it may of course be recovered and repaired after the game if it survives.

NOTE:

The Core Systems rules given above are entirely optional; if you do not wish to use them, simply ignore the systems within the core box on the ship diagram for all game purposes.

NEW AND MODIFIED RULES

EXPANDED FIGHTER RULES

FIGHTER MOVEMENT

In the original FT basic rules, fighter groups were moved AFTER all ship movement had been made. This meant that the player could position his fighters easily to attack a desired enemy ship, which was why we kept the standard fighter movement distance down to only 12" to stop them becoming TOO powerful. We now strongly suggest that the optional rule given in MORE THRUST is used as the standard rule, so that all fighter groups should be moved after the players have written their movement ORDERS for their ships, but BEFORE the ships are actually moved - if a fighter group then ends up within 6" of an enemy ship after that ship has been moved, it may attack. This forces players to try and predict at least roughly where the enemy is going to move, in order to position their fighters effectively - thus simulating the fact that although fighters are very fast and highly manoeuvrable (hence the abstract nature of their movement, without orders or course/velocity recording) they have limited fuel reserves for extended travel and must therefore try to predict "intercept" trajectories to get them close to their intended prey.

Fighter Endurance (also introduced as an optional rule in MT) is also now a recommended standard rule (provided it fits the background you are using), but the endurance limit is increased from 3 turns of combat to SIX turns per standard fighter group. A group will use up 1 Combat Endurance factor each turn it engages in combat, whether attacking a ship, another fighter group or being attacked itself, and 1 CEF every time it makes a Secondary Move (see below). Normal movement during the main fighter movement phase does NOT consume Combat Endurance factors. When all combat endurance is exhausted, the group may still move normally (though it may make no secondary moves) but may not make any attacks. There is now no time limit on a group returning to its carrier after exhausting its CE. A group that is engaged in a dogfight by an enemy group after exhausting it's CE factors may return fire, but only scores kills on rolls of 6.

Standard fighter groups now have a maximum move distance of 24". Fighter group movement is performed AFTER both players have written their ship movement orders, but BEFORE the ships are actually moved.

Fighter movement is performed BEFORE the placing of markers for SMB fire.

Once all ship movement has been made, players have the option of making a SECONDARY MOVE with any fighter groups they wish, of up to 12" ; as with the basic move, this can be in any direction and any distance up to the maximum 12", even if the group moved its full 24" in the primary move phase. Any fighter group that makes this secondary move loses 1 COMBAT ENDURANCE factor if players are using the endurance rules. The secondary move may be used to bring a group into contact with a target that would otherwise have evaded it, or in some cases to get them out of trouble - but it may NOT be taken if the group has already been engaged in a dogfight by another group.

[We recommend recording the remaining Combat Endurance and the number of fighters left in each group with two small D6, in different colours, which maybe placed either behind or on the stand of the fighter group they relate to; an alternative to this is to have a simple fighter group roster sheet on a piece of paper, with a box drawn for each group that contains two rows of six smaller boxes - one row represents the number of fighters left in the group, and the other the remaining CE factors.]

Example: *One of player A's standard fighter groups is moved 20" in the main fighter movement phase, being placed in a position that A hopes will allow it to intercept one of B's ships. Following the fighter movement, player B fires an SMB salvo and places its counter in a position that will threaten one of A's ships after it has moved. Both A and B now move their ships in accordance with their orders. Player A sees that his fighter group is now out of position to attack its intended target (B having anticipated well and changed course), but if he takes a secondary move with the group then it could either follow its original target OR could move to intercept the SMB salvo that is attacking A's ship. A has a free choice as to which option he takes (if any), but if he chooses to move the fighter group then he must mark off 1 turn's worth of Combat Endurance for the group to represent the additional fuel it has consumed to make the intercept.*

FIGHTER SPEED AND ENDURANCE OPTIONS

FAST FIGHTERS may move up to 36" in their main movement, and up to 12" (as standard fighters) in the secondary movement. **LONG RANGE FIGHTERS** move as Standard types, but have their Combat Endurance increased to NINE rather than 6.
[Note that these and some other rules refer to the specialised fighter variants detailed in the MORE THRUST supplement book.]

FIGHTER MOVE SEQUENCE

Players alternate in moving one fighter group each until all have been moved (if desired); players should agree before the game whether they will dice for "initiative" each turn to see who moves a group first, whether they will take turns in moving first, or whether the player with the most groups in play will always move first.

If dicing for initiative (which we recommend as the "default" method if players do not agree otherwise, particularly in competitive games) then players may add one to their roll for every ACE they have in action at that time, and subtract one for every TURKEY group (see MT for Ace and Turkey rules). The lower scorer must move a group first. Whoever moves first in the main fighter move phase should also move first in the secondary move phase. Whatever method is used to determine first move, we recommend that both players should move all their TURKEY groups before any normal ones, and all normal groups before any that include ACES.

FIGHTER "SCREENS"

Fighter groups may be assigned as close escorts for larger ships, specifically to ward off enemy fighter attacks on that ship; when used in this role, the fighter group is said to be acting as a "fighter screen" for the ship it is escorting. When assigned as a fighter screen, the fighter group must remain within 3" of the ship it is escorting at all times - if it is moved further away then it has broken off from its escorting duties and no longer functions in a screening role. A fighter screen (which may be a single group or several) always moves at the same time as the ship it is screening, rather than being moved in the normal fighter movement phase. Screening fighters CAN exceed the normal fighter movement allowance if the ship they are screening is moving faster than the fighters could normally move. Whenever a ship that is being escorted by a fighter screen comes under attack from enemy fighters, the attacking group(s) MUST engage the screening fighters using the DOGFIGHTING rules instead of attacking the ship in that turn. Each group of screening fighters must be engaged by at least one attacking fighter group; once this condition has been satisfied then any further uncommitted attacking groups may fire on the escorted ship. Example: an NAC transport ship is being escorted by a screen of 3 groups of fighters. Four groups of ESU fighters move to attack the transport - three of them must "pair off" against the three groups of screening fighters and engage them in dogfights, while the fourth is thus free to attack the ship directly. If the ESU player prefers, he could instead allocate all four groups against the screening fighters (two onto one, and one each onto the other two) in an attempt to destroy as many as possible, leaving the transport without fighter cover for the rest of the game.

Attacking fighter groups that are forced to engage screening fighters may NOT then attack the ship in the same turn, even if they defeat all the fighter screen; they will have to try to follow the ship and attack it in the following turn if they wish to (though if all the screening groups are engaged by other groups, then any "excess" attackers may of course attack the ship in that turn while the defenders are occupied). While they survive, screening fighters are thus very useful for keeping attacks away from lightly-protected shipping.

MULTIPLE GROUP DOGFIGHTS

There will be cases, especially when fighters are screening larger ships, where multiple-group dogfight situations (known to fighter pilots as "furballs") may occur. In such combats, all groups engaged in the dogfight may fire only once per turn, but may choose to attack just one enemy group or to split their kills between two or more enemy groups. If the player chooses to split his fire, the dice are rolled as normal and the casualties divided as equally as possible between the relevant groups. The resolution of the attacks alternates between groups, with the player having initiative for that turn firing first - all losses are applied immediately, before the other player may return fire.

INTERCEPTION OF MISSILES BY FIGHTERS

A fighter group may attempt to intercept and engage any missile salvo that is within 6" of it at the end of either the fighters' main or secondary movement. Simply move the group up to the missile counter, and roll one die for each fighter: one missile from the salvo is destroyed for each 5 or 6 scored by the fighters (scores of 6 allow rerolls). The missiles cannot actually fight back or target the fighters, but for each missile that is hit roll 1 die: on a roll of 6 (no reroll) then a fighter is lost by being caught in the blast of the destroyed missile (trying to take out missiles is a tricky and dangerous job at high speeds and very close quarters).

MODIFIED WEAPONS SYSTEMS

NEW BEAM BATTERY DESIGNATIONS

For the new design system, we have reclassified the standard FT beam batteries with NUMERICAL designations, rather than the old "A", "B" and "C" classes. The "C" battery becomes a Class 1, the "B" a Class 2 and the "A" a Class 3; this new designation allows us to extend the system to Class 4, 5 and even larger, which effectively replace the "AA" batteries covered in More Thrust.

IMPORTANT NOTE:
There is NO change to the way the beam batteries function in the game - all that has changed is the designation.

This change allows the range and dice of each battery to be directly related to the Class number, thus:

Battery class number indicates the number of dice rolled per shot, minus one die for every full 12" in range to target.

E.g. a Class 3 battery rolls 3 dice at less than 12", 2 at 12" - 24" and 1 only at 24" - 36". At ranges greater than 36" the weapon is out of range.

The most common weapon batteries are Class 1 (used as secondary/defensive armament in most cases, or as a limited offensive system on very small ships), Class 2 (primary systems for small/medium ships, and secondary weapons on large classes) and Class 3 (the most common primary weapon system for capital ships); Class 4 batteries are occasionally found on very large vessels, and a few forces have experimented with Class 5 and above (especially for fixed installations and stations) - however the huge size and power requirements for these large systems preclude their general use.

Basic MASS requirements of a given battery starts at 1 for a class 1, and DOUBLES for each class increase - so a class 2 takes 2 MASS, a class 3 takes 4 MASS, a class 4 takes 8 MASS and so on. At 16 MASS for a class 5 and 32 for a class 6, these larger systems rapidly become non-cost-effective for most purposes.

Class 1 batteries are automatically capable of all-round (6 arc) fire at their basic MASS cost of 1. Class 2 batteries at their base MASS of 2 are capable of 180 degree traverse, firing through any 3 adjacent arcs, but may be given full-traverse (6 arc) turrets for an additional 50% MASS cost (i.e.: 3 MASS rather than 2). Class 3 batteries and above have only 1 arc fire (60 degrees) at their base MASS cost; adding additional arcs of fire requires 25% of the base MASS of the battery per additional arc covered - so a Class 3 covering 3 arcs would require 4 + 1 +1 = 6 MASS, while a Class 4 with the same traverse would need 8 + 2 + 2 = 12 MASS.

The standard icon for a beam battery remain as before, i.e.: a circle with the battery class (now a number rather than a letter) inside it. Arcs through which the battery can bear are indicated either by the "pointers" used in FT2, or by a six-segmented circle around the icon.

Beam battery hits and damage remain exactly as per the original FT rules, but may be augmented by the REROLL rule if you are using this option.

CLASS-1 BEAM BATTERIES AS POINT-DEFENCE

Instead of firing in an offensive role, Class-1 beam systems may act as secondary point-defence systems against both fighters or missiles; in this role they fire as for a PDS, but rolls of 1-4 are misses, while 5 or 6 each kill ONE missile or fighter; a 6 allows a reroll as usual. If used in the PD role, a Class-1 battery may NOT fire offensively in the same turn. ONLY Class-1 beams are usable in this way - larger beam batteries are not capable of the fast response times necessary for the role. Class-1 beam batteries may NOT be used in an Area-defence role, even if an ADFC is available.

ENHANCED PULSE TORPEDOES

In the light of player feedback and experience over the years that FT has been in use, we have decided to enhance the capabilities of a couple of weapon systems from the original rulebook to make them a little more cost-effective in game terms. The Pulse Torpedo tube is one weapon to get this upgrade - its maximum range is increased to 30", and its range bands and associated to-hit scores are now as follows:

At 0-6" a hit is scored on 2+, at 6-12" on 3+ , at 12-18" on 4+, at 18-24" on 5+ and at 24-30" on 6 only. Screens do not affect damage.

Damage per hit is still 1D6, and ***NO*** reroll is applied to scores of 6. If the target is ARMOURED, then half the damage scored (rounded UP) is taken on the armour, and the remainder applied directly to the HULL boxes.

The basic mounting for a Pulse Torp tube still only fires through 1 arc (though this can be ANY one arc, chosen at the time of ship design), but the tube may be mounted to traverse through up to THREE arcs at the expenditure of a further MASS per extra arc.

All references to Pulse Torps in the ship designs in this book are of this "new" version, which replaces the original type.

ENHANCED NEEDLE BEAMS

The much-underused FT Needle Beam is the other weapon to get an upgrade here; its maximum range is increased from 9" to 12", and it now has the potential to do at least a small amount of hull damage whether or not it hits its intended target system. As in the original rules, the firer must nominate which system on the target ship he is firing at, and roll 1 die. On score of 6, the targeted system is knocked-out and 1 DP is applied to HULL (the weapon ignores both SCREENS and ARMOUR). On score of 5, the target system is unaffected but 1 DP is still inflicted on hull. Rolls of 1-4 are no effect.

The Needle Beam is still only a one-arc weapon, though it may be mounted to fire through any one arc at the time of design.

DEFENSIVE AND OTHER SYSTEMS

POINT DEFENCE SYSTEMS

Under the revised rules, we have done away with separate systems for Point and Area defence weapons; we now have just one standard system, the PDS (POINT DEFENCE SYSTEM), which can if desired be linked to an AREA-DEFENCE FIRE CONTROL system to allow it to fire in the role of the old "ADAF" system.

Each Point Defence System (PDS) on a ship may fire once per turn, either as an anti-fighter or anti-missile defence weapon. In either case, roll 1 D6 per PDS: scores of 1-3 have no effect, 4 and 5 each kill ONE missile or fighter, while a 6 kills two and allows a reroll (same results apply to rerolled scores). All PDS batteries on a ship must have targets allocated to them BEFORE any of the effects are rolled for, and "wasted" shots may NOT be reallocated to other targets (e.g.: if two PDS are allocated against a single missile salvo, but the missile targeting roll only gives two missiles on target, if the 2 PDS then get hits on three missiles the third "kill" is wasted - it cannot be reallocated against a different salvo).

AREA-DEFENCE FIRE CONTROL (ADFC)

An ADFC is an enhanced antifighter/antimissile Fire Control system that allows a ship to protect other nearby ships with fire from its own PDS. One ADFC allows the ship's PDS (any number of them) to fire at any combination of threats (Fighters, Salvo Missiles, etc) that are directly attacking one other ship that is within 6" of the ADFC-carrying ship. Any PDS used in this mode may not fire in other modes in the same turn. PDS used in AD mode roll dice and score kills exactly as normal PDS fire. An ADFC functions ONLY as an enhanced PDS fire-director link, and may NOT be used as a "normal" Fire Control.

Note that this system is a replacement for the original ADAF installation used in the FT2 rulebook, and apart from the rules above it functions in the same way and with the same limitations.

HULL ARMOUR

Armour may be added to the ship in the form of additional damage boxes that absorb hits before the hull structure begins to take damage. Armour consumes 1 MASS per box of protection, so if you choose to allocate 10 MASS to armour you will get 10 armour boxes on your ship chart in addition to the normal hull damage boxes, and will be able to absorb a total of 10 damage points with the armour before taking any damage to the actual ship structure; once the armour is all gone you will be taking damage to the hull in the normal way. Note that some or all of the damage from certain weapons, and damage caused by REROLLS, is classed as "penetrating" damage - this bypasses armour boxes and affects hull boxes directly, even if there are intact armour boxes left.

Armour boxes are indicated on the ship diagram as a row of CIRCLES to differentiate them from the square boxes of the main damage track, and are placed above the top row of hull damage boxes. There is NO threshold roll made at the end of the row of armour boxes, but any further damage is applied to the first row of hull boxes.

SCREENS

Energy screens, which protect against beam weapons fire and some other kinds of damage, require 5% of the ship's MASS for a level-1 Screen system, and 10% for a level-2 Screen, but with MINIMUM requirements of 3 MASS for level-1 and 6 MASS for level-2 screens; thus any ship up to MASS 60 requires 3 MASS spare to install a level-1 screen system, while larger ships require 5% of their total MASS. Apart from any limitations described in the rules for specific weapon systems, screens work exactly as their counterparts in the original FT rules. IMPORTANT NOTE: THERE ARE NO LEVEL-3 SCREENS UNDER THE NEW DESIGN SYSTEM - additional screen generators above two may be purchased and installed if desired (at 5% of ship MASS each), but will NOT be of use except as back-ups to bring online if one of the main screens is lost through damage.

FIRE CONTROL SYSTEMS

Fire Control Systems (FCS) operate under exactly the same rules as the original FT rules, the only difference being that you must now "buy" them during the ship design procedure; each FCS requires 1 MASS. There is no limit to the number of firecons that may be installed on a ship if the MASS is available.

DAMAGE CONTROL PARTIES

The number of Damage Control Parties a ship has is proportional to its crew size, which is in turn a function of ship mass. This assumes that a certain percentage of the crew is allocated to form damage control teams during combat situations. Military ships have one Crew Factor for every 20 MASS or part thereof, and one DCP per Crew Factor. Thus a MASS 1-20 ship has one CF and hence 1 DCP, a MASS 21-40 ship 2 CFs and 2 DCPs, a MASS 81-100 ship 5 CFs and 5 DCPs etc.

For Merchant and Civilian vessels, which usually have much smaller crews than warships, there will be one CF per 50 MASS (or part thereof) of ship size. How many crewmen a single CF represents is entirely up to the kind of background you are using, but in the "official" one we assume that one CF represents up to about 20 personnel.

A single DCP might therefore be four or five crewmen, and usually includes medical personnel to assist crew casualties as well as engineers to patch up equipment.

For ships with multiple DCPs, more than one may be allocated to a single repair job at one time; one DCP on its own will manage to bring a system back on-line on a roll of 6, and each additional DCP on the same job reduces this needed number by 1. The maximum limit of DCPs on a single job is THREE, so that the highest chance of repairing a system is 50% (4+ on a D6) if three teams are allocated to it. Note that ALL teams put on one system in a single turn make just the ONE roll.

Example: a MASS 90 ship, with 5 CF and thus 5 DCPs available, is trying to repair systems lost at a threshold check. The player decides to combine 3 DCPs (the maximum allowed on one job) to try and get a FireCon back on-line, and use the other two to attempt to fix a damaged weapon system. The FireCon will be fixed if the player can roll 4+, and the weapon on a 5+.

CREW CASUALTIES

For simplicity, it is assumed that crew casualties run proportional to the amount of hull damage suffered by the ship; as damage is taken and crew casualties are suffered, CFs are lost and the available DCPs are reduced accordingly. To record this on the Ship Diagram, dots are placed in certain boxes on the Damage Track to denote the points at which Crew Factors are lost; a ship's current CF (and thus its current number of DCPs) is the number of dots still remaining in non-destroyed boxes on the damage track.

All the designs given in this book already have the CF dots marked in their damage tracks, but if you are designing a new ship type from scratch then you will need to distribute the CFs correctly through the damage track; to do this, divide the number of Hull Boxes the ship has by the number of Crew Factors. Round the result UP if it is not a whole number, then count along the damage track until you reach the number and place the first dot there. Count the same number again and place the second dot, and so on. When you reach the end of the damage track, put the last dot in the last box - it is assumed that the last of the crew will be killed when the ship is finally destroyed, if they haven't abandoned ship by then!

Example: The MASS 90 ship above, with 5 CFs, has an Average hull integrity and thus has 27 Hull Boxes (30% of 90), arranged as 7/7/7/6. Dividing 27 by 5 gives us 5.4, which is rounded up to 6 for this purpose. The first CF dot will be placed in the sixth box of the damage track, the second in the twelfth box (i.e.: the fifth box of the second row), the third dot in the 18th box and the fourth in the 24th box; the fifth and final dot is placed in the last box on the damage track (the 27th). Each time the ship takes six points of cumulative damage, it will lose another CF and thus another DCP.

CARGO HOLDS AND PASSENGER ACCOMMODATIONS

Mass devoted to cargo or passenger space costs no additional points during the ship costing procedure, though of course the actual hull that encloses them is paid for in the normal way. Each Mass factor used provides one factor of Hold space (H) or Passenger space (P). The total amount of cargo or passenger space available on the ship is divided into four separate groups, in much the same way as the ship's hull damage boxes are divided into the four lines of the damage track - if the number does not divide evenly by four then the first holds or passenger areas are the larger ones.

Example: If a freighter has 50 MASS of cargo hold space, this would be divided into two holds of MASS 13 and two of MASS 12.

One of the holds or passenger areas is automatically lost each time the ship's cumulative damage reaches a threshold point, so in effect a ship loses approximately 25% of its cargo or passengers each time it suffers approximately 25% damage. When a hold or passenger space box is crossed off, any cargo stored in it is assumed lost and any non-evacuated passengers in that area are killed.

The holds and passenger spaces are arranged on the ship diagram as a row of four boxes, containing an "H" or "P" identifier as appropriate and a number that represents the actual capacity of the space. The larger spaces are placed first (to the left), and are the first to be crossed off as damage is taken.

Note that specialist areas on other ships may be represented in the same way as cargo and passenger space using exactly the same rules - for survey ships space devoted to scientific staff and lab facilities can be represented by boxes marked "S", and naval troop carriers will have "T" boxes to represent their troop accommodations.

TUGS AND TENDERS:

Under the new construction system, any ship can be made into a TENDER by having internal bay space allocated to carry other ships (whether the carried craft are FTL-capable or not), at the same rate as for carrying fighters and other small craft - ie: every 1.5 MASS used for hangar bay space provides capacity for 1 MASS of carried ship(s). Note that this allows for support and launching facilities, and is thus different from plain cargo space. Thus a ship with 30 MASS devoted to bay space could carry a MASS 20 ship (or 2 x MASS 10 ships, etc.). The points cost of such space is the same as for other hangar facilities, ie: 3 x the total MASS used.

TUGS, which are designed to "tow" other ships through Jump by extending their Jumpfield around them, require much larger than normal FTL drives; they need a drive equal to 10% of their MASS just to provide their own Jump capability, plus additional drive MASS equal to 20% of the total MASS of ships they can tow. Thus to tow a ship of (say) MASS 100, the tug would need spare Jump drive capacity of MASS 20; if the tug itself was a MASS 60 ship, it would need its own MASS 6 FTL drive plus the additional 20 - so it would have to devote a total of 26 MASS to its Jump drive package.

TURN SEQUENCE

This is a summary of the full game turn sequence that should be followed if players are using all the options and new rules listed in this volume.

1) **WRITE ORDERS FOR ALL SHIPS**

2) **ROLL FOR INITIATIVE**
Both/all players roll a D6 each - highest roll has initiative for this turn.

3) **MOVE FIGHTER GROUPS**
Both players alternate in moving one fighter group each until all fighter groups in play have been moved (if desired); player who LOST initiative roll moves first. Fighter groups being launched this turn must be moved before those already in flight.
Any fighter groups currently allocated to screening ships are NOT moved in this phase .

4) **LAUNCH SALVO MISSILES**
Both players alternate in announcing and firing missile salvoes from any missile-armed ships; play alternates BY SHIP, not by single salvo. Player who LOST initiative roll launches first. A missile salvo marker is placed at the point of aim of each salvo.

5) **MOVE SHIPS**
Both players simultaneously move their ships, strictly in accordance with orders written in phase 1.
Fighter groups currently acting as fighter screens are moved at the same time as the ship they are screening, and must remain within the screening distance of the ship.

6) **ALLOCATE MISSILE AND FIGHTER ATTACKS**
All Missile Salvoes and Fighter Groups that are within the specified attack ranges of suitable targets (and wish to attack, in the case of fighters) are moved into attack positions (counters and/or fighter models are moved close to intended target model, so it is clear exactly what they are attacking). Fighter groups may, if desired, make a secondary move in this phase by expending a Combat Endurance factor.

7) **POINT DEFENCE FIRE**
Any ship under missile and/or fighter attack allocates its defences against attacking elements, then rolls for effects. Fighter vs. fighter actions ("dogfights"), attempted fighter missile interceptions and screening actions by fighters are resolved BEFORE actual Point Defence fire is allocated to surviving targets. Note that ships equipped with Area-Defence Firecon systems may use their point-defence batteries to help defend other nearby ships in this phase, but each PDS may only be used ONCE in the turn - if it is used in support of another vessel, it is NOT available to defend the ship carrying it as well. Fighter groups defending against missile attacks fire in this phase also.

8) **MISSILE AND FIGHTER ATTACKS**
All missile salvoes and/or fighter groups that penetrate defences in phase 7 now have their attacks resolved; damage resulting from these attacks is applied immediately, including threshold damage resolution if applicable.

9) **SHIPS FIRE**
Starting with the player who WON the initiative roll in phase 2, each player alternates in firing any/all weapon systems on ONE ship at one or more targets subject to available fire control. Damage caused is applied immediately, and threshold damage checks are made where applicable as soon as all weapons fired by one ship at that one target have been used.

10) **TURN END**
Players confirm that all actions for the turn have been completed as necessary. Any untargetted missile counters are removed from play.
The next turn may now commence.

SALVO MISSILE SYSTEMS

The Salvo Missile System is the only completely new weapon introduced in this book - it is either a set of launch tubes or external racks that fire groups of six relatively small anti-ship missiles, each group being termed a "salvo". The missiles are only one-turn duration (unlike the heavier missiles in the More Thrust rules). Each SM system may fire one missile salvo each turn. There are two types of missile salvo available - "standard" SMs and Enhanced-Range (ER) SMs. Both types work in the same way, but the ER missiles have (as their name implies) a greater range than the standard types, and cost proportionally more. Missile fire occurs in the same phase as FIGHTER GROUP MOVEMENT; that is, AFTER orders are written but BEFORE ships are moved. The firing player announces that he is firing a missile salvo, and places a salvo counter at his intended point of aim - this may be anywhere up to a maximum range of 24" from the firing ship (or 36" for an Enhanced-Range (ER) missile salvo, but must be within the boundaries of the fire arcs through which the SM system may bear. The marker is left in place while all ships are moved; if at the END of movement there is an enemy ship within 6" of the marker (in any direction) then the missiles will attack it; if there is more than one potential enemy target within 6", then the salvo will go for the CLOSER of them. Move the missile salvo marker next to target ship and apply countermeasures/defences before resolving missile hits. Note that if there is no valid target within 6" at the end of movement, the salvo is wasted and the counter removed from play.

[SPECIAL NOTE: if you choose to use the VECTOR MOVEMENT system given in this book instead of the "standard" FT movement rules, then we strongly suggest reducing the attack radius of Salvo Missiles from 6" to 3" - this will prevent the missiles becoming too accurate against the more predictable manoeuvre envelope of a vector-movement ship. If a particular scenario calls for the mixing of vector and cinematic movement ships, then allow missiles to attack if within 6" of a cinematic-drive ship but only within 3" of a vector-drive ship - if you want some "PSB" to justify this, then assume that the grav-drive (cinematic movement) ships have a higher drive signature for the missiles to home on than the reaction drives of the vector-movement ships.]

When resolving SM system fire, the target player must first decide what defences he is allocating against each missile salvo; after he has announced this the attacking player rolls a D6 for each salvo marker attacking - result is the number of missiles in the salvo that are actually on target. The target player then resolves defensive fire as follows:

For each Point-Defence System (PDS) that is allocated to anti-missile defence roll a D6 - rolls of 4 and 5 each stop ONE missile, 6 stops TWO and allows a reroll.

For each Class-1 Beam Battery or screening fighter that is allocated to anti-missile defence roll a D6 - rolls of 5 or 6 stop ONE missile (reroll on 6); 1-4 rolls have no effect. (Note that this is the roll PER FIGHTER in screening groups - so a full-strength group will roll 6 dice, killing a missile on each 5 or 6 scored.)

After subtracting any missiles that are intercepted from the score that the attacker rolled, any positive number is the number of missiles that actually get through the defences AND hit the target (yes, if there are no defences at all then at least ONE missile will always get through!).

For EACH missile of the salvo that reaches the target ship, roll 1 D6 - the number rolled is the number of damage points inflicted, and rolls of 6 score 6 but do NOT get a reroll. Screen systems do NOT reduce missile damage. If the target is protected by ARMOUR, then HALF of the total damage (rounded up) done by the salvo is taken on the armour, and the remainder on the hull even if there are still armour boxes left at that point.

Missiles that get through the defences ARE deadly, so try and stop them if you can!!

Example: two missile salvoes are fired at a single target ship. The ship has the following systems that can defend it against missile fire - one point-defence battery (PDS) and two Class-1 beam batteries that can function in a defensive role. Before he knows exactly how many missiles will actually strike home, the ship's captain has to decide how he will allocate his defences - he chooses to use the PDS alone against one incoming salvo, and the 2 Class-1 batteries to combine fire against the second salvo. The attacking player now rolls for each of his missile salvoes; for the first he scores a miserable 2, but gets luckier with the second and rolls 5. The first salvo has only two missiles on target, and the defending player rolls his PDS die and gets a 6, thus shooting them both down (he would be allowed a reroll for the six, but there is no point as both target missiles are already hit). For the second salvo, with five missiles incoming, the defender gets to roll 2 dice for his 2 Class-1 batts, and gets a 4 and a 6 - the 6 allows him a reroll, but he only gets a 2 with it. So, he has hit only ONE incoming missile. The end result is that four missiles of the second salvo get past all the defences, and deliver their warheads in a blaze of energy - a D6 is rolled for each of them, scoring 3, 1, 3 and a lucky 6; missile hits don't reroll 6s, so this gives a grand total of 3+1+3+6 = 13 damage points to the target ship - enough to cripple a smaller warship and cause some serious harm to even a large one. If the ship has seven boxes or more of ARMOUR, half of the total missile damage (rounded up), ie: 7 points, will be taken on the armour and the remaining 6 on the hull boxes.

SALVO MISSILE MOUNTINGS AND MAGAZINES:

Salvo Missile systems come in two types: reloadable launching tubes (denoted Salvo Missile Launchers, or SML) which are fed from internal missile magazines, and externally carried one-salvo launch racks (termed Salvo Missile Racks, or SMR).

If SMLs are fitted to a ship, the launcher itself takes 3 MASS while each salvo load carried in the internal magazines takes up 2 MASS for standard missiles and 3 MASS for enhanced-range types. An external SMR takes 4 MASS for the complete rack including a standard missile salvo, or 5 MASS for a rack with an ER salvo.

One SML may fire one salvo per turn provided ammunition is left in the magazines; one SMR may fire its salvo load at any time, but is then empty until replenished from a base or fleet auxiliary. SMRs provide the cheapest "maximum throw weight", since every missile on the ship may be fired at the same time if desired; for extended operations, however, one or two conventional launchers backed up by a good magazine capacity is the most flexible and cost-effective solution.

In general, SMRs tend to be fitted to smaller craft where the saving in mass is critical (and the ship may well not survive long enough to fire more than one or two salvoes anyway!), while SMLs and magazines are used more on larger classes which need sustained fire capability.

Examples: Fitting one SMR (assuming standard missiles) takes 4 MASS, as opposed to the 5 MASS needed for an SML with the same one salvo; however, one SML with a 2-salvo magazine takes only 7 MASS against the 8 needed for a pair of SMRs - though the ship with the single SML and the magazine can only fire one salvo per turn, while the twin-SMR ship can fire both at once.

As the weapon load increases, the difference becomes more significant still - if you had 40 MASS available on a very large warship you could, if desired, fit 10 SMRs and be able to deliver all ten salvoes simultaneously, but the same 40 MASS would allow you to fit (say) four SML tubes and a 14-salvo magazine to feed them.

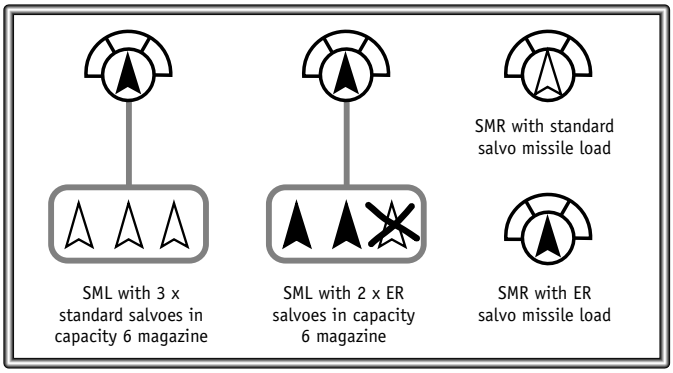
MAGAZINE CAPACITIES

Missile Salvoes for SMLs take up Magazine Capacity at the rate of 2 MASS per standard salvo, and 3 per enhanced-range salvo. The MASS allocated to magazine space during a ship's design stage may be broken down into separate magazines at the designer's discretion, but with the following important limitation: any one Launcher system may only be fed from ONE magazine, though a single magazine may feed more than one launcher. Thus if a ship has 2 SMLs and 8 MASS of magazine space, the designer may decide to fit just a single 8-space magazine feeding both launchers, or could give each launcher its own 4-space magazine instead. The disadvantage of the single magazine is that all the SM capability could be lost with one bad threshold roll (as one magazine is rolled for as a single system, regardless of its capacity or the number of salvo loads in it); on the other hand, with two smaller magazines the player does not have to option to feed missiles to either launcher - if one launcher is lost while it still has missiles in its dedicated magazine, those missiles are useless; they cannot be fired by another undamaged launcher that was not originally fed from that magazine.

The intended type of loadout is another factor to consider when installing missile magazines - in the example above, the ship with a single MASS 8 magazine could choose its loadout as 4 x standard salvoes or 1 x standard and 2 x ER salvoes (a 2 x standard and 1 x ER loadout is also allowed, but wastes 1 space in the magazine). If the same ship had 2 x MASS 4 magazines, however, carrying any ER salvoes would be much less efficient - the spare space in each magazine would be wasted.

The SM Magazine icon is a box linked by lines to the SM Launcher(s) it feeds; the number of salvoes carried in the magazine is indicated by small arrowhead icons within the box, which are crossed off as they are fired. For a STANDARD SM salvo leave the arrowhead white, and for an ER salvo shade it in black. SM Launchers have a black arrowhead in the actual launcher icon, but this has no bearing on the load carried in the magazine - SM RACKS, on the other hand, have either a white or black icon according to the load carried.

[Note that the ship designs in this book all assume standard salvo loads in the magazines - if you wish to load a ship with ER salvoes then shade in the required number of salvo icons and delete any unwanted ones - eg: if a ship design shows 3 standard salvo icons in a MASS 6 magazine, and you wish to use 2 ER salvoes instead, shade two icons black and cross off the third one.]



NEW SHIP DESIGN SYSTEM

The new design system presented here is intended to completely replace the original system given in Chapter 7 of the Full Thrust (2nd edition) rulebook. DO NOT mix parts of the two systems when designing a ship, as the results will be very odd!

The new system requires just a little more calculation than the old one, as some ship systems now take up percentages of the total ship mass, rather than being fixed values - however it is still a very quick and simple mechanism, and once used to it you should be able to generate new ship designs with as much ease as under the original system.

TOTAL HULL MASS RATING

The "TOTAL MASS" of a given hull is a representation of the CAPACITY of that hull for outfitting it with drives, weapons, defensive systems etc. This total MASS figure is used to refer to the size of the ship - e.g.: a size 25 ship could be fitted with a maximum of 25 MASS of systems. Note that the MASS ratings of systems are abstract figures used to indicate the required volume, power requirements etc. rather than an exact measure of the bulk or weight of a given system - if you assume that (in a given background) one MASS is equivalent to around 100 tonnes, then a MASS 1 system (such as a Point Defence installation) will not necessarily weigh in at 100 tonnes; it will, however, require 100 tonnes (1 MASS) of hull capacity to mount the system and its infrastructure, control and power requirements, sensors, crew etc. etc.

CHOOSING OVERALL SHIP MASS

Because the sizes of major items like Hull Integrity and Drives are calculated as percentages of the overall ship MASS, choosing a hull size that is not an exact multiple of 10 will mean that some system masses may not be whole numbers; some of these will be rounded UP and some DOWN.

In general terms, decimals of .49 and less should be rounded DOWN, while those of .5 or higher should round UP. The only specific exception to this rule is in the case of Thrust Factors, as explained below.

For example, if you are building a MASS 64 ship then the 10% required for the FTL drive will be 6.4, which will round down to 6. If the same ship's Main Drive is thrust-4, however, this will take 20% = 12.8, which will round UP to 13 MASS. In general, most designs will come out about even in the rounding of factors; occasionally a ship may end up fractionally better or worse off that another of broadly similar design, but that shouldn't be a serious problem - besides, if we don't give the maximisers and number crunchers SOMETHING to work at they'll all get bored!

IMPORTANT: Note that NO single system can ever be rounded down to MASS 0. A very tiny ship of (say) MASS 4 will still have to pay 1 MASS for an FTL drive (even though 10% for it is only 0.4). Thus the smallest possible FTL-drive ship is actually a MASS 3 scout or courier boat, that will use 1 MASS for Hull Integrity (an Average hull at 30%), 1 MASS for FTL drive (the smallest unit available) and 1 MASS for Main Drive (for which it could get thrust-6). The boat would be unarmed, and have just 1 damage box.

The smallest usable combat ship will be around 5 or 6 MASS, which will get you a tiny armed scout or light corvette with a single fire control and probably only a single small weapon system, crewed by a handful of VERY brave spacers.....

ATMOSPHERIC STREAMLINING

The provision of a streamlined hull to permit in-atmospheric operations consumes some of a ship's available MASS; this represents the necessary aerofoils, control surfaces and heatshields as well as the reduction in usable internal capacity caused by the streamlined hull shape.

In MORE THRUST, two types of aerodynamic hull were considered - FULLY and PARTIALLY streamlined. These classifications (and their effects) are retained under the new design system, but they now require MASS on the ship thus:

PARTIAL STREAMLINING uses 10% of the ship's total MASS, while FULL STREAMLINING uses 20% of the ship's total MASS. The POINTS COST of streamlining is 2 points per MASS used for the aerodynamics.

Example: to give a MASS 50 ship partial streamlining will use 5 MASS and cost an additional 10 points on top of the basic hull cost; to give the same ship FULL streamlining will use 10 MASS and cost 20 points.

Both MASS and points cost of streamlining are in addition to the costs of the basic hull strength chosen for the ship (see below).

VARIABLE HULL STRENGTHS

Rather than the old FT2 definitions of "Military" and "Merchant" hulls with fixed values for damage boxes (50% and 25%), FT3 uses a sliding scale of five different hull strength factors; the chosen hull strength now uses MASS from the ship's total, and is directly related to the number of damage boxes the ship has.

The Hull Strength represents the amount of the ship's structure that is devoted to re-inforcing the basic hull envelope, including bulkheads, compartmentalisation, internal strengthening etc. It is entirely separate from the ARMOUR used (if any), which is external protection - it is perfectly possible to have a ship with a FRAGILE hull structure but lots of armour around it; in such a case the ship will be fine UNTIL some damage manages to get through the armour, in which case the hull integrity will fail very quickly!

FRAGILE hull:	**10% of total MASS**	**Hull Boxes = 10% of MASS**
WEAK hull:	**20% of total MASS**	**Hull Boxes = 20% of MASS**
AVERAGE hull:	**30% of total MASS**	**Hull Boxes = 30% of MASS**
STRONG hull:	**40% of total MASS**	**Hull Boxes = 40% of MASS**
SUPER hull:	**50% of total MASS**	**Hull Boxes = 50% of MASS**

Examples:

MASS 60 ship:

FRAGILE hull:	*6 MASS*	*Hull Boxes = 6*	*(2/2/1/1)*
WEAK hull:	*12 MASS*	*Hull Boxes = 12*	*(3/3/3/3)*
AVERAGE hull:	*18 MASS*	*Hull Boxes = 18*	*(5/5/4/4)*
STRONG hull:	*24 MASS*	*Hull Boxes = 24*	*(6/6/6/6)*
SUPER hull:	*30 MASS*	*Hull Boxes = 30*	*(8/8/7/7)*

SHIP DESIGN PROCEDURE

STEP 1:
Decide on the overall size of your ship - the total MASS rating.

Example: We are building a Heavy Cruiser - sized vessel, and decide on a total MASS of 85. The basic POINTS COST of the basic hull will be the same as the MASS, i.e.: 85 points.

STEP 2:
Choose the HULL INTEGRITY level for the ship, from the following five options:

FRAGILE hull:	10% of total MASS
WEAK hull:	20% of total MASS
AVERAGE hull:	30% of total MASS
STRONG hull:	40% of total MASS
SUPER hull:	50% of total MASS

The MASS used for hull integrity is the given % of the total mass of the ship; the same number gives the HULL BOXES that the ship has to absorb damage points. The hull boxes are arranged in four rows to form the DAMAGE TRACK for the ship.

The POINTS COST of the hull integrity is TWICE the MASS used on it.

Example: We decide to give our Heavy Cruiser an AVERAGE hull integrity. This will use up 30% of the total 85 MASS, or 26 MASS (actually 25.5, rounded up). The points cost of the hull integrity will be 2 x the MASS used, i.e.: 2 x 26 = 52 points.

For HULL BOXES (or Damage Boxes) the chosen hull integrity gives the ship 26 Hull Boxes that will be arranged as 7/7/6/6.

STEP 3:
Choose and fit DRIVES to the ship: if selecting an FTL drive to give the ship an interstellar capability, this will require 10% of the total MASS. Decide on the required THRUST FACTOR for the ship's main drives, which use up MASS at the rate of 5% of total ship mass per thrust factor.

The POINTS COST of the total drive package is TWICE the MASS used on it.

Example: Our Heavy Cruiser needs an FTL drive, which will require 10% of the total ship mass (= 8.5 mass, rounded up to 9); we also decide on THRUST-4 for the Main Drive, which takes 4 x 5% = 20% of ship mass, i.e.: 17 mass. Total mass of drive package is thus 26 mass. Points cost for the drives is 26 x 2 = 52 points.

We now have a hull with drive systems installed; the total MASS used so far is 26 + 26 = 52, leaving 85 - 52 = 33 mass for fitting the ship out with other systems. The points cost so far is 85 + 52 + 52 = 189.

STEP 4:

Select the desired mix of offensive and defensive systems to fit to the ship, according to its intended role.

MASS and POINTS values of the various systems are set out in the systems table.

Example: The Heavy Cruiser we are designing is intended as a multi-role ship, for both extended patrols and as a combat ship to support the main battleline. Accordingly, we decide on a balanced mix of offensive and defensive systems to cope with a wide variety of possible threats.

We choose to fit TWO standard Fire Control systems to the Cruiser, costing 1 MASS each. This leaves us 31 MASS to play with.

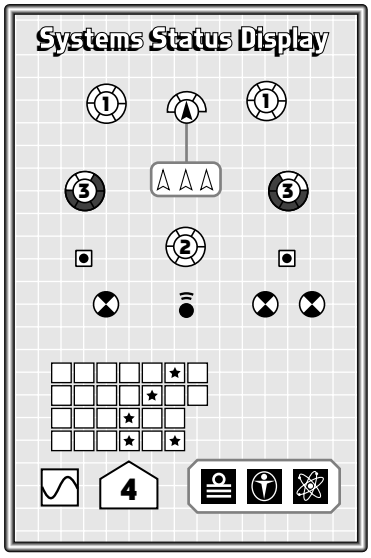
The main offensive punch of the ship will be a mix of beam batteries and salvo missiles - we decide on two class-3 batteries each bearing through 2 arcs (each will bear Fore and one of the Fore Side arcs, to give overlapping coverage), at 5 MASS each, one class-2

battery with all-round fire (at 3 MASS), plus a backup armament of 2 class-1 batteries at 1 MASS each. A single Salvo Missile Launcher is mounted forward (covering the front 180 degree zone) at 3 MASS, with a magazine holding 3 standard salvoes (3 x 2 = 6 MASS). Total offensive systems mass is 5 + 5 + 3 + 1 + 1 + 3 + 6 = 24.

We thus have 7 MASS left for defensive systems to protect the ship; we decide on a good active defence capability of three Point-Defence Systems (PDS) at 1 MASS each, leaving us 4 MASS to use up. We could spend this on 4 boxes of Hull Armour, or alternatively we could fit a level-1 Screen generator for 4 MASS (5% of 85 = 4.25, rounded down to 4). On balance, we decide the Screen would be of more value, and go for that option.

So, the total systems fit for the ship is:

Basic Hull	*(MASS 85)*	*Points cost*	*85*
Hull Integrity	*MASS 26*	*Points cost*	*52*
FTL Drive	*MASS 9*	*Points cost*	*18*
Main Drive (Thrust-4)	*MASS 17*	*Points cost*	*34*
Sub-totals:	***MASS 52***	***Points cost***	***189***
Class 3 Batts x 2 (2-arc each)	*MASS 10*	*Points cost*	*30*
Class 2 Batt x 1 (6-arc)	*MASS 3*	*Points cost*	*9*
Class 1 Batts x 2	*MASS 2*	*Points cost*	*6*
FCS x 2	*MASS 2*	*Points cost*	*8*
SML x 1	*MASS 3*	*Points cost*	*9*
SM magazine (3 loads)	*MASS 6*	*Points cost*	*18*
Screen level-1	*MASS 4*	*Points cost*	*12*
PDS x 3	*MASS 3*	*Points cost*	*9*
Sub-totals:	*MASS 33*	*Points cost*	*95*
TOTALS:	***MASS 85***	***Points cost***	***290***



Ship Diagram for the Mass 85 Heavy Cruiser described in the example above.

OPTIONS FOR THE EXAMPLE

There are any number of different choices we could have made when designing the Cruiser example above - some may have resulted in a better ship, some a worse one, though the true value of any design is really dependant on the threat it is facing at any given time.

If we had wanted to give our Cruiser a Fighter complement, we could have made space for this by dropping the SML and magazine, giving us the 9 MASS that one fighter group and its hangar bay requires. Alternatively, replacing the SML and its magazine with all Beam weapons would have given us a ship that could sustain its fire longer (as beams don't run out of ammo like the SM systems do) but would have not been able to deliver such a hard punch at the (hopefully) vital moment in the battle!

We could have chosen to drop the Hull Integrity to WEAK rather than AVERAGE, saving us 9 MASS that could have then been spent on Armour or other systems, but then the ship would only have had 17 Damage Boxes (arranged 5/4/4/4); fitting 9 boxes of armour would have boosted its survivability considerably, but only until it met a weapon that penetrated the armour and struck directly at its weaker hull. While it is of course possible to optimise a ship or fleet to take on a specific opposition, well-balanced designs will more often be the best option - if your regular opponent always seems to use beam-heavy ships then you might feel like leaving off things like PDS and armour in favour of better screens, until he turns up next week with some new designs sporting SMLs and fighter bays!

MASS AND POINTS COST TABLE

	MASS:	***POINTS COST:***
BASIC CONSTRUCTION		
BASIC HULL	Total MASS of ship	MASS x 1
HULL INTEGRITY		
FRAGILE hull	10% of total MASS	MASS x 2
WEAK hull	20% of total MASS	MASS x 2
AVERAGE hull	30% of total MASS	MASS x 2
STRONG hull	40% of total MASS	MASS x 2
SUPER hull	50% of total MASS	MASS x 2
HULL ARMOUR (per box)	MASS 1	MASS x 2
DRIVE SYSTEMS		
MAIN DRIVES	5% of ship's MASS per thrust factor (minimum MASS 1)	MASS x 2
FTL DRIVES	10% of ship's MASS (minimum MASS 1)	MASS x 2
WEAPONS AND SYSTEMS		
Class 4 BATTERY (1-arc fire)	MASS 8,+2 per extra arc	Total MASS x 3
Class 3 BATTERY (1-arc fire)	MASS 4, +1 per extra arc	Total MASS x 3
Class 2 BATTERY (3-arc fire)	MASS 2, +1 per extra THREE arcs	Total MASS x 3
Class 1 BATTERY (6-arc)	MASS 1	3 Points
SML (Salvo Missile Launcher)	MASS 3 (Launch tubes only)	9 Points
SALVO MISSILE MAGAZINE	MASS 2 per salvo, 3 per ER salvo	3 x magazine MASS
SMR (Salvo Missile Rack)	MASS 4, or 5 for ER salvo	12 (or 15 for ER)
SUBMUNITIONS PACK	MASS 1	3 Points
NEEDLE BEAM	MASS 2	6 Points
PULSE TORPEDO LAUNCHER	MASS 4 (1-arc) +1 per extra arc (up to 3 arcs maximum)	Total MASS x 3
OTHER SYSTEMS (INCLUDING GENRE-SPECIFIC WEAPONS)		
NOVA CANNON	MASS 20	60 Points
WAVE GUN	MASS 12	36 Points
MINELAYER	MASS 2, + 1 per mine carried	6 Points + 2 per mine
MINESWEEPER	MASS 5	15 Points
MISSILE (MT type)	MASS 2	6 Points
REFLEX FIELD	MASS 10 (or 10% of ship MASS if greater)	Total MASS x 6
CLOAKING FIELD	MASS 2 (or 10% of ship MASS if greater)	Total MASS x 10
ORTILLERY SYSTEM	MASS 3	9 Points
HANGAR BAY: (+craft)	1.5 x MASS of small craft carried	Bay MASS x 3
POINT-DEFENCE SYSTEM	MASS 1	3 Points
FIRE CONTROL SYSTEM	MASS 1	4 Points
AREA DEFENCE FIRECONTROL	MASS 2	8 Points
CARGO/PASSENGER SPACE	MASS 1 per space	No cost
LEVEL-1 SCREEN	MASS 3 (or 5% of ship MASS if greater)	MASS x 3
LEVEL-2 SCREEN	MASS 6 (or 10% of ship MASS if greater)	MASS x 3

FIGHTER TYPES:

All fighters require 1.5 MASS of hangar bay space per fighter, so a standard hangar for a 6-fighter group is 9 MASS.

Points costs are: (per group of 6):

Standard fighters	18 points (3 each)
Heavy fighters	30 points (5 each)
Fast fighters	24 points (4 each)
Interceptor fighters	18 points (3 each)
Attack fighters	24 points (4 each)
Long-Range fighters	24 points (4 each)
Torpedo fighters	36 points (6 each)

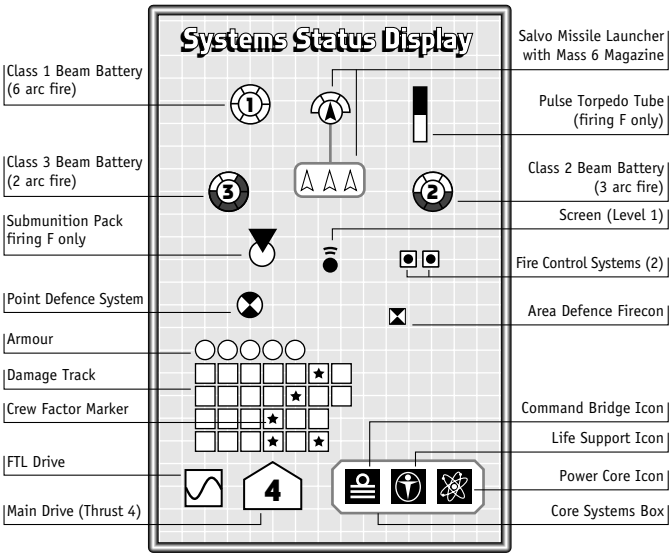
[PLEASE NOTE THAT THE SPECIALISED FIGHTER TYPES LISTED ABOVE ARE DESCRIBED IN THE "MORE THRUST" SUPPLEMENT.]

Interface Craft and other light vessels are costed at 2 points per MASS of the craft.

E.g. a MASS 10 Interface Lander would cost 20 points and require 15 MASS of available hangar bay space on its carrying ship.

NEW-STYLE SHIP DIAGRAM

The ship designs given in this book all use a redesigned ship diagram as illustrated below - please note that this is ***NOT*** an actual ship design, just a key to the symbols and icons used!



STANDARD SHIP CLASSIFICATIONS AND TYPICAL MASS RATINGS:

The table below shows the standard basic ship classifications used by most space navies, along with the accepted designations and a rough guide to the typical mass ratings of the classifications; these figures are very loose, as most navies tend to classify ships by function rather than by tonnage - one fleet's Destroyer may, in reality, be a bigger and more powerful ship than another's Light Cruiser, hence the large overlap in most of the mass groupings.

SHIP CLASS	Abbreviation	MASS RANGE
Scout or Courier	SC	MASS 4-10
Corvette	CT	MASS 8-16
Frigate	FF	MASS 14-26
Destroyer	DD	MASS 24-36
Heavy (or "Super") Destroyer	DH	MASS 30-50
Light Cruiser	CL	MASS 40-60
Patrol or Escort Cruiser	CE	MASS 50-70
Heavy Cruiser	CH	MASS 60-90
Battlecruiser or Light Battleship	BC	MASS 80-110
Battleship	BB	MASS 100-140
Heavy Battleship (or "Battledreadnought")	BDN	MASS 120-160
Dreadnought	DN	MASS 140-180
Superdreadnought	SDN	MASS 160+
Escort Carrier	CVE	MASS 80-140
Light Carrier	CVL	MASS 120-180
Heavy Carrier	CVH	MASS 160+
Attack Carrier	CVA	MASS 150+

SUMMARY OF WEAPON SYSTEMS AND EFFECTS

BEAM BATTERIES

Maximum range and number of dice rolled per shot is according to Battery class (see chart below). Screens reduce damage as noted.

Damage is as per table, with rerolls on scores of 6. All initial damage is taken from ARMOUR (if any), but REROLL damage applied directly to HULL even if armour boxes remain.

Note: Class 1 batteries ONLY may fire in limited PDS mode; roll 1 die per battery, scores of 5 or 6 kill 1 fighter or 1 missile from SM salvo (reroll on 6).

Dice at range:	**0-12**	**12-24**	**24-36**	**36-48**
Class 1 Battery	1	-	-	-
Class 2 Battery	2	1	-	-
Class 3 Battery	3	2	1	-
Class 4 Battery	4	3	2	1

Beam hit damage

Unscreened target:	1-3 = no damage;	4-5 = 1 DP;	6 = 2 DP + reroll
Screen-1	1-4 = no damage;	5 = 1 DP;	6 = 2 DP + reroll*
Screen-2	1-4 = no damage;	5 = 1 DP;	6 = 1 DP + reroll*

* All reroll damage counts as if target is unscreened, as beam is assumed to have penetrated the screens on a roll of 6.

ICONS (examples): Class-1 Battery 6 fire arcs  Class-2 Battery 3 fire arcs 

PULSE TORPEDOES

Maximum range 30"; at 0-6" a hit is scored on 2+, at 6-12" on 3+ , at 12-18" on 4+, at 18-24" on 5+ and at 24-30" on 6 only. Screens do not affect damage.

Damage per hit is 1D6, NO reroll. Half the damage scored (rounded UP) is taken on ARMOUR (if any), remainder on HULL.

ICONS 1 fire arc  3 fire arcs 

NEEDLE BEAMS

Maximum range 12"; firer must nominate target system and roll 1 die. On score of 6, target system is knocked-out and 1 DP is applied to HULL (weapon ignores ARMOUR). On score of 5, target system is unaffected but 1 DP is still inflicted on hull. Rolls of 1-4 are no effect. Screens do not affect damage. **ICON** 

SALVO MISSILES

Maximum range 24". 1 D6 missiles per salvo will be on target, minus any stopped by defensive fire. Screens do not affect damage.

Damage is 1D6 per missile that hits, NO rerolls. Half the damage scored by each missile (rounded UP) is taken on ARMOUR (if any), remainder on HULL.

Extended Range Salvoes exactly as standard SM, except maximum range is 36".

ICONS SM Rack (no magazine)  SM Launcher (with magazine) 

SUBMUNITION PACKS

Maximum range 18"; at 0-6" roll 3 dice, at 6-12" 2 dice and at 12-18" one die only. Screens do not affect damage.

Damage is as per Beam fire dice, with rerolls on 6. All initial damage is taken from ARMOUR (if any), but REROLL damage applied directly to HULL. **ICON** 

PDS (POINT DEFENCE SYSTEM)

Against Fighters or SMBs, roll 1 die per PDS: 1-3 = no effect, 4-5 kills ONE fighter or missile, 6 kills TWO and allows a reroll (reroll kills are same as for first die roll).

On its own, a PDS may only protect the ship it is mounted on, but linked to an ADFC it may be used to engage anything that is attacking another ship within 6".

PDS may fire in a limited antiship mode instead of point-defence mode, at targets within 6" only - roll 1 die, scores of 6 inflict 1 DP on ARMOUR (if any), or HULL if no armour. There are no rerolls. Scores of 1-5 are no effect. Screens do not affect damage. PDS fire does NOT require an active FireCon system, even in its antiship mode - the installation has its own integral shortrange FireCon. **ICON** 

ADFC (AREA-DEFENCE FIRECONTROL)

An enhanced FireCon system that allows a ship to protect other nearby ships with its PDS. One ADFC allows the ship's PDS (any number of them) to fire at any combination of threats (Fighters, SMBs etc) that are directly attacking one friendly ship that is within 6" of the ADFC-carrying ship. Any PDS used in this mode may not fire in other modes in the same turn. PDS used in AD mode roll dice and score kills exactly as normal PDS fire. An ADFC functions ONLY as an enhanced PDS fire-director link, and may NOT be used as a "normal" Fire Control System. **ICON**

NAC ROYAL SPACE NAVY

THE NEW ANGLIAN CONFEDERATION ROYAL SPACE NAVY

The current prefix used for NAC Navy ships is RNS, for Royal Navy Starship. Up to 2166 the prefix was CNS (for Confederation Navy Ship), but an Admiralty decision to change to RNS was reached as a compromise with the hardline Royalist factions who actually wanted a return to the old HMS (His/Her Majesty's Ship) which had been dropped in the late 2090s. NAC-registered merchant shipping is prefixed MSS, for Merchant Star Ship.

The national emblem for the Royal navy is a stylised "A" symbol with echoes of the old United Kingdom flag, in the traditional red, white and blue.

HISTORY AND ORGANISATION

The NAC Royal Navy is a direct descendant of the British RN, and proudly maintains many of the long-standing traditions of the Senior Service. The amalgamation of the British, Canadian and former US navies (that is, the Earthbound surface fleets) when the Anglian Confederation was formed in 2057 brought many American and Canadian naval practices into the new force, but the three nations' long history of co-operation served to make the integration a relatively easy one. The US Military had operated primitive in-system space warships since the early 2020s, and the development of the Jump drive in the 2060s led the new NAC RN to start a programme of FTL warship construction to support and protect their colonial expansion. The first true combat starship was the HMS Thunderer, launched from the Lunar orbit shipyard on July 10th 2076.

The Royal Navy in the 2180s is divided into Core Command, which operates the NAC fleet units still based within the Sol, Barnard and Centaurus systems, Defence Command (also known as the Home Fleet) that operates in the Inner Colonies and is tasked with protection of the NAC's Capital on Albion, and Outworld Command that operates throughout the far-flung NAC colonial possessions. The ground-combat arm of the Navy is the Royal Marines, elements of which are divided between the three Space Commands. Training Command and the Royal Naval Reserve are run as separate organisational structures, with both contributing ships and manpower to any of the main active-duty Commands in times of need.

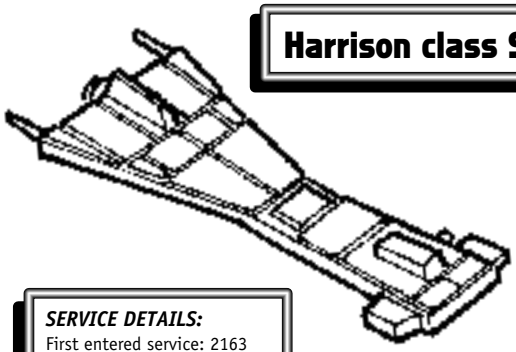
Service in all branches of the NAC armed forces is on a volunteer basis except in the most extreme circumstances, and personnel morale is generally very high. The RN encourages pride in the history and traditions of the Navy, and conditions aboard NAC ships are are comfortable as possible within the constraints of warship design and function.

SHIP DESIGN DOCTRINE

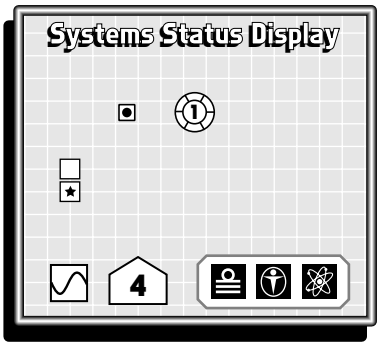
The Royal Navy employs largely general-purpose ships (with the exception of the Fighter Carrier classes), using a broad mix of weapons and systems - beam batteries, pulse torpedoes and some salvo missile systems. They have some specialised designs for duties such as minelaying and sweeping, planetary bombardment and such, but the majority of fleet units are versatile multi-role ships. Energy screens are the primary passive defence, though some hull armour is also employed especially on the heavier units. Mobility is generally average-to-good, with very few ships having less than thrust-4 drives. Fighter operations doctrine is to base them on specialised carriers which rely primarily on supporting escort ships for their defence.

Harrison class SCOUTSHIP

The Harrison is just one example of several small scoutship classes in the NAC fleet, and is an elderly design approaching the end of its projected operational life - many are being sold off to other navies or transferred to training and colonial forces, though a good number will probably remain in NAC service for some time as couriers and recon vessels. Its thrust rating is low for a scoutship, but its hull is better able to absorb damage than many other ships of its size.



TMF: 6
NPV: 21

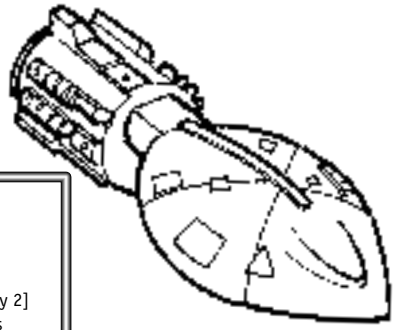


SERVICE DETAILS:
First entered service: 2163
Currently in NAC service: 70
Lost in action: 22
Decommissioned/scrapped: 12
Relegated to reserve fleet: 31
Sold to other forces: 45
Under construction: Nil
Procurement cost: 210 MUcr.

TECHNICAL SPECIFICATIONS:

Classification:	Scoutship	**Defences:**	None
Displacement:	600 Tonnes [MASS Factor 6]	**Sensor suite:**	Standard sensors, 1 Fire-control system
Hull type:	Average [Hull Integrity 2]	**Drive systems:**	Main Drive rating 4, FTL (Jump) Drive.
Crew:	2 officers, 4 ratings [Crew Factor 1]		
Armament:	1 x Class 1 battery		

Arapaho class CORVETTE

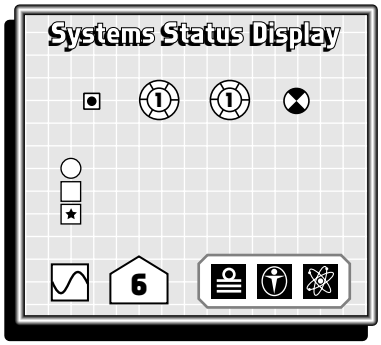


Though lighter than some other navies' Corvette classes, the Arapaho is a capable little combat ship for its size; while never intended to cross swords with the enemy battleline, it can give a good account of itself against other light escort classes. A particular design feature is the choice of a small amount of hull armour over a comparatively frail hull structure, which increases the little ship's survivability considerably. A common variant, known as the Arapaho Brave, mounts a submunition pack in place of one of the class-1 beam systems.

TECHNICAL SPECIFICATIONS:

Classification:	Corvette
Displacement:	1200 Tonnes [MASS Factor 12]
Hull type:	Weak [Hull Integrity 2]
Crew:	3 officers, 9 ratings [Crew Factor 1]
Armament:	2 x Class 1 batteries
Defences:	1 Point Defence System Grade 1 Armour
Sensor suite:	Standard sensors, 1 Fire-control system
Drive systems:	Main Drive rating 6, FTL (Jump) Drive.

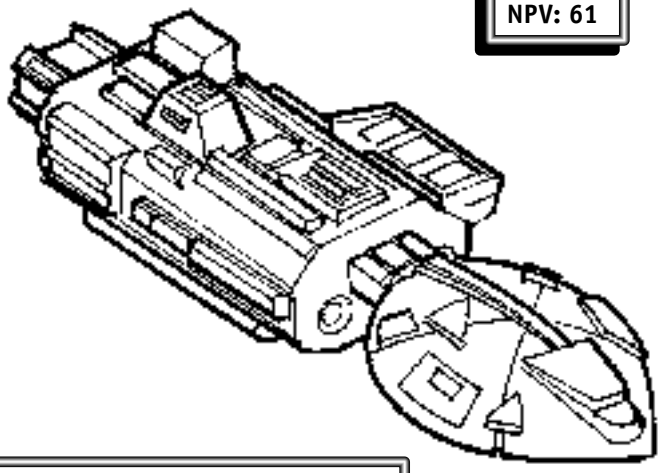
TMF: 12
NPV: 41



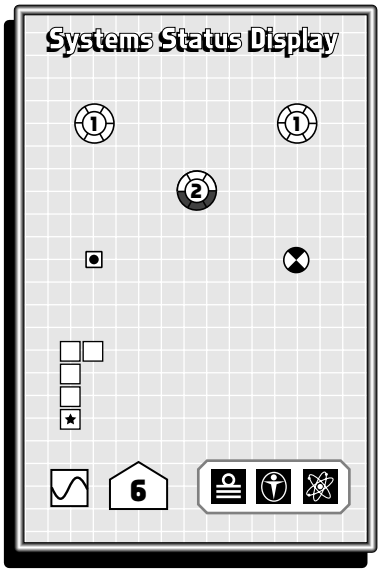
SERVICE DETAILS:
First entered service: 2173
Currently in NAC service: 87
Lost in action: 31
Decommissioned/scrapped: 6
Relegated to reserve fleet: 19
Sold to other forces: 15
Under construction: 33
Procurement cost: 410 MUcr.

Minerva class FRIGATE

TMF: 18
NPV: 61



SERVICE DETAILS:
First entered service: 2169
Currently in NAC service: 104
Lost in action: 38
Decommissioned/scrapped: 29
Relegated to reserve fleet: 17
Sold to other forces: 43
Under construction: Nil
Procurement cost: 610 MUcr.



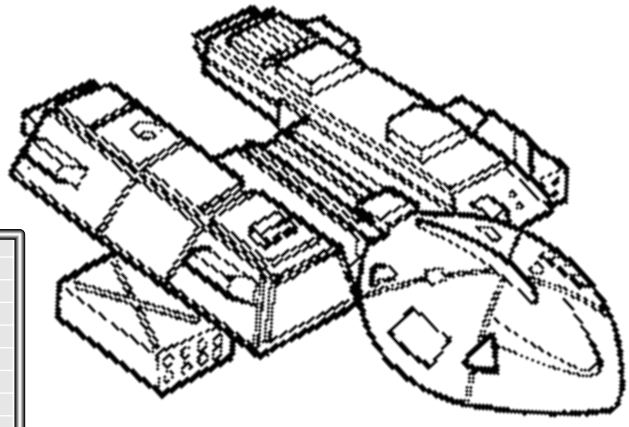
TECHNICAL SPECIFICATIONS:

Classification:	Frigate	**Armament:**	2 x Class 1, 1 x Class 2 batteries
Displacement:	1800 Tonnes [MASS Factor 18]	**Defences:**	1 Point Defence System
Hull type:	Average [Hull Integrity 5]	**Sensor suite:**	Standard sensors, 1 Fire-control system
Crew:	4 officers, 14 ratings [Crew Factor 1]	**Drive systems:**	Main Drive rating 6, FTL (Jump) Drive.

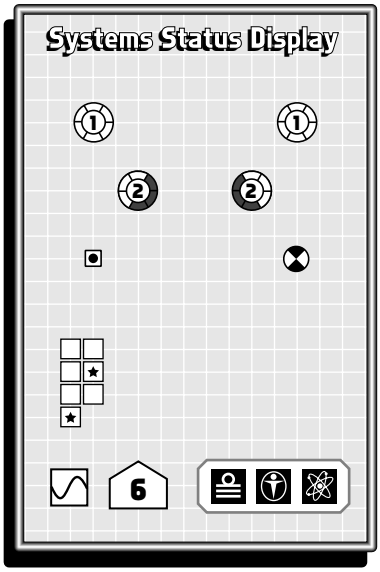
The Minerva is the class name of the second-generation refit of the earlier Miyazaki class frigates; all but a small handful of Miyazaki class ships (originally built in the early 2160s) were stripped and rebuilt to the Minerva specification during an extended refurbishment programme between 2169 and 2173. The main class variant is the Minerva/A, which has only one class-1 beam battery for offensive fire but carries an Area-Defence Fire Control system and an additional PDS installation in place of the class-2 battery and the other class-1; this version is commonly used as an anti-fighter close escort for merchant convoys and support ships.

Tacoma class HEAVY FRIGATE

SERVICE DETAILS:
First entered service: 2181
Currently in NAC service: 41
Lost in action: 13
Decommissioned/scrapped: Nil
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: Nil
Procurement cost: 810 MUcr.



One of the newest ships in the NAC inventory, the Tacoma is already proving a popular and effective vessel; the class is under continuous production at both the Caledon Base and Arcadia shipyards, and within a few years will probably replace many of the older Minerva class ships. An anti-fighter escort version similar to the Minerva/A concept will enter service in 2184, with 18 of the 32 hulls currently in the yards being of this configuration. A Torpedo-carrying variant that drops both class-2 batteries in favour of a single fore-mounted P-torp tube has undergone fleet trials, but no firm order has been placed for this version as yet.



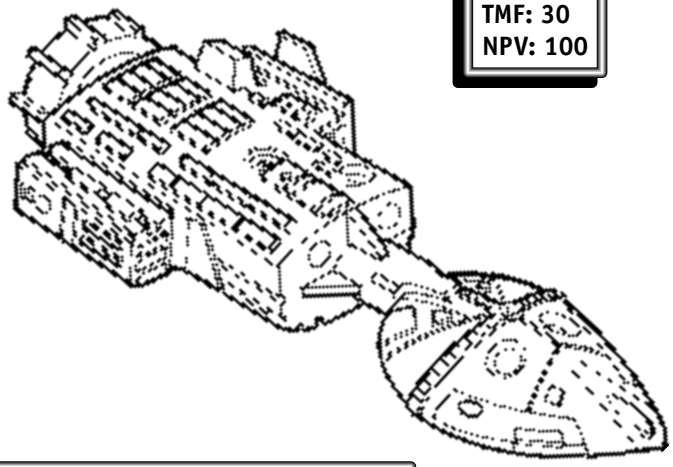
TMF: 24
NPV: 81

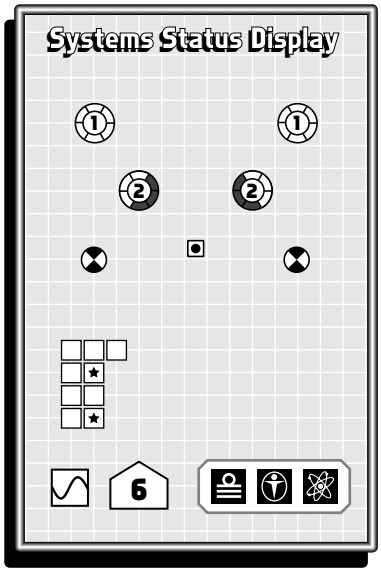
TECHNICAL SPECIFICATIONS:

Classification:	Frigate	**Armament:**	2 x Class 1, 2 x Class 2 batteries
Displacement:	2400 Tonnes [MASS Factor 24]	**Defences:**	1 Point Defence System
Hull type:	Average [Hull Integrity 7]	**Sensor suite:**	Standard sensors, 1 Fire-control system
Crew:	5 officers, 19 ratings [Crew Factor 2]	**Drive systems:**	Main Drive rating 6, FTL (Jump) Drive.

Ticonderoga class DESTROYER

TMF: 30
NPV: 100





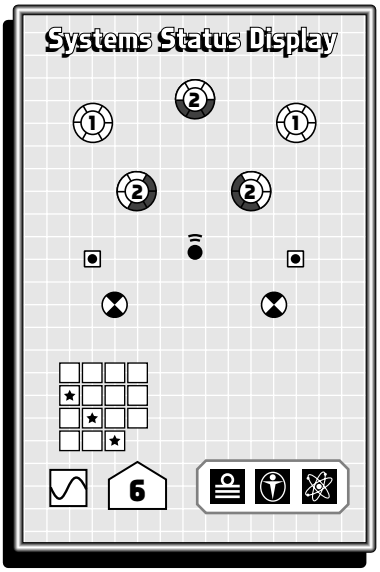
SERVICE DETAILS:
First entered service: 2166
Currently in NAC service: 35
Lost in action: 28
Decommissioned/scrapped: 7
Relegated to reserve fleet: 23
Sold to other forces: 21
Under construction: Nil
Procurement cost: 1000 MUcr.

TECHNICAL SPECIFICATIONS:

Classification: Destroyer
Displacement: 3000 Tonnes [MASS Factor 30]
Hull type: Average [Hull Integrity 9]
Crew: 6 officers, 24 ratings [Crew Factor 2]
Armament: 2 x Class 1, 2 x Class 2 batteries
Defences: 2 Point Defence Systems
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

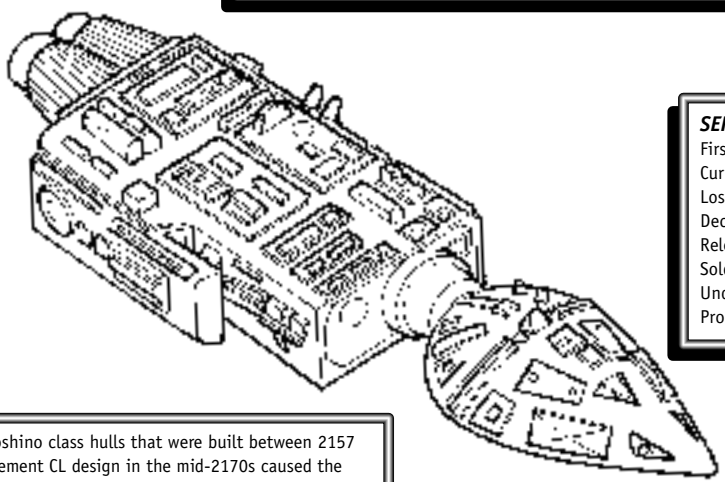
The Ticonderoga is one of the older Destroyer types currently in NAC service. It is an effective general-purpose ship, but age is beginning to tell on the earliest hulls and many are currently being sold off or transferred to reserve forces. A major refit program was undertaken between 2177 and 2179, and those Ticonderogas that are still in service are almost exclusively of the post-refit specification. No hulls of this class have been built since the first of the newer Tallahachie class DDs was commissioned in 2175.

Huron class LIGHT CRUISER



TECHNICAL SPECIFICATIONS:

Classification: Light Cruiser
Displacement: 5000 Tonnes [MASS Factor 50]
Hull type: Average [Hull Integrity 15]
Crew: 9 officers, 41 ratings [Crew Factor 3]
Armament: 2 x Class 1, 3 x Class 2 batteries
Defences: 2 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 6, FTL (Jump) Drive.



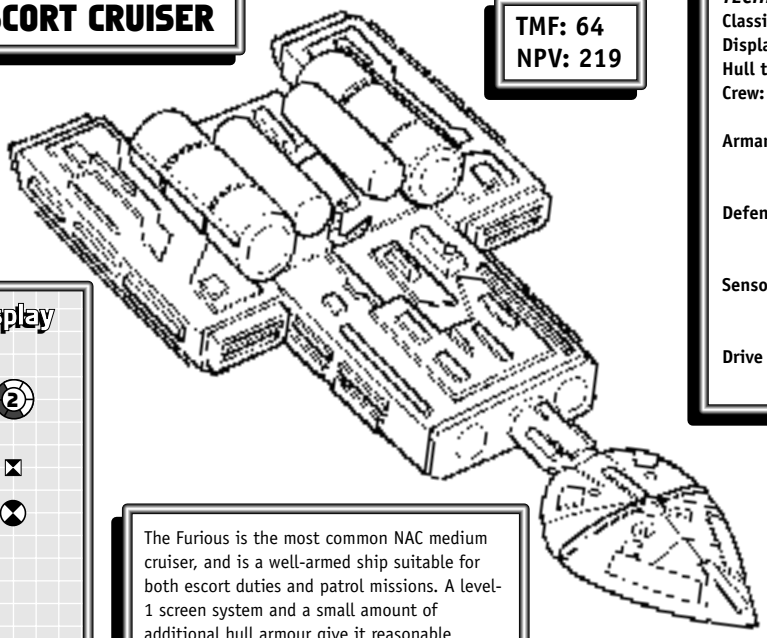
SERVICE DETAILS:
First entered service: 2177
Currently in NAC service: 56
Lost in action: 15
Decommissioned/scrapped: 2
Relegated to reserve fleet: 5
Sold to other forces: 9
Under construction: 4
Procurement cost: 1670 MUcr.

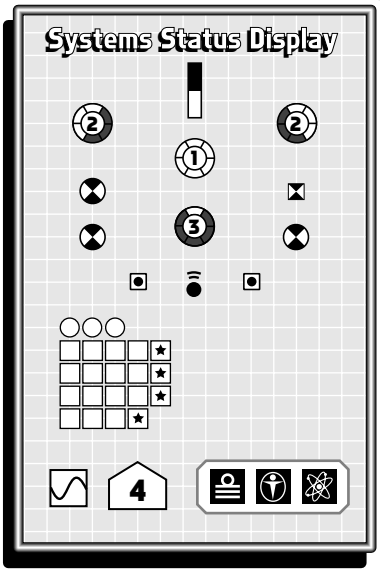
The Huron is a rebuild of the earlier Hoshino class hulls that were built between 2157 and 2165; the lack of a suitable replacement CL design in the mid-2170s caused the Admiralty to look at ways of extending the service life of the obsolescent Hoshinos, and the Huron was the outcome of the project study. Projected operational life of the totally-refitted ships is now well into the 2190s, and there are even a handful of new hulls being built to the updated design.

TMF: 50
NPV: 167

Furious class ESCORT CRUISER

TMF: 64
NPV: 219





TECHNICAL SPECIFICATIONS:

Classification: Escort Cruiser
Displacement: 6400 Tonnes [MASS Factor 64]
Hull type: Average [Hull Integrity 19]
Crew: 11 officers, 53 ratings [Crew Factor 4]
Armament: 1 x Class 1, 2 x Class 2, 1 x Class 3 batteries, 1 Pulse Torpedo Tube
Defences: 3 Point Defence Systems, Level 1 Screens, Grade 3 Armour
Sensor suite: Standard sensors, 2 Fire control systems, 1 Area Defence control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

The Furious is the most common NAC medium cruiser, and is a well-armed ship suitable for both escort duties and patrol missions. A level-1 screen system and a small amount of additional hull armour give it reasonable survivability in combat. A specialised Salvo Missile armed variant of the Furious class is in service, which dispenses with the class 3 battery, the ADFC and the P-torp tube in order to make space for one SM launcher and a 3-salvo (MASS 6) magazine, plus an additional class-1 beam battery.

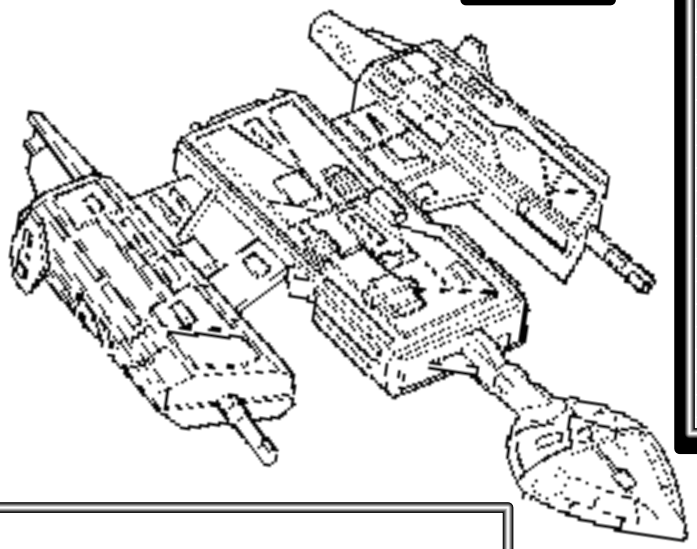
SERVICE DETAILS:

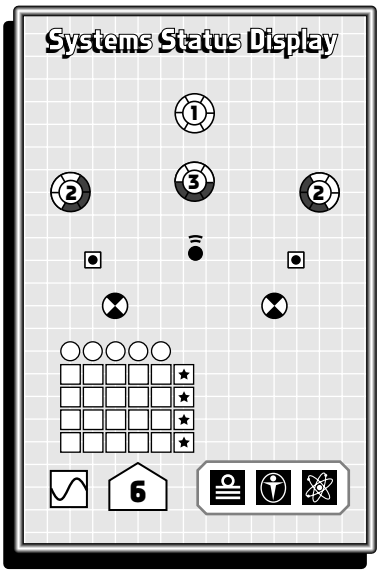
First entered service: 2174
Currently in NAC service: 36
Lost in action: 7
Decommissioned/scrapped: 5
Relegated to reserve fleet: 12
Sold to other forces: 4
Under construction: Nil
Procurement cost: 2190 MUcr.

Vandenburg class HEAVY CRUISER

TMF: 80
NPV: 261

The Vandenburg is a long-serving and powerful cruiser designed to be agile and survivable in combat; it has a higher thrust rating than most ships of its size, though the large Rockwell-Mikasa drive units providing this power make a significant dent in the ship's payload capacity. A 2175 refit programme converted a number of ships to a variant classed as the Vandenburg/T, in which the drive units have been down-rated to thrust-4 and the resulting additional payload mass used to mount two fore-firing P-torp tubes. These torp-armed cruisers provide a useful heavy anti-ship capability to NAC cruiser task forces.



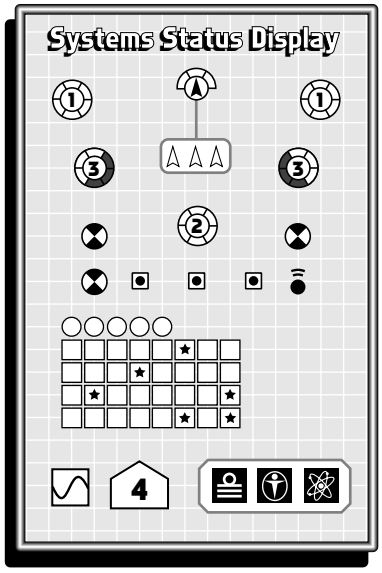


TECHNICAL SPECIFICATIONS:

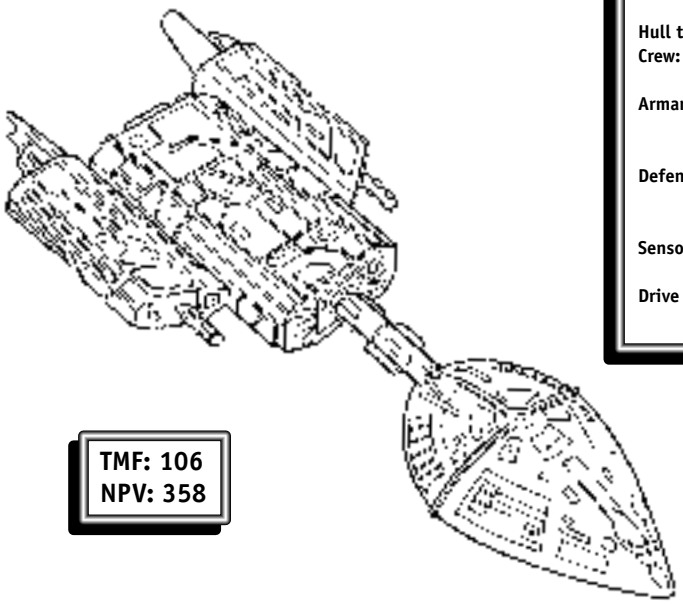
Classification: Heavy Cruiser
Displacement: 8000 Tonnes [MASS Factor 80]
Hull type: Average [Hull Integrity 24]
Crew: 9 officers, 41 ratings [Crew Factor 4]
Armament: 1 x Class 1, 2 x Class 2, 1 x Class 3 batteries
Defences: 2 Point Defence Systems, Level 1 Screens, Grade 5 Armour
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

SERVICE DETAILS:

First entered service: 2164
Currently in NAC service: 32
Lost in action: 10
Decommissioned/scrapped: 3
Relegated to reserve fleet: 12
Sold to other forces: 6
Under construction: Nil
Procurement cost: 2610 MUcr.



Majestic class BATTLECRUISER



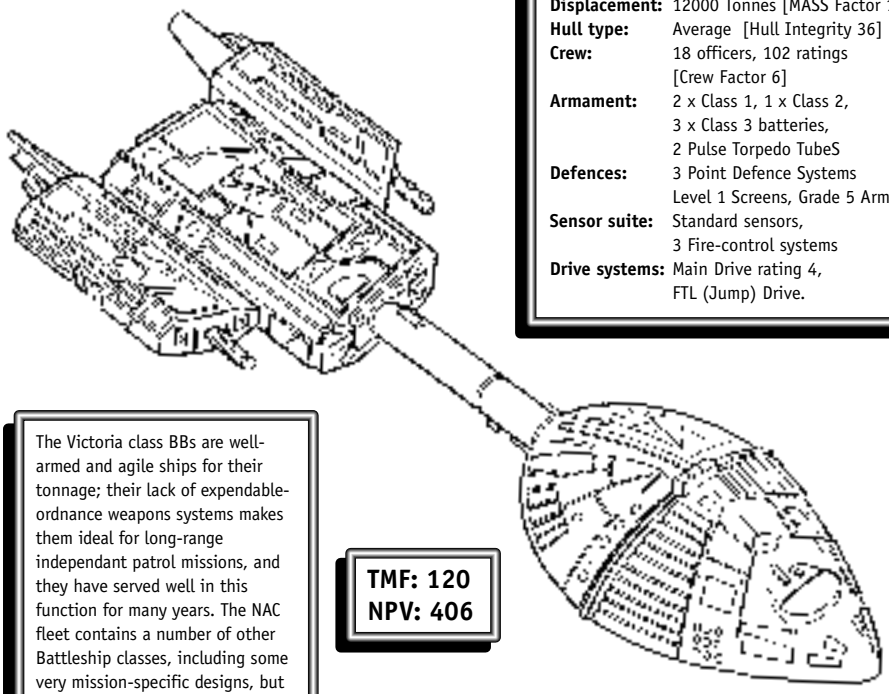
TMF: 106
NPV: 358

TECHNICAL SPECIFICATIONS:

Classification:	Battlecruiser
Displacement:	10600 Tonnes [MASS Factor 106]
Hull type:	Average [Hull Integrity 32]
Crew:	15 officers, 91 ratings [Crew Factor 6]
Armament:	2 x Class 1, 1 x Class 2, 2 x Class 3 batteries 1 Salvo Missile Launcher
Defences:	3 Point Defence Systems Level 1 Screens Grade 5 Armour
Sensor suite:	Standard sensors, 3 Fire control systems
Drive systems:	Main Drive rating 4, FTL (Jump) Drive.

SERVICE DETAILS:
First entered service: 2164
Currently in NAC service: 32
Lost in action: 10
Decommissioned/scrapped: 10
Relegated to reserve fleet: 12
Sold to other forces: 6
Under construction: Nil
Procurement cost: 3580 MUcr.

Developed from the Victoria class BB, the Majestic BCs are a slightly lighter version designed for fleet task force operations; with Missile-based primary armament the Majestics rely more on fleet logistic support than the beam and torp-armed Victorias do, and thus are seldom used on independant patrol duties. The class has nonetheless proved itself a worthy addition to the lighter side of the battle line over its years of service, and though a number are now being moved to the reserve to make way for newer designs the Majestic is expected to serve well into the late 2180s or beyond.

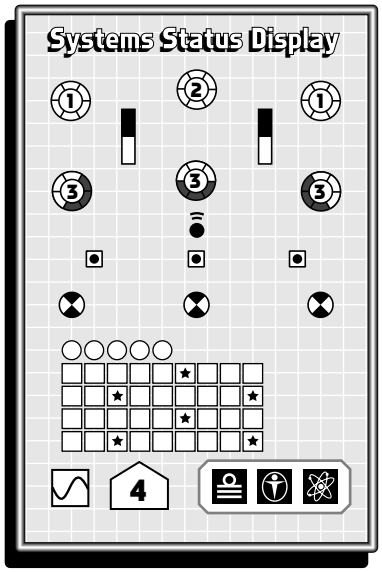


TMF: 120
NPV: 406

Victoria class BATTLESHIP

TECHNICAL SPECIFICATIONS:

Classification:	Battleship
Displacement:	12000 Tonnes [MASS Factor 120]
Hull type:	Average [Hull Integrity 36]
Crew:	18 officers, 102 ratings [Crew Factor 6]
Armament:	2 x Class 1, 1 x Class 2, 3 x Class 3 batteries, 2 Pulse Torpedo TubeS
Defences:	3 Point Defence Systems Level 1 Screens, Grade 5 Armour
Sensor suite:	Standard sensors, 3 Fire-control systems
Drive systems:	Main Drive rating 4, FTL (Jump) Drive.



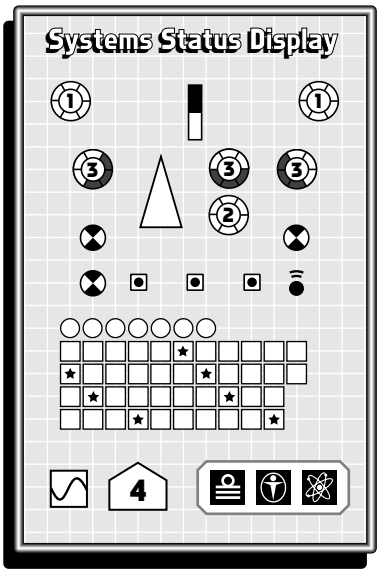
The Victoria class BBs are well-armed and agile ships for their tonnage; their lack of expendable-ordnance weapons systems makes them ideal for long-range independant patrol missions, and they have served well in this function for many years. The NAC fleet contains a number of other Battleship classes, including some very mission-specific designs, but none have been built in the quantities of the Victoria or gained as many honours in battle.

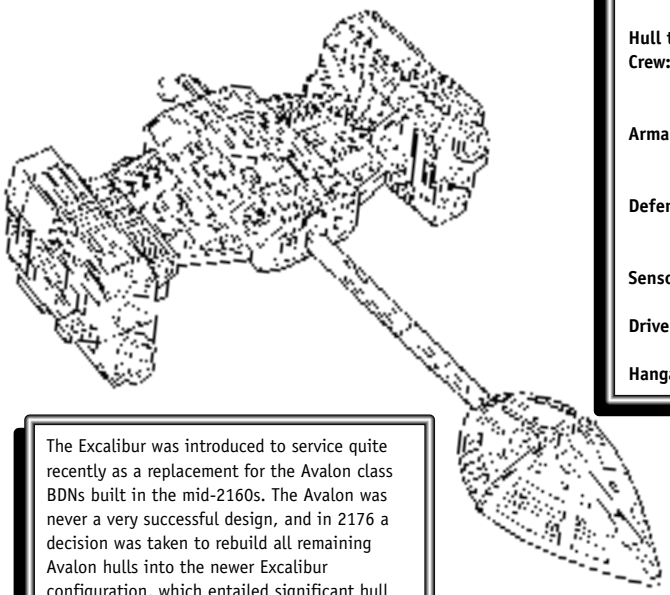
SERVICE DETAILS:
First entered service: 2163
Currently in NAC service: 29
Lost in action: 11
Decommissioned/scrapped: 5
Relegated to reserve fleet: 8
Sold to other forces: 3
Under construction: Nil
Procurement cost: 4060 MUcr.

Excalibur class BATTLEDREADNOUGHT

SERVICE DETAILS:
First entered service: 2178
Currently in NAC service: 16
Lost in action: 5
Decommissioned/scrapped: Nil
Relegated to reserve fleet: Nil
Sold to other forces: 2
Under construction: 5
Procurement cost: 4720 MUcr.
(Plus Fighter costs)

TECHNICAL SPECIFICATIONS:
Classification: Battledreadnought
Displacement: 14000 Tonnes [MASS Factor 140]
Hull type: Average [Hull Integrity 42]
Crew: 21 officers, 119 ratings [Crew Factor 7] plus Fighter pilots
Armament: 2 x Class 1, 1 x Class 2, 3 x Class 3 batteries, 1 Pulse Torpedo Tube
Defences: 3 Point Defence Systems, Level 1 Screens, Grade 7 Armour
Sensor suite: Standard sensors, 3 Fire control systems,
Drive systems: Main Drive rating 4, FTL (Jump) Drive
Hangar Bays: 1 bay for 6 Fighters.



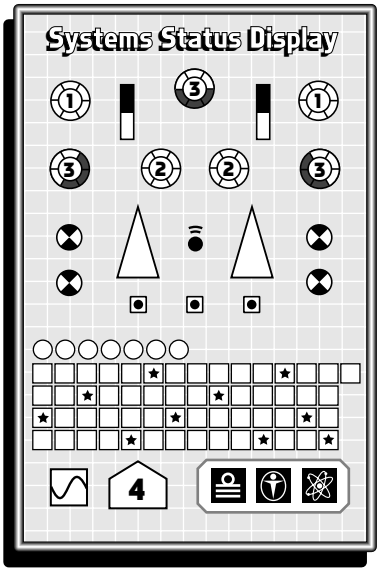


TMF: 140
NPV: 472

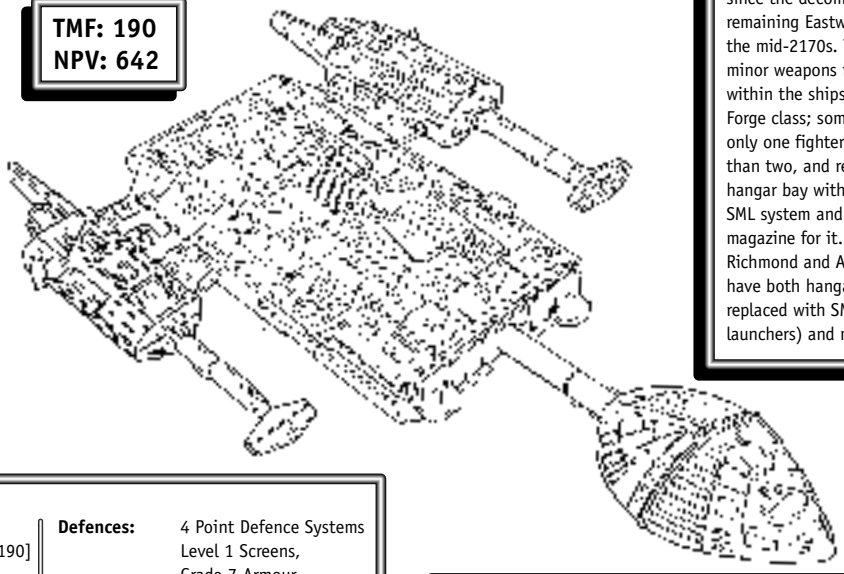
The Excalibur was introduced to service quite recently as a replacement for the Avalon class BDNs built in the mid-2160s. The Avalon was never a very successful design, and in 2176 a decision was taken to rebuild all remaining Avalon hulls into the newer Excalibur configuration, which entailed significant hull modifications and a complete internal upgrading.

Rather than recall all the ships en masse and leave the fleet seriously understrength, the refit programme has been spread out over several years as the Avalons are rotated back to major fleet bases for overhaul; as of 2183 there are still a small number of unconverted ships in service in outlying regions.

Valley Forge class SUPERDREADNOUGHT



TMF: 190
NPV: 642



The Valley Forge superdreadnought has been the mainstay of the NAC battle line since the decommissioning of the remaining Eastwood class SDNs in the mid-2170s. There are many minor weapons fit variations within the ships of the Valley Forge class; some ships operate only one fighter group rather than two, and replace the second hangar bay with a fore-mounted SML system and a Mass-6 magazine for it. Two ships, RNS Richmond and Agincourt, actually have both hangars removed and replaced with SML armament (2 launchers) and magazine space.

TECHNICAL SPECIFICATIONS:
Classification: Superdreadnought
Displacement: 19000 Tonnes [MASS Factor 190]
Hull type: Average [Hull Integrity 57]
Crew: 28 officers, 162 ratings [Crew Factor 10] Plus Fighter pilots
Armament: 2 x Class 1, 2 x Class 2, 3 x Class 3 batteries, 2 Pulse Torpedo Tubes
Defences: 4 Point Defence Systems Level 1 Screens, Grade 7 Armour
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive
Hangar Bays: 2 bays each holding 6 Fighters.

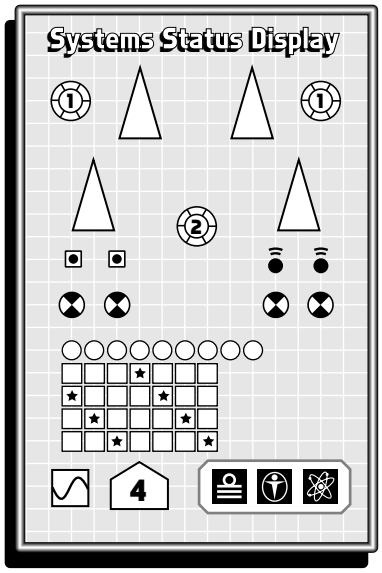
SERVICE DETAILS:
First entered service: 2170
Currently in NAC service: 12
Lost in action: 4
Decommissioned/scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 3
Procurement cost: 6420 MUcr.
(Plus Fighter costs)

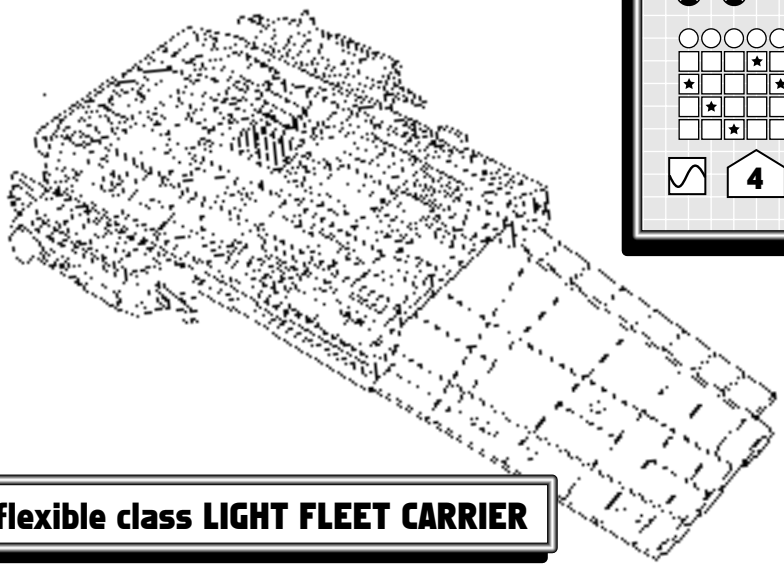
Inflexible class LIGHT FLEET CARRIER

TECHNICAL SPECIFICATIONS:

Classification: Light Fleet Carrier
Displacement: 14000 Tonnes [MASS Factor 140]
Hull type: Weak [Hull Integrity 28]
Crew: 20 officers, 120 ratings [Crew Factor 7] Plus Fighter pilots
Armament: 2 x Class 1, 1 x Class 2 batteries
Defences: 4 Point Defence Systems Level 2 Screens, Grade 9 Armour
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive
Hangar Bays: 4 bays each holding 6 Fighters.

The Inflexible class CVLs are intended mainly for duty in smaller task forces where the use of a supercarrier (an Ark Royal or similar class) is not warranted. Their fighter complement, while not huge, is enough to support light fleet and interface operations and an Inflexible will often be attached to the naval assets of a planetary assault mission. A number of Inflexibles have now been sold off to third-line states, and one is used by Fighter Operations Training Command as a flagship and pilot training vessel. Like all NAC carriers, the Inflexible's system installations are primarily defensive, including significant screen systems and hull armour.





SERVICE DETAILS:

First entered service: 2168
Currently in NAC service: 10
Lost in action: 3
Decommissioned/scrapped: 4
Relegated to reserve fleet: 1
Sold to other forces: 6
Under construction: Nil
Procurement cost: 4830 MUcr. (Plus Fighter costs)

TMF: 140
NPV: 483

Ark Royal class FLEET SUPERCARRIER

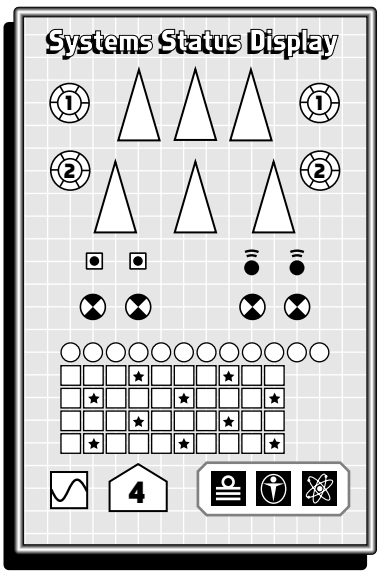
SERVICE DETAILS:

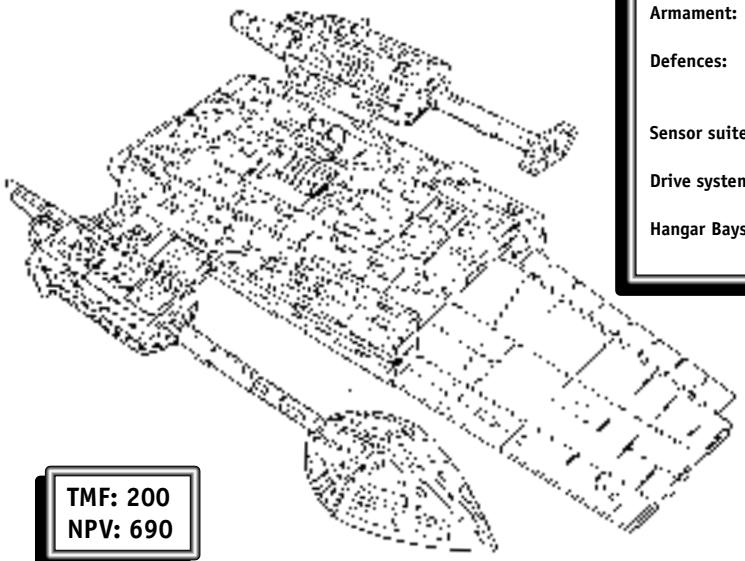
First entered service: 2171
Currently in NAC service: 14
Lost in action: 2
Decommissioned/scrapped: 1
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 2
Procurement cost: 6900 MUcr. (Plus Fighter costs)

The Ark Royal is the most numerous carrier class currently in NAC service; introduced as a replacement for the Saratoga class, it follows standard NAC doctrine of being primarily a fighter platform rather than a line-of-battle ship, though its armament suite is sufficient to permit it to engage other shipping directly should the need arise. The ships are well defended with screens, armour and point-defence weaponry, but are still usually accompanied by a significant escort force to keep major enemy units at bay.

TECHNICAL SPECIFICATIONS:

Classification: Fleet Supercarrier
Displacement: 20000 Tonnes [MASS Factor 200]
Hull type: Weak [Hull Integrity 40]
Crew: 33 officers, 167 ratings [Crew Factor 10] Plus Fighter pilots
Armament: 2 x Class 1, 2 x Class 2 batteries
Defences: 4 Point Defence Systems Level 2 Screens, Grade 12 Armour
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive
Hangar Bays: 6 bays each holding 6 Fighters.





TMF: 200
NPV: 690

NSL KRIEGSRAUMFLOTTE

THE NEU SWABIAN LEAGUE SPACE FLEET (KRIEGSRAUMFLOTTE):

German is the official language for the NSL; the space naval arm of the NSL military is known as the Kreigsraumflotte (literally translated as "Space War Fleet"), usually written as KRF, and their standard military ship prefix is KRS (for Kreigsraumschiff). Civilian vessels belonging to the NSL are simply prefixed RS, for Raumschiff.

The KRF emblem is a highly-stylised eagle symbol, which is commonly depicted in black, grey or silver without any background when applied to ship hulls; the full Naval ensign is of the eagle in silver on a black field, while the national flag is the same design but with the eagle black against a red field.

HISTORY AND ORGANISATION:

When the NSL was formed in 2101 following the split of the old European Union, the fledgling European Space Force was also divided - the NSL and FSE each appropriated what they could of the ESF ships and assets to create the beginnings of their own space navies. The Kriegsraumflotte was officially established in 2102 with a handful of primitive ex-ESF ships, comprising a very few newly-built FTL-capable vessels and a number of insystemers. The first purely NSL-designed warship was the FTL cruiser KRS Wien, launched in 2109, the first of a class that eventually numbered 23 vessels and served well until the late 2130s. Since then the KRF has rapidly expanded to become one of the four major Space Navies; it cannot yet rival the NAC or ESU fleets in terms of sheer tonnage, but it is still growing despite the attrition of the war years. The spirit and traditions of the KRF can be traced back past the German forces of the early and mid Twentieth Century, to the Austro-Hungarian Navy of the Nineteenth Century and earlier.

The organisation of the KRF is structured as a number of Fleets with different areas of operation; First Fleet is the home defence force based in the Core and Inner worlds, Second Fleet the Outer Colony defence units and Third Fleet is considered the "Strike Fleet" - based at Neu Salzburg, it is kept as a ready reserve for major operations. Logistic support units are integral parts of each Fleet. Marine ground forces are provided from specially-trained units of the regular army seconded to Naval service as required.

Most of the KRF personnel are volunteers who sign up for either a five-year term or a full career. Conscription has been used at times during the Solar Wars, but it has generally been found inefficient - good starship crew members require lengthy training and considerable dedication. Conditions on board KRF warships are not luxurious, but neither are they unpleasant; the ships are utilitarian in design, but reasonable attention has been paid to the effects of living conditions on crew morale. Many KRF officers, both senior and junior, come from the revived aristocratic families of the NSL member states which have a heritage of proud military service stretching back through many generations.

SHIP DESIGN DOCTRINE:

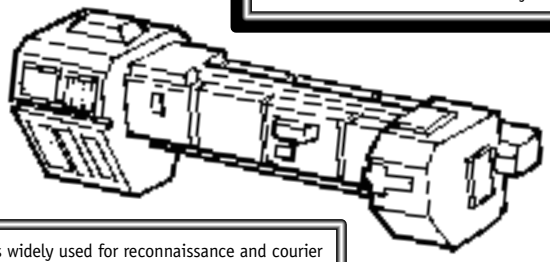
The ships of the KRF are generally heavily armed with beam weapons, with other systems such as missiles or pulse torpedoes only being mounted on a very few classes. NSL doctrine is for powerful ships in offence and defence, with mobility a lower priority - thrust levels tend to be low, and most large classes have only thrust-2 drives. NSL military hulls are boxy and solid, and hull armour is used extensively, but energy screens are not carried. Active defences are seen as a priority, and most ships carry extensive point-defence installations. Fighter operations are based around small numbers carried on the large general combat ships rather than specific carrier designs.

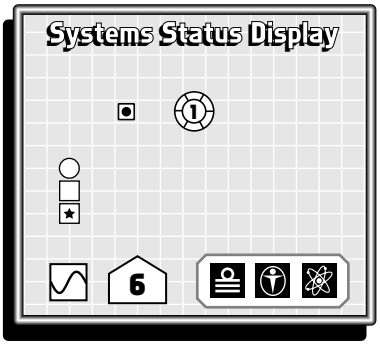
Falke class SCOUTSHIP

SERVICE DETAILS:
First entered service: 2173
Currently in NSL service: 67
Lost in action: 15
Decommissioned/scrapped: 11
Relegated to reserve fleet: 24
Sold to other forces: 8
Under construction: 12
Procurement cost: 270 MUcr.

TECHNICAL SPECIFICATIONS:

Classification: Scoutship
Displacement: 800 Tonnes [MASS Factor 8]
Hull type: Average [Hull Integrity 2]
Crew: 3 officers, 5 ratings [Crew Factor 1]
Armament: 1 x Class 1 battery
Defences: Grade 1 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

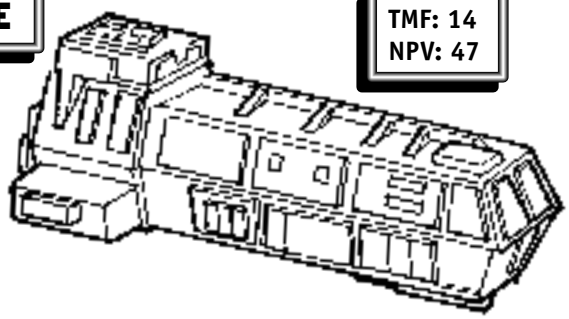




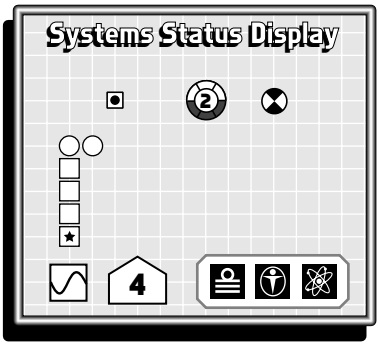
The Falke is the primary NSL scout vessel and is widely used for reconnaissance and courier duties. Its armoured hull gives it better survivability against enemy light units than many other scout ships, but the trade-off for this is its very light armament - a single Class-1 beam battery, which does dual service as a point-defence and light anti-ship weapon. There is a stripped-down "strike" version of the Falke which removes the hull armour and mounts a single disposable submunition pack in addition to the beam system.

TMF: 8
NPV: 27

Stroschen class CORVETTE



TMF: 14
NPV: 47



SERVICE DETAILS:
First entered service: 2174
Currently in NSL service: 51
Lost in action: 17
Decommissioned/scrapped: 5
Relegated to reserve fleet: 12
Sold to other forces: 9
Under construction: 22
Procurement cost: 470 MUcr.

The Stroschen follows standard NSL design doctrine in being relatively unmanoeuvrable, with a low thrust rating for a Corvette class ship, but being well-protected with hull armour and mounting an effective weapon; the single Class-2 beam system outranges the weaponry of many other nations' Corvettes, and can do significant damage to other ships.

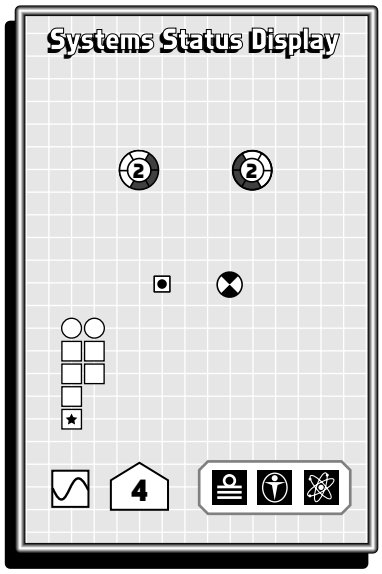
TECHNICAL SPECIFICATIONS:

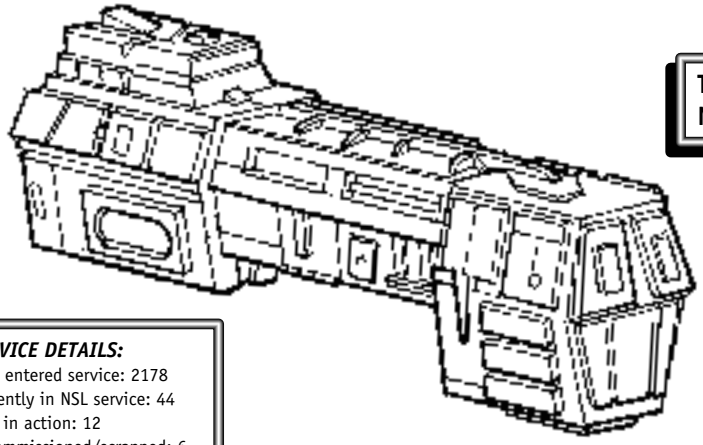
Classification: Corvette
Displacement: 1400 Tonnes [MASS Factor 14]
Hull type: Average [Hull Integrity 4]
Crew: 4 officers, 10 ratings [Crew Factor 1]
Armament: 1 x Class 2 battery
Defences: 1 Point Defence System Grade 2 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

TECHNICAL SPECIFICATIONS:

Classification: Frigate
Displacement: 2000 Tonnes [MASS Factor 20]
Hull type: Average [Hull Integrity 6]
Crew: 5 officers, 15 ratings [Crew Factor 1]
Armament: 2 x Class 2 batteries
Defences: 1 Point Defence System Grade 2 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

The Ehrenhold is a fairly new design that began to replace the old Nibelung class FFs in the late 2170s. It is a sturdy and well-defended ship with a good offensive potential, and is often used on convoy protection duties. The three ships listed as "sold to other forces" were not NSL cast-offs, but a commercial order of new hulls for an undisclosed individual purchaser - in accordance with UNSC-enforced treaties, the privately-ordered warship hulls were delivered without any weapons installations, a deficiency which has doubtless been rectified by this time through channels of questionable legality.

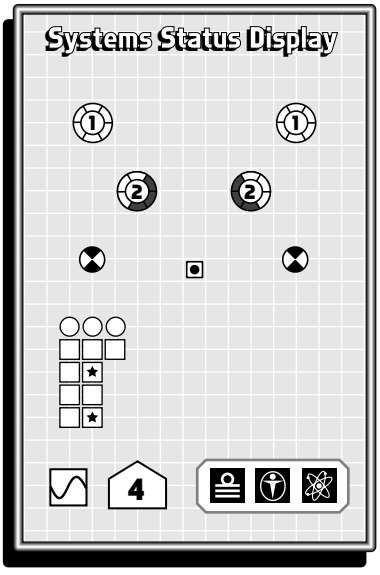




TMF: 20
NPV: 67

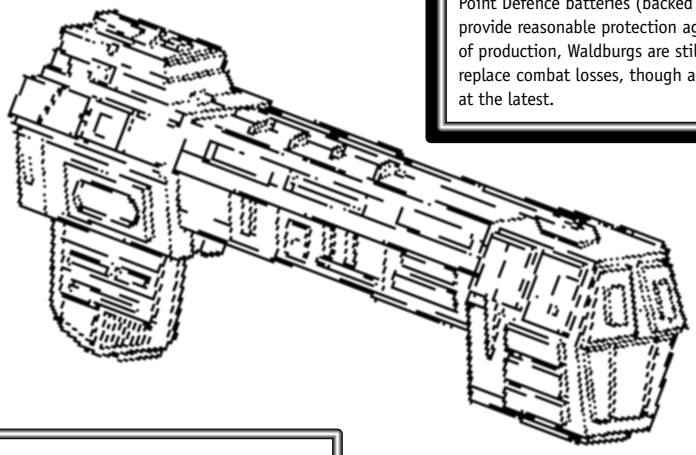
SERVICE DETAILS:
First entered service: 2178
Currently in NSL service: 44
Lost in action: 12
Decommissioned/scrapped: 6
Relegated to reserve fleet: Nil
Sold to other forces: 3
Under construction: 16
Procurement cost: 670 MUcr.

Ehrenhold class FRIGATE



TMF: 30
NPV: 100

The standard KRF general-purpose destroyer, the Waldburg is a typical heavy escort able to engage in combat with enemy light forces or to act as support for the main battleline. The pair of Class-2 beam systems give it a good primary offensive capability for its tonnage, especially in its frontal arc where both can be brought to bear on a single target. A combination of hull armour and twin Point Defence batteries (backed up by two multi-role Class-1 beams) provide reasonable protection against incoming fire. After nine years of production, Waldburgs are still being produced at a steady rate to replace combat losses, though a new DD type is expected by 2185 at the latest.

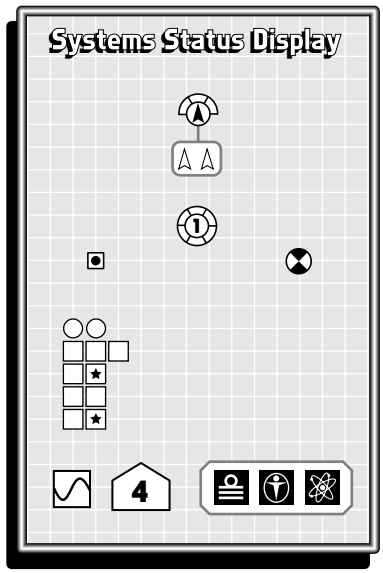


SERVICE DETAILS:
First entered service: 2174
Currently in service: 59
Lost in action: 17
Decommissioned/scrapped: 4
Relegated to reserve fleet: 7
Sold to other forces: 5
Under construction: 12
Procurement cost: 1000 MUcr.

TECHNICAL SPECIFICATIONS:

Classification: Destroyer
Displacement: 3000 Tonnes [MASS Factor 30]
Hull type: Average [Hull Integrity 9]
Crew: 7 officers, 23 ratings [Crew Factor 2]
Armament: 2 x Class 1, 2 x Class 2 batteries
Defences: 2 Point Defence Systems Grade 3 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

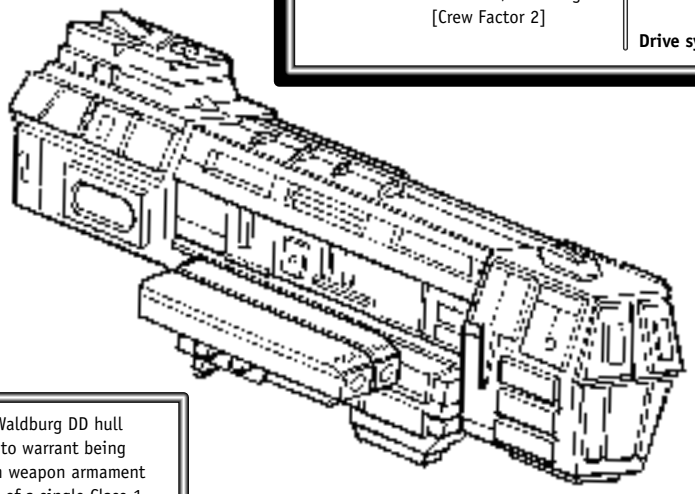
Waldburg class DESTROYER



TMF: 30
NPV: 101

TECHNICAL SPECIFICATIONS:

Classification: Missile Destroyer
Displacement: 3000 Tonnes [MASS Factor 30]
Hull type: Average [Hull Integrity 9]
Crew: 7 officers, 23 ratings [Crew Factor 2]
Armament: 1 x Class 1 battery, 1 Salvo Missile Launcher with capacity 4 magazine
Defences: 1 Point Defence System Grade 2 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 4,

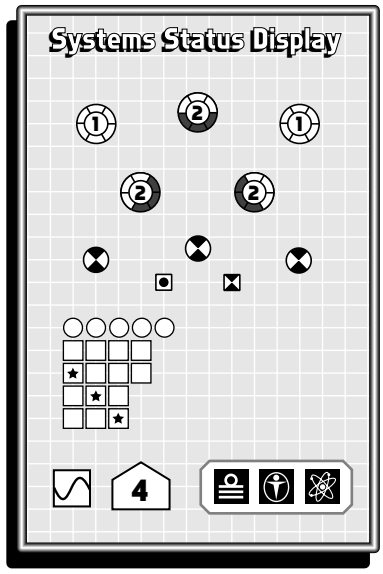


SERVICE DETAILS:

First entered service: 2178
Currently in NSL service: 26
Lost in action: 7
Decommissioned/scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: 2
Under construction: 14
Procurement cost: 1010 MUcr.

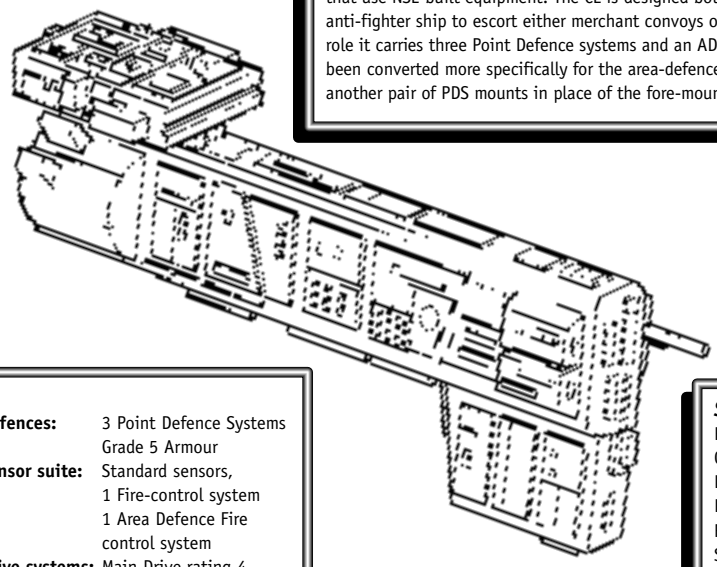
The Waldburg/M is a variant of the standard Waldburg DD hull which is sufficiently numerous in KRF service to warrant being considered a separate class. Most of the beam weapon armament of the standard destroyer (with the exception of a single Class-1 mount) is deleted and replaced by a single Salvo Missile launcher system. The SML is backed up by only a limited magazine capacity, which is a disadvantage in prolonged engagements, but the Waldburg/M is not intended for this kind of combat - it is a fast-strike vessel, designed to hit hard at major targets and then withdraw under the cover of more conventional escort ships.

Waldburg/M class MISSILE DESTROYER



Kronprinz Wilhelm class LIGHT CRUISER

The Kronprinz Wilhelm is particularly well-protected for a Light Cruiser due to its hull armour, and has so far proved to have good survivability in battle. It is liked by its crews and officers, and has also become a popular export model for other navies that use NSL-built equipment. The CL is designed both as a patrol craft and as an anti-fighter ship to escort either merchant convoys or other warships; for this latter role it carries three Point Defence systems and an ADFC installation, and a few have been converted more specifically for the area-defence role with the addition of yet another pair of PDS mounts in place of the fore-mounted Class-2 beam installation.



TMF: 48
NPV: 161

TECHNICAL SPECIFICATIONS:

Classification: Light Cruiser
Displacement: 4800 Tonnes [MASS Factor 48]
Hull type: Average [Hull Integrity 14]
Crew: 9 officers, 39 ratings [Crew Factor 3]
Armament: 2 x Class 1, 3 x Class 2 batteries
Defences: 3 Point Defence Systems Grade 5 Armour
Sensor suite: Standard sensors, 1 Fire-control system 1 Area Defence Fire control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

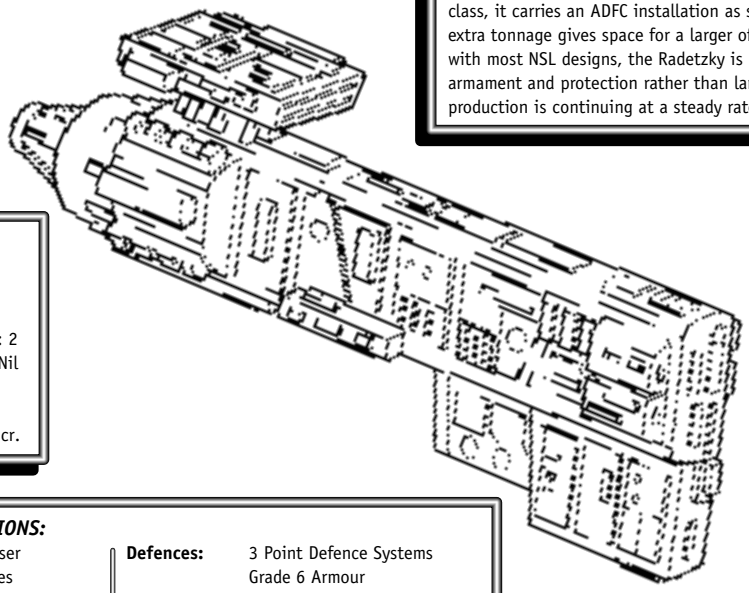
SERVICE DETAILS:

First entered service: 2175
Currently in NSL service: 35
Lost in action: 9
Decommissioned/scrapped: 5
Relegated to reserve fleet: 3
Sold to other forces: 8
Under construction: 10
Procurement cost: 1610 MUcr.

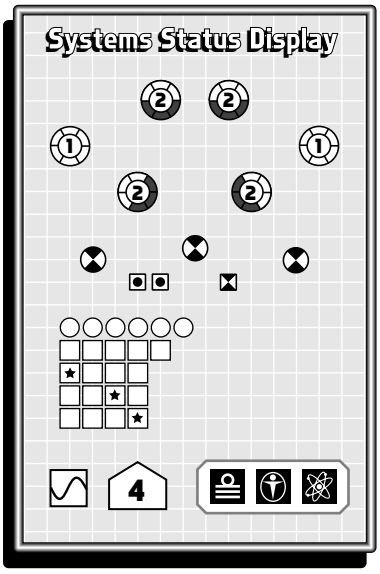
Radetzky class ESCORT CRUISER

TMF: 58
NPV: 195

The Radetzky CE is based on a modified and upgraded version of the Kronprinz Wilhelm CL hull, and is built at the same Hochbaden yards. Like its smaller sister class, it carries an ADFC installation as standard with an extensive PDS suite, but its extra tonnage gives space for a larger offensive beam weapon fit than the CL. As with most NSL designs, the Radetzky is not a fast ship, using its capacity for armament and protection rather than large drives. It is not a numerous class, but production is continuing at a steady rate.

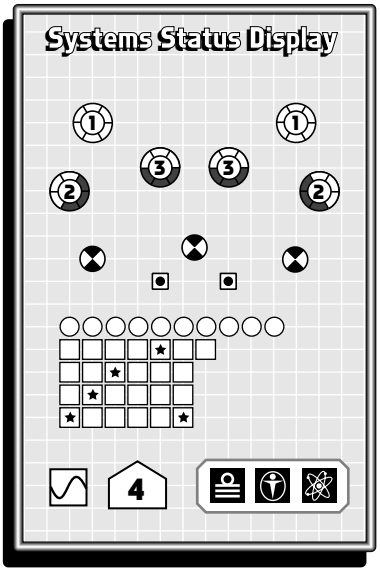


SERVICE DETAILS:
First entered service: 2177
Currently in NSL service: 22
Lost in action: 6
Decommissioned /scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: 2
Under construction: 4
Procurement cost: 1950 MUcr.



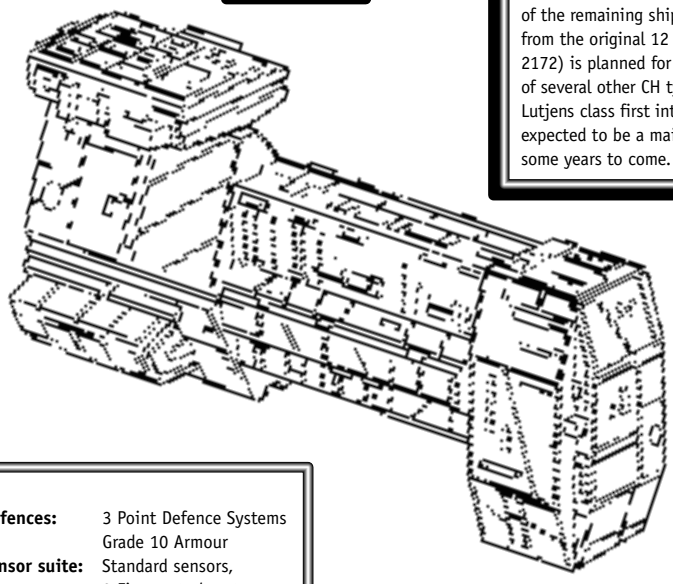
TECHNICAL SPECIFICATIONS:

Classification: Escort Cruiser
Displacement: 5800 Tonnes [MASS Factor 58]
Hull type: Average [Hull Integrity 17]
Crew: 10 officers, 48 ratings [Crew Factor 3]
Armament: 2 x Class 1, 4 x Class 2 batteries
Defences: 3 Point Defence Systems, Grade 6 Armour
Sensor suite: Standard sensors, 2 Fire-control systems, 1 Area Defence control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.



TMF: 82
NPV: 271

The Markgraf is generally considered one of the best overall ships in the KRF inventory, even though the early examples are beginning to show their age and production of new hulls ceased in 2178. A major overhaul and refit of the remaining ships from the first production batch (7 from the original 12 commissioned between 2169 and 2172) is planned for 2184-85. Though there are numbers of several other CH types in service, including the new Lutjens class first introduced in 2182, the Markgraf is expected to be a mainstay of the KRF cruiser force for some years to come.



SERVICE DETAILS:
First entered service: 2169
Currently in NSL service: 28
Lost in action: 9
Decommissioned/scrapped: 5
Relegated to reserve fleet: 3
Sold to other forces: 6
Under construction: Nil
Procurement cost: 2710 MUcr.

TECHNICAL SPECIFICATIONS:

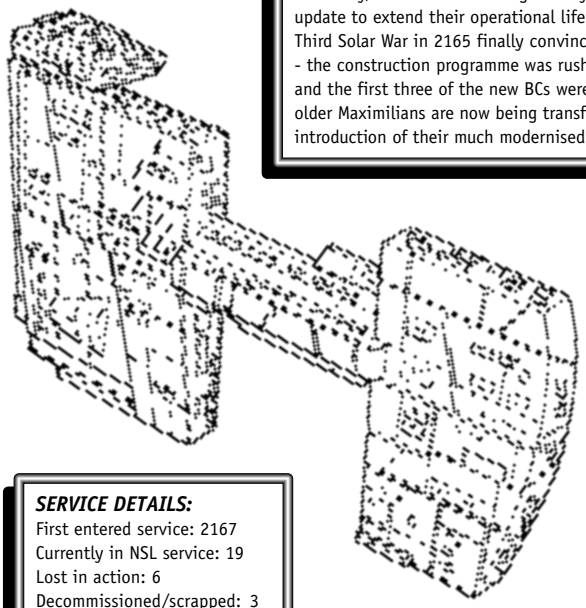
Classification: Heavy Cruiser
Displacement: 8200 Tonnes [MASS Factor 82]
Hull type: Average [Hull Integrity 25]
Crew: 12 officers, 70 ratings [Crew Factor 5]
Armament: 2 x Class 1, 2 x Class 2, 2 x Class 3 batteries
Defences: 3 Point Defence Systems, Grade 10 Armour
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

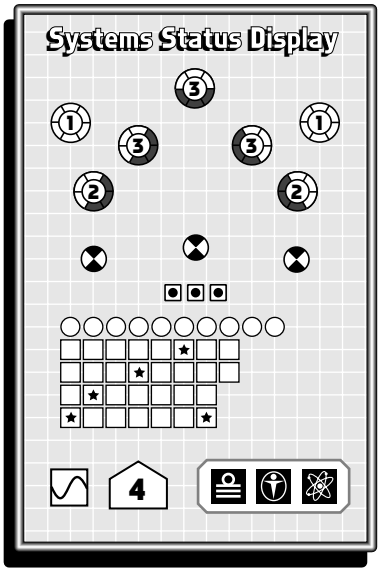
Markgraf class HEAVY CRUISER

Maximilian class BATTLECRUISER

TMF: 100
NPV: 333

The Maximilian class BC is part of a design group first proposed in 2162, which took five years to make it from drawing board to commissioning of the first hull. After three years of official procrastination as to whether a new BC class was really necessary, with the 2140-designed Bayern class having just undergone a major update to extend their operational life into the mid-2170s, the outbreak of the Third Solar War in 2165 finally convinced the NSL Government to approve funding - the construction programme was rushed into operation at the Neu Salzburg yards and the first three of the new BCs were commissioned in 2167. A number of the older Maximilians are now being transferred to the reserve following the introduction of their much modernised successor, the Richthofen class.





SERVICE DETAILS:
First entered service: 2167
Currently in NSL service: 19
Lost in action: 6
Decommissioned/scrapped: 3
Relegated to reserve fleet: 11
Sold to other forces: 2
Under construction: Nil
Procurement cost: 3330 MUcr.

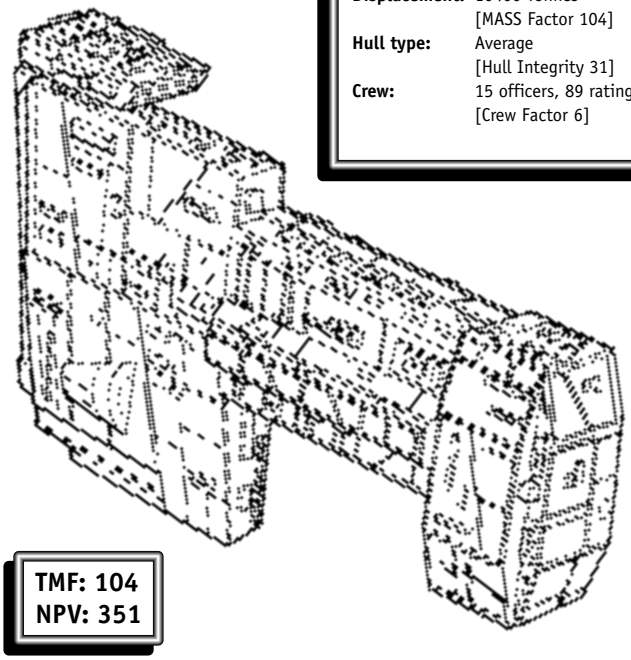
TECHNICAL SPECIFICATIONS:

Classification:	Battlecruiser
Displacement:	10000 Tonnes [MASS Factor 100]
Hull type:	Average [Hull Integrity 30]
Crew:	15 officers, 85 ratings [Crew Factor 5]
Armament:	2 x Class 1, 2 x Class 2 3 x Class 3 batteries
Defences:	3 Point Defence Systems Grade 10 Armour
Sensor suite:	Standard sensors, 3 Fire-control systems
Drive systems:	Main Drive rating 4, FTL (Jump) Drive.

Richthofen class BATTLECRUISER

The Richthofen is a heavily-updated redesign of the Maximilian class BC, using a number of the design elements that have made the Markgraf CH such a successful ship. It carries an impressive beam armament, though it has a little less hull armour than the Maximilian. Given its heritage, it was almost inevitable that the name-ship of the class would end up painted red at some point in its life, so in a (rather uncharacteristic) fit of good humour the KRF command actually authorised an overall scarlet paint scheme for this one ship at the outset. While it serves no practical purpose, other than the negative one of attracting enemy fire, this has given the KRS Manfred Von Richthofen (to use its full title) a reputation both within the fleet and outside it, which its officers and crew strive hard to live up to.

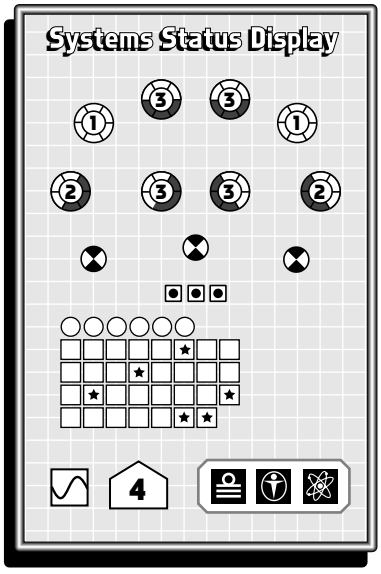
SERVICE DETAILS:
First entered service: 2179
Currently in NSL service: 24
Lost in action: 3
Decommissioned/scrapped: 1
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 7
Procurement cost: 3510 MUcr.



TMF: 104
NPV: 351

TECHNICAL SPECIFICATIONS:

Classification:	Battlecruiser
Displacement:	10400 Tonnes [MASS Factor 104]
Hull type:	Average [Hull Integrity 31]
Crew:	15 officers, 89 ratings [Crew Factor 6]
Armament:	2 x Class 1, 2 x Class 2 4 x Class 3 batteries
Defences:	3 Point Defence Systems Grade 6 Armour
Sensor suite:	Standard sensors, 3 Fire-control systems
Drive systems:	Main Drive rating 4, FTL (Jump) Drive.

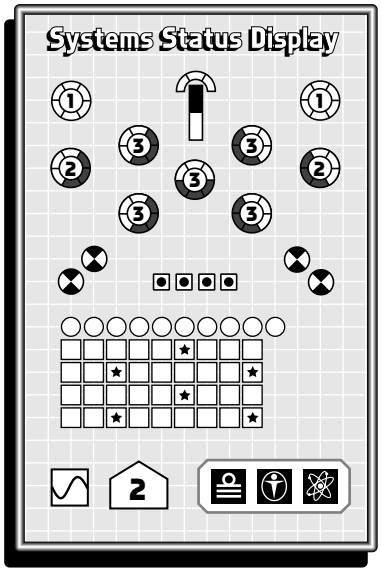


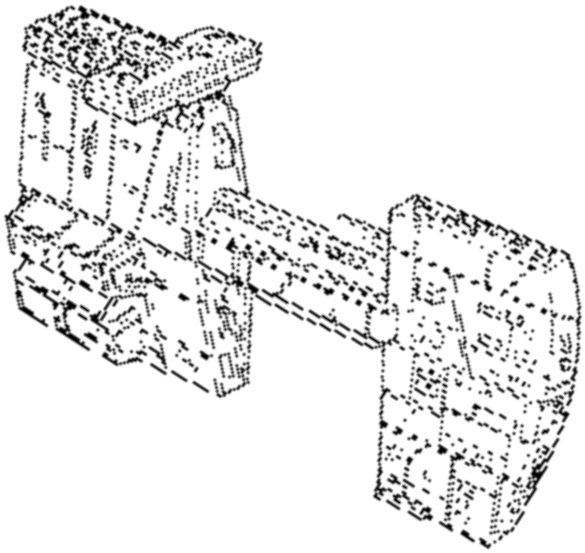
Maria Von Burgund class BATTLESHIP

SERVICE DETAILS:
First entered service: 2168
Currently in NSL service: 13
Lost in action: 4
Decommissioned/scrapped: 3
Relegated to reserve fleet: 3
Sold to other forces: 5
Under construction: Nil
Procurement cost: 4140 MUcr.

TECHNICAL SPECIFICATIONS:

Classification:	Battleship
Displacement:	12000 Tonnes [MASS Factor 120]
Hull type:	Average [Hull Integrity 36]
Crew:	19 officers, 101 ratings [Crew Factor 6]
Armament:	2 x Class 1, 2 x Class 2 5 x Class 3 batteries 1 Pulse Torpedo Tube
Defences:	4 Point Defence Systems Grade 10 Armour
Sensor suite:	Standard sensors, 4 Fire-control systems
Drive systems:	Main Drive rating 2, FTL (Jump) Drive.





TMF: 120
NPV: 414

The Maria Von Burgund class was designed by the same group as the Maximilian BC, and shares many important features. It has relatively low powered drives which restrict its manoeuvrability somewhat, but it more than makes up for this with a very extensive weapons fit that enables the ship to put out a huge amount of beam fire, augmented by a single Pulse Torpedo tube that is particularly effective against screen-protected targets. A significant level of hull armour and four PDS mounts give the ship good passive and active defences. The Maria Von Burgund serves as a major part of the KRF battleline, alongside other serving BBs that include the newer Brocken class introduced in 2179.

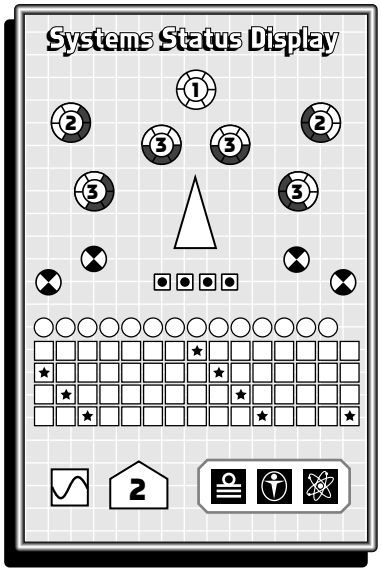
Szent Istvan class BATTLEDREADNOUGHT

TECHNICAL SPECIFICATIONS:

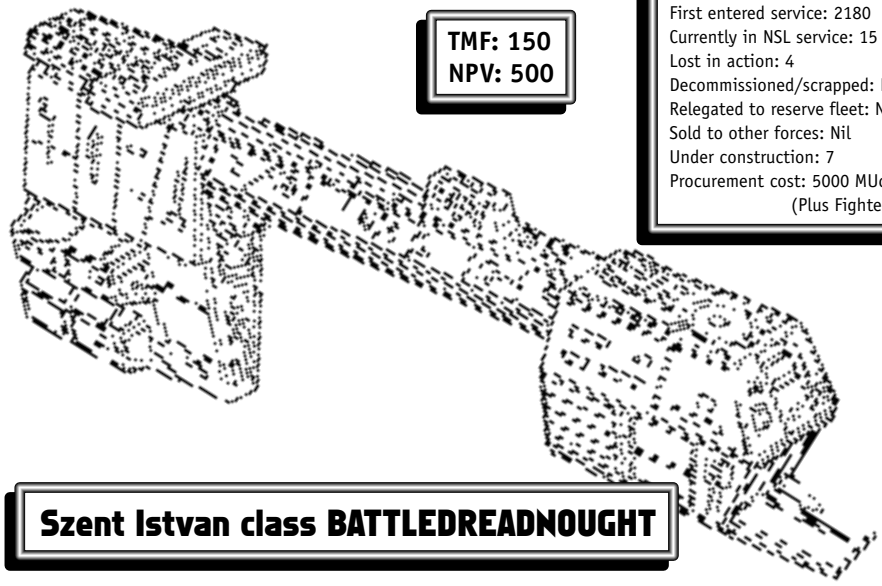
Classification:	Battledreadnought
Displacement:	15000 Tonnes [MASS Factor 150]
Hull type:	Strong [Hull Integrity 60]
Crew:	24 officers, 126 ratings [Crew Factor 8] Plus Fighter pilots
Armament:	1 x Class 1, 2 x Class 2 4 x Class 3 batteries
Defences:	4 Point Defence Systems Grade 14 Armour
Sensor suite:	Standard sensors, 4 Fire-control systems
Drive systems:	Main Drive rating 2, FTL (Jump) Drive.
Hangar bays:	1 bay for 6 Fighters

The Szent Istvan class is a recent addition to the NSL Kriegsraumflotte. The first hull was commissioned in 2178, and construction of the class is continuing at the Neu Salzburg naval yards. The BDN is a powerful multi-role vessel capable of sustained independent operations; as well as a good balance of offensive and defensive armament, it carries a single embarked fighter group to provide support for both space and surface operations. The strongly-constructed hull is very well armoured, though in common with most NSL combat ships it lacks energy screen defences.

SERVICE DETAILS:
First entered service: 2180
Currently in NSL service: 15
Lost in action: 4
Decommissioned/scrapped: Nil
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 7
Procurement cost: 5000 MUcr.
(Plus Fighter costs)

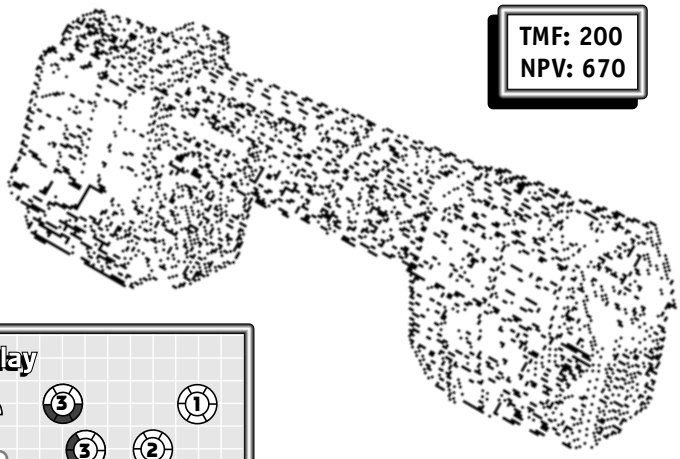


TMF: 150
NPV: 500



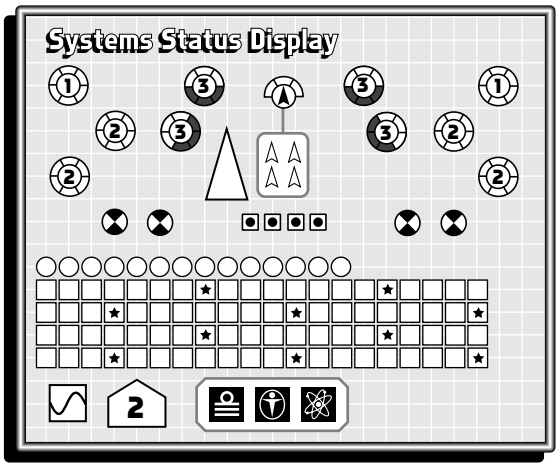
Von Tegetthoff class SUPERDREADNOUGHT

SERVICE DETAILS:
First entered service: 2173
Currently in NSL service: 12
Lost in action: 3
Decommissioned/scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 2
Procurement cost: 6700 MUcr.
(Plus Fighter costs)



TMF: 200
NPV: 670

The Von Tegetthoff is the first SDN class to be built for the KRF since the old Hapsburg class ships in the 2130s (only three Hapsburgs now survive, two in mothballed reserve and one used by the KRF training command). It is a very powerful ship that follows standard NSL naval doctrine closely - it has a massively strong hull structure with significant additional armour, though it lacks screen defences; its thrust rating is low, but it is not designed to be a hit-and-run ship - it is meant to stand in the line and deal heavy blows from its extensive beam armament. The Tegetthoff is one of the few NSL ships that carries an SML system as an added anti-ship punch, though its magazine capacity is quite limited. Like the ESU Komarovs, it carries only one group of fighters.



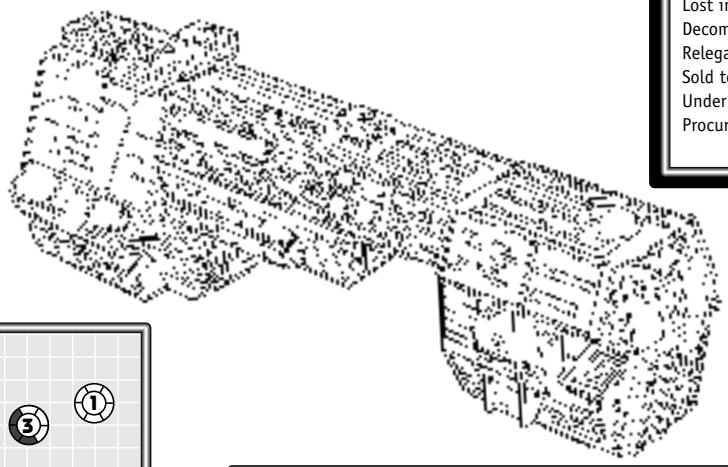
TECHNICAL SPECIFICATIONS:

Classification: Superdreadnought
Displacement: 20000 Tonnes [MASS Factor 200]
Hull type: Strong [Hull Integrity 80]
Crew: 34 officers, 166 ratings [Crew Factor 10] plus Fighter pilots
Armament: 2 x Class 1, 4 x Class 2 4 x Class 3 batteries 1 Salvo Missile Launcher with capacity 8 magazine
Defences: 4 Point Defence Systems Grade 14 Armour
Sensor suite: Standard sensors, 4 Fire-control systems
Drive systems: Main Drive rating 2, FTL (Jump) Drive.
Hangar bays: 1 bay for 6 Fighters

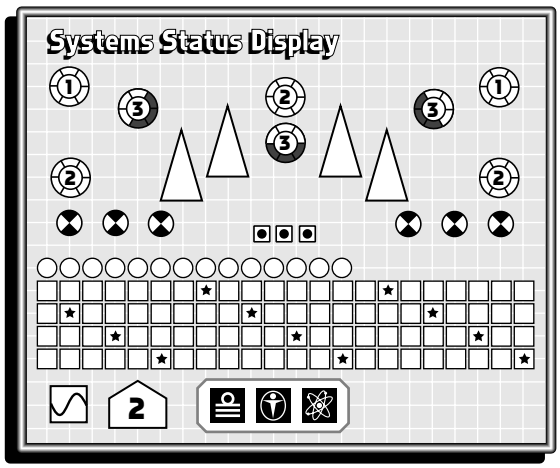
Der Theuerdank class FIGHTER CARRIER

The Der Theuerdank is a modified version of the Von Tegetthoff class SDN, with an additional fighter hangar area in a bay beneath its main central spar plus various internal modifications. In keeping with the overall KRF (Kreigsraumflotte) design philosophy, the ship is not really a true carrier so much as a multi-role SDN with enhanced fighter capacity; its fighter complement is significantly less than that of, say, an NAC carrier, but unlike the Anglian designs it is intended to stand in the line of battle and trade shots with the enemy rather than just being a fragile launching platform.

SERVICE DETAILS:
First entered service: 2175
Currently in NSL service: 15
Lost in action: 4
Decommissioned/scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 5
Procurement cost: 7370 MUcr.
(Plus fighter costs)



TMF: 220
NPV: 737



TECHNICAL SPECIFICATIONS:

Classification: Fighter Carrier
Displacement: 22000 Tonnes [MASS Factor 220]
Hull type: Strong [Hull Integrity 88]
Crew: 38 officers, 182 ratings [Crew Factor 11] Plus Fighter pilots
Armament: 2 x Class 1, 3 x Class 2 3 x Class 3 batteries
Defences: 6 Point Defence Systems Grade 14 Armour
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 2, FTL (Jump) Drive.
Hangar bays: 4 bays each holding 6 fighters

L'ASTROMARINE DES FSE

THE FEDERAL STATS EUROPA SPACE NAVY (L'ASTROMARINE):

In French, which is the standard language for their naval and other military operations, The FSE space navy is known as L'Astromarine des FSE, or simply L'Astromarine, and all FSE ships (whether military or merchant) are prefixed VFE for "Vaisseau federal europeen". It should be noted that the term "FSE" is not actually French (or it would be EFE, for Etats federaux de l'Europe), but is a standard designation agreed between the member states as a linguistic compromise.

Despite French efforts to get a version of their traditional blue-white-red National tricolour used as the FSE (and Navy) symbol, in the end the Federal Council decided on a stylised bull's head (an old symbol for Europa) in gold, with a gold star between its horns, on a field of deep blue.

HISTORY AND ORGANISATION:

L'Astromarine was formed at the same time as the FSE, in 2101, from remnants of what was previously the European Space Force. The fleet has grown along with the FSE's expanding colonisation programme, and is now roughly equivalent to the NSL Navy in terms of number of ships and personnel. Due to their design doctrine with its heavy reliance on expendable ordnance, the FSE fleet maintains a particularly large contingent of fleet tenders and replenishment vessels as well as an extensive network of naval bases and resupply outposts throughout their colonial regions.

The organisation of L'Astromarine is divided into Home and Colonial Fleets, with the former serving in the Core and Inner worlds and the latter in the Outworld settlements. The training force is administered as part of the Home Fleet, while the logistical support force is split between the two main Fleets. There is a Reserve Fleet, units of which are commonly assigned to individual colony settlements in a system defence role. The FSE Colonial Legion acts as a Marine force for ground operations when required.

FSE personnel are approximately 60% volunteers and 40% conscripts, with many colonial settlements having a conscription programme of national service to supply the fleet with manpower in exchange for their protection. Service on FSE vessels is comfortable (in relative terms - these are still warships, not cruise liners!), and broadly similar to the conditions aboard NAC ships; many of the classes are quite large, which permits spacious accommodations and facilities for both officers and ratings. Fleet morale is generally good, though the presence of a proportion of conscripted colonial ratings from different Gallic and Latin backgrounds can sometimes be a handful for the Petty Officers to keep in order. Partly for this reason and partly to ease any potential language problems, individual ships are often manned exclusively by crew from one particular nation within the FSE.

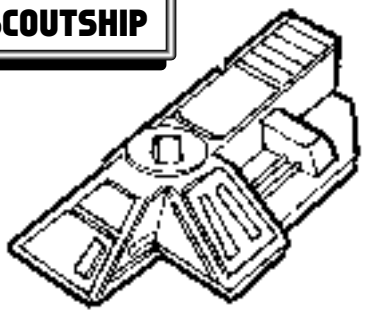
SHIP DESIGN DOCTRINE:

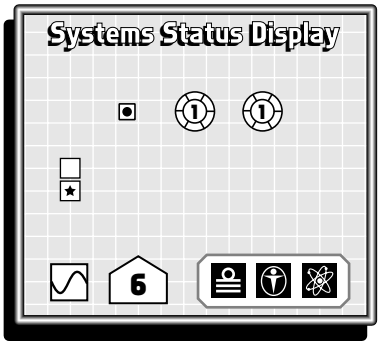
FSE ships make extensive use of salvo missiles as a primary weapon (with good magazine capacities where mass is available), with beam weapons seen as secondary systems. FSE ships are relatively fragile, with a lower priority on defences than (say) the NSL, but this is partly offset by the fact that their large capital ships are VERY big and can absorb punishment that would cripple many other vessels. As with the ESU, fighter carriers are seen as multi-role ships and carry other offensive systems besides their fighter complement. Mobility is a priority, with most ships having good thrust levels, including some capital classes with immensely powerful drives generating thrust-6!

Mistral class SCOUTSHIP

The Mistral is typical of the FSE approach to scout/courier ships - it is somewhat larger than most NAC or ESU scouts, and can actually carry an ordnance fit that can threaten another small escort or freighter. Scouts are never meant to engage in combat with anything much larger than themselves, but if this is inevitable then the Mistral is capable of putting up a fight. Its accommodations are relatively spacious for a scout vessel, as it is often used as a diplomatic or command courier. There are several variants of the Mistral, including the substitution of a submunition pack for one of the class-1 beams and the "protected" version most often used for VIP transport, which replaces the FCS and both beam systems with a single PDS and two MASS of hull armour.

SERVICE DETAILS:
First entered service: 2172
Currently in FSE service: 55
Lost in action: 29
Decommissioned/scrapped: 5
Relegated to reserve fleet: 16
Sold to other forces: 22
Under construction: Nil
Procurement cost: 280 MUcr.





TMF: 8
NPV: 28

TECHNICAL SPECIFICATIONS:

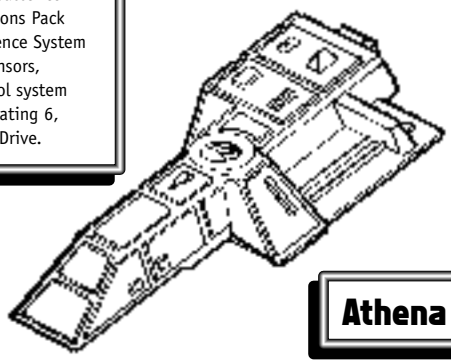
Classification: Scoutship
Displacement: 800 Tonnes [MASS Factor 8]
Hull type: Average [Hull Integrity 2]
Crew: 3 officers, 5 ratings [Crew Factor 1]
Armament: 2 x Class 1 batteries
Defences: None
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

Athena class CORVETTE

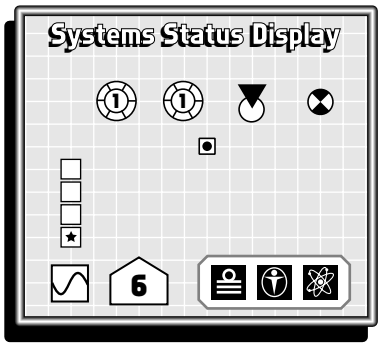
TECHNICAL SPECIFICATIONS:

Classification: Corvette
Displacement: 1400 Tonnes [MASS Factor 14]
Hull type: Average [Hull Integrity 4]
Crew: 4 officers, 10 ratings [Crew Factor 1]
Armament: 2 x Class 1 batteries, 1 Submunitions Pack
Defences: 1 Point Defence System
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

Athena class ships are practical, fast light escorts that can deliver a surprising punch for the size of ship. Many are now being transferred to colonial defence units around the FSE outworld territories as newer Corvette designs begin to supersede them in primary fleet service, though some new hulls are still being built to replace battle losses. A handful of Athenas were converted in 2177 to carry one Salvo Missile Rack each, being stripped of all their other armament (SMP, PDS and Beams) to accommodate this; the experiment (though of moderate success in battle) was not popular with the crews, who are flying what is effectively a defenceless one-shot ship, but a few of the converted vessels still survive in service.



SERVICE DETAILS:
First entered service: 2174
Currently in FSE service: 32
Lost in action: 12
Decommissioned/scrapped: 9
Relegated to reserve fleet: 29
Sold to other forces: 16
Under construction: 11
Procurement cost: 480 MUcr.

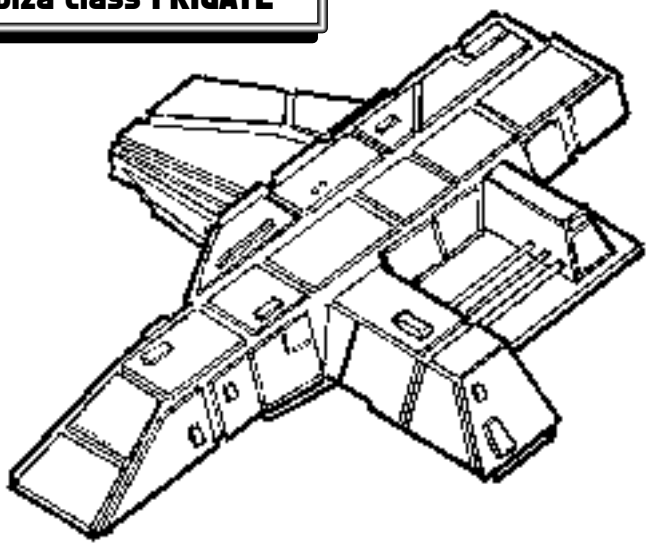


TMF: 14
NPV: 48

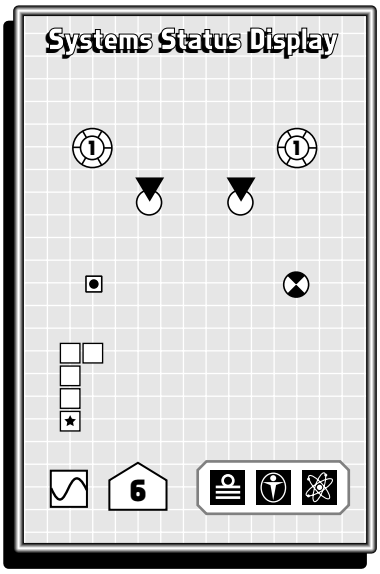
Ibiza class FRIGATE

TMF: 18
NPV: 61

SERVICE DETAILS:
First entered service: 2173
Currently in FSE service: 67
Lost in action: 19
Decommissioned/scrapped: 6
Relegated to reserve fleet: 10
Sold to other forces: 35
Under construction: 22
Procurement cost: 610 MUcr.



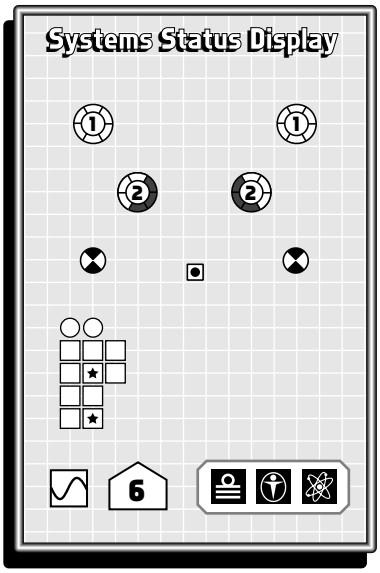
The Ibiza is small compared with many other Frigate designs, but it is cost-effective ship despite its size. The design shares many hull components with the Athena class Corvette, which simplifies construction and subsequent maintenance. Despite a number of other FF designs being introduced in later years, the Ibiza remains in production for both domestic fleet service and export.

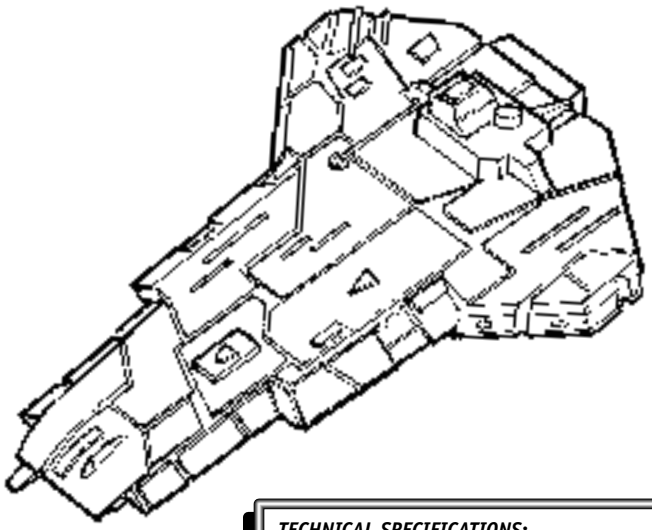


TECHNICAL SPECIFICATIONS:

Classification: Frigate
Displacement: 1800 Tonnes [MASS Factor 18]
Hull type: Average [Hull Integrity 5]
Crew: 4 officers, 14 ratings [Crew Factor 1]
Armament: 2 x Class 1 batteries, 2 Submunition packs
Defences: 1 Point Defence System
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

San Miguel class DESTROYER





The most numerous FSE destroyer type, the San Miguel has had a good service career. The ship has an effective balance of offensive and defensive capabilities and is a popular class to serve on. The San Miguel's good reputation has led to a number of export orders, both for older second-hand hulls and for built-to-order new construction. There is a missile-armed strike variant that loses both class-2 beam installations in favour of a single disposable Salvo Missile Rack.

SERVICE DETAILS:
First entered service: 2170
Currently in FSE service: 44
Lost in action: 17
Decommissioned/scrapped: 10
Relegated to reserve fleet: 6
Sold to other forces: 18
Under construction: 3
Procurement cost: 1120 MUcr.

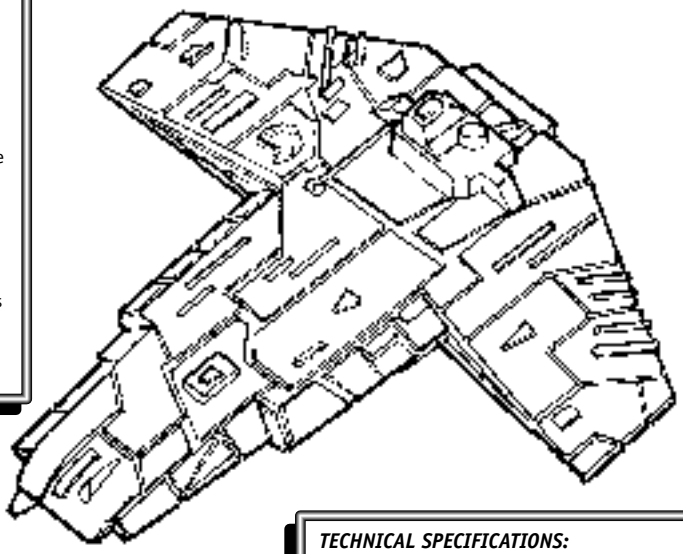
TMF: 34
NPV: 112

TECHNICAL SPECIFICATIONS:

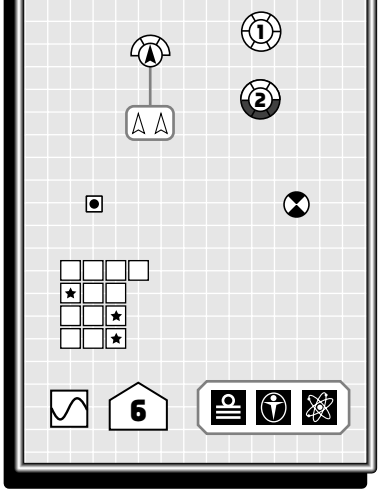
Classification: Destroyer
Displacement: 3400 Tonnes [MASS Factor 34]
Hull type: Average [Hull Integrity 10]
Crew: 7 officers, 27 ratings [Crew Factor 2]
Armament: 2 x Class 1, 2 x Class 2 batteries
Defences: 2 Point Defence Systems Grade 2 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

Trieste class SUPER DESTROYER

The Trieste is a much-enlarged and modified version of the respected San Miguel DD hull, and has a tonnage that almost equals the light cruisers of some navies. Designed as a heavy escort that could hold its own against cruiser forces, it has fulfilled its role admirably to date and further construction is planned to continue for several years. The Trieste is the smallest ship in the FSE inventory to mount a magazine-fed SML system as a primary design feature, making the ship very powerful in the offensive role, though the mass used for this system means that its secondary beam weapon armament is fairly light.



Systems Status Display

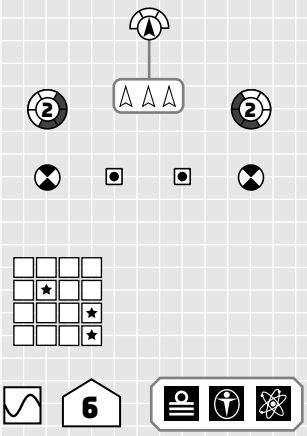


SERVICE DETAILS:
First entered service: 2177
Currently in FSE service: 26
Lost in action: 4
Decommissioned/scrapped: 3
Relegated to reserve fleet: Nil
Sold to other forces: 3
Under construction: 18
Procurement cost: 1390 MUcr.

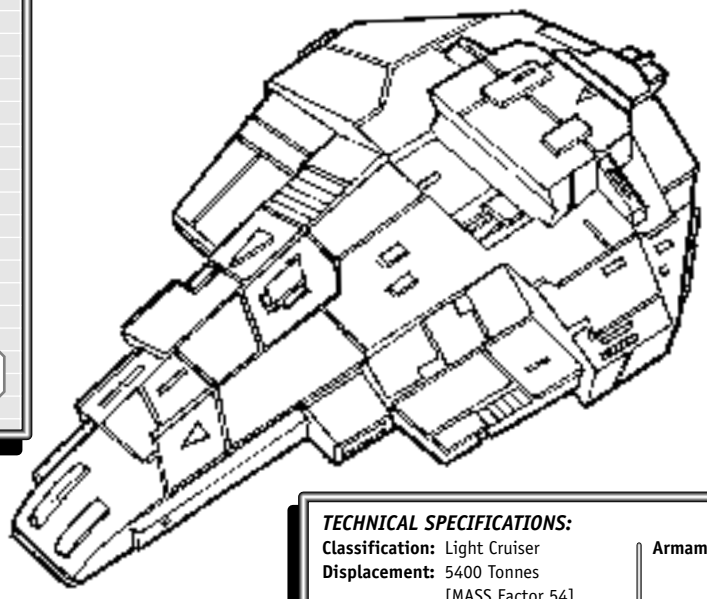
TMF: 42
NPV: 139

TECHNICAL SPECIFICATIONS:
Classification: Super Destroyer
Displacement: 4200 Tonnes [MASS Factor 42]
Hull type: Average [Hull Integrity 13]
Crew: 8 officers, 34 ratings [Crew Factor 3]
Armament: 1 x Class 1, 1 x Class 2 batteries, 1 Salvo Missile Launcher with capacity 4 magazine
Defences: 1 Point Defence System
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

Systems Status Display



Suffren class LIGHT CRUISER



The Suffren is an effective design that has had a long service life; numerous minor variations of weapons fits exist, the result of a number of piecemeal refit programs at different naval yards over the last few years. Four new Suffren hulls are currently under construction at the Merlon yard on export order for the PAU navy, but with the high FSE losses during the current phase of the war it is suspected that the contract may be revoked under the war emergency clauses and the ships pressed into FSE service instead.

SERVICE DETAILS:
First entered service: 2169
Currently in FSE service: 42
Lost in action: 11
Decommissioned/scrapped: 8
Relegated to reserve fleet: 12
Sold to other forces: 7
Under construction: 4
Procurement cost: 1810 MUcr.

TMF: 54
NPV: 181

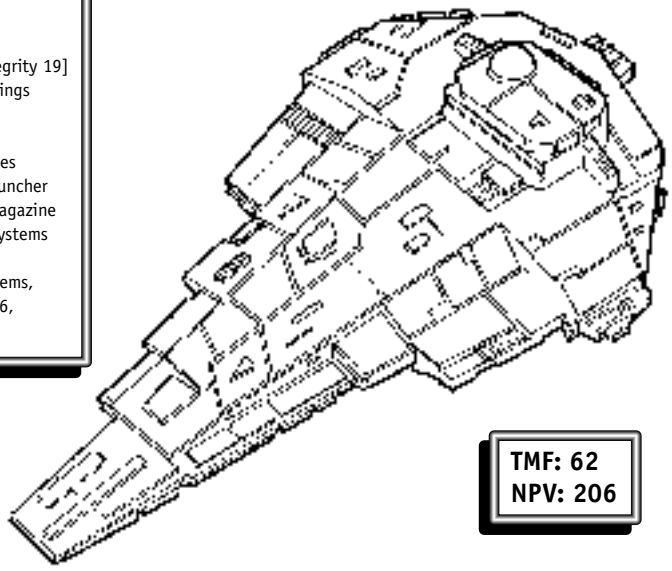
TECHNICAL SPECIFICATIONS:
Classification: Light Cruiser
Displacement: 5400 Tonnes [MASS Factor 54]
Hull type: Average [Hull Integrity 16]
Crew: 9 officers, 45 ratings [Crew Factor 3]
Armament: 2 x Class 2 batteries, 1 Salvo Missile Launcher with capacity 6 magazine
Defences: 2 Point Defence Systems
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

L'ASTROMARINE DES FSE

Milan class ESCORT CRUISER

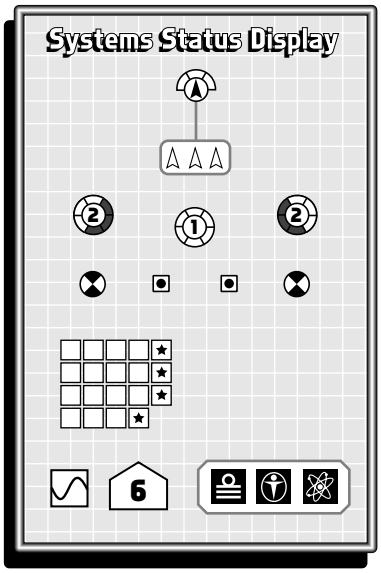
TECHNICAL SPECIFICATIONS:

Classification: Escort Cruiser
Displacement: 6200 Tonnes [MASS Factor 62]
Hull type: Average [Hull Integrity 19]
Crew: 11 officers, 51 ratings [Crew Factor 4]
Armament: 1 x Class 1, 2 x Class 2 batteries 1 Salvo Missile Launcher with capacity 6 magazine
Defences: 2 Point Defence Systems
Sensor suite: Standard sensors, 2 Fire control systems,
Drive systems: Main Drive rating 6, FTL (Jump) Drive.



TMF: 62
NPV: 206

SERVICE DETAILS:
First entered service: 2171
Currently in FSE service: 39
Lost in action: 14
Decommissioned/scrapped: 6
Relegated to reserve fleet: 5
Sold to other forces: 8
Under construction: 3
Procurement cost: 2060 MUcr.

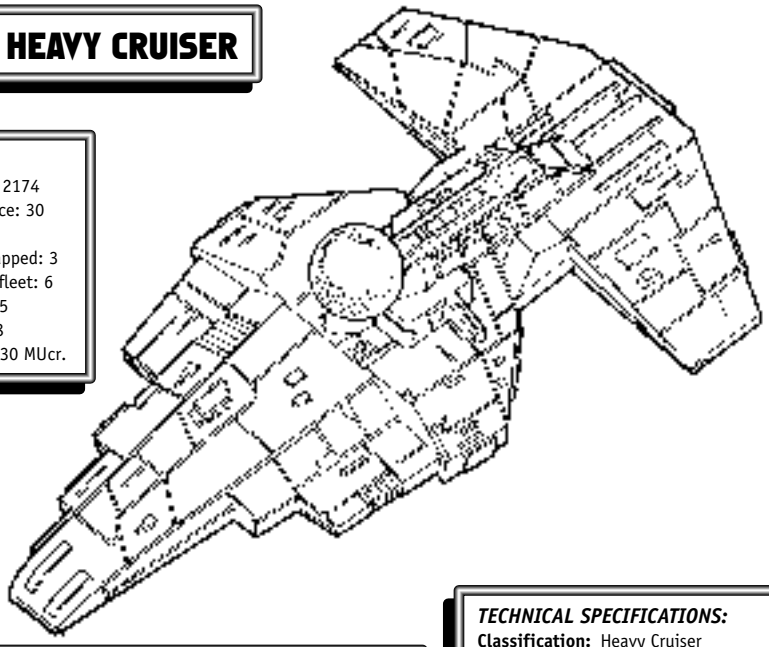


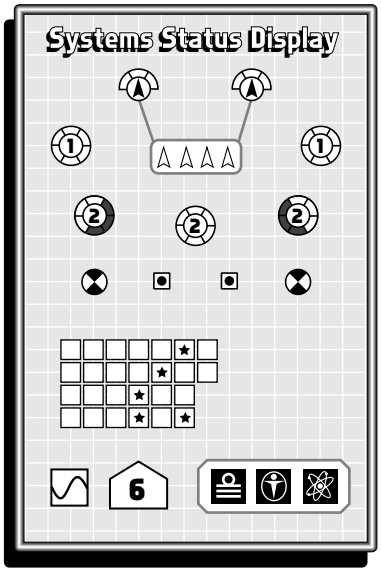
Milan class CEs are a common sight in FSE naval operations, often being used as the main combat units in small Cruiser Task Forces used to support minor colonial operations. Most of the serving Milans underwent a minor refurbishment programme in 2177. Construction of the class for FSE forces now at an end, with the Milans are gradually being replaced by the new Colbert class cruisers first introduced in 2181, but the ship has proved a popular export model and there are currently three new hulls under construction for other navies in addition to the eight second-hand Milans already sold off.

Jerez class HEAVY CRUISER

SERVICE DETAILS:
First entered service: 2174
Currently in FSE service: 30
Lost in action: 19
Decommissioned/scrapped: 3
Relegated to reserve fleet: 6
Sold to other forces: 5
Under construction: 8
Procurement cost: 2930 MUcr.

TMF: 88
NPV: 293



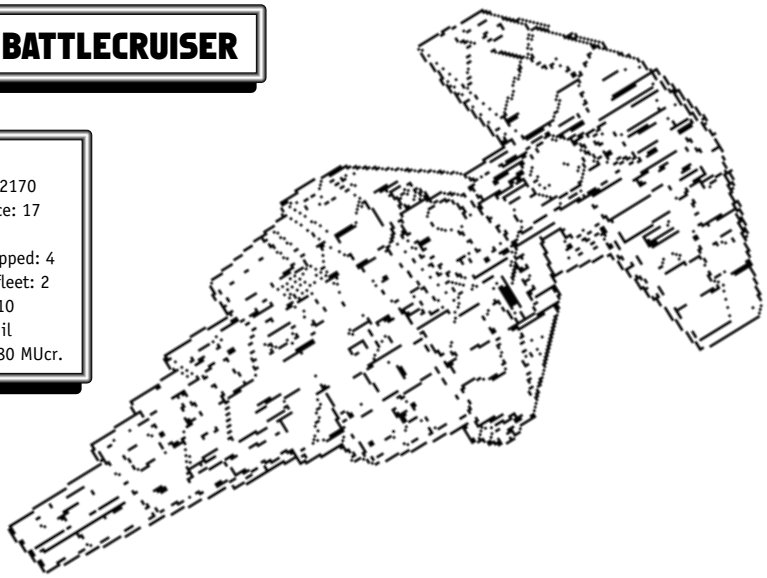


TECHNICAL SPECIFICATIONS:

Classification: Heavy Cruiser
Displacement: 8800 Tonnes [MASS Factor 88]
Hull type: Average [Hull Integrity 26]
Crew: 14 officers, 74 ratings [Crew Factor 5]
Armament: 2 x Class 1, 3 x Class 2 batteries 2 Salvo Missile Launchers with capacity 8 magazine
Defences: 2 Point Defence Systems
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

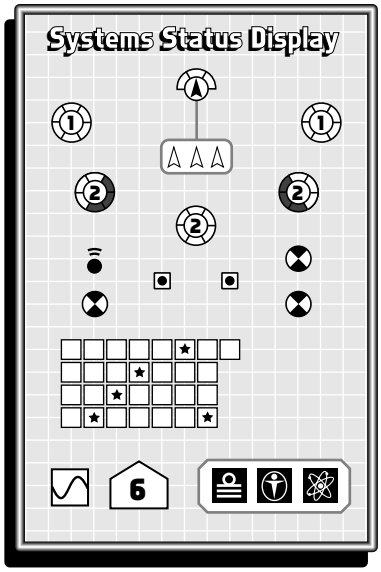
The large and well-armed Jerez is seen by FSE naval command as the workhorse of the cruiser fleet; its relatively high losses in combat are due to frequent combat missions against much heavier enemy units rather than any design shortcomings, and the Jerez has always aquitted itself well in battle. Construction is continuing at a fair rate to replace wartime losses, and with the FSE command's current preoccupation with its very large battleline ships it is unlikely that a new FSE CH will be introduced for several years.

Ypres class BATTLECRUISER



SERVICE DETAILS:
First entered service: 2170
Currently in FSE service: 17
Lost in action: 5
Decommissioned/scrapped: 4
Relegated to reserve fleet: 2
Sold to other forces: 10
Under construction: Nil
Procurement cost: 3180 MUcr.

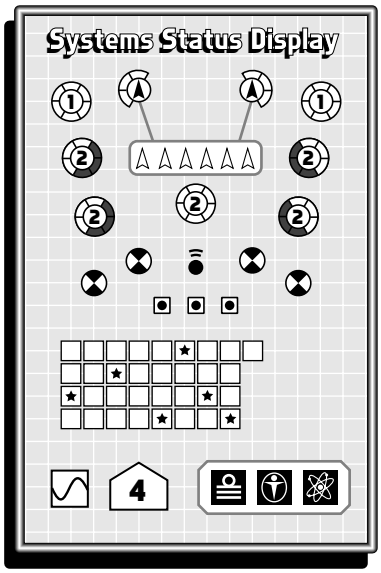
TMF: 96
NPV: 318



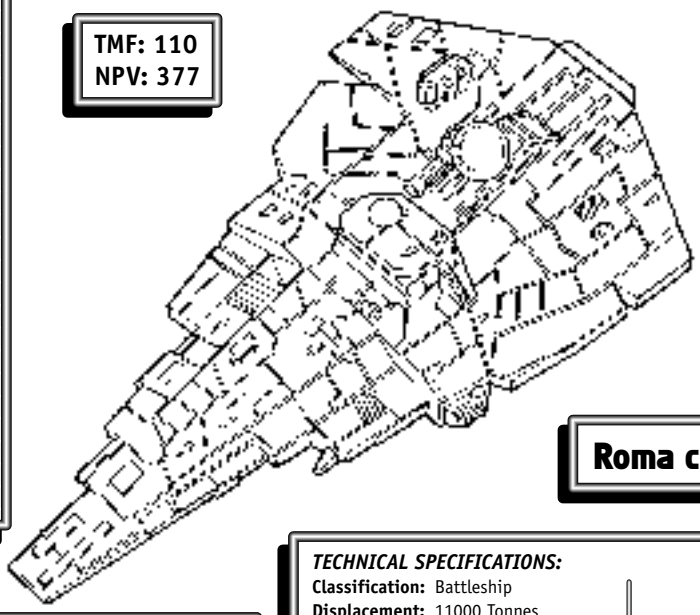
The Ypres BC is the forerunner of the Roma class BB, and is only very slightly smaller. Although a good ship, it was never built in great numbers and several are now being sold off to other navies. Most of the Ypres' mission parameters can be met more cost-effectively by the Jerez class CH, and as a result the Ypres' frontline service life is not expected to extend past the late 2180s. The early production Ypres had a second SML and larger magazine capacity, but almost all of the class still in service have lost 1 launcher and some magazine space in favour of a level-1 screen system as part of a 2176 refit following several losses to the predominantly beam-armed ships of the NSL forces.

TECHNICAL SPECIFICATIONS:

Classification: Battlecruiser
Displacement: 9600 Tonnes [MASS Factor 96]
Hull type: Average [Hull Integrity 29]
Crew: 15 officers, 81 ratings [Crew Factor 5]
Armament: 2 x Class 1
3 x Class 2 batteries
1 Salvo Missile Launcher with capacity 6 magazine
Defences: 3 Point Defence Systems
Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 6, FTL (Jump) Drive.



TMF: 110
NPV: 377



SERVICE DETAILS:
First entered service: 2172
Currently in FSE service: 25
Lost in action: 7
Decommissioned/scrapped: 3
Relegated to reserve fleet: 5
Sold to other forces: 2
Under construction: Nil
Procurement cost: 3770 MUcr.

Roma class BATTLESHIP

The Roma class is an uprated version of the Ypres class BC, with a small increase in tonnage to accommodate a second SML system. New hull production has stopped pending the introduction of a new BB class, though delays in the design of the replacement are causing FSE naval command to consider the ordering of several new Romas to replace combat losses. The primary armament of twin SM launchers is backed up by a high magazine capacity for extended engagements, but the class suffers somewhat from underpowered drives in comparison with other FSE designs.

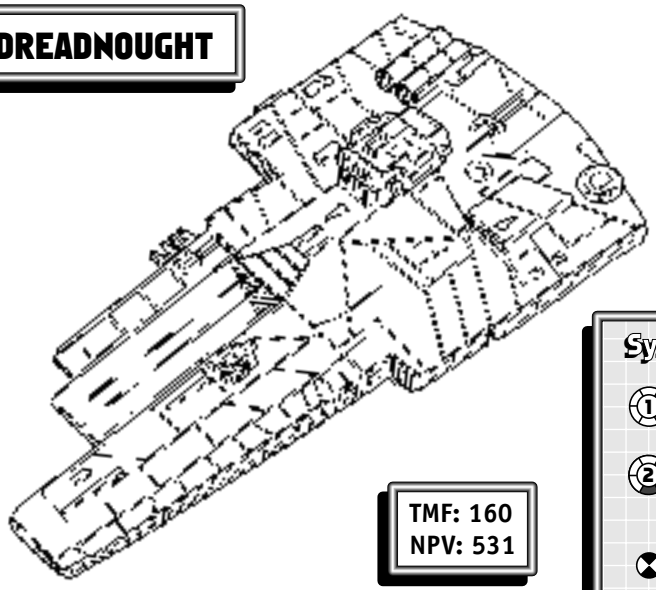
TECHNICAL SPECIFICATIONS:

Classification: Battleship
Displacement: 11000 Tonnes [MASS Factor 110]
Hull type: Average [Hull Integrity 33]
Crew: 18 officers, 92 ratings [Crew Factor 6]
Armament: 2 x Class 1
5 x Class 2 batteries
2 Salvo Missile Launchers with capacity 12 magazine
Defences: 4 Point Defence Systems
Level 1 Screens
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

Bonaparte class BATTLEDREADNOUGHT

TECHNICAL SPECIFICATIONS:

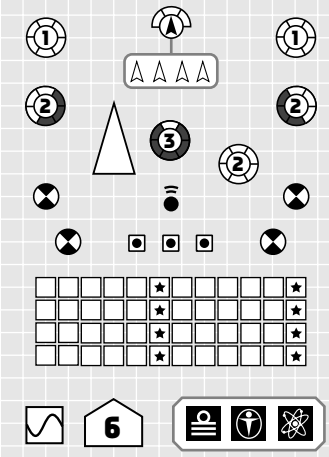
Classification: Battledreadnought
Displacement: 16000 Tonnes [MASS Factor 160]
Hull type: Average [Hull Integrity 48]
Crew: 27 officers, 133 ratings [Crew Factor 8] Plus Fighter pilots
Armament: 2 x Class 1, 3 x Class 2, 1 x Class 3 batteries 1 Salvo Missile Launcher with capacity 8 magazine
Defences: 4 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 6, FTL (Jump) Drive.
Hangar Bays: 1 bay for 6 Fighters



TMF: 160
NPV: 531

SERVICE DETAILS:
First entered service: 2176
Currently in FSE service: 12
Lost in action: 2
Decommissioned/scrapped: Nil
Relegated to reserve fleet: Nil
Sold to other forces: 1
Under construction: 3
Procurement cost: 5310 MUcr.
(Plus Fighter costs)

Systems Status Display

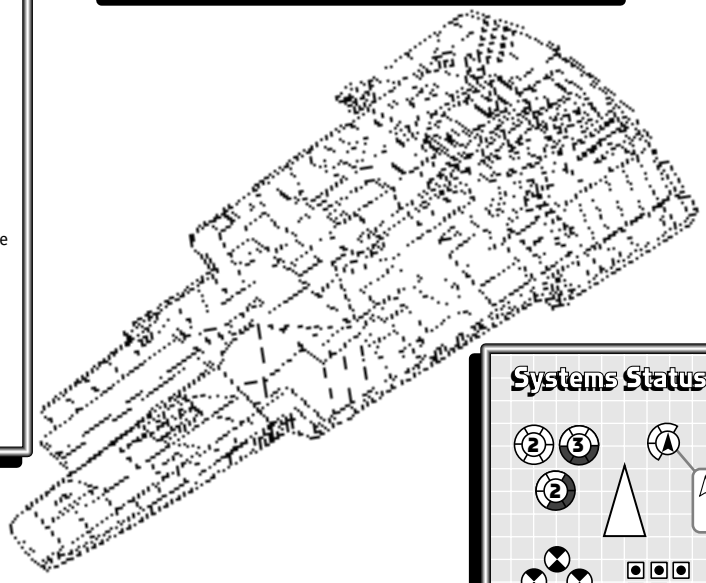


In 2173, the FSE Naval command commissioned a major design programme for the Fleet's new heavy warships. The result was a family of designs consisting of BDN and SDN classes, plus derived carriers (CVL and CVH). The Bonaparte BDN was the first of the group to see service, with the name-ship being laid down in 2175 and commissioned into service a year later. Following FSE standard doctrine, the class places great emphasis on speed and mobility - its huge drives give it a thrust rating equal or better than many ships half its tonnage. There is a large jump in size between the Roma BBs and the Bonaparte class, and some design studies have been carried out into a possible lighter version of the Bonaparte to fill the Heavy Battleship slot that is currently occupied only by a few very elderly Garibaldi class ships dating from the late 2130s.

Foch class SUPERDREADNOUGHT

TECHNICAL SPECIFICATIONS:

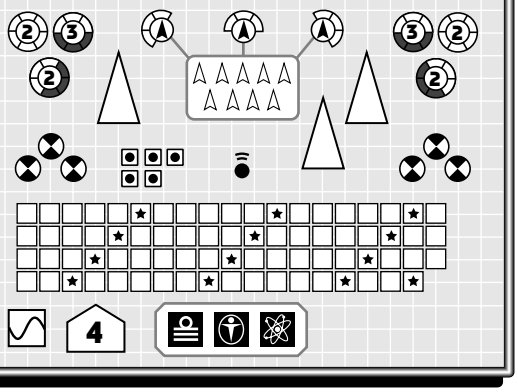
Classification: Superdreadnought
Displacement: 25000 Tonnes [MASS Factor 250]
Hull type: Average [Hull Integrity 75]
Crew: 41 officers, 209 ratings [Crew Factor 13] Plus Fighter pilots
Armament: 4 x Class 2, 2 x Class 3 batteries 3 Salvo Missile Launchers with capacity 18 magazine
Defences: 6 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 5 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.
Hangar Bays: 3 bays each holding 6 Fighters



TMF: 250
NPV: 855

SERVICE DETAILS:
First entered service: 2181
Currently in FSE service: 9
Lost in action: 1
Decommissioned/scrapped: Nil
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 5
Procurement cost: 8550 MUcr.
(Plus Fighter costs)

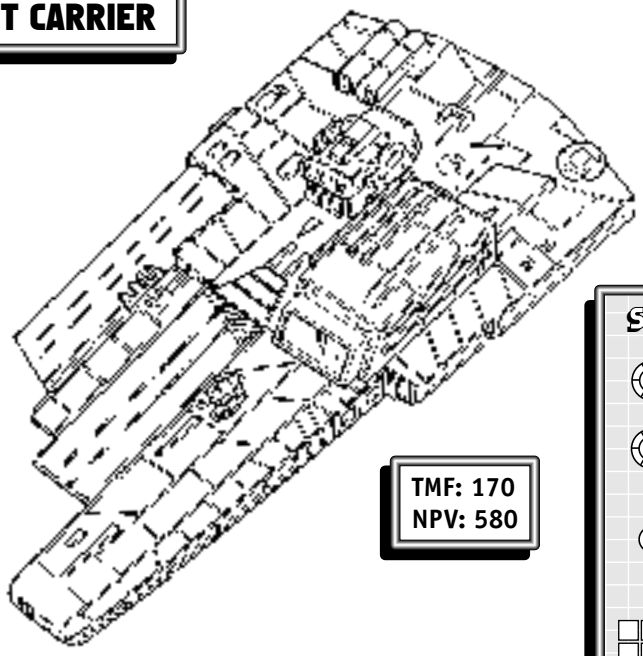
Systems Status Display



A replacement for the ageing Chirac class DN which had been the mainstay of the FSE battleline since in 2140s, the new Foch class far surpasses even the ESU Komarov dreadnoughts in size, while retaining a level of drive power equivalent to many smaller ships of other nations. An impressive and intimidating vessel, it nevertheless still has to prove itself in long term service. The class is derived from the much smaller Bonaparte BDN, and like most FSE major units it relies heavily on an extensive missile system as its primary armament.

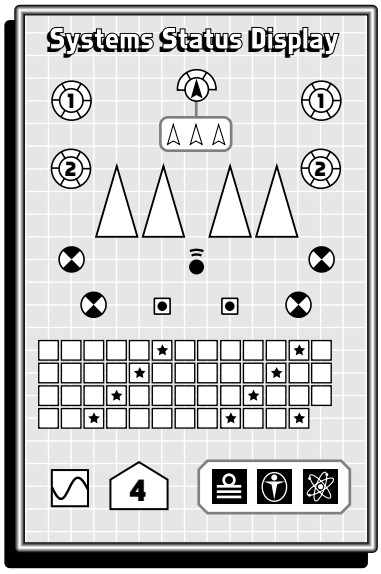
Bologna class LIGHT CARRIER

TECHNICAL SPECIFICATIONS:
Classification: Light Carrier
Displacement: 17000 Tonnes [MASS Factor 170]
Hull type: Average [Hull Integrity 51]
Crew: 35 officers, 135 ratings [Crew Factor 9] Plus Fighter pilots
Armament: 2 x Class 1, 2 x Class 2 batteries 1 Salvo Missile Launcher with capacity 6 magazine
Defences: 4 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.
Hangar Bays: 4 bays each holding 6 Fighters



TMF: 170
NPV: 580

SERVICE DETAILS:
First entered service: 2178
Currently in FSE service: 13
Lost in action: 3
Decommissioned/scrapped: 1
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 4
Procurement cost: 5800 MUcr.
(Plus Fighter costs)

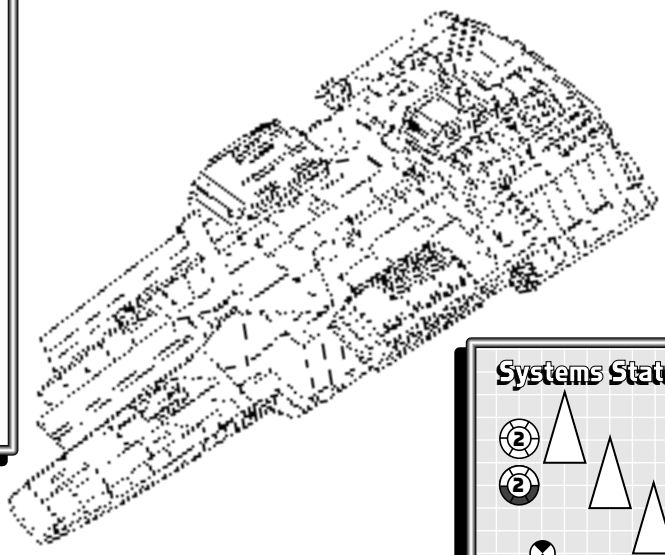


The Bologna CVL is derived from the hull structure of the Bonaparte class BDN, with a major internal redesign to accommodate the four fighter hangars and associated equipment. Most of the early teething troubles of the BDNs had been worked out by the time the first Bolognas were commissioned, and the CVL design has taken advantage of this experience to provide a reliable addition to the FSE fleet assets. Like the CVL classes of most navies, the Bologna has space for four full fighter groups, but still retains sufficient offensive armament and passive and active defences to stand in the battleline when necessary.

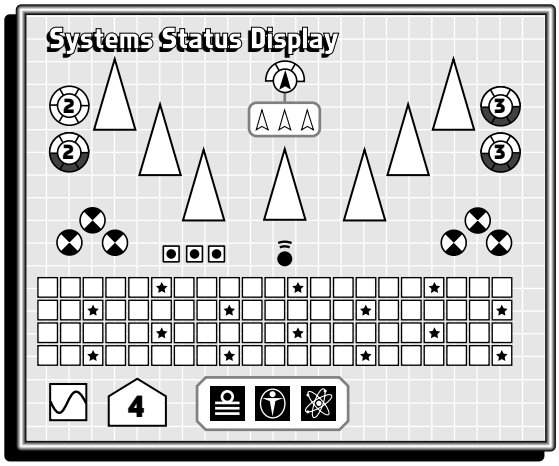
Jeanne D'Arc class FLEET CARRIER

TECHNICAL SPECIFICATIONS:
Classification: Fleet Carrier
Displacement: 28000 Tonnes [MASS Factor 280]
Hull type: Average [Hull Integrity 84]
Crew: 46 officers, 234 ratings [Crew Factor 14] Plus Fighter pilots
Armament: 2 x Class 2, 2 x Class 3 batteries 1 Salvo Missile Launcher with capacity 6 magazine
Defences: 6 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.
Hangar Bays: 7 bays each holding 6 Fighters

TMF: 280
NPV: 955



SERVICE DETAILS:
First entered service: 2182
Currently in FSE service: 5
Lost in action: 2
Decommissioned/scrapped: Nil
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 4
Procurement cost: 9550 MUcr.
(Plus Fighter costs)



A development of the Foch class dreadnaughts, the Jeanne D'Arc class carriers are the newest major ships in the FSE Naval inventory and are also some of the largest space warships ever constructed. The Jeanne D'Arc has a large fighter capacity (7 full groups) but also carries a very comprehensive suite of offensive and defensive weapon systems. Building of the class continues at the Merlon navy yards, and is expected to be accelerated to replace the catastrophic loss of two ships from the first production group to an NSL ambush at the disastrous battle of Neu Bremen.

ESU VOYENNO-KOSMICHESKIY FLOT

THE EURASIAN SOLAR UNION STAR NAVY (VOYENNO-KOSMICHESKIY FLOT):

The ESU military space force is known in English as the Star Navy, in Russian as the Voyenno-Kosmicheskiy Flot (literally Military Space Fleet) and to the Chinese-speaking peoples of the ESU as the Taikong Jiann Dwee. Most of their naval traditions are Russian in origin, and the usual acronym for the Navy is VKF; individual ships are prefixed VKK (for Voyenno-Kosmicheskiy Korabl'). Merchant and civilian shipping of ESU registry is simply KK (Kosmicheskiy Korabl').

The VKF emblem is, like most ESU military symbology, based on the traditional red star with a gold outline; the ESU flag is the same star, again outlined in gold, on a red field.

HISTORY AND ORGANISATION:

The VKF was formally created in 2079 with the launch of the first Eurasian FTL warships, a few years behind the NAC. Even during the period of Chinese domination of the ESU, up to the 2120s, most of the operation of the VKF was along Russian lines, as China had little more than coastal-defence navy traditions to draw on for experience.

The VKF is divided into several Sector Fleets based in different "Military Districts", each district being made up of a number of colonies. The Military Districts in the Core systems and Inner Worlds are relatively small, with a single well-developed Inner Colony often being a District in its own right, while in the Outworld possessions a single District might encompass as many as a dozen small, far-flung outposts and settlements. The main base for the bulk of the fleet is at the ESU Capital world of Nova Moskva, though the Chiang Military District also has extensive base and shipyard facilities.

Many VKF personnel are conscripts, as they are in all the ESU armed forces, though others volunteer before being conscripted in the hope of a better career - a volunteer will generally rise through the ranks higher and faster than a conscript. Morale on board ship is not exactly high, but it is steady; ESU citizens are brought up to love the Motherland, and they feel a sense of honour in protecting it. VKF crew and officers, as in most navies, also feel that they are somewhat better than the other armed forces such as the ground troops (though they will make an exception for their own marines, the Naval Infantry). Conditions on board ESU warships are mediocre at best, and are certainly not up to the standard of NAC and FSE ships; accommodations are cramped (especially for the ratings), food is nutritious but unappetising, recreational facilities are very limited or nonexistent and discipline is harsh.

SHIP DESIGN DOCTRINE:

Most VKF ships are almost exclusively beam-armed (their superdreadnoughts mounting some of the largest beam systems ever installed on a mobile platform), with salvo missile systems used occasionally on a very few classes. Ships tend to be constructed with either inherently strong hulls, or have armour added over weaker basic construction; many classes carry screens as a further passive defence. Mobility is average for most ships, with some light classes being very fast but the big ships having drives of thrust-2 or 4. The majority of the VKF's fighters are operated from specialised carriers, but these ships generally have more offensive armament and tougher defences than NAC counterparts in addition to their fighter complements. Many ESU ship designs, especially the Cruiser and small Capital types, are optimised for long-term independent operations.

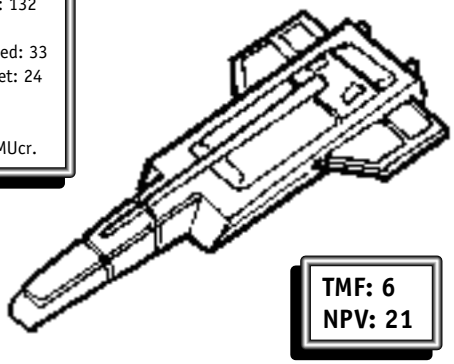
Lenov class SCOUTSHIP

The Lenov class is the standard ESU scout and courier craft, and has also been widely exported to other nations. A very fragile ship, the Lenov sacrifices hull strength in order to mount a powerful Main Drive with a high thrust rating. Like most scouts, this design was never meant to enter full-scale combat, though some refitted versions have been reported mounting a single submunition pack in place of the class 1 beam system.

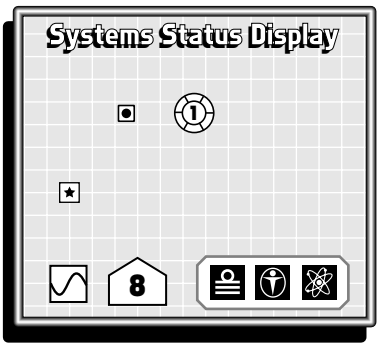
SERVICE DETAILS:
First entered service: 2160
Currently in ESU service: 132
Lost in action: 46
Decommissioned/scrapped: 33
Relegated to reserve fleet: 24
Sold to other forces: 58
Under construction: Nil
Procurement cost: 210 MUcr.

TECHNICAL SPECIFICATIONS:

Classification: Scoutship
Displacement: 600 Tonnes [MASS Factor 6]
Hull type: Weak [Hull Integrity 1]
Crew: 2 officers, 4 ratings [Crew Factor 1]
Armament: 1 x Class 1 battery
Defences: None
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 8, FTL (Jump) Drive.



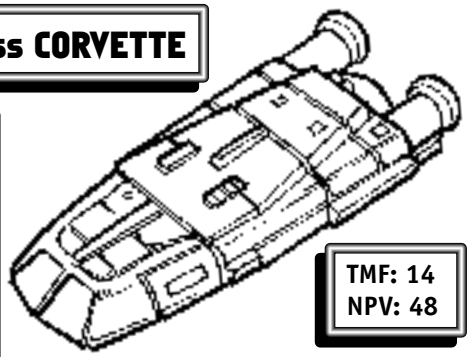
TMF: 6
NPV: 21



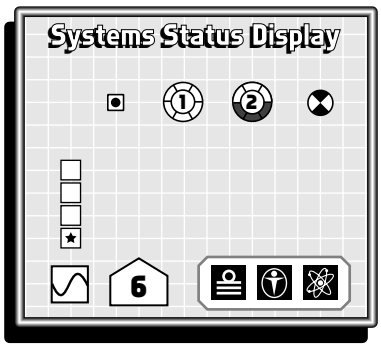
Nanuchka II class CORVETTE

The Nanuchka II has now almost completely replaced the older Nanuchka I corvette, to which it actually bears very little similarity in appearance. The Nanuchka II is in fact a completely new design of vessel, and the retaining of the Nanuchka name is thought to be either just a quirk or a deliberate attempt at misinformation by the ESU naval intelligence bureau. The new ships are built in the same production facility at the Nova Gdansk yards that was responsible for the Novgorod FFs, and the corvettes share several design features with their "older sisters".

SERVICE DETAILS:
First entered service: 2177
Currently in ESU service: 89
Lost in action: 25
Decommissioned/scrapped: 6
Relegated to reserve fleet: 4
Sold to other forces: 15
Under construction: 38
Procurement cost: 480 MUcr.



TMF: 14
NPV: 48



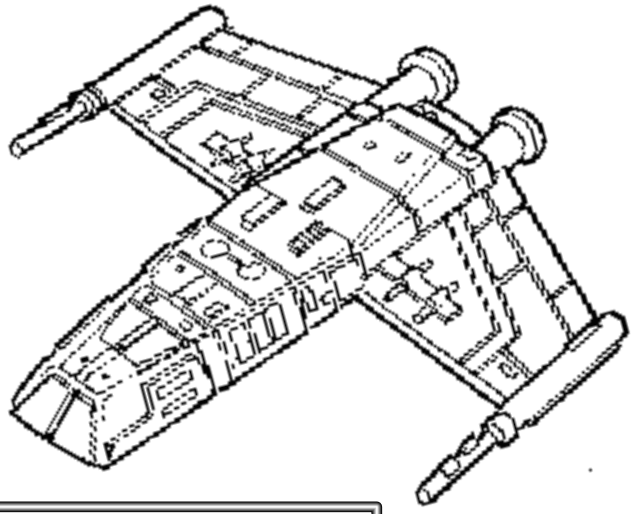
TECHNICAL SPECIFICATIONS:

Classification: Corvette
Displacement: 1400 Tonnes [MASS Factor 14]
Hull type: Average [Hull Integrity 4]
Crew: 4 officers, 10 ratings [Crew Factor 1]
Armament: 1 x Class 1, 1 x Class 2 battery
Defences: 1 Point Defence System
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 6, FTL (Jump) Drive.

Novgorod class FRIGATE

The Novgorod is just one of several FF classes currently in ESU service, including the older Riga class and the newer Grisha and Kunitsa ships; it is an unremarkable but practical design and is frequently used on convoy protection duties. The Novgorod is moderately fast and has a reasonable armament, but is also quite a frail ship and cannot stand extended combat against larger units. Among other export sales, ten second-hand Novgorods have recently been transferred to the Pan African navy, and an order for a further six has been placed as new construction to begin in 2184.

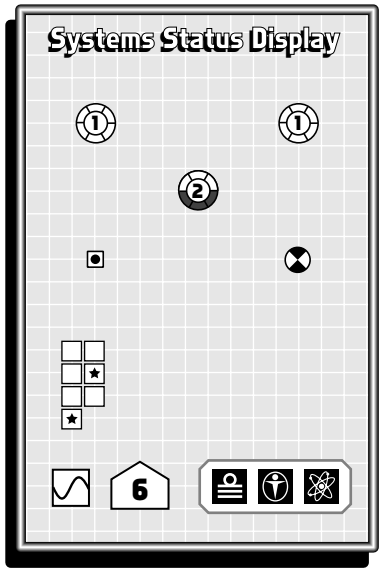
TMF: 22
NPV: 73



SERVICE DETAILS:
First entered service: 2168
Currently in ESU service: 54
Lost in action: 22
Decommissioned/scrapped: 19
Relegated to reserve fleet: 27
Sold to other forces: 17
Under construction: Nil
Procurement cost: 730 MUcr.

TECHNICAL SPECIFICATIONS:

Classification:	Frigate	**Armament:**	2 x Class 1, 1 x Class 2 batteries
Displacement:	2200 Tonnes [MASS Factor 22]	**Defences:**	1 Point Defence System
Hull type:	Average [Hull Integrity 7]	**Sensor suite:**	Standard sensors, 1 Fire-control system
Crew:	6 officers, 16 ratings [Crew Factor 2]	**Drive systems:**	Main Drive rating 6, FTL (Jump) Drive.



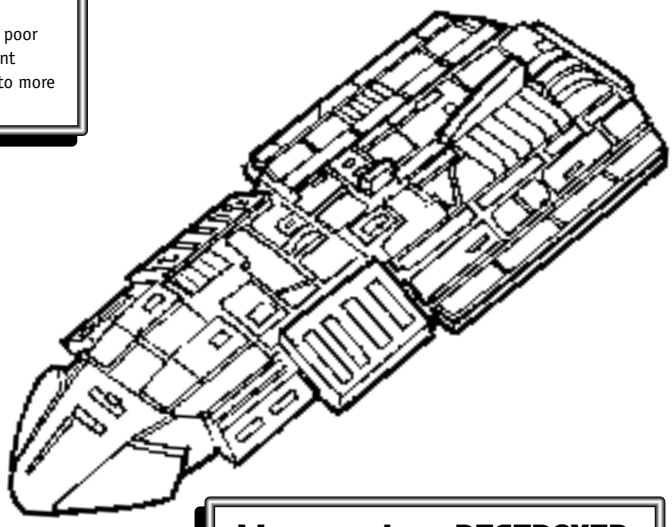
Warsaw class DESTROYER

There are a lot of Warsaw class ships in ESU service; designed at the outbreak of the Third Solar War as a relatively cheap and simple DD class to reinforce the Star Navy's destroyer squadrons and replace most of the long-obsolete Krivak class, huge numbers were produced until the beginning of the 2170s. Moderately armed and protected, the Warsaw has always served well, though it is not a popular assignment for its crews - accommodations are cramped and poor even by ESU standards, to the point where the ship has been referred to more than once as the "Flying ghetto".

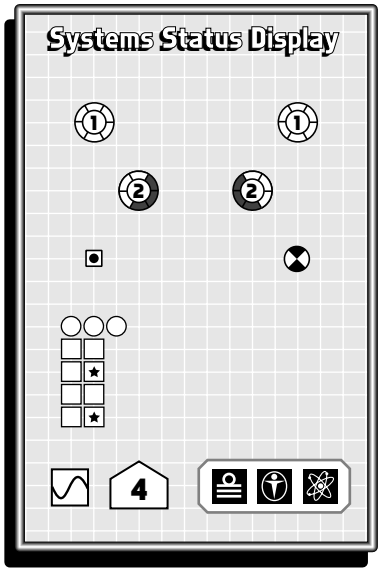
TMF: 28
NPV: 93

TECHNICAL SPECIFICATIONS:

Classification:	Destroyer	**Armament:**	2 x Class 1, 2 x Class 2 batteries
Displacement:	2800 Tonnes [MASS Factor 28]	**Defences:**	1 Point Defence System Grade 3 Armour
Hull type:	Average [Hull Integrity 8]	**Sensor suite:**	Standard sensors, 1 Fire-control system
Crew:	7 officers, 21 ratings [Crew Factor 2]	**Drive systems:**	Main Drive rating 4, FTL (Jump) Drive.



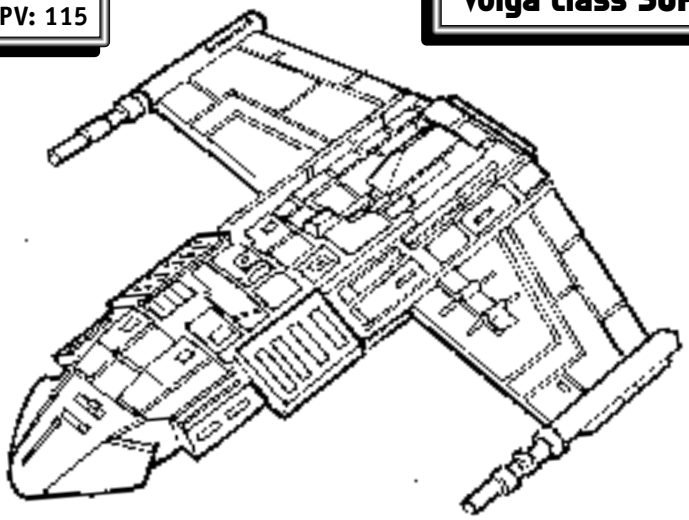
SERVICE DETAILS:
First entered service: 2166
Currently in ESU service: 97
Lost in action: 31
Decommissioned/scrapped: 24
Relegated to reserve fleet: 35
Sold to other forces: 28
Under construction: Nil
Procurement cost: 930 MUcr.



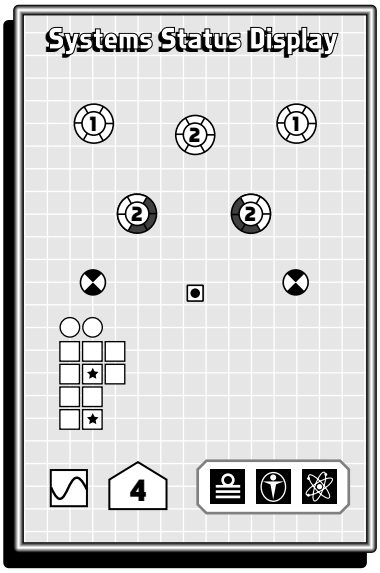
Volga class SUPER DESTROYER

TMF: 34
NPV: 115

SERVICE DETAILS:
First entered service: 2176
Currently in ESU service: 32
Lost in action: 12
Decommissioned/scrapped: 7
Relegated to reserve fleet: Nil
Sold to other forces: 10
Under construction: 18
Procurement cost: 1150 MUcr.



The Volga is an enlarged redesign of the much older Warsaw DD, carrying a better armament suite and improved active defences, though it has a little less armour protection than its predecessor. The crew facilities have been upgraded somewhat over the almost squalid conditions aboard the Warsaws, though it must be said that the "Officers' Country" rather than the ordinary ratings' quarters has received the bulk of the improvements. Volgas and Warsaws serve together in most Star Navy task forces, and construction of the Volga is continuing steadily at the Nova Gdansk and Chiang/D yards.



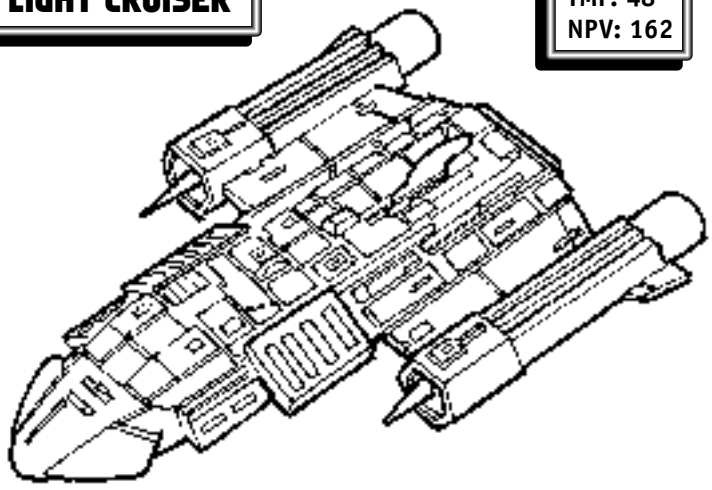
TECHNICAL SPECIFICATIONS:

Classification: Super Destroyer
Displacement: 3400 Tonnes [MASS Factor 34]
Hull type: Average [Hull Integrity 10]
Crew: 8 officers, 26 ratings [Crew Factor 2]
Armament: 2 x Class 1, 3 x Class 2 batteries
Defences: 2 Point Defence Systems Grade 2 Armour
Sensor suite: Standard sensors, 1 Fire-control system
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

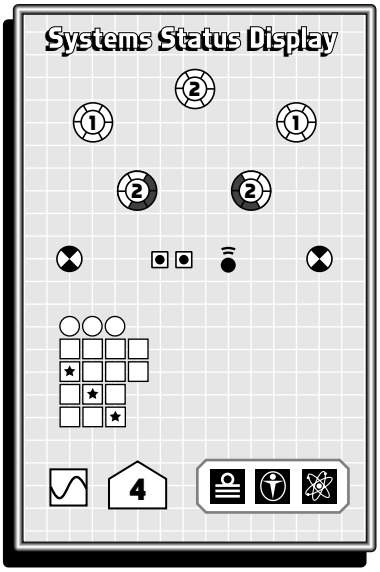
Tibet class LIGHT CRUISER

TMF: 48
NPV: 162

SERVICE DETAILS:
First entered service: 2163
Currently in ESU service: 66
Lost in action: 31
Decommissioned/scrapped: 18
Relegated to reserve fleet: 12
Sold to other forces: 15
Under construction: Nil
Procurement cost: 1620 MUcr.



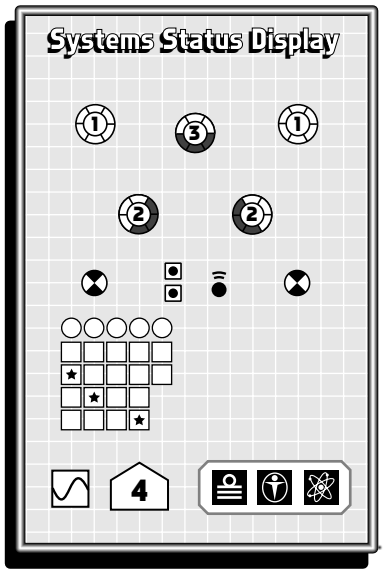
The Tibet is still the standard CL design for the Star Navy, despite being twenty years old. It is a practical and efficient ship with a good balance of offence and defence, and is only very recently being supplemented by the new Kiang class introduced in 2180. The last Tibet hull left the slips in 2175 after a continuous production run of 12 years - a long period for a single unchanged design - and in 2178 the manufacturing facility was reactivated to begin laying down the first of the new Voroshilev class Heavy Cruisers which share several major design features with the old Tibets.



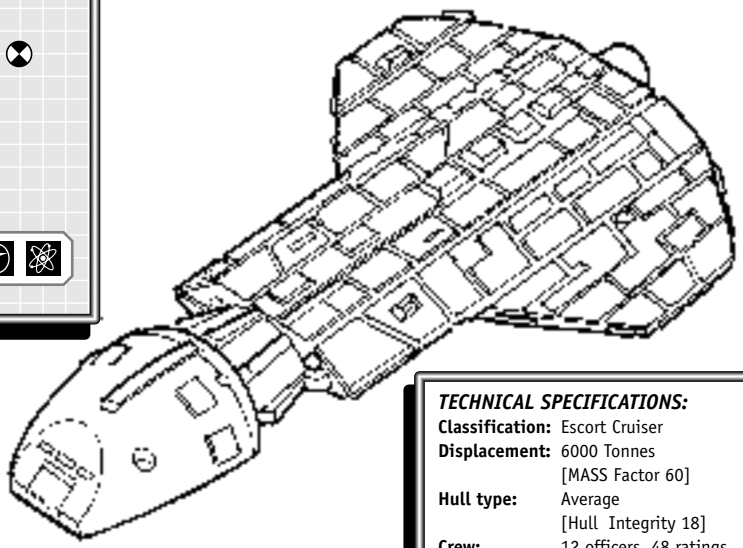
TECHNICAL SPECIFICATIONS:

Classification: Light Cruiser
Displacement: 4800 Tonnes [MASS Factor 48]
Hull type: Average [Hull Integrity 14]
Crew: 11 officers, 37 ratings [Crew Factor 3]
Armament: 2 x Class 1, 3 x Class 2 batteries
Defences: 2 Point Defence Systems Grade 3 Armour Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

Beijing/B class ESCORT CRUISER



The Beijing/B was essentially a new class created from the total refit of a large number of very elderly Beijing/A CEs. The programme took place between 2158 and 2164, but the original Beijing/A hulls actually date from the mid-2130s, making even the refitted Beijing/B an old ship that is in dire need of replacement. There is even a handful of unconverted Beijing/A ships still serving in ESU reserve commands, though how many of these are actually battleworthy is a debatable point. Several of the Beijing/Bs still in service are of a defensive close-support variant which carries an ADFC system and four additional Point-Defence installations in place of the single Class-3 beam system.



SERVICE DETAILS:
First entered service: 2158
Currently in ESU service: 18
Lost in action: 23
Decommissioned/scrapped: 11
Relegated to reserve fleet: 29
Sold to other forces: 8
Under construction: Nil
Procurement cost: 2010 MUcr.

TMF: 60
NPV: 201

TECHNICAL SPECIFICATIONS:

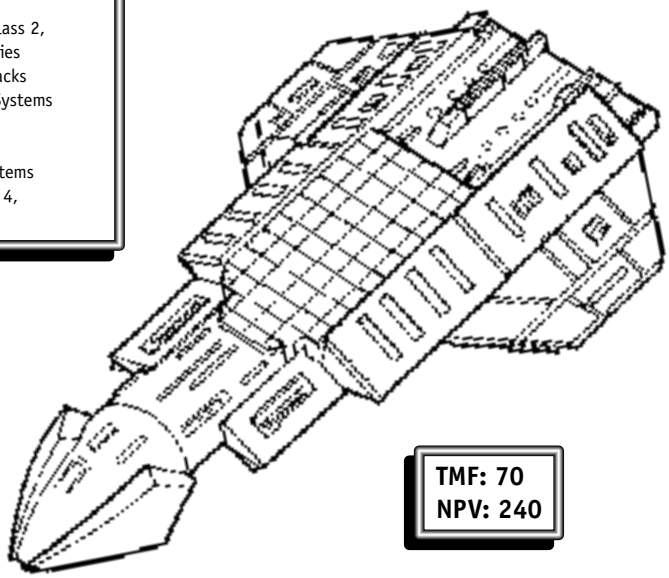
Classification:	Escort Cruiser
Displacement:	6000 Tonnes [MASS Factor 60]
Hull type:	Average [Hull Integrity 18]
Crew:	12 officers, 48 ratings [Crew Factor 3]
Armament:	2 x Class 1, 2 x Class 2, 1 x Class 3 batteries
Defences:	2 Point Defence Systems Grade 5 Armour Level 1 Screens
Sensor suite:	Standard sensors, 2 Fire-control systems
Drive systems:	Main Drive rating 4, FTL (Jump) Drive.

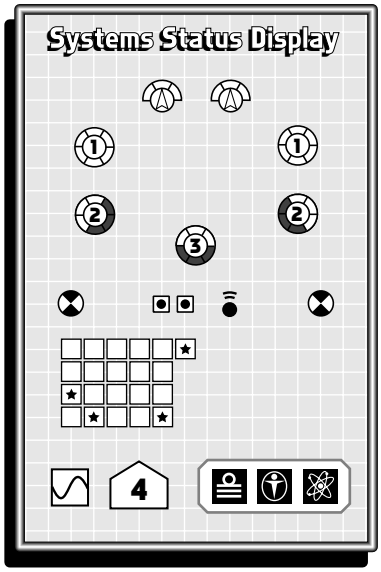
Gorshkov class HEAVY CRUISER

The Gorshkov CH was always an unusual design for the ESU Star Navy, in that it carried a pair of expendable Salvo Missile racks rather than a purely beam-orientated armament suite. While this gave the ship a very effective strike capability, the use of missiles did not really fit the standard ESU operational doctrine - it was felt that the need for frequent missile replenishment in extended combat was a liability, and limited the use of the class in long-range combat patrol duties where fleet auxiliaries could not always be on hand for resupply. Despite these shortcomings, the Gorshkov has acquitted itself well in its long service life and many that are considered too old for frontline operations are being reassigned to the reserve rather than decommissioned.

TECHNICAL SPECIFICATIONS:

Classification:	Heavy Cruiser
Displacement:	7000 Tonnes [MASS Factor 70]
Hull type:	Average [Hull Integrity 21]
Crew:	13 officers, 57 ratings [Crew Factor 4]
Armament:	2 x Class 1, 2 x Class 2, 1 x Class 3 batteries 2 Salvo Missile Racks
Defences:	2 Point Defence Systems Level 1 Screens
Sensor suite:	Standard sensors, 2 Fire-control systems
Drive systems:	Main Drive rating 4, FTL (Jump) Drive.





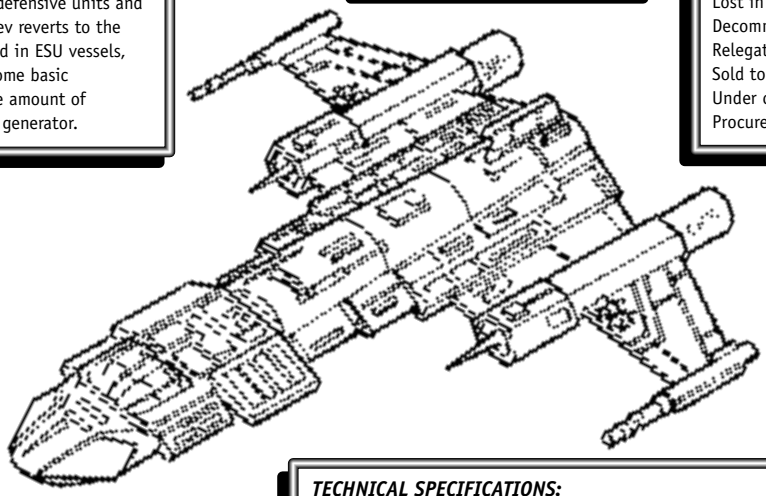
SERVICE DETAILS:
First entered service: 2155
Currently in ESU service: 27
Lost in action: 19
Decommissioned/scrapped: 13
Relegated to reserve fleet: 22
Sold to other forces: 14
Under construction: Nil
Procurement cost: 2400 MUcr.

TMF: 70
NPV: 240

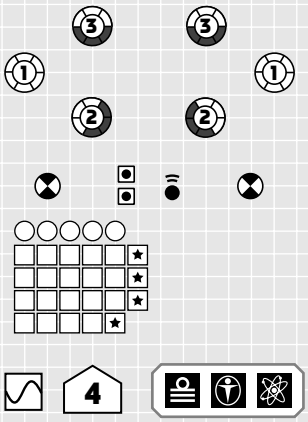
Voroshilev class HEAVY CRUISER

The Voroshilev is one of the ESU's newest warship designs, and is under a crash production programme to replace cruiser force losses from the ongoing war. Voroshilevs are being assigned to most frontline squadrons while the venerable Gorshkovs and other older designs are being withdrawn and reallocated to defensive units and reserve forces. Unlike the Gorshkov, the Voroshilev reverts to the primary beam armament fit most commonly found in ESU vessels, and as with the Tibet CL (with which it shares some basic constructional components) it carries a moderate amount of armoured hull protection in addition to a screen generator.

SERVICE DETAILS:
First entered service: 2179
Currently in ESU service: 24
Lost in action: 7
Decommissioned/scrapped: 1
Relegated to reserve fleet: Nil
Sold to other forces: 2
Under construction: 18
Procurement cost: 2620 MUcr.



Systems Status Display



TMF: 78
NPV: 262

TECHNICAL SPECIFICATIONS:

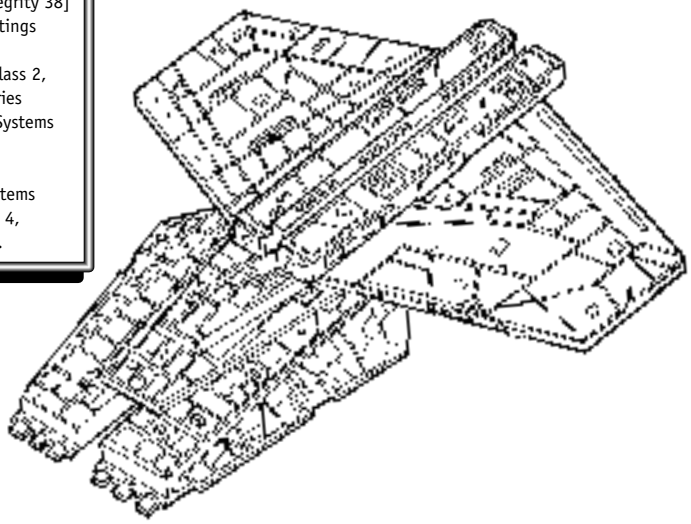
Classification: Heavy Cruiser
Displacement: 7800 Tonnes [MASS Factor 78]
Hull type: Average [Hull Integrity 23]
Crew: 14 officers, 64 ratings [Crew Factor 4]
Armament: 2 x Class 1, 2 x Class 2, 2 x Class 3 batteries
Defences: 2 Point Defence Systems, Grade 5 Armour, Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

Manchuria class BATTLECRUISER

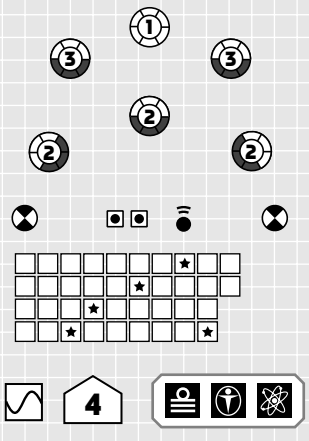
TECHNICAL SPECIFICATIONS:

Classification: Battlecruiser
Displacement: 9400 Tonnes [MASS Factor 94]
Hull type: Strong [Hull Integrity 38]
Crew: 16 officers, 78 ratings [Crew Factor 5]
Armament: 1 x Class 1, 3 x Class 2, 2 x Class 3 batteries
Defences: 2 Point Defence Systems, Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

SERVICE DETAILS:
First entered service: 2171
Currently in ESU service: 19
Lost in action: 5
Decommissioned/scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: 6
Under construction: 8
Procurement cost: 3120 MUcr.



Systems Status Display

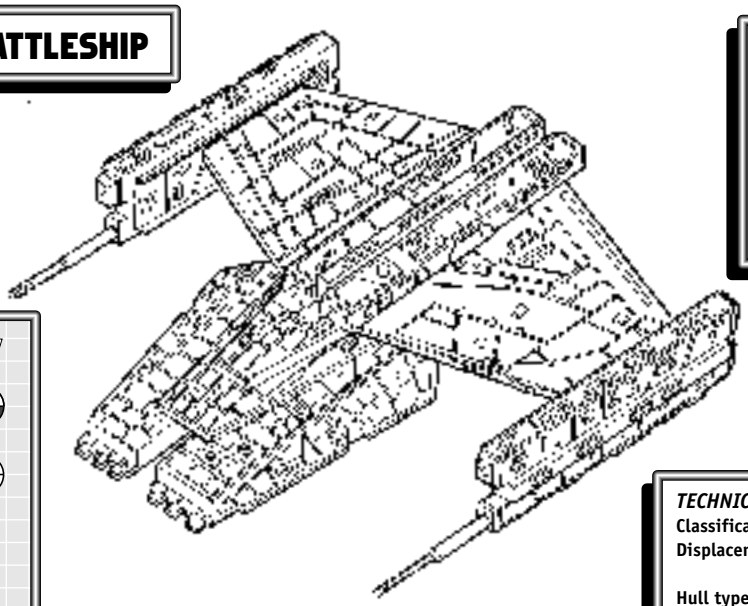


TMF: 94
NPV: 312

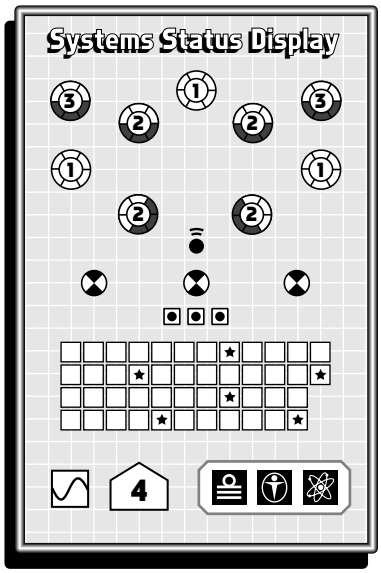
In the late 2160's the ESU Tsien-Valkov naval design bureau devised a new family of ship designs for the Star Navy which would provide BC, BB and BDN classes, plus a new CVL, all based around common major hull components. Such design practice is not unusual in most major navies to reduce both construction costs and development time, but this was the first time that the ESU fleet had applied the principle to so many major units at the same time. All the classes were originally planned for simultaneous introduction to service in 2171, but as always outside events and internal politics intruded on the process and caused delays, so that the Manchuria BC was not joined by her cousins until 2172 (for the Petrograd BB) and 2174 (the Rostov BDN). The CVL variant, the Tsiolkovsky, was not launched until 2176.

Petrograd class BATTLESHIP

TMF: 116
NPV: 386



SERVICE DETAILS:
First entered service: 2172
Currently in ESU service: 23
Lost in action: 4
Decommissioned/scrapped: 6
Relegated to reserve fleet: 2
Sold to other forces: 3
Under construction: 10
Procurement cost: 3860 MUcr.

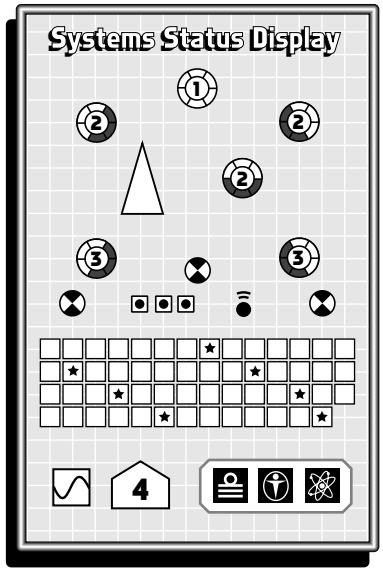


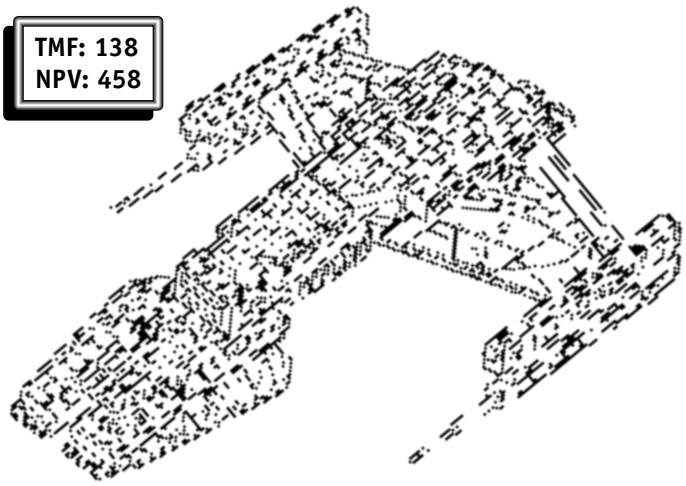
Essentially an expanded Manchuria BC hull, the Petrograd entered service a year later than its smaller counterpart despite having been designed at the same time. The Petrograd BB shares the Manchuria's robust hull structure which, along with a screen system, makes it a sturdy ship able to absorb considerable punishment. As with many ESU ships, crew accommodations are still rather cramped and spartan, but they are nevertheless a considerable improvement on those aboard the old 2130's Sverdlov class BBs that the Petrograd has largely replaced.

TECHNICAL SPECIFICATIONS:
Classification: Battleship
Displacement: 11600 Tonnes [MASS Factor 116]
Hull type: Strong [Hull Integrity 46]
Crew: 18 officers, 98 ratings [Crew Factor 6]
Armament: 3 x Class 1, 4 x Class 2, 2 x Class 3 batteries
Defences: 3 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.

Rostov class BATTLEDREADNOUGHT

TMF: 138
NPV: 458





The Rostov is the BDN class of the "family" of ship designs from the Tsien-Valkov design bureau, which began with the Manchuria BCs at the start of the 2170s. All of the designs are well armed and protected, with good drive power, and are giving the ESU Navy a much-needed boost in its strike capabilities. As with most BDNs, the Rostov carries a single embarked fighter group for both anti-shipping and ground support operations. Five built-to-order Rostovs were exported to the Pan African Union between 2178 and 79, to form the major battleline strength of the PAU's rapidly-expanding and modernising navy; this sale was purely a political move, which somewhat upset the ESU Admiralty who (understandably) felt that their own requirements for replacement fleet units should have taken priority.

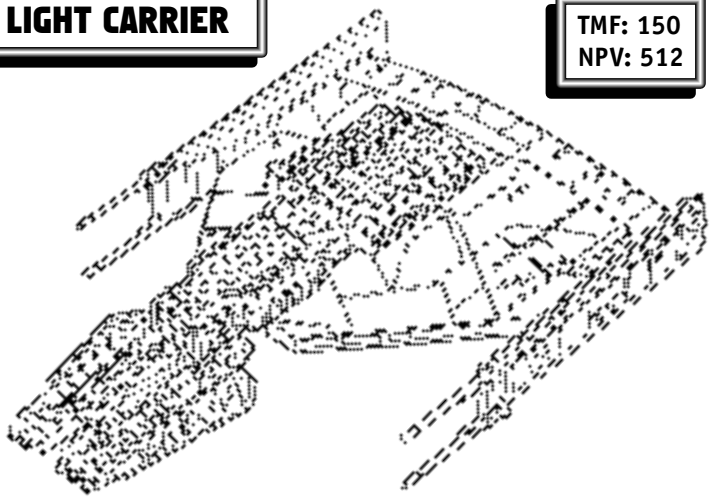
SERVICE DETAILS:
First entered service: 2174
Currently in ESU service: 16
Lost in action: 6
Decommissioned/scrapped: 2
Relegated to reserve fleet: 3
Sold to other forces: 5
Under construction: 4
Procurement cost: 4580 MUcr.
(Plus fighter costs)

TECHNICAL SPECIFICATIONS:
Classification: Battledreadnought
Displacement: 13800 Tonnes [MASS Factor 138]
Hull type: Strong [Hull Integrity 55]
Crew: 20 officers, 118 ratings [Crew Factor 7] Plus Fighter pilots
Armament: 1 x Class 1, 3 x Class 2, 2 x Class 3 batteries
Defences: 3 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.
Hangar bays: 1 bay for 6 Fighters

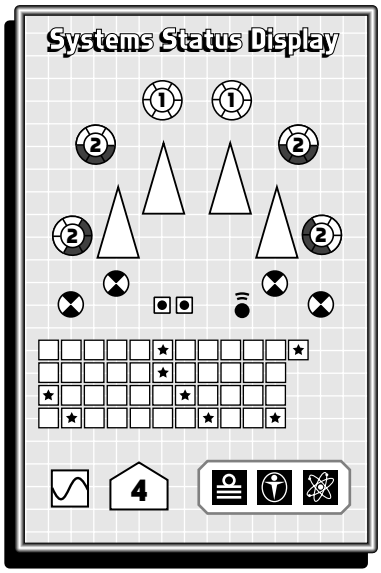
Tsiolkovsky class LIGHT CARRIER

SERVICE DETAILS:
First entered service: 2176
Currently in service: 26
Lost in action: 5
Decommissioned/scrapped: 2
Relegated to reserve fleet: Nil
Sold to other forces: Nil
Under construction: 7
Procurement cost: 5120 MUcr.
(Plus Fighter costs)

TMF: 150
NPV: 512



Since the early 2170s, the ESU Star Navy has been concentrating its carrier production efforts on larger numbers of smaller units, rather than replacing the "dinosaurs" like the Konstantin class. Typical of the light carrier approach is the relatively new Tsiolkovsky, another of the Tsien-Valkov Bureau designs, which combines the benefits of a moderate fighter capacity with good defences, a reasonable turn of speed and an effective direct-fire offensive capability. While they do not have the degree of survivability of the huge old CVAs, their sheer numbers permit flexible fighter deployment in areas where the ESU major fleet units have always been thinly spread.



TECHNICAL SPECIFICATIONS:

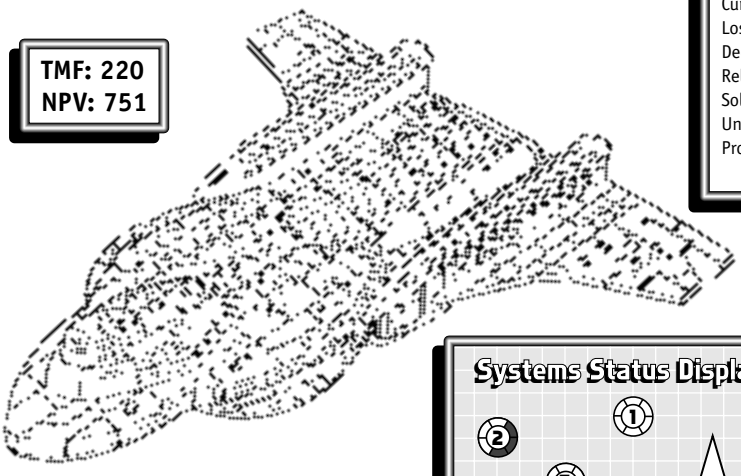
Classification: Light Carrier
Displacement: 15000 Tonnes [MASS Factor 150]
Hull type: Average [Hull Integrity 45]
Crew: 24 officers, 126 ratings [Crew Factor 8] Plus Fighter pilots
Armament: 2 x Class 1, 4 x Class 2 batteries
Defences: 4 Point Defence Systems Level 1 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 4, FTL (Jump) Drive.
Hangar bays: 4 bays each holding 6 Fighters

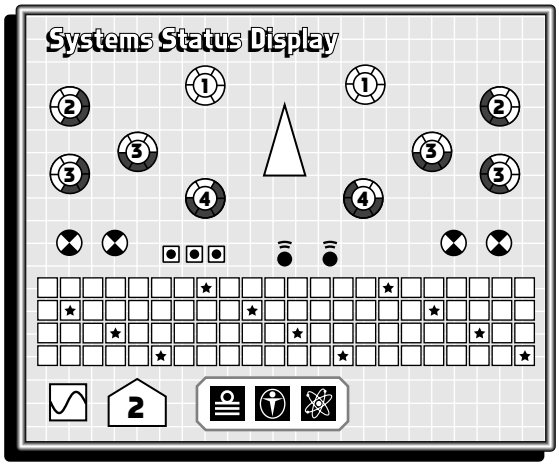
Komarov class SUPERDREADNOUGHT

The Komarovs are old ships nearing the end of their planned operational lives, but are still the mainstay of the ESU battleline. Heavy attrition factors and damage to industrial capacity during the years of the Third Solar War have delayed the introduction of new major fleet units to replace these ageing vessels, and yet another refit programme is planned for 2184 onwards to extend the service life of the Komarovs for a while longer. The Komarov is one of only a handful of warship classes to mount the very large Class-4 beam batteries, these and its extensive array of other beam weapons giving the ship a huge offensive punch. A strong hull and level-2 screens give a good level of protection against most weapons, but the ship carries only a single fighter group compared to the two of most other SDN classes.

SERVICE DETAILS:
First entered service: 2154
Currently in ESU service: 11
Lost in action: 5
Decommissioned/scrapped: 3
Relegated to reserve fleet: 2
Sold to other forces: Nil
Under construction: Nil
Procurement cost: 7510 MUcr.
(Plus fighter costs)

TMF: 220
NPV: 751





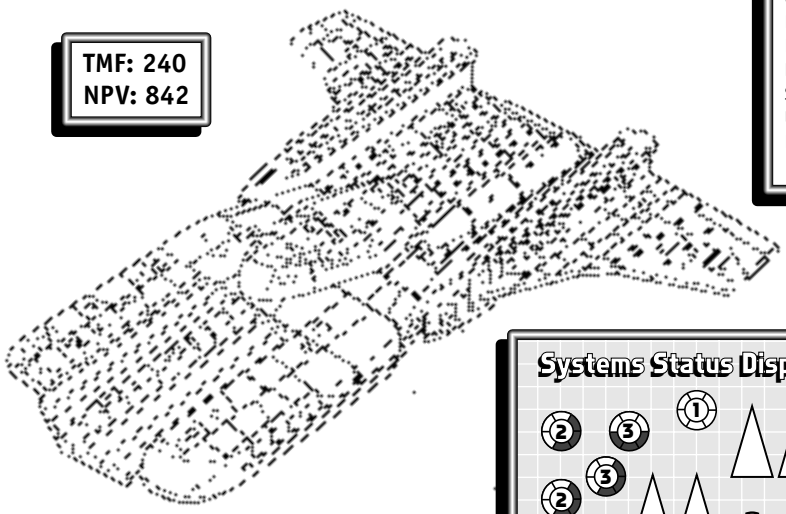
TECHNICAL SPECIFICATIONS:

Classification: Superdreadnought
Displacement: 22000 Tonnes [MASS Factor 220]
Hull type: Strong [Hull Integrity 88]
Crew: 35 officers, 185 ratings [Crew Factor 11] Plus Fighter pilots
Armament: 2 x Class 1, 2 x Class 2, 4 x Class 3, 2 x Class 4 batteries
Defences: 4 Point Defence Systems Level 2 Screens
Sensor suite: Standard sensors, 3 Fire-control systems
Drive systems: Main Drive rating 2, FTL (Jump) Drive.
Hangar bays: 1 bay holding 6 Fighters

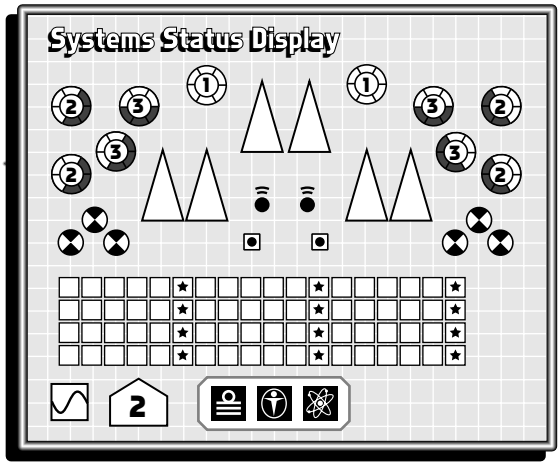
The Konstantin CVA is a huge ship, and was the largest mass-produced warship class in service until the recent introduction of the FSE Jeanne D'Arc class carrier. Like the Komarov SDN from which its hull is derived, the Konstantin is now an old design, and its maintenance requirements are getting higher as the years pass - even the newest Konstantin hulls are now nearly twenty-five years old. The ships have been kept up to date with numerous minor refits and refurbishments throughout their service lives, and the Konstantins are still very effective units with a significant offensive fire capacity in addition to their fighter complements.

Konstantin class ATTACK CARRIER

TMF: 240
NPV: 842



SERVICE DETAILS:
First entered service: 2156
Currently in ESU service: 12
Lost in action: 3
Decommissioned/scrapped: 5
Relegated to reserve fleet: 1
Sold to other forces: 1
Under construction: Nil
Procurement cost: 8420 MUcr.
(Plus fighter costs)



TECHNICAL SPECIFICATIONS:

Classification: Attack Carrier
Displacement: 24000 Tonnes [MASS Factor 240]
Hull type: Average [Hull Integrity 72]
Crew: 37 officers, 203 ratings [Crew Factor 12] Plus Fighter pilots
Armament: 2 x Class 1, 4 x Class 2, 4 x Class 3 batteries
Defences: 6 Point Defence Systems Level 2 Screens
Sensor suite: Standard sensors, 2 Fire-control systems
Drive systems: Main Drive rating 2, FTL (Jump) Drive.
Hangar bays: 6 bays each holding 6 Fighters

SHIP DATA PANELS

The preceding pages contain Ship Data Panels for the warships we have detailed in this volume. Most of the information contained in each panel should be self-explanatory, but a few notes may help.

SYSTEMS STATUS DISPLAY
This box, which is also referred to as the "Ship Diagram", is a graphic display of all the systems fitted to the ship. The icons used are explained earlier in this book. This panel should be photocopied to make up your own ship record charts for your games.

SERVICE DETAILS
This box contains a summary of the operational status and numbers of the ship class in service - it has no bearing on gameplay (unless you are doing a VERY big campaign game!), and is provided for background information only. The various figures in the box are defined as:

First entered service:
Year in which first hull of class was commissioned into Navy service.

Currently in service:
Number of ships of class (including refits and minor variants) in active duty list with nation's main fleet as of 2183.

Lost in action:
Number of ships of class posted as destroyed or missing in combat since introduction of class; this figure does not include vessels scrapped due to battle damage.

Decommissioned/scrapped:
Number of ships of class that have been decommissioned from service and/or broken up due to obsolescence or irreparable battle damage.

Relegated to reserve fleet:
Number of ships of class that have been taken out of frontline fleet duty and transferred to reserve forces - includes "mothballed" units and ships transferred to Training Commands or Colonial Defence Commands.

Sold to other forces:
Number of ships of class that have been sold, leased or otherwise transferred to other national navies or independent colonial forces; this figure includes hulls built specifically for export order as well as second-hand hulls.

Under construction:
Number of new or completely refitted hulls for naval service that are currently under construction at nation's shipyards as of 2183; this figure also includes any hulls of class currently being built commercially for navies of other nations.

Procurement cost:
The cost of construction of one ship of the class, adjusted to 2183 values - the amount is given in MUcr, or Millions of Universal Credits (the standard international exchange unit of currency).
[GAME NOTE: as you may have spotted, the Procurement Cost in MUcr is actually the ship's Nominal Points Value x 10.]

THE TMF/NPV BOX
There is a small box in each ship's Data Panel that gives "TMF" and "NPV" for the ship. These stand for (respectively): TOTAL MASS FACTOR and NOMINAL POINTS VALUE. The TMF is the MASS of the ship design, and the NPV is the Points Cost of the ship (excluding fighters and/or small craft costs in the case of ships with hangar facilities).

THE BACKGROUND INFORMATION BOX
This is a panel of notes and information on the ship class and its service history. Like the Service Details box, much of this is of background interest only, though for some classes there are mentions of certain common variants that can be used to generate further ship designs for the game.

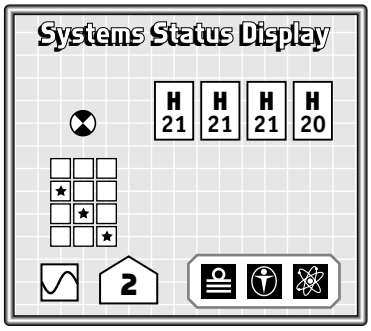
THE TECHNICAL SPECIFICATIONS BOX
This panel contains a written description of the systems fit of the ship class, listing all the items found on the Ship Diagram. Note that the "weapons" section only lists the number and class of each weapon, and not the arcs through which it may fire - that is indicated by the icons on the Ship Diagram. The Displacement figure is the total tonnage of the ship, which under the "official" background we take as 100 tonnes per MASS factor.

THE SHIP ILLUSTRATION
The line drawing of each ship is an illustration of the relevant miniature in the Full Thrust model starship range; the drawings are, of course, not to scale with each other! Note that we do occasionally redesign or modify items in the miniature ranges, and in a few cases the illustration may not be an exact representation of the model currently in production.

MERCHANT & SUPPORT VESSELS

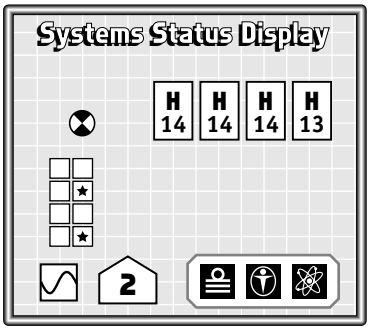
The ships on this page are a representative selection of generic Merchant and Civilian vessels suitable for convoy and commerce raiding scenarios, plus a couple of typical naval Fleet Auxiliary ships that may be used in support of your combat fleet units. Please note that, being of a generic nature, these designs do NOT specifically correspond to individual models in the Full Thrust starship miniature range, though the items in the "300" series miniatures line may be used to represent many of the ships shown here. All the ships on this page (including the Fleet Auxiliary and the Assault Transport) follow the MERCHANT rules regarding number of crew factors (and thus Damage Control Parties), in having one CF for every FIFTY Mass or part thereof.

HEAVY FREIGHTER — Mass 120 · 195 Points



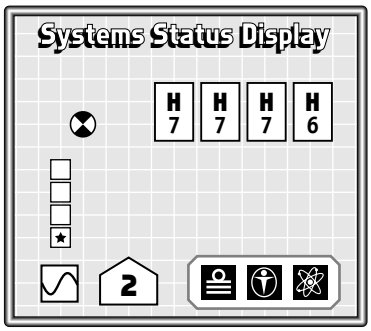
A representative example of the dozens of larger freighter classes that ply the spacelanes under the flags of many nations; such ships also serve in all star navies as replenishment and general transport ships, either as full-time naval auxiliaries or requisitioned from merchant service in times of need. The fitting of a single PDS system is typical of both those ships in naval service and of merchant craft operating outside the safety of the Core systems.

MEDIUM FREIGHTER — Mass 80 · 131 Points



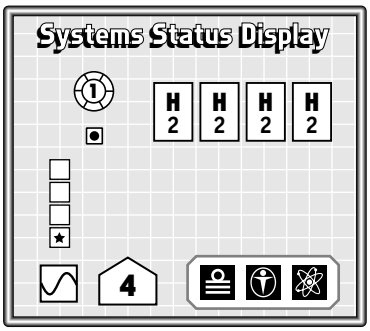
Another typical ship, this time a medium-sized merchant as used by many commercial shipping lines and naval forces. In common with most merchant shipping it has low-powered drives (at least compared with military vessels). The PDS battery would not normally be carried by merchant traffic between the major settled worlds, but is common for ships operating in more uncertain areas.

LIGHT FREIGHTER — Mass 40 · 67 Points



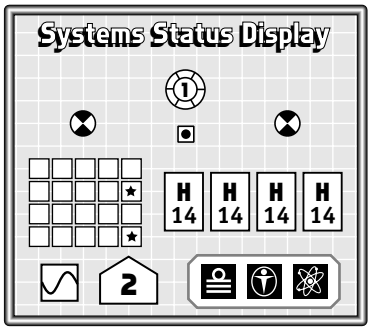
A small freight ship of a type commonly used by independent operators, as well as by major lines to cover marginal routes. It has a very fragile hull structure, and is certainly not intended to ever enter combat, reserving most of its mass for cargo space.

FREE TRADER — Mass 20 · 47 Points



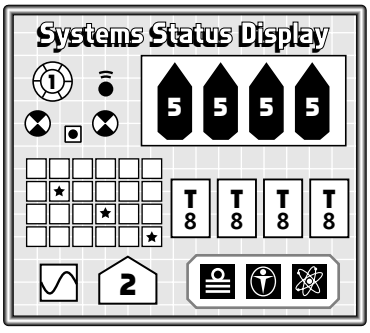
The Free Trader is a very small freighter that is usually operated by a single owner or small partnership. Such ships usually haul low-volume, high-value goods (sometimes of questionable legality) and compete with the major freight lines by offering a fast service with few questions asked. Most operators tread a very fine line between profit and loss, and are often found dodging both police/customs services and their own financiers.

FLEET AUXILIARY — Mass 100 · 193 Points



This kind of ship, typified by the NAC "Blue Ridge" class and the FSE "Durance" class, is a fleet support vessel used for carrying supplies of foodstuffs, ammunition and other expendables for warships during extended missions. While patrol ships will generally return to their base stations for replenishment, operational task forces will always have several Fleet Auxiliaries accompanying them for resupply.

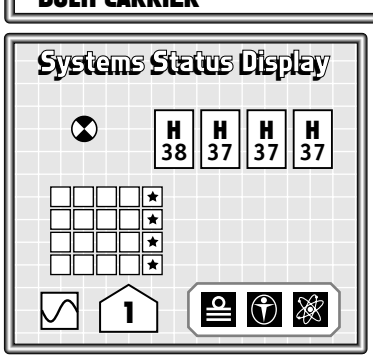
ASSAULT TRANSPORT — Mass 120 · 337* Points



This is a typical example of the Assault Transports used by all major fleets for the carrying and orbital insertion of ground troops to disputed planets; the ship is reasonably well protected and is designed to operate in hostile areas. Four assault dropships allow fast deployment of the troops and equipment carried. The actual specs here are for the NAC "Galahad" class ships, though others such as the ESU "Ropucha" class are very similar.

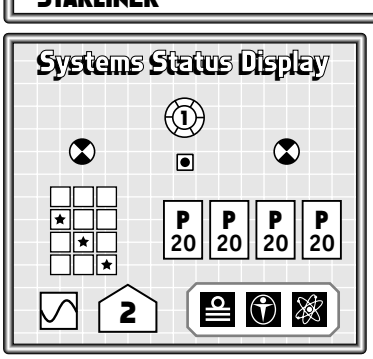
*337 + 40 points for Dropships = **377 total cost**

BULK CARRIER — Mass 200 · 303 Points



Basically nothing more than a huge tin can with a drive package at one end and a command module at the other, Bulk Carriers are used for slow hauling of large amounts of goods between star systems. They are not usually seen in naval service, but this example is sporting a PDS installation as a token defence in view of the ongoing war situation. Converted bulk carriers are often used as colony transports to ship settlers (in very basic conditions) to new worlds.

STARLINER — Mass 120 · 205 Points



A typical example of a luxury Star Liner used to carry the more wealthy travellers between settled worlds. The installed weapons and defences suite is of limited effect should the ship actually come under attack, but is there as much for the reassurance of the passengers as for actual use. Passage on a ship of this sort is expensive and luxurious, but they are also high-value targets for propaganda purposes and are usually heavily escorted in times of war.

BACKGROUND INFORMATION

THE BACKGROUND

The setting for the forces described in this book is, of course, the latter part of the Third Solar War from the "official" background timeline given in Full Thrust. The NAC, NSL, FSE and ESU are the four largest spacefaring human power blocs, and at the point that we have chosen in the timeline they have been at war with each other for eighteen years (the Third Solar War started in 2165 and has dragged on ever since).

The NAC and NSL are nominally "allied" with each other, as are the FSE and ESU, though individual territorial claims and disagreements through the years of the war have meant that even these allies have skirmished between themselves at certain times. The nature of communication and travel between star systems forces local commanders to take (and be allowed) a great deal of personal initiative rather than always waiting for direct orders from higher authority, which gives rise to some unusual confrontations and "misunderstandings" in disputed areas. Virtually all the human minor powers and nations are involved in the war as well, either supporting one or the other of the major "sides" or simply looking for opportunities to turn local situations to their own advantage.

The war has become one of stalemate and attrition, with forces skirmishing through dozens of star systems punctuated by the occasional burst of large-scale fleet operations as one side or the other attempts a major thrust to alter the balance of the situation. The navies (and other forces) of all the combatants have suffered heavy losses in the years of war, and their industrial capacities are struggling to replace the ships and other equipment lost in combat.

As the timeline reaches 2183, things are about to change radically as humanity discovers that it is NOT alone in the universe after all.....

LIFE ABOARD SHIP IN THE 2180s

"Space is REALLY, REALLY BIG - and really empty. This incomprehensible bigness and emptiness does strange things to the human mind. It is bad enough in-system, even though you can still see that one star is bigger than the rest and this gives you some tenuous link to those grubby little balls of dirt we call planets. Out in interstellar space, however, things get really empty. You spend a LOT of time out between the stars, in the Deep Cold, drifting along sub-light between Jumps while the ship and your body get ready for the next dislocation. Even if your ship is part of a fleet or convoy, you are probably half a light-year apart, and you won't see them again till you make the little corrective jumps at the end of the trip. Something in your mind keeps saying that if the Jump doesn't work then you'll just keep drifting, and maybe if you are really lucky then your mummified remains will get to see another star in a thousand years or so..... "

Service on a starship, whether Navy or merchant, is much like that on a 20th Century submarine - long periods of little to do except routine chores and drills, close proximity of other personnel, little privacy and absolutely nothing to see outside. It is accepted that crews need as much recreational opportunity as possible, and as such efforts are made in most forces to channel their energies into non-disruptive hobbies and interests while clamping down hard on alcohol abuse (certain amounts are quite legal while off-duty, as anti-intoxicant medication is freely available and very effective) and "recreational pharmaceuticals". Even the average lowly spacehand is generally well educated and technically adept, which at times can be a mixed blessing for the Petty Officers who maintain order "below decks".

Day-to-day life aboard ship is usually made as pleasant as possible for the crew, although cost and space limitations obviously affect this to a greater extent in some ship classes that others. Ships designed for long-range patrol duties and extended operations will often have better crew facilities that those that are intended for operations closer to main fleet bases. While it is generally accepted that a comfortable and happy crew is an efficient crew, differing national doctrines and attitudes affect the provision of crew facilities - NAC and FSE vessels are (in general) particularly well-appointed and their designers have devoted considerable effort to crew comfort and recreational facilities; those of the NSL are rather more utilitarian (though not unpleasant) while many of the ESU ships are positively spartan and cramped.

On most warships, the ratings will live in communal quarters, while Petty Officers and above will have individual staterooms, though on some ships junior and cadet officers may share wardroom quarters. The Captain will usually have a suite consisting of main (sleeping) cabin, day cabin (normally with direct access to Bridge and/or TacOps) and adjoining quarters for his/her personal steward.

Crew recreational facilities vary from ship to ship and nation to nation, but a well-outfitted vessel will have gymnasium facilities (both zero and one-gee), holovid theatre and various other rest and recreation areas. Food for both crew and officers is generally as good and varied as possible, using fresh produce from the ship's hydroponics systems to supplement frozen, dried and recycled ingredients. Even the smallest scoutships (sometimes with only three or four crew) are usually outfitted with conventional galley facilities, as prepacked or machine-dispensed rations on extended missions have long since been found to be extremely detrimental to crew morale.

Almost all major navies have both male and female personnel serving together, and the general breaking down of many taboos and prejudices among most societies over the preceding two centuries has removed a lot of the problems that would have arisen in earlier times. Crew of both sexes (and all orientations) share the same accommodations and facilities, and though "fraternisation" between crew members is not actually officially encouraged it is generally accepted provided it does not compromise ship operation or security - the official line in most forces takes the form of "we can't stop it, so we may as well regulate it". Attention of a personal nature, whether welcomed or not, that strays over the demarcation between officers and enlisted personnel IS still seen as a potential problem and is officially prohibited in most fleets.

GRAVITY AND GRAVITIC COMPENSATORS

While the principles of gravitic manipulation and artificial gravity have been understood and proven since the early 2080s, it was the beginning of the 2100s before gravitic equipment became viable on a commercial scale and practical for installation aboard spacecraft. Prior to this, the primitive starships and systemships in use were reliant on centrifuge sections for internal gravity, and were limited in their acceleration to the gee forces that their crews could withstand without injury. The first starship to be built with gravitic compensators as standard equipment was actually civilian, not military - the luxury star liner MSS Windsor, operated by Cunard-Westford Lines and launched in 2104. The first grav-equipped warships were the NAC RN's Dominator class Battleships, first commissioned in 2107. Once started, the changeover to gravitic-compensated ships was rapid in most navies as the older ships were no match for the new vessels that could out-accelerate them by a huge factor, but even so it was many years before the last of the old centrifuge ships were decommissioned - the RN Reserve still had a few of the 2090s-built Caledon class BCs on the semi-active list as late as 2150. There are still thought to be a handful of turn-of-the-Century ships operating in minor navies today, though most of these have likely been retrofitted with compensators by now.

Gravitic compensators allow ships to manoeuvre at the high gee rates necessary for combat situations without reducing the crew to red smears on the bulkheads, but though they are effective even the current fourth-generation gravitics are far from perfect - they cannot maintain an exact one-gee field perpendicular to the deckplates while the ship is being thrown through battle turns and trying to evade incoming missiles. Thus, moving around inside a ship under battle manoeuvring conditions is difficult and dangerous; the only personnel that will normally attempt it are damage-control parties, who are suited and armoured to withstand being thrown into bulkheads and fittings as the internal gee-field fluctuates.

Operations crew in vital areas such as the Bridge, TacOps, Engineering and Gunnery are cushioned in shock couches and protected by crash frames. All the crew, whether at combat stations or (in the case of personnel not required while in action) strapped down in their quarters, will experience some very strange and nauseating sensations as the compensators try their best to cancel the manoeuvre forces; to the human inner ear, the effects are like a high-speed elevator moving in several directions at once, or the worst fairground rides. Most personnel adapt to the situation fairly quickly, but some do not....

Out of combat, the compensators are used to effectively negate the much gentler gee effects of normal manoeuvring, while grav-generators in the deck plates provide an approximately one-gee environment for movement around much of the ship. There are still areas that are not provided with grav plates, sometimes deliberately but more often as a cost and power saving measure; such areas will include boat bays, cargo holds and some engineering spaces, as well as specific zero-gee recreation areas and similar.

Corridors and companionways linking zero-gee and one-gee parts of the ship are provided with "Gee-Locks", special zones of passageway (usually with doors at each end) along whose length the gravity gradient is steadily increased; this helps to prevent personnel suddenly discovering that the "ceiling" of the zero-gee space they've just come from has become the floor of the one-gee zone they are entering, with the consequent risk to health and of the amusement of other crew members.

[Game note: the Compensators and Grav Generators do NOT need to be purchased or installed separately during the ship design process; they are assumed to be an integral part of the Main Drive package.]

SHIP´S OPERATION:

Standard timekeeping on warships follows Earth-standard 24 hour days, divided into six 4-hour watches; First Watch is 0000-0400, Second from 0400-0800, then 0800-1200, 1200-1600, 1600-2000 and 2000-0000. Sixth Watch is designated the "Evening" watch, and First and Second the "Night" watches. The day-night pattern is enhanced by lowered illumination in non-essential areas during the night watches, unless under combat conditions.

Much of the ship's operation both in and out of combat is handled by pseudo-intelligent computer systems, but actual command remains in the hands of human officers. Experiments with allowing the computers to run the whole show, especially in battle, have generally resulted in utter destruction to BOTH forces. The capacity of a human Captain to work on instinct and to outguess his or her opponent is most often the deciding factor in an otherwise even match, and attempts to replicate this by using true AIs (Artificial Intelligences, truly self-aware computers rather than just close simulations of sentience) have universally ended in disaster. Much the same applies to the small "fighter" craft, which usually have a crew of between one and three depending on type; experiments with totally unmanned "drone" fighters have proven that, although cost-effective in some situations, they are no match for the instincts of a human pilot. Despite the high attrition rate of fighter crews in combat, there is never any shortage of willing recruits attracted by what they see as the glamour of being a fighter jock.

Warship crew complements are not all that large, as most ship functions require relatively little manpower (except when something goes wrong). A fair proportion of a ship's complement will be engineering crew for damage-control purposes, embarked Marines and ship's security troops, plus cooks, medical personnel and the like. To take a typical example, an NAC Victoria class Battleship has a full complement of 18 Officers (of which 8 are Line-of-Command officers, and the rest department specialists) and 102 Ratings. In addition the ship has accommodation for an embarked platoon-size Marine Combat Team who, when carried, will double as security personnel. Of the 102 ordinary crewmen and women, 24 are "operations" crew, 47 are assigned to engineering and DC functions while the remainder are general and supernumerary personnel (galley staff, sickbay orderlies, auxiliary craft crew, general deckhands etc.).

Under extreme circumstances, one command officer and a handful of operations staff and engineering personnel could theoretically fly and fight the ship, albeit with little capacity to respond to damage taken in battle.

Weapons fire direction is generally at the direct orders of the Captain from his combat station on the Bridge; in the case of his incapacitation it devolves to the First Officer in TacOps. Individual weapon "turrets" and defence installations on the hull are not "manned" as such, but are remotes controlled from the Gunnery command centre; commands from the Captain are relayed to Gunnery by the senior Tactical Officer's station on the bridge. The Tactical Operations compartment (TacOps) acts as a collection and collation point for sensor information and communications, which are then relayed to the Captain's station in a condensed and usable form; TacOps is fully equipped to take over as a reserve bridge and con the ship in the event of the main command bridge being disabled.

In the event of imminent destruction or disabling of the ship, the crew can abandon the vessel in a number of lifepods located around the hull structure - all crew stations have a lifepod bay within easy reach, and most ship designs provide enough for the entire complement plus additional redundant pods in case some are lost to hull damage. A typical pod is intended to hold between ten and twelve personnel, though up to twenty can be accommodated in extreme circumstances. Outfitted with life support and recycling systems, packaged emergency food and medical supplies, a basic sublight propulsion system and a very powerful homing beacon, a standard lifepod can keep its normal complement alive for approximately six weeks in reasonable conditions plus a maximum of another six weeks under steadily increasing discomfort and unpleasantness. Most lifepods are equipped with an ablative heatshield and parachutes for a controlled landing on any planet that they might be able to reach.

SHIP ALERT STATES

Alert States on NAC vessels (to take a typical example- most navies use something very similar) are:

WHITE (DOCKSIDE) - used when ship is tied up to an orbital facility - most of ship's systems powered down, and a skeleton watch crew maintained while the remainder of the complement are permitted shore leave. Average time to power up to Green status is three to four hours, not including time for the recall of off-ship crew members.

GREEN (STANDARD RUNNING) - general non-combat status used when vessel is travelling or in a patrol orbit. All systems functional, but weapons and active defences are under command lock. Standard rotation of duty watches for operations personnel, none are suited-up. Average time to move to Yellow One status is ten minutes.

YELLOW ONE (STANDBY ALERT) - semi-alert status, with essential Bridge and Engineering crew in open suits and modified watch rotation. Senior command officer (Captain, First or Second Officer) on Bridge at all times. All offensive and defensive systems powered-up, but still under command lock. Non-operations personnel on normal duties. Average time to move to Yellow Two status is ten minutes.

YELLOW TWO (GENERAL QUARTERS) - heightened alert: as Yellow One but all crew to combat stations in open suits. Average time to move to Red status is three minutes.

RED (BATTLE ALERT) - full combat alert status; all crew at combat stations, Bridge, TacOps, Gunnery and Engineering personnel in sealed suits and locked into crash frames, DC parties suited and on standby. Captain and Second Officer on Bridge, First Officer in TacOps. All weapons systems command locks removed, weapons held on Captain's voice command only. Internal gee-plates off, gravitic compensators and drive systems at full battle manoeuvring readiness. Generally, Red status can be held for around six hours at a time before serious degradation of crew efficiency through fatigue will become a problem.

BLUE (JUMP STATIONS) - a special alert state used only when securing the ship for Jumpspace transit. All internal gravity and non-essential systems (virtually everything except lifesupport, control systems and the Jump drive itself) are shut down, and all personnel are at their designated positions - usually in quarters for all except Engineering and Bridge crews. The Jump Stations call is normally sounded approximately thirty minutes before a planned Jump, but in an emergency a good crew can usually make it to Jump Stations within as little as ten minutes.

JUMPSPACE TRAVEL

Interstellar travel is performed in a series of short (in relative terms) "jumps" through a timeless quasi-reality generally called Jumpspace. Each jump (which is also variously referred to as a Shift, Shoot or Transit) moves the ship by anything from a few lightminutes to several lightyears*, depending on the energy put into the drive at the moment of jump and the proximity of the ship to gravitational influences - the deeper in a gravity well the ship is when the drive is engaged, the shorter the resulting jump. There is a definite limiting distance from any given gravity well that inhibits safe jumping within it - a ship must move to outside this limit before engaging the Jump Drive or risk serious mishap (at best a misjump or drive failure, at worst total destruction).

The actual jump is perceived by the ship's occupants as instantaneous, but leaves a deep subconscious memory of disturbing change in the fabric of reality - as though the recesses of the human mind can actually register the transition that the conscious levels cannot. This effect causes nausea and disorientation after the jump, which if untreated can last for as much as several hours in some cases; for this reason most Military crews use specialised drugs to minimise the aftereffects and ensure that the ship is combat-ready as fast as possible after jump emergence, especially if several jumps need to be made in relatively quick succession. Civilian vessels and those on less pressing schedules will spread out the jumps to perhaps one every couple of days, and most personnel and passengers will undergo jump asleep in their cabins with just a skeleton bridge crew overseeing the automatics conning the jump.

The fastest cycle possible is around one jump per six hours, but this requires military drives and power plants along with the most sophisticated jump navigation software and tremendous crew stamina, even with chemical assistance. On average, naval vessels on most missions will make no more than one jump per day.

The longer the jump, the greater the potential inaccuracy in both the distance travelled and the final emergence point. For this reason, most interstellar journeys begin with a couple of short jumps (necessary to fully clear the gravity well of the starting starsystem) followed by a number of longer transits to bring the ship within a few lightdays of the destination system. The vessel will then make a number of successively shorter jumps, each of increasing accuracy, to place it as near as possible to its eventual target. The final approach, under Normal Space propulsion, can then take anything from a few hours to several days depending on the accuracy of the last jump insystem and how fine the jump navigator dares to cut the gravitational limit.

When moving a fleet of ships together, the potential errors in the long mid-course jumps mean that it is highly unlikely that all the fleet will remain together throughout the journey - in fact at most of the between-jump periods each ship will be completely isolated from the rest by huge distances. For precise military operations, therefore, it is normal practice for the fleet to re-assemble well out of the target system and then proceed insystem in a succession of much shorter than normal jumps in order to maintain some semblance of cohesive formation.

** The longest verified controlled jump (i.e.: excluding random misjumps) to date was in 2177, when the NAC experimental fast courier RNS Hyacinth attained a realspace displacement of 7.328 light years in a single Jumpspace transit. The ship and its crew of five were unfortunately lost in an apparent misjump when attempting to beat this record in the following year.*

BACKGROUND INFORMATION

J MINUS 30 *says the readout on the main bridge screen.*

The bridge is at zero-gee, and everything on the ship is powered down except the Jump drives and minimal life-support. The ship status board is lit blue, showing Jump Stations - around me, the bridge crew are suited-up and strapped into their crash frames. The Nav systems have orientated the axis of the Jump field with our plotted destination, with millimetric precision. I settle myself deeper into the soft cushioning of the command chair and try to get my racing heartbeat under control. Breathe, breathe, slow and even... God, how I hate Jump.....

J MINUS 20

The ship says "Captain, please authorise final manual interlock release"; I move my index finger to touch three holokeys in sequence. The ship says "Thank you, Sir; all systems transferring to Jump computers, I am now going offline." and the main bridge screen reads "Manual interlock released - main Jump sequencer online; all stations reading go, all prejump checks nominal, final countdown initiating", then flicks back to the dwindling count. Everything is on automatics now - dumb computers that will decide if we jump or abort. The ship's main pseudo-sentient "brain" is even more at risk from the strangeness of Jump than we humans are, so it shuts itself down for the transit and then reboots on the other side. From this point, we're all just along for the ride.

J MINUS 10

I can feel the Jump Drugs that I swallowed a few minutes ago starting to take hold of my system. They don't make the transit itself any easier, but they are supposed to pull you out of the bad effects quicker on the other side. Sometimes I wonder if they do anything at all, or if they are just a sugar pill that the medics TELL us will help..... We don't belong in Jumpspace, and it doesn't like having bits of our reality shoved into it. The Jump field will pull us in, through the interface that I don't think even the scientists understand, and we'll be squeezed along between two realities like an orange pip between your fingers. The amount of energy we have pumped into the field will determine - at least roughly - how far we "travel" before Jumpspace throws us out again. That's the theory anyway - it's just that sometimes Jumpspace will chew you around a bit before it spits you out.....

J MINUS 5

The bridge fills with an electric haze; my skin prickles, and I feel the Jump fields surging through the ship - she groans and squirms like a live thing. Gripping the armrests too tightly - relax, let go. Fleeting images, as always - crazy thoughts of the old spacers' horror tales, of those who came through Jump without their minds, their souls lost to the Deep Cold.... Our Father, Who Art In.....

J ZERO

Jump sucks us in.....

Going nowhere and everywhere, very, very fast.

No time, no space.

A non-moment that lasts for eternity.

And spits us out.....

J ZERO

...Heaven, hallow'd be Thy....Out, out, down again.....

Disorientation, then gradual realisation. My mind works, my memory is still there, please don't let me throw up.....

The drugs seem to be kicking in, dragging me back - no, GO AWAY, I want to sleep.....

J PLUS 20

My eyes are focusing, can just make out the main screen: "Jump sequence terminated. Initial positioning scans indicate navigational accuracy 94.45%. Initiating postjump diagnostics and staged shutdown of drive units, returning command to realspace systems". The ship's brain wakes from its short sleep: "Main cortex reboot successful; Personality reconstruct at 25%...50%....75%...completed. Projected recharge cycle time for next Jump: 5 hours 48 minutes. Hello, Sir, it's nice to be back."

J PLUS 60

Starting to really wake up now, slowly clearing my mind. The older I get the worse it seems, some of these kids on the bridge are up and about already! I've lost count of the Jumps I've made, but it's still as bad as the first time. Less than six hours before the next one, I need some coffee.....

INTRODUCTION TO JUMP THEORY

From a lecture presented at Down University, Albion, by Dr. James Alvarez, Capt. NAVFLT SCI (Retd.), June 2179.

"Jumpspace, Hyperspace, Subspace - whatever you call it, it doesn't like bits of our reality being shoved into it. Push a ship in, and Jumpspace will spit it out again - the good bit is that it will spit you out somewhere else (hopefully round about where you want to be, if you've done your math right), and all in zero elapsed time! Of course, every now and then it'll chew you around a bit before spitting you out, but we try not to think about that too much....

The human mind doesn't like Jumpspace any more than the space likes us; we can take it, especially with the right drugs to help, though most of the time it's pretty unpleasant unless you're well asleep - a few people claim to even enjoy it, but then some enjoy some pretty weird things anyway. If you're unlucky (and whatever the shipping lines or Navy recruiting tell you, every now and then someone is) then you stand a small chance of coming out thinking you're Napoleon, that's if you can think at all.

Some people think that they feel time passing while they are transiting Jumpspace, but we generally put this down to their own imaginations after the event - no-one has ever managed to record a measurable time interval between Jump entry and exit. I met an old spacer once who claimed he had actually SEEN the inside of Jumpspace, but this WAS after nine hellburners in the Chrome Angel over on Farren.....

Let's get one thing clear at the outset - we don't really KNOW how Jump operates. We've been using it for over a century and even our top physicists and their AIs can't figure out what is actually going on. However, just because we don't understand it doesn't stop us using it, just like your parents programming the holovid recorder.....

What we do know is that the state of Jump is inherently unstable - we think it is actually an interface between two different types of space, ours and something else. Just what is on the other side of Jumpspace we have no idea, but we assume that is where ships end up if they misjump really badly - they fall "through" the other side of the Jumpspace interface and come out somewhere that has no connection with our reality. Since no-one has yet come back to tell us what is there, we are a bit in the dark on this one!

On a proper controlled Jump, the drive field creates a temporary access to Jumpspace that we can push the ship through; the ship then slides along the interface until it drops back into our reality again. We know how to do this so we can predict roughly where we will pop out, with an error probability that is about proportional to the distance we are trying to jump- basically, the more energy you pump into the drive field relative to your ship mass the further (in realspace terms) you go before Jumpspace gets pissed off with you and chucks you out, and fortunately it all happens in a straight line, so you can aim at your target point before jumping. Of course, that means you have to know exactly where your target point really is at that moment, which is why you people are going to spend the next three years studying Jump navigation!

Maybe someday we'll meet someone out there who has actually figured it all out, and if we ask them very nicely then they might just explain it to us....."

BACKGROUND INFORMATION

SHIP RECORD CHARTS

The new-style SHIP RECORD CHART is printed on P.47 of this book; it is an updated version of the one given in the basic FT rulebook, with Ship Diagram blanks to suit the new design system. Feel free to copy this chart and cut-and-paste the diagrams around to suit your own forces. To prepare a ship record chart for any of the fleets listed in this volume we recommend photocopying the Ship Diagrams (System Status Displays) from the Data Panels of the ships you want to use, and arranging them suitably on a sheet of paper along with the "order panel" from the bottom of the record chart blank, then re-copying the result. Sorry we couldn't provide ready-made sheets for each different fleet, but for one thing they would almost never match any one person's miniature force and for another they would take up half the book!

While on the subject of copy-and-cut-out bits, we have also provided a few counter masters for Missile Salvoes (the counters with little missile icons on them - there are ones with from 1 to 6 missiles, which can if desired be used to indicate how many missiles are left in a salvo after each stage of defensive fire if you can't remember it!), for Fighter Group recording (endurance remaining and number left in group) and for Course Markers for the vector movement system (the counters with a single bold arrow). Feel free to copy as many of these as you like (for personal use only please) - we recommend copying them onto coloured card if possible.

FINAL COMMENTS

We hope that you will find this book useful for your games of FULL THRUST, whether or not you actually use the background provided.

There a quite a few changes in this volume to the original FT system, though as we've already mentioned not many of them really affect the gameplay much - most are on the design side, something that many players may happily ignore if they wish to use only pregenerated ship designs.

So, why make any changes at all to such a successful system?

Well, quite simply we thought it was about time for a revamp. FULL THRUST (firstly the little A5 photocopied edition, then the glossy "2nd edition" that most of you will know) was written quite a while ago, and frankly we never expected it to be the phenomenal success that it has become, with thousands of buyers and players in all corners of the world. FT has won the "Best SF Miniatures Rules" award from the SFSFW (Society of Fantasy and Science-Fiction Wargamers) for every year since the inception of the Society (just before going to press we heard that it has won the 1998 ballot as well!), and in 1995 got to the nominations stage (no mean feat in itself) of the ORIGINS awards!

Through all this, however, it has always been apparent that there are a number of flaws and loopholes in the system - this was never a problem while it was just being played by a few friends locally, but now it has a much wider audience some of these discrepancies are causing endless debates and disputes between players. Thankfully most of you settle things amicably with a house-rule tweak or two, which is exactly the way we like to see things done; a few of the real "rules lawyers", however, seem to enjoy endlessly prolonging the debates as well as trying to twist and exploit every loophole to their best advantage.

We addressed a few of the more obvious problems when we published the MORE THRUST supplement book, but at best all we did was give suggestions to patch the holes with duct tape and baling wire; at that stage we did not want to make major revisions to key rules and systems. Now, however, we felt that a proper rework was justified. As the biggest problems were in the design system, this was the main target for the updating - after fiddling with it for a good while we decide to simply go for a ground-up reworking that kept all the essentials of the old system but presented a more logical and "seamless" mechanism. The "minimaxers" will probably still find SOMETHING to exploit, but at least it stops them getting bored and lets the rest of us get on with playing games and having fun...!

Revising any game with the popular following that FT has is a tricky and risky business. No matter how it turns out, you will ALWAYS get a section of players who say "oh, it isn't as good as second edition, why didn't they leave it alone..."

Well, to those people we say "If you don't like the new rules, stick with the old ones!" We're not going to do like certain companies and excommunicate you for ever if you are not using the latest "official" rules. We've done our best to ensure that the modified FT is every bit as good as the original, and hopefully lots better still - none of the changes are being made for the sake of change alone; they are all to tighten up the system, plug a few holes and make the game (we sincerely hope) even more fun to play.

Our intention is that there will be a full new edition of the rules, FULL THRUST THIRD EDITION, at some point in the near(ish) future, which will collect together all the new rules published here plus a lot more as well. There are many things that we haven't covered at all in this volume due to lack of both space and time, that we will be including in the new edition rulebook. It'll be out as and when time and workload permits, so please don't pester us too much for it - we'll advertise it in good time when it is ready!

We have tried as far as possible to ensure that this book you are now reading is compatible with both the existing 2nd Edition FT and with the new version when it comes out. We always welcome feedback on the rules, and player input has helped a great deal in shaping the game so far - please feel free to send us your comments (we will reply if and when possible, provided an SSAE or a couple of IRCs are enclosed, but please understand that we are still a very small business and often things are simply too busy for us to respond to everything).

Have fun, and above all: DON'T PLAY THE RULES, PLAY THE GAME!

Jon Tuffley, GROUND ZERO GAMES, April 1998.

VECTOR MARKERS		MISSILE SALVO MARKERS					FIGHTER GROUP MARKERS				COMBAT ENDURANCE MARKERS			
		6	6	6	6	6	6	6	6	6	CEF REMAINING 6	CEF REMAINING 6	CEF REMAINING 6	CEF REMAINING 6
		5	5	5	5	5	5	5	5	5	CEF REMAINING 5	CEF REMAINING 5	CEF REMAINING 5	CEF REMAINING 5
		4	4	4	4	4	4	4	4	4	CEF REMAINING 4	CEF REMAINING 4	CEF REMAINING 4	CEF REMAINING 4
		3	3	3	3	3	3	3	3	3	CEF REMAINING 3	CEF REMAINING 3	CEF REMAINING 3	CEF REMAINING 3
		2	2	2	2	2	2	2	2	2	CEF REMAINING 2	CEF REMAINING 2	CEF REMAINING 2	CEF REMAINING 2
		1	1	1	1	1	1	1	1	1	CEF REMAINING 1	CEF REMAINING 1	CEF REMAINING 1	CEF REMAINING 1

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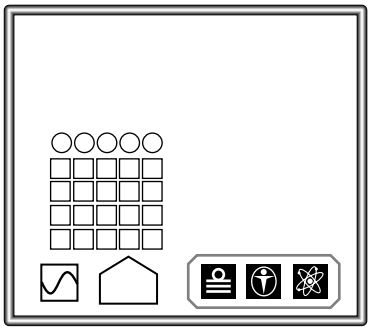

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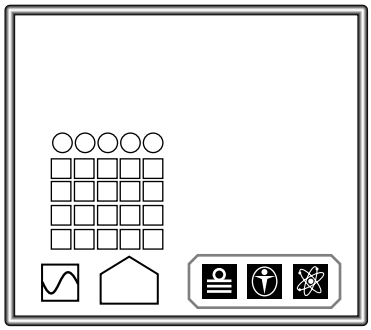

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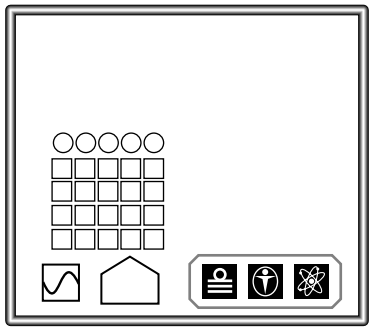

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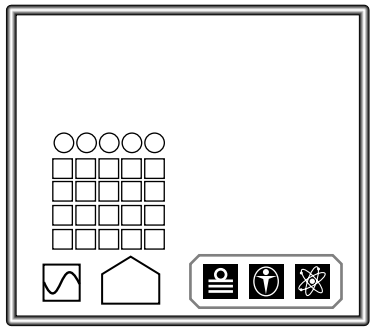

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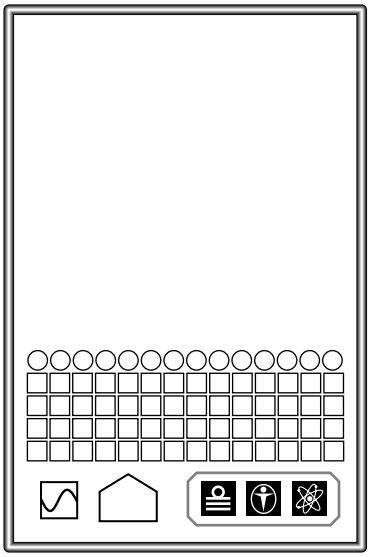

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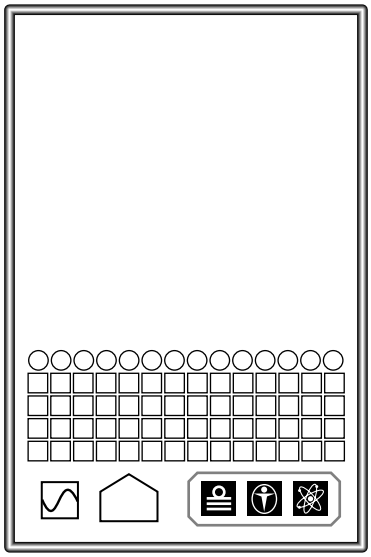

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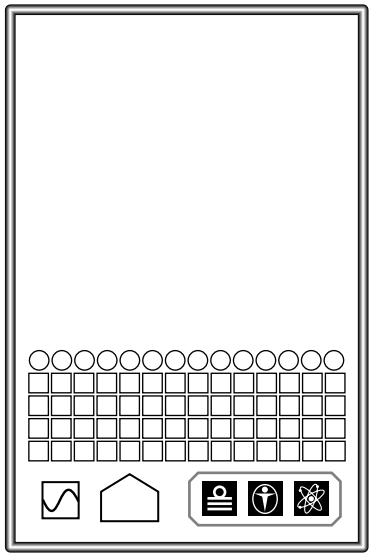

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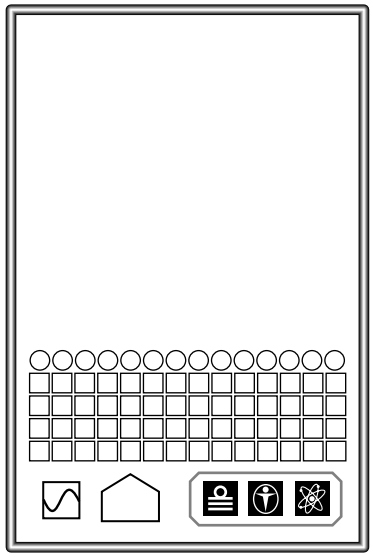

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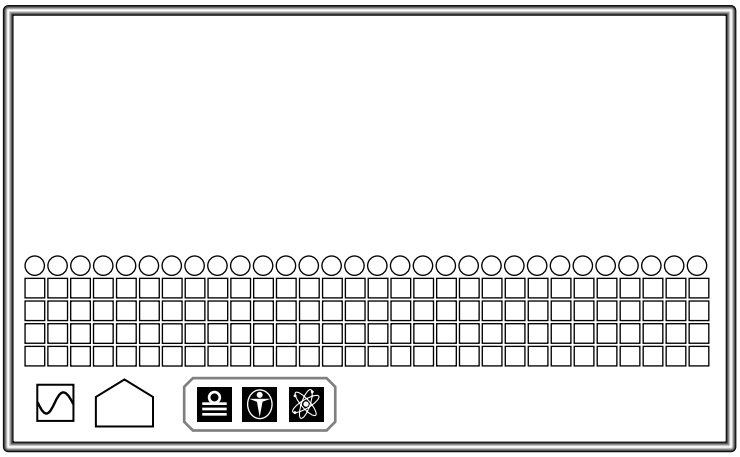

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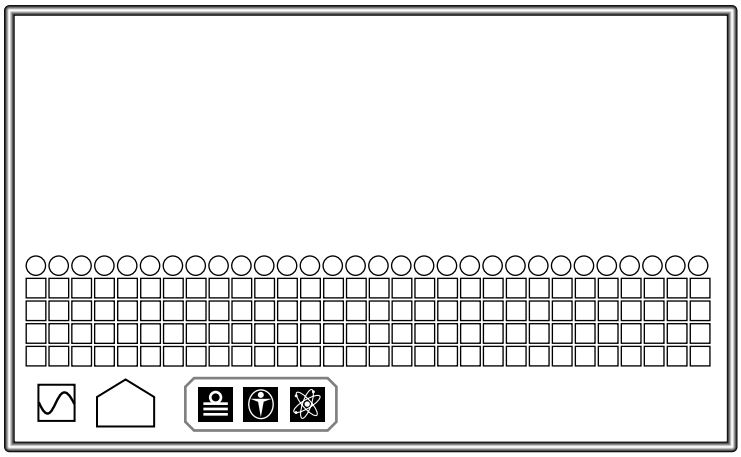

Ship ID	Turn 1	V	Turn 2	V	Turn 3	V	Turn 4	V	Turn 5	V	Turn 6	V	Turn 7	V	Turn 8	V	Turn 9	V	Turn 10	V

FULL THRUST STARSHIP MINIATURES

The FULL THRUST Starship Miniatures line now includes over 130 different models. The range, originally manufactured by CMD, is now owned and produced by GZG, and we are steadily expanding the line with new items. For sales in the UK, Europe and the rest of the world (excepting N. and S. America and Australasia), please contact GZG at the address given below for ordering and latest release information. Customers from USA, Canada or S. America should contact Geo-Hex (address below) who produce the range under licence for the American market; customers in Australasia should contact Eureka Miniatures, who are our licensee for that region.

CONTACT ADDRESSES:

UK/Europe etc: **GROUND ZERO GAMES**,
PO BOX 337, NEEDHAM MARKET, SUFFOLK IP6 8LN, UK.
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2126 NORTH LEWIS, PORTLAND, OREGON 97227, USA.
Tel: +503-288-4805. Email: geohex@teleport.com

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10 WOORAYL STREET, CARNEGIE, VICTORIA 3136,
AUSTRALIA. Tel: +3-9568-4085. Email: nicr@eurekamin.com.au

The following list gives details and prices for UK availability of the FT miniature range, correct at time of going to press (April 1998). Prices/pack sizes etc. of miniatures from overseas licensees will differ - please contact them directly for prices and information.

Postage & packing on UK orders: 10% of order value, MINIMUM 75p, maximum £6.00. All cheques payable to GROUND ZERO GAMES.

Please note that all UK miniatures (EXCEPT fighter and small craft packs) include PLASTIC STANDS for the ships; the US-produced examples from Geo-Hex include cast metal stands.

NEW ANGLIAN CONFEDERATION (NAC):

FT101A	Firestorm II class FIGHTERS (pack of 6)	£0.95
FT121	Phantom class HEAVY FIGHTERS (pack of 6)	£0.95
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FT108	Vandenburg class HEAVY CRUISER	£2.75
FT109	Majestic class BATTLECRUISER	£3.95
FT110	Victoria class BATTLESHIP	£4.25
FT111B	Excalibur class BATTLEDREADNOUGHT (Heavy Battleship)	£4.95
FT112	Valley Forge class SUPERDREADNOUGHT	£7.95
FT113	Inflexible class LIGHT FLEET CARRIER	£5.95
FT114	Ark Royal class FLEET SUPERCARRIER	£7.95

EURASIAN SOLAR UNION (ESU):

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FT221	Kisha class HEAVY FIGHTERS (pack of 6)	£0.95
FT202	Lenov class SCOUTSHIPS (pack of 3)	£1.25
FT203	Nanuchka II class CORVETTES (pack of 3)	£1.95
FT204	Novgorod class FRIGATES (pack of 2)	£1.95
FT205	Warsaw class DESTROYERS (pack of 2)	£2.25
FT205A	Volga class SUPER DESTROYERS (pack of 2)	£2.65
FT206	Tibet class LIGHT CRUISER	£1.95
FT207	Beijing/B class ESCORT CRUISER	£2.25
FT208	Gorshkov class HEAVY CRUISER	£2.75
FT208A	Voroshilev class HEAVY CRUISER	£2.95
FT209	Manchuria class BATTLECRUISER	£3.95
FT210	Petrograd class BATTLESHIP	£4.25
FT211	Rostov class BATTLEDREADNOUGHT (Heavy Battleship)	£4.95
FT212	Komarov class SUPERDREADNOUGHT	£7.95
FT213	Konstantin class ATTACK CARRIER	£7.95
FT214	Tsiolkovsky class LIGHT CARRIER	£6.95

NEU SWABIAN LEAGUE (NSL):

FT501	Adler class FIGHTERS (pack of 6)	£0.95
FT501A	Wulf class INTERCEPTORS (pack of 6)	£0.95
FT521	Wespe class HEAVY FIGHTERS (pack of 6)	£0.95
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FT505A	Waldburg/M class MISSILE DESTROYERS (pack of 2)	£2.25
FT506	Kronprinz Wilhelm class LIGHT CRUISER	£1.95
FT507	Radetzky class ESCORT CRUISER	£2.25
FT508	Markgraf class HEAVY CRUISER	£2.75
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FT414	Do'San class TACTICAL (light) CARRIER	£5.95
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THE SA'VASKU (ALIEN) "BIOSHIP" FLEET:

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FT702A	SCOUTSHIPS (type 1) (pack of 3)	£1.25
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FT703	BATTLE SCOUTS ("corvette" size) (pack of 3)	£1.95
FT704	ATTACKERS ("frigate" size) (pack of 2)	£1.95
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FT706	LIGHT STRIKESHIP ("light cruiser" size)	£1.95
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FT306	Bustler class DEEP SPACE TUG	£2.45
FT307	Antares class INNER-SYSTEM SHUTTLE (interface capable)	£1.95
FT308	MEDIUM FREIGHTER	£2.95
FT309	MEDIUM FREIGHTER type B	£2.95
FT311	Bremen class FREIGHTER	£2.95
FT314	Schwarzwald HEAVY FREIGHTER	£3.95
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FT318	MEDIUM FREIGHTER with CARGO MODULE (Type A bridge unit)	£2.95
FT318	MEDIUM FREIGHTER with CARGO MODULE (Type B bridge unit)	£2.95
FT319	HEAVY MODULAR FREIGHTER (revised version of FT305)	£5.95
FT320	LIGHT PERSONNEL SHUTTLES (pack of 6)	£0.95

The GF RANGE: a selection of miscellaneous craft and accessories:

GF001	"StarTruck" LIGHT SPACE FREIGHTER	£1.65
GF005	FREE TRADER (light "tramp" freighter) pack of 2	£2.25
GF006	UNSC "Star Tiger" class HEAVY FIGHTERS (pack of 6)	£0.95
GF007	VERY large SPACE STATION - resin kit with white metal parts, cylindrical modular design with docking sphere at end and 4 solar vanes cast in metal - about 300mm long!!	£12.95
GF007A	Additional metal "vane" for conversions on GF-007 (each)	£0.95
GF008	P'Taah FIGHTERS (pack of 6)	£0.95
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IMPORTANT: WHEN ORDERING PACKS, REMEMBER TO SPECIFY WHICH FLEET (OR FLEETS) YOU WANT - eg: NAC, ESU, KV, NSL, FSE etc.

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