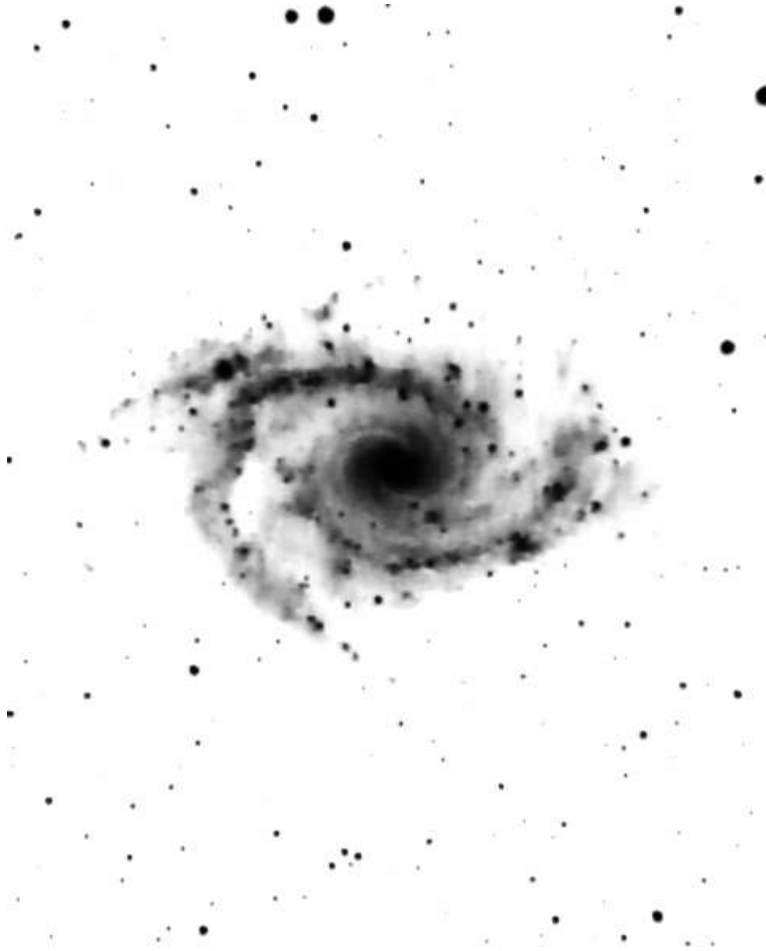


SPACEPLAN II

A game of galactic exploration, diplomacy and conquest



Software Simulations
PO Box 2758
Yeovil
Somerset
BA20 2XH

Version 2.5

21st November 2003

1 INTRODUCTION

1.1 GAME START There are up to twelve players in each game, randomly allocated to starting positions. Players choose empire names with their gamestart application. The GM will select a three letter code used to identify that empire in orders (suggestions are welcome but may need to be changed as each code must be unique in each game). Always use these codes (which are listed in the roundup in every game report) to specify other players/empires in your orders.

Some empires may be run by “dummy” players (with the computer writing the orders). Players who drop out may be replaced, or their empires may be run by the computer the same way.

1.2 START POSITIONS Each empire starts with one planet and the star system in which that planet is located. The home planet has twelve population and two industry. The star system has one population, no industry, three cruisers, two merchanters. Both systems have space stations. All technology levels start at zero, and your initial treasury is 50 BPs. Resource prices start at two in the occupied systems and five in the unoccupied systems.

There will normally be one other planet and an asteroid belt in the home system. The only population, industry and ships at the start are those of the twelve empires.

Note: It is possible to encounter other players in the first few turns, but you usually start far enough apart that there is a distinct phase early in the game where you expand prior to first contact. The map is randomly generated and all sorts of peculiar structures and connections are possible.

1.3 THE GM The "GM" (jargon for Games Master, by obscure tradition) is the person responsible for the operation of the game. In more normal terminology the GM would be called a moderator, or an umpire. The game is actually processed by computer, but is supervised by the GM. The name of your GM is given in the game report.

1.4 ADDRESSES The correct address to which you should send your instructions for the game is given in the game report. The names of the player in the game are listed in the game report, but the address list is provided only with new gamestarts (if you join later, it's up to you to introduce yourself to the other players). You can use the message facility (see 1.11) provided to contact other players and give out your address and/or phone number. The game provides plenty of scope for alliances and trades (which are difficult to arrange if you decide not to encourage diplomatic activity).

1.5 DEADLINE The GM will set a deadline for each turn. Your orders must arrive on or before this deadline. You should, if possible, allow three days for first class post – our experience shows that "next day" delivery cannot be relied upon. If your orders arrive late then they are set aside. If no orders arrive from you for the next deadline then your late orders are used instead. If new orders do arrive then your late orders are discarded. Under no circumstances will two sets of orders be processed together. If you miss a turn there is no way to make it up.

1.6 ORDERS & ACTIONS For each turn in Spaceplan you should be provided with a turnsheet on which to be your orders (the last page in the report for each turn is the turnsheet for the next turn).

Your orders in Spaceplan are written in the form of actions. There are several different types of actions, which include name actions, tech actions and probe actions, but most of your orders are written in the form of twelve "general" actions, each of which is one line of your orders.

Each turn you also have two "name" actions, one "trade" action, three "tech" actions, two "fixed" actions and a number of "probe" actions equal to your current probe technology level. You may also have a section for "standing orders" according to your current "extra tech" and "order limit" (two more tech levels) and these are explained in a later section.

1.6a GENERAL ACTIONS In the "general actions" section each line of your orders can use up to five boxes. The first box is the name of the action, which tells the computer what you want to do. The second is the "which" box, to say what you want to it with/to. The third is the "Where" or "Where from" box, which says Where to do it, or Where to start from. The fourth is the "Where to" or "who" box, which says Where to go to, or who to do it to. The fifth is the "number" box, which says how to do, or how many to do it with. The sixth box is used only for entering standing orders (see later).

1.7 ACTION TYPES The various actions are listed in the appropriate sections of the rules, and also in the quick reference section at the end of this rulebook. If you do not use all the actions you may leave gaps, but if you can't think of more things you want to do than you have actions in which to order them, then you're probably missing something important.

NAME ACTIONS Name actions are used simply to name or rename stars and planets (etc) and their effect is entirely cosmetic (see 2.2). System names may be up to fifteen characters long (including spaces). The GM may change or refuse objectionable names. When you name a star system any unnamed planets of asteroids belonging to that star will be named after it (planets with numbers, asteroids with letters). You can still rename these differently if you wish.

Example: If you name a star as Rigel, say, then any planets it has would be called Rigel 1, Rigel 2 and so on, while any asteroids would be Rigel A, Rigel B etc.

TECH & TRADE Tech and trade actions are used to buy and trade technology (see section 7).

FIXED ACTIONS The two "fixed" actions are simply two useful extra actions, processed before the general and standing actions. One is a "CASH" action, and the other a "RETREAT" (the uses of these actions are covered in 3.2 and 6.6, and it'll be obvious what they're for when you need them).

GENERAL ACTIONS General actions are used for all other types of orders (standing actions are the same as general actions, except that they're repeated each and every turn until you change them, Whereas general actions apply only for the turn in which they're ordered).

PROBE ACTIONS Probe actions are used to build and move probes, which may move around parts of the map that you do not control (see section 6).

1.8 ORDER OF PLAY The game is adjudicated in sequence, one action at a time in strict order. One action is done for each player in turn, in the order given in the game report and on turnsheets (ie. the first action is processed for each player, then the second action for each player, and so on). Tech actions are processed first (trade before tech/take), followed by general actions, and then probe actions.

The order (of empires) in which each round of actions is processed is fixed for the turn, but the ORDER action may be used to spend build points (usually abbreviated to BPs, see paragraph 3.1) to alter the order for the following turn. The order of play for a given turn may be extremely important.

You may spend any number of BPs on ORDER actions, and may make more than one such action in a turn. If you have fewer BPs remaining than you attempt to spend, then the number spent is reduced to the number you have available.

The order of play for the next turn is the order of which empires spent the most BPs on ORDER actions, with empires spending the same amount remaining in the same order (i.e. you move up the order of play, ahead of anyone that spent less than you, but not going ahead of anyone that spent the same). The initial order of play (for the first turn) is random.

Format [ORDER] [--] [] [--] [BPS TO SPEND]

Note: Because of leftover BPs being spent on order actions (see 3.1) there are usually lots of other players spending 1 or 2 BPs. So if you want to bounce to somewhere near the top of the order, spend at least 3 BPs. More than 3 is only worthwhile if you think you're bidding against someone else that's spending extra BPs as well (in which case you might need to spend a LOT of BPs to get to the top of the list).

1.9 STANDING ORDERS General actions are processed only in the turn that they are written. Standing orders are actions that are remembered and repeated each turn. The number of standing orders you're allowed is equal to your Order Limit tech level. The number you're allowed to change each turn is equal to your Extra Tech level.

To write a standing order, use a standing orders actions line (these are numbered from X1 to X4) and enter the action number for a standing order (from thirteen up, but no more than twelve plus your order limit) in the action number box at the end of the line. When the order is processed the new order is simply moved to your standing orders, and the action itself will be processed later in the turn (when that action number comes around). Once you've written a standing order it will be repeated each turn until you change it.

Note: There's no point buying the OL tech to allow standing orders unless you've also got some XT to give you spaces on the turnsheet to write them. Buy the XT first, as you need to buy it a turn ahead of using it, and the OL later (you can buy this the same turn you use it).

Example: The following order sets up a standing action (number thirteen) to move two carriers from 101 to 225 each turn (101 might be a shipyard, 225 might be a fleet base, a cruiser/fighter yard or simply somewhere closer to the border).

Example:- X1 [MOVE] [CVA] [101] [225] [2] (13)

1.10 LEGIBILITY It's important to write your orders as neatly as possible. We won't correct errors that result from poorly written turns. Think BEFORE you fill in the turnsheet. We recommend that you write out your plans on another sheet of paper and transfer the final version to your turnsheet only when you're finished, or use a soft (dark) pencil that you can erase without making a mess.

1.11 MESSAGES The turnsheet includes a section for player messages, which are printed in the game report for everyone to see. All messages are identified according to who sent them, and our normal restrictions apply (i.e. keep it clean and fair).

1.11a PHONE NUMBERS You can also use the player messages section to insert your phone number into the roundup section of the game report (permanently). Simply address the message to PHONE, and keep it short (20 characters, including spaces).

1.12 PLAYER REPORTS Each turn you receive an individual report which repeats back the actions you made that turn, along with information on tech levels, income, victory points, details of the systems owned by your empire, plus other systems scouted, probed, moved through and attacked (etc). All these reports show the state of the systems at the end of the turn (rather than when the scout or probe action was made: your information will be up to date even if the system has changed since you actually looked at it).

1.13 PLAYER MAPS A map is included in your individual report, showing all the star systems you have "seen" during the game so far (i.e. those listed in your game report, plus any others within visible range of the stars you own) and highlights the star systems that you control, along with the hyperspace links between the stars.

1.14 GAME REPORTS In addition to your individual player report there are several parts to the game report which are the same for all players. The "Roundup" shows which empires and players are involved in the game, along with some information on each empire, and what the order of play will be for the following turn. The "Messages" section carries player messages (see 1.11) and messages from the GM. There is no general game report in Spaceplan, and the actions of the other players are almost entirely hidden from view.

1.15 TURN CREDITS Unpaid turns are not mailed. Turn credits in hand are shown on the front of your player report, along with any discounts available. Discount turns are added automatically, but only when you buy turns in batches of ten or more.

2 THE GALAXY

2.1 THE STAR MAP The galaxy is made up of a number of stars linked together by hyperspace links. Many stars are linked to planets and/or asteroid belts. These are connected to their parent star systems but not to each other. There are also "planetoids" (big lumps of rock that are not part of star systems, sometimes not connected to anything at all). The galaxy is different from one game to the next. The map in your game report is built up during play, including only the parts of the map you've visited or been able to see.

There are many different types of star systems and several different types of planets. Star systems, planetoids, planets and asteroid belts are all called "systems" in these rules. Planets and asteroids are often called "sub systems", and the stars to which they belong are referred to as their "parent" stars.

2.2 SYSTEM CODES & NAMES Each system (whatever type) is identified by a three digit number. Any system may be given a name (there is a section in the turnsheet provided for this purpose). None are named at the start of the game. Your game report will sometimes give the full names of systems, but in your orders you should always identify systems by their three digit codes.

2.3 MOVEMENT Ships move around the map either through hyperspace (along the hyperspace links) or through deep space (jumping from one system to the next without using the hyperspace links). Normal movement is continuous (i.e. having moved, a ship may move again in another action the same turn) until a "sticky" system is encountered (see 2.4 and 5.4). Ships may also move "on the net" (see 2.13), in which case sticky systems may be by-passed, or through deep space (see 2.14).

With normal movement you can move only from star to star, or between a star and its own planets and asteroids. Never from one planet or asteroid to another, and never between a planet or asteroid and a different star. Other rules apply for deep space movement and movement on the net.

2.4 SYSTEM TYPES The system type determines the population limit for that system (see 3.4), and may affect movement (see 6.3). Luminosity (visibility) also varies according to the system type (see 2.10). Different system types produce different resources through agriculture and mining.

STAR TYPES	POP LIMIT	MOVEMENT	LUMINOSITY	RESOURCES
Yellow Dwarf	2	-	8	-
Red Dwarf	1	-	4	-
Red Giant	1	sticky	12	-
White Dwarf	1	-	8	-
Black Dwarf	0	-	2	-
Red Variable	1	sticky	12	-
SuperGiant	3	sticky	16	-
Blue Variable	1	sticky	16	-
Binary	1	sticky	8	-
Neutron Star	0	sticky	0	-
Black Hole	0	sticky	not visible	-
Asteroids	5	sticky	1	Minerals
Planetoid	1	-	0	Minerals
Terran Planet	10	sticky	2	Food
Eden World	5	sticky	2	Food
Big World	20	sticky	2	Food
Venusian Planet	2	sticky	2	Food
Martian Planet	2	sticky	2	Minerals
Jovian Planet	1	sticky	2	Hydrocarbons
Satan World	2	sticky	2	Isotopes

2.5 POPULATION & LIMITS Each system has a population level. Population may be located on world (planets) or in space (in ships, space stations, mining installations etc). The maximum population normally allowed in each system depends on the system type (see table in 2.4). For planets the population limit is the value for the planet type multiplied by the value for the type of the parent star. On terran planets, eden worlds and big worlds the limit is reduced by ecological damage (see 2.7).

In other systems the limit is increased by your life support technology. This also applies for planets when the pop limit would otherwise be zero (which happens if the planet is going around a dark star).

Example: The population limit for a terran planet (like the earth) in a yellow dwarf system (like our solar system) is 20 (ten times two).

2.6 OVERPOPULATION Each level of population above the limit for a system reduces the income for that system by 1 BP (see 3.6). If the excess population is greater than the system income then half (rounded up) the population above the pop limit is also lost. Overpopulated systems always lose at least one pop (even if the system income is enough to pay for them). Whenever population is eliminated due to overpopulation you also lose the same number of VPs.

Any ecological damage (see 2.7) on habitable worlds now reduces the pop limit for the world as a percentage (ie. eodamage of 20 reduces the pop limit by 20%).

2.7 ECOLOGICAL DAMAGE All systems have a rating for "ecological damage" which indicates the degree of damage to the ecology and habitability, caused by over population, mining, industry and warfare. The supply costs in a system are increased by the current ecological damage level and each turn the eco damage level in each system is reduced by your ecology tech level.

Each unit of actual production of resources or ships from industry and mining causes one point of "eco damage". Each hyperspace weapon built causes ten points of eodamage. Each unit of population above the current population limit (see 2.6) causes one point of eodamage. Additional eodamage is caused in proportion to the intensity of the fighting in a "ground" battle (see 6.14) and by the use of meteor bombs and star buster bombs.

Note: Terra forming (see 3.15) can also be used to reduce eco damage.

2.7a ECOLOGICAL COLLAPSE If the level of ecological damage of a habitable world reaches one hundred then the ecology of the planet collapses, and the planet is reclassified as a satan world.

2.8 SUB-SYSTEMS Star systems may contain planets and/or asteroid belts. These two system types are often called "sub-systems". In most respects these are treated the same as any other system, but they're connect only to the star system in which they are located. It is necessary to move to the star system in order to reach any other stars, or any other planets or asteroid belts in the same system.

Notes: Planets are not confined to stars like our own sun (a yellow dwarf) and may even be found in binary systems (in reality there are many different types of binary systems, and I see no reason to follow the common assumption that there can be no habitable planets).

2.9 PLANETS & PLANETOIDS In several instances in these rules terran, eden and big planets are referred to as "habitable" planets. These are the types of planets which have earth-like ecologies (breathable atmospheres, sensible weather systems, etc) in which population can live in the open. Other planet types can support population, but only in closed life-support systems (in the same way as populations in space and on asteroids and planetoids). Planetoids are treated in these rules in most respects like stars (they exist independently in space, like stars).

2.10 VISIBILITY Each system type has a fixed value for "luminosity". This is used to determine whether or not that system can be seen from any of the systems you control (and hence whether it appears on your map). A system is visible if your cosmology tech level plus the luminosity of the system (see 2.4) is greater than the square of the distance from the nearest system that you own.

2.11 STATIONS & THE NET Each system may contain a space station and each of these may be connected to another station in a connected system. The network of stations all connected to each other and ultimately connected to your home station (see 2.12) are called your "net". Nets belonging to different players may not be linked. In game reports the "stat" column shows station links (those starting with a "n" are currently on the net, and those starting with a "-" are not).

Note: Space stations are concerned with movement and merchanters. You do not need to build a station to allow space population or industry.

The STATION action is used to construct new space stations, and also to modify the links of existing stations. If you already have a station (other than your home station) in the system indicated in the "where" box then the action changes the link to the system in the "where to" box. Otherwise the action attempts to build a new station in the "where" system and link it to a station in the "where to" box. The cost of building a new station is 5 BPs plus one unit each of isotopes and minerals. The cost of changing a link for an existing station is 5 BPs.

Format [STATION][--][WHERE][LINK TO][--]

Note: If you change a connection (as opposed to building a new station) then the computer will also look at where the station was connected before and reverse the connection there (if there is one, and if this means putting it back on the net when it's not otherwise). And then the same for the next etc. This is useful when you're repairing a broken net or connecting the stations on a captured net to your own.

2.12 HOME STATION The network of stations that make up your "net" must be connected to your home station. Your home station does not have a link to any other station: it is the other stations that must link to the home station (in your game report, the "stat" column for your home station shows "Home" instead of a station link). Your home station at the start of the game is your home star.

The HOME action changes your home system during the game. The system given in the "where" box must contain a station, which becomes your new home station. The links of your other stations will change (automatically) if they can reverse their links so as to remain on the net. The cost is 5 BPs.

Format [HOME][--][WHERE][--][--]

Note: If the new home system was on the net before, then it was linked to another station. This station changes links so as to link to the home station, and the station it was linked to before will also change links in the same way (and so on).

Example: Stations 111 and 254 link to 148, 148 links to 221, 221 links to 188, which is the home station. HOME 111 now makes 111 the home system, 148 changes links to 111, 221 changes links to 148, 188 is no longer the home system, and links to 221. 254 remains unchanged, as it is already connected to the new home system (via 148).

2.13 NET MOVEMENT You can move between any systems "on the net" in a single action as if they were linked (even if they're not) without passing through any other systems in between. You can skip past sticky systems, although you can still become stuck at your destination in the usual way.

2.14 DEEP SPACE MOVEMENT The DEEP action (see 6.1) allows movement to a star that a close but isn't linked. Your jump tech must be at least equal to the square of the distance between the two systems. Deep space jumps can be made from any type of system, but you can't jump to a planet or asteroid. Your deep space jump range is increased by two if you are jumping FROM a neutron star (four from a black hole), and by two if you are jumping TO a neutron star (or four to a black hole).

WARP BUSTERS: Jumping with anything other than a single cruiser requires a warp buster bomb (see 4.6 for how to build warp busters).

Note: The distance between two stars is "one" if they're shown in the same row or column on your star map and there's no room for another star between them. See also 2.16.

2.15 HYPERSPACE CONSTRUCTION New hyperspace links may be built between any two systems (other than planets or asteroids) that you own if the square of the distance between them is less than or equal to your hyperspace tech level AND the distance squared is one, two, four or nine. Links may not be built through intervening systems. Stars that already have a full set of links (seven, including sub systems and planetoids) may not be linked.

The LINK action is used to construct new hyperspace links. You must own the systems at both ends. The cost in BPs is ten plus ten times the square of the distance between the two systems.

Format [LINK] [--] [WHERE FROM] [WHERE TO] [--]

Note: The limitations above are actually due to the limited configurations of links that can easily be drawn on the map. If we can't map it, you're not allowed to build it. A common sequence when linking a new system is DEEP to send a ship to the far end, then LINK, then maybe STATION, then probably GROW. Sometimes all in the same turn.

2.16 DISTSQ This action can be used to tell you the square of the distance (i.e. the jump range) between two systems if you can't work it from your looking at your map. There is no cost in BPs. You must own the system in the "from" box, and the system in the "to" box must be a star or planetoid.

Format [DISTSQ] [--] [WHERE FROM] [WHERE TO] [--]

Note: The distance between two stars is "one" if they're in the same row or column on your map and there's no room for another star between them. If they're in the same row or column and there's room for only one star between them, then the distance is two and the squared distance is four. If there's room for two, then the distance is three and the square is nine. For the squared distance between two stars that aren't in the same row or column, add together the squared distance going along the rows and the squared distance going from there along the columns. Examples :-

Rows	Cols	Distance	Rows	Cols	Distance	Rows	Cols	Distance	Rows	Cols	Distance
1	0	1	0	1	1	1	1	2	2	2	8
2	0	4	0	2	4	2	1	5	3	2	13
3	0	9	0	3	9	3	1	10	4	2	20
4	0	16	0	4	16	4	1	17	4	3	25
5	0	25	0	5	25	5	1	26	5	2	29

2.17 BLOCKADE A planet is blockaded if the star system in which it is located is owned by a different empire to the owner of the planet and the strength of the warships in the blockading fleet (three for each carrier, two for each cruiser and escort, one for each fighter and rider) is greater than the total strength of any defending warships plus population on the planet (there are no tech levels that count). A blockaded planet has no income and may not grow or build. Merchants do not run to or from blockaded planets, although resources may still be consumed and produced in the normal way.

Note: Only planets can be blockaded, not asteroids or planetoids. A blockade is an alternative to attacking a well defended planet. The owner of the planet must either negotiate to lift the blockade, or recapture the system.

2.18 WARP This action can be used to move a detached planetoid around the galaxy. You must own the planetoid, which may not be linked anything else. The cost is 10 BPs and the planetoid moves one space. You cannot warp into a space that is already occupied by anything else. Enter the direction to move in the "which" box. The directions of movement are N, S, E or W for Galactic North, South, East and West respectively. Galactic "north" is "up" the page on the map in your game report and south is down the page. East is to the right and west is to the left.

Format [WARP] [N] [WHERE FROM] [--] [--]

3 ECONOMICS

3.1 BUILD POINTS There is no money in Spaceplan. The "currency" for actions and transactions in the game is build points, usually abbreviated to BPs. The number of build points available for the coming turn is stated in your player report. BPs should be spent before the end of the turn.

Note: Any unused BPs left over at the end of the turn are automatically "stashed" in your treasury if possible (see 3.2). The last one or two that can't be stashed are spent on an ORDER action (see 1.8).

3.2 TREASURY You may store BPs in your treasury (separate from your current balance). BPs stored in your treasury are not lost at the end of each turn, so they can be used to provide a reserve for future turns (but this is an expensive way to save BPs: it's normally better to invest them in something that will increase your income) but the main use for your treasury is that tech costs (buying new technology) are paid from your treasury rather than from your current balance.

Note: BPs are not intended to represent money, but industrial capacity and economic power. This is why it is so expensive to store BPs away in your treasury: it's easy enough to store money or gold or credit away in a bank, but turning this back into ships, armaments or food is not so easy.

STASH ACTION The STASH action is used to transfer BPs to your treasury. The cost is three BPs per BP placed in the treasury. If you have fewer BPs remaining than the cost of the action then number of BPs stashed is reduced to the most you can afford.

Format [STASH] [--] [--] [--] [NUMBER STASHED]

CASH ACTION The CASH action is used to transfer BPs from your treasury to your current balance (where they can be spent). There is no cost. If you attempt to cash than is in your treasury then you get whatever is left. See 5.11 for the other form of CASH action (using resource stockpiles).

Format [CASH] [--] [--] [--] [NUMBER CASHED]

Note: Any BPs you "cashed" from your treasury and didn't spend, will normally be returned to your treasury at the end of the turn (one-for-one: they don't have to be re-stashed at the three-for-one rate).

3.3 INCOME The BP income from a system is one for each industry (limited by the number of population or robots) and one for each population. The total income for your empire is the income all the systems you control, plus your income tech. Any BPs gained from transports, merchanters or excess production are NOT included in your turn income.

Note: Income is actually added to your balance at the end of the previous turn, and supply and production costs deducted, so that the balance shown in your player report is the number of BPs available for the coming turn.

3.4 TAX ACTION The TAX action costs nothing and adds 6 BPS to your current balance (so it's available to be spent immediately).

Format [TAX] [--] [--] [--] [--]

Note: If there's nothing else to do, you can always scrape up some extra BPs to spend. Most of the time you'll find you've got far too few actions, and actions are far too valuable to be wasted on a few BPs earned from taxes. But sometimes (especially at the start) you'll need taxes to help you along.

3.5 SUPPLY There are three separate supply costs for each system, and supply is calculated separately for each. Industrial supply is needed for industry on planets, planetoids and asteroids, and population supply is needed for all systems with population or a station, except for "habitable" planets (where people can fend for themselves without any extra help).

Supply costs are deducted from your BP balance immediately after your income is calculated. There's no extra penalty if you can't pay it (you'll find it difficult enough to raise BPs to do much except fix the problem anyway). Note the different way the supply tech levels affect the different supply costs.

3.5(a) FLEET SUPPLY Fleet supply is half of your fleet strength (three for each carrier, two for each cruiser or escort and one for each fighter or rider) less your Fleet Supply tech level.

ie. (HALF of FLEET STRENGTH) - FLEET SUPPLY.

Fleet supply in "fleet bases" (see 4.5) is further reduced by the level of productive industry (see 3.18) times your supply tech level.

3.5(b) POPULATION SUPPLY The population supply is population, plus the food price, plus ecodamage, less your population supply tech level, divided by two,

ie. HALF of (POP + FOOD + ECODAMAGE - POP SUPPLY).

3.5(c) INDUSTRIAL SUPPLY The industrial supply cost is industry, plus the hydrocarbons price, plus ecodamage, less industrial supply tech level, divided by two,

ie. HALF of (INDUSTRY + HYDROCARBONS + ECODAMAGE - INDO SUPPLY).

3.6 GROW The GROW action is used to increase the population level of a system owned by your empire. The population increases by your current birth labs tech level, up to the population limit for the system (see 2.5). Grow actions will not increase the population past the limit. The cost is whichever is the MOST of the population already in the system, the number grown, and the minerals price. The minerals price increases by the number grown.

Only one grow action is allowed in each system each turn. GROW actions are not allowed in planets under blockade, or in systems that do not already contain population, or in systems where there has been a migration that turn (either to or from, see 3.7).

Format [GROW] [--] [WHERE] [--] [--]

3.7 GROW & MIGRATE You may also use the GROW action to spread your population into another connected system you own that is unpopulated (if a system is already populated you must grow on the spot: you can't grow in from another system). Enter the destination in the "where to" box. The same restrictions apply as for a normal GROW action.

Format [GROW] [--] [WHERE] [WHERE TO] [--] combined grow & migrate

Note: If the system you're growing into is on the net then you may grow across a net link. This is an important option to consider, especially early in the game when you want to grow quickly, that if you build a station before planting any population then you can migrate from somewhere that isn't adjacent (but is connected on the net) and spread your population faster.

3.7a GROWTH LEVEL Your population also grows according to another tech level. Your Growth Level adds population at the end of each turn, one per system, in a number of systems equal to the level (ie. if your GL is two, then you get one pop in each of two systems). There's no cost in BPs and the systems are selected at random. It only adds population where there's room.

3.8 INDUSTRY For each system, any industry you build increases your income from that system, subject to having population or robots available to operate it. Industry is also used for various forms of "industrial production" when combined with your industry tech level. See section 5.4. If you have any unused industry (i.e. with no pop or robots to run it) then it falls into disrepair and disappears (one level, or half the excess rounding down, each turn).

Industry may be built either on-world or in space. It's your choice where to put it: space can be more profitable (due to cheap energy, raw materials and low transport costs) but capacity is limited and space industries are easily captured by other players. On world it's easier to defend, but less profitable.

The BUILD action is used to increase the industry of a system owned by your empire. The cost is 5 BPs plus one unit of minerals per level.

Format [BUILD] [IND] [WHERE] [--] [NUMBER]

3.9 RESOURCES The four types of resources in Spaceplan (identified by two character codes) are food (FO), minerals (MI), hydrocarbons (HC) and isotopes (IS). Food is needed to feed your population. Hydrocarbons are needed to fuel your industry (apart from that located in space, which uses "free" solar power). Minerals are used in building industry and the cities (etc) in which your population will live. Isotopes are rare elements needed to build the hyperspace drives of spaceships.

3.10 RESOURCE PRICES The availability of resources in each system is represented by a current price (in BPs) for each of the four resources. This is an important idea: resources aren't things you pile up all over the map (like ships, industry and population) but disappear into bottomless "pools" in each system (the pool is the market economy of the system). What matters is the price you get or pay when you move resources in or out of the pools.

Note: Some actions require that you actually buy and consume a particular resource, and in others the resource is used (causing the price to rise) but you don't actually have to pay for it.

PRICE CHANGES When you use a resource in a system you pay the current price for that resource in that system (in BPs) for each unit used, and that price then rises by one. When you produce a resource in a system you reduce the current price in that system by one for each unit (prices don't fall below one, though). If you use or produce more than one unit of a resource at once, the resource price changes after each unit.

Example: The cost of three units with a start price of five is 18 (five for the first, six for the second, and seven for the third). The final price is eight.

3.10a STOCKPILES Each empire also has "stockpiles" for each resource. These fill up when you produce so much of a resource that the price falls to one and your transport network is able to carry the excess all the way to your home system (see 5.5 for more details of how excess production gets stockpiled). At the end of each turn, after production and after your merchanters have done their stuff, your stockpiles "unload" into your home system (the one containing your home station, see 2.12) to reduce your resource prices to one (in that system only, and only if your stock is high enough).

Note: You may want to take advantage of this rule by changing your home system fairly often.

3.11 TRANSPORTS Three different actions are available for transports to move resources, troops or fighters from one system to another. If you use the MOVE action then the transports move together with whatever they're transporting (from the system in the "where from" box to the system in the "where to" box). SEND works the same, except that the unloaded transports run back (empty) to where they started. FETCH works the same in reverse (the transports run out empty, load up and return).

Note: It's easy to make mistakes with FETCH actions, which should probably be called "go fetch". The action applies to the transports (which run from the "from" system, out to the "to" system, load up and return) rather than the cargo (which starts at the "to" system and is moved to the "from" system).

The cost is 1 BP per ship (the same for all three actions). For all three of these actions you must own both systems. Deep space movement is not allowed. Allowable codes for the "which" box are FO, IS, MI and HC for resources, MIL for militia, FTR for /fighters, or TRA for moving empty transports.

Each transport may carry one unit of whatever is being hauled. Transports may also be moved empty (the cost is the same). When moving resources the resource is bought in the normal way at the starting location and sold in the normal way at the destination. If the destination price is higher than the start price, then the action will probably make a profit (added straight to your balance). Reports of transport actions show both the BP cost of the action and the BP profit or loss on the resources bought and sold.

Format [MOVE] [WHICH] [WHERE FROM] [WHERE TO] [NUMBER]

Format [SEND] [WHICH] [WHERE FROM] [WHERE TO] [NUMBER]

Format [FETCH] [WHICH] [WHERE FROM] [WHERE TO] [NUMBER]

3.12 MERCHANTERS The merchanters in your empire work independently of your control, but in a similar way to transports. At the end of each turn (after production) each merchanter scans each adjacent populated system and makes whichever out-and-back trip shows the most profit (ie. carrying one resource out and another back). Merchanters may run empty one-way if this shows the best profit. Merchanters may move freely between empires, but not to and from planets that are blockaded (see 3.4) or systems that are closed (see 3.15).

For each system you own you receive income (added to your income the following turn) of one third of the profits made by merchanters in that system (after deduction for merchanters moved or newly built). The profit on each run counts half at each end (rounded up at the start, down at the destination).

Merchanters unable to run at a profit may relocate to any adjacent system instead (and cost 1 BP against merchanter profits). New merchanters are also built whenever sufficient profit has been made (normal cost also charged against merchanter profits).

You can move merchanters yourself with the MOVE action (put MER in the "which" box). The cost is 1 BP each ship. You must own both systems, and no cargo is carried.

Format [MOVE] [MER] [WHERE FROM] [WHERE TO] [NUMBER]

Note: If you want to increase the merchant fleet in your empire more quickly then you can also build merchanters in your own shipyards. These operate independently, like any others.

3.12a COLONISE This action converts a single merchanter to one population at a cost of 3 BPs. There doesn't have to be any existing population in the system and it doesn't matter if there is.

Format [COLONISE] [--] [WHERE] [--] [--] convert one merchanter to a pop

Note: This is an alternative way of getting population on the map in places it's difficult to reach by other means. See 4.7 for details of the CONVERT action.

3.13 CLOSED SYSTEMS You have the option to "close" systems to exclude merchanters, using the CLOSE action. To close a system you must have at least as many cruisers in the system as there are merchanters. The cost in BPs is equal to the number of merchanters. Any merchanters in a closed system are scrapped, and no new merchanters are allowed. Merchanters may not make runs to closed systems. Closed systems may be re-opened, using the OPEN action (no cost in BPs).

Format [CLOSE] [--] [WHERE] [--] [--]

Format [OPEN] [--] [WHERE] [--] [--]

Note: If you move merchanters into a closed system then this also re-opens the system.

3.14 MAKE ACTION This action converts BPs to resources. The resource price in the system specified (which you must own) is reduced by the number given (and extra reduction below one is lost). The number may not be greater than either the number of population or industry in the system. The cost in BPs is the square of the number of resources produced.

Format [MAKE] [WHICH] [WHERE] [--] [NUM]

3.15 TERRA FORMING Martian and venusian planets may have their ecologies modified to convert them to terran planets. This is called terraforming and uses the tech level of the same name. During the process the ecodamage rating is reduced below zero to indicate progress (the rating indicates damage to the martian or venusian ecology). When the eco damage reaches -40 the planet type is changed to terran and further terra forming reduces the eco damage rating (80 points is added and it now indicates damage to the new terran ecology - it starts in a fairly poor state).

This is an action-driven process, costing of 5 BPs per action, that happens only when you use the FORM action to order it (but once the planet type changes to terran your eco tech will trip in as well).

Format [FORM] [--] [WHERE] [--] [--]

3.16 GIFT The GIFT action is used to transfer BPs between the treasuries of different empires. If you have too few BPs in your treasury then the number ordered is reduced to what you have available.

Format [GIFT] [--] [--] [WHICH EMPIRE] [NUMBER OF BPS]

4 SHIPS & SHIPYARDS

4.1 SHIP TYPES There are five different types of ship that you may build (cruisers, carriers, fighters, transports and merchanters). Cruisers and fighters may be deployed independently, or attached to carriers (as escorts and riders, respectively).

Cruisers (CRS) are warships with a hyperspace capability. They may be moved around the map and can be used in both attack and defence.

Escorts (ESC) are simply cruisers that are attached to carriers.

Fighters (FTR) are small warships without hyperspace capabilities. Fighters may not move independently, but may be attached to carriers, or moved by transports.

Riders (RID) are simply fighters that are attached to carriers.

Carriers (CVA) are larger warships with a hyperspace capability, like cruisers, but which can also carry fighters and space marines, as well as act as fleet command centres. Fighters attached to carriers are called as "riders". Cruisers attached to carriers are called "escorts".

Transports (TRA) are unarmed ships with hyperspace capabilities, used to transfer resources or other types of cargo from one location to another (see 3.13).

Merchanters (MER) are independent merchant ships with hyperspace capabilities. These roam the galaxy in search of profit, and are not generally under player control (see 3.14).

4.2 CARRIERS Your carriers may pick up fighters, cruisers and militia (which become riders, escorts and marines, respectively). Riders, escorts and marines may also be dropped, in the same way (reverting back to being fighters, cruisers and militia). When you order a number of carriers to move or attack from a system the appropriate proportion of the riders, escorts and marines move as well).

The number of marines that may be carried by each carrier is determined by your marines capacity tech level, and the number of fighters is determined by your fighter capacity tech level. The number of escorts attached to each carrier is not limited by a tech level as cruisers are capable of moving through hyperspace under their own power.

Use the ATTACH action to attach fighters, cruisers and militia to a carrier group. The code in the "which" box should be CRS for cruisers, FTR for fighters, MIL for militia, ALL for all three at once, or CVA for fighters and militia together (no cruisers). The "all" and "all but" formats also work (see 6.2). The DETACH action works the same, but in reverse (dropping off units from a carrier group).

Format [ATTACH] [WHICH] [WHERE] [--] [NUMBER]

Format [DETACH] [WHICH] [WHERE] [--] [NUMBER]

4.3 SHIPYARDS Ships may be built only in shipyards. A shipyard is any system where the industrial production type (see 5.8) is a ship type. The number of ships built each turn is equal to the productive industry of the system (see 5.4). The cost of each ship built is shown below.

CVA	= 8 BPs + isotopes	MER	= 2 BPs + isotopes	FTR	= 2 BPs
CRS	= 3 BPs + isotopes	TRA	= 2 BPs + isotopes	MIL	= 1 BP.

Note: The isotopes needed for building ships that are capable of hyperspace movement (etc) are part of to the building cost, and must be paid for in BPs. This is different from those consumed when producing resources (when the price rises, but you don't actually have to pay any extra).

4.3a CARRIER GROUPS Fighters and militia built in systems containing carriers with spare capacity (along with any other fighters and militia already built) will automatically be attached as riders or marines respectively (up to the normal limits). Cruisers built in systems with carriers waiting will be attached as escorts in the same way (along with any other cruisers waiting).

If the carriers are already full (ie. with no room for any more of whatever is being produced) when production starts then a number of carriers (with their attached escorts, riders and marines) equal to your Reserve Tech is removed to your fleet reserve (see 4.8).

Note: All you need to do to form a carrier group is build one or more carriers and send it/them on a tour of your shipyards. This is a popular use for standing orders. When a carrier group is full you must move it away immediately, or it'll drop into reserve (although this isn't necessarily a bad thing).

4.4 MILITIA New militia units are recruited by the same process as ship building, by setting an appropriate production type (as above). The cost is 1 BP per unit, and there is no resource cost.

Note: Militia and space marines are the same thing. Militia may be employed on-world or in space.

4.5 FLEET BASES Fleet bases are created by assigning the industrial production type (see 5.8) as "FBA". Supply costs are reduced for ships in fleet bases (see 3.5).

Format [BUILD] [FBA] [WHERE] [--] [--] build a fleet base

At the end of each turn fleet bases automatically attach cruisers, fighters and militia to any carriers with spare capacity in the same system. The number attached each turn is limited by your fighter cap (for fighters), marines cap (for militia) and supply tech (for cruisers) multiplied by the industry level in the base (in each case).

For each fleet base, if the supply cost is zero and you have ships in your reserve then a number of carriers (with attached riders and marines) and cruisers (or escorts) equal to your Reserve Tech will deploy from your fleet reserve.

Note: This means the size of a force in a fleet base will usually go on increasing until it starts generating a supply costs. Then it stops.

4.6 HYPERSPACE WEAPONS Four types of "hyperspace weapons" (bombs) may be built. Hyperspace weapons are constructed in much the same way as ships (by assigning the production type, see 5.8) except that only one bomb may be constructed in each system each turn. The cost is 30 BPs divided by the level of productive industry of the system, plus one unit of isotopes. The weapon is simply added to your stockpile (you do not need to move hyperspace weapons around the map: they're delivered from your stockpile whenever you need them).

The codes allowed in the "which" box are :-

SBB for Star Busters (see 6.15)

LBB for Link Busters (see 6.15)

PLB for Planet Busters (see 6.15)

WBB for Warp Busters (see 2.14 and 6.1).

Format [BUILD] [WHICH] [--] [WHERE] [--] [--]

4.7 CONVERT ACTIONS The CONVERT action converts merchanters to transports, or transports to cruisers, or cruisers to merchanters, at a cost of 3 BPs per ship. The "all" and "all but" formats should work. Enter the type of ship to convert "from" in in the "which" column.

Example: [CONVERT] [CRS] [123] [--] [12]

This action converts 12 cruisers in 123 (to merchanters, at a cost of 36 BPs).

4.8 RESERVES Your reserve is effectively a stockpile of spare ships. The LAYUP and RESERVE actions move ships between your reserves and the map. LAYUP moves ships to your reserves and works only in systems on the net. RESERVE takes ships out of your reserves and works only in fleet bases on the net.

In both cases enter one of ALL, CVA, CRS, FTR or MIL in the “which” column, the system number in the “where” column and the number of ships in the “number” column (the “all” and “all but” formats should work). There is no cost in BPs. There are no supply costs for ships in reserve.

The maximum number of carriers or cruisers you can order for a single LAYUP or RESERVE action is limited by your reserve tech (code is RS). The max for fighters or marines is your reserve tech multiplied by your Fighter Cap or Marines Cap respectively (see 4.2).

Example: [LAYUP] [CRS] [247] [--] [10]

This action removes 10 cruisers from 247 and adds them to your reserve.

Example: [RESERVE] [ALL] [447] [--] [10]

This moves 10 cruisers and 10 carriers (with a full load of riders) from reserve to a fleet base in 447.

4.9 LOST IN SPACE Ships are sometimes "lost in space", usually as a result of losing a battle, in which case they just swan around in hyperspace until they're rescued by your Recovery Tech (RC). This moves that number of lost carriers with attached riders and marines (according to your fighter and marines capacity) and the same number of cruisers into your reserve (see 4.7).

Example: If your RC is three, FC is 5 and MC is 2, then each turn you'd get back up to 3 carriers, 3 cruisers, 15 riders and 6 marines. Always assuming you had all that stuff lost in space, of course.

Ships that attempt to make deep space moves and fail are “lost in space”. The same applies to fighters that attempt to retreat without carriers to ride with. A proportion of your battle losses are also lost in space rather than being destroyed outright.

5 INDUSTRY, AGRICULTURE & MINING

5.1 INTRODUCTION Each system may produce one type of resource through either agriculture or mining (using agri tech or mining tech respectively) and another through industrial production (using industry tech) by assigning an appropriate production type (see 5.8).

5.2 AGRICULTURE Any population not allocated to industrial production on a habitable or venusian planet, up to the limit of your agricultural tech level, is engaged in agriculture and produces food. Each level of agricultural production reduces the food price by two.

5.3 MINING Any population not allocated to industrial production on a martian, jovian or satan world, or on an asteroid or planetoid, up to the limit of your mining tech, produces resources by mining (isotopes on satan worlds, hydrocarbons on jovians, minerals on martian worlds, asteroids and planetoids). Each level of mining production reduces the price of the resource produced by two.

5.4 INDUSTRIAL PRODUCTION Your industrial production in each system is whichever is the least of industry tech, industry and population (i.e. the combination of the three, not the sum of the three). This is separate from the income you get just from the industry being there. Production is handled at the end of each turn, after income for next turn has been added and supply costs paid. If you run out of BPs during production then production stops and you get only what you can afford.

Industrial production may involve consuming one or more resource in order to produce another (see below) or it may mean building ships (see 4.3) or hyperspace weapons (see 4.6) or training and equipping troops (see 4.4). It can also be used to produce extra BPs instead (see 5.9).

PRODUCING RESOURCES The production cost is 1 BP per level. Where your industry is producing resources you normally get a price change of two for each level of production, but for isotopes you get a price change of two on asteroids and satan worlds and only one in other systems.

5.5 EXCESS PRODUCTION If you produce (with agriculture, mining or industry) more resources than can be placed (ie. you force the resource price down to one during production) then any excess may be transported or produced as extra income instead. The amount of excess production that may be transported from a system is the number of transports in the system plus your current transport tech.

TRANSPORTING For any planet or asteroid any excess production up to the limit of your transport tech may be transported to the parent system (i.e. after the price is reduced to one, the price in the parent system starts reducing as well). Any excess production (whether made on the spot, or transported from somewhere else) in a space system on the net can be transported to the next station linked in the net. The mining, agriculture and industrial production routines are entirely separate. The same transports can be used in both routines if you produce excess resources in both.

STOCKPILES Any excess production in your home system (or transported to your home system) that can't be placed is added to your stockpile instead. It can be fetched out again with a STOCK action or cashed up with a CASH action (see 5.11 in both cases).

INCOME Any excess that cannot be transported or stockpiled totaled up and added your income the next turn. Income produced this way isn't shown in the game report as income for the system, but as "excess production" in the totals for your empire.

Note: Excess production produces 2 BPs for each industry, but these arrive in your balance with your income next turn (not your treasury) and there is still the one BP industrial production cost (so for each pair of BPs produced, so you only actually gain one).

5.6 FOOD CONSUMPTION Population working in agriculture, mining or industry (whether producing anything other than income or not) consumes food. Each one increases the food price by one. Robot technology provides workers (for agriculture, mining and industry) that don't need to be fed. In each case the number of working robots in each system is the least of your robot tech, the population, and half the level of production (i.e. the lowest of those three). You don't need to buy food to feed your population, but if your food costs rise your supply costs will rise as well.

Note: You need people to operate the first industry, and the people must be fed. The second can be operated by robots if you have RT 1. The third must be population (and food). The fourth can be robots if you have RT 2, and so on.

5.7 CONSUMING HYDROCARBONS Each level of industrial production on a planetoid or in a dark star system (or a planet or asteroid whose parent star is a dark star) consumes one unit of hydrocarbons for fuel and power (i.e. causes the hydrocarbons price to rise by one). Every second level of industrial production on other planets and asteroids consumes one unit of hydrocarbons.

Note: Industries in space use solar power. Dark stars (a black dwarf, neutron star or black hole - any star with a basic population limit of zero) are not good sources for solar power. Planets and asteroids in other systems have sunshine half the time (solar power doesn't work during the night...).

5.8 PRODUCTION TYPES The BUILD action is used to assign the production type for a system (each system can have only one production type, no matter how much industry there is) and/or to build new industry (see 3.8 for building industry). If you enter a production type in the "WHICH" box then this is assigned to the system specified in the "WHERE" box. If you enter a value in the "NUMBER" box then the action builds that number of industry. You may do both at once, or just change the production type (leave the number box blank) or just build industry (enter IND in the which box).

Note: If you build industry and assign the production type at the same time then you need to have enough BPs to pay for both parts of the action (or both will fail together).

The cost of assigning the production type is the number of existing industry in the system (there's no resource cost). The BUILD action takes the following formats:-

[BUILD] [WHICH] [WHERE] [--] [--] assigns industrial production type

[BUILD] [IND] [WHERE] [--] [NUM] builds some new industry

[BUILD] [WHICH] [WHERE] [--] [NUM] builds new industry and assigns production

Activity	Allowable production codes (in the "which" box)	See
Producing Resources	FO Food, IS Isotopes, HC Hydrocarbons, MI Minerals	5.4
Shipyards	CVA Carriers, CRS Cruisers, FTR Fighters, MER Merchants, MIL Militia, TRA Transports	4.3
Hyperspace Weapons	PLB Planet Busters, SBB Star Busters, LBB Link Busters, WBB Warp Busters	4.7
Reducing Supply Costs	FBA Fleet Base	3.5

5.9 PRODUCING BPS You may also set your industry to produce BPs instead of resources, ships etc (assigned with a BUILD action in the normal way: enter BPS in the WHICH box). The number produced is added to your TREASURY balance.

Note: This costs the same as industrial production of resources (i.e. one BP each) so you use one industry that might be doing something else, pay one "current" BP, and put one BP in your treasury.

5.10 ECONOMICS REPORTS "Cost" is BPs spent on industrial production. "Inc" is income. "Sup" is supply cost (all three supply costs added together). "Merc" is merchanters. "Tra" is transports. "Lim" is the current population limit for each system. The figures given for each resource are the current resource prices in that system.

5.11 STOCKPILES The STOCK action is used to dump resources from your stockpiles back on the map. Enter which resource in the "which" box. You can only dump stock in systems you own and which are on your net. If you order more stock than you've got, or more than can be placed (the price still won't go below one) then the number will be reduced.

Format [STOCK] [WHICH] [--] [WHERE] [--] [NUMBER]

The CASH action can be used to swap resources from your stockpiles for BPs in your current balance. Enter which resource is the "which" box. Note that BPs from cashed resources don't get put back in the stockpile if not used, and can't be "re-stashed" either (if you don't spend them, they're stashed at three-for-one into your treasury as normal).

Format [CASH] [WHICH] [--] [--] [--] [NUMBER]

6 MOVEMENT & BATTLES

6.1 MOVEMENT Warships move from one system to any other system, either along a hyperspace link or through deep space (see 2.14) in a single action. This is normally continuous (so that a fleet which moves from one system to another may make further moves the same turn) but many system types are "sticky" and block continuous movement.

All move or attack actions require BPs, and if you do not have sufficient BPs then the action fails. MOVE costs 1 BP for each carrier or cruiser ordered. ASSAULT costs 2 BPs for each carrier or cruiser ordered. DEEP costs 2 BPs for each carrier or cruiser ordered, plus the square of the distance (plus a warp buster bomb if you're moving with anything other than a single cruiser - see 2.14). If you move carriers with escorts attached, then you pay only for the carriers. Action formats are below.

[MOVE] [WHICH] [WHERE FROM] [WHERE TO] [NUMBER]
[ASSAULT] [WHICH] [WHERE FROM] [WHERE TO] [NUMBER]
[DEEP] [WHICH] [WHERE FROM] [WHERE TO] [NUMBER]

6.2 ORDER FORMATS In the "which" column any of these actions you may enter either "CRS" to move cruisers, or "CVA" to move carriers. If you specify cruisers, then the number of ships specified applies to cruisers in the system from which you are moving. If you specify carriers, then the number applies to carriers. Riders and escorts accompany carriers when the carriers move. If you move only some of the carriers in a system then the same proportion of riders and escorts accompany the carriers that move (rounding down, within the limits of marine and fighter capacities for the remainder).

If you order more cruisers than are actually available, then any escorts available may be detached to make up the numbers, but "all cruisers" means "only cruisers" (this order won't detach escorts). If you leave the "number" box blank, all ships of that type in the system are ordered. If you enter "AB" in front of the number, or a number less than zero then this is treated as "all but" (i.e. AB 2 or -2 means "all but 2", leaving two behind and moving the rest).

6.3 GETTING STUCK Any warships in a system may become "stuck" in that system for the duration of the turn. This occurs when warships move to a sticky system (planet, asteroid belt, dark, binary, giant or variable star), are ambushed or make an assault, deep space or bomb action. It is important to note that it is the system that becomes "sticky" rather than the fleet that becomes "stuck". Any other ships belonging to the same empire in the same system also become stuck (whether they are there already or arrive later in the turn). Transports, merchanters and probes don't get stuck.

6.4 ATTACKS There is no distinction between a "move" and an "attack". An attack is simply any move into an area you don't own. In these rules the actual transfer of fleets from one system into another is often referred to as a "move", and an opposed move is referred to as an "attack". Battles occur whenever ships belonging to one empire try to move to a system owned by someone else. There are two stages to each such conflict: a "space battle" and a "ground battle".

6.5 CONDITIONAL MOVES The MOVE, ATTACK and DEEP actions are unconditional. If you don't own the system you're moving to then you attack it. The SEND action may be used with carriers and cruisers as a conditional move. In this case the ships move if you own the system you're moving to but not if you don't.

Note: Use the SEND action for carriers and cruisers if you're not sure whether you'll still hold the system when they arrive and there might not be enough of them to take it back.

6.6 DEFENCE MODES For each system there is a defence mode, a retreat location and an ambush location. The defence mode is one of AMBUSH, DEFEND or RETREAT (current settings are shown in the "Defmode" column in your game report). These may be changed using the actions of the same name (there's no cost in BPs) but otherwise are remembered from turn to turn (and change only when you change them). At the start of the game defence mode for all systems is RETREAT, but no retreat location is set (this soon changes, see 6.7). You can only set retreat and ambush locations that are adjacent (i.e. on single hyperspace links). You cannot retreat through deep space or on the net.

Formats [AMBUSH] [--] [WHERE] [WHERE AGAINST] [--]
[DEFEND] [--] [WHERE] [WHERE TO] [--]
[RETREAT] [--] [WHERE FROM] [WHERE TO] [--]

Note: The AMBUSH action sets the ambush location (where against) and a DEFEND or RETREAT action sets the retreat location (to the system in "where to"). If the location is already set correctly then you don't need to reset it, so RETREAT WHERE (for example) would set the defence mode to retreat without changing the retreat location.

6.7 RETREATS If the defence mode for a system attacked is RETREAT or DEFEND, the retreat location is adjacent and owned by the defender, and the attack strength is greater than the defence strength (see 6.9 and 6.10) then any defending ships may retreat before the space battle takes place. For DEFEND against a MOVE action you retreat only if the attacker is more than double the strength of the defender. For DEFEND against other attacking actions and RETREAT against any attacking action you retreat if the attacker is stronger than the defender.

If there is no retreat location, or it is not adjacent, or not owned by the defender then the defender stays and fights (an exception is that if the system is on the net, then the defender retreats to the next station instead, if this is available).

Note: Ships only retreat from battles they know they'll lose. The choice in deciding whether to allow retreats is between losing the battle AND your fleet, or losing the battle and keeping your fleet. Many players in Spaceplan lose a lot of ships by fighting a lot of battles they could have avoided.

6.7(a) RETREAT LOCATIONS Retreats locations may be set by using the RETREAT and DEFEND actions (see 6.6), but each time a warship moves between systems it may reset the retreat location in the destination system to be the system from which it came (so that when fleets retreat, they normally retreat back to wherever they came from). The retreat location does not reset when you move through deep space or on the net, and retreat locations are not set to planets.

6.7(b) STRAGGLERS If you retreat from a system containing fighters and/or militia, then they'll be left behind (even if you've got carriers with spare capacity: they don't get time to hang around picking up extra passengers). Abandoned fighters become "lost in space".

6.8 SPACE BATTLES All space battles consist of a single round, during which each fleet loses a number of ships according to the strength of the opposition and the weapons technology level of the empires involved. Losses are normally calculated and applied simultaneously. Fractional losses are ignored. If the attacker does not win the battle in one round of combat then the battle ends.

If the defender wins a space battle then any attackers which survive normally return to the system they came from (after a failed attack using a DEEP action the attacking fleet is "lost in space" (see 4.8) but if the defender loses the battle then the attacker must also win the ensuing "ground" battle for control of the system (see 6.14). After a successful ASSAULT or DEEP action that the attacking fleet is "stuck" (see 6.4).

6.9 ATTACK STRENGTHS The strength of the attacker in a space battle is three for each carrier, two for each cruiser or escort, and one for each rider, plus the weapons techs of the attacker. In a ground battle the attack strength is the same, plus the number of marines. For a meteor attack the attack strength is the usual ship strengths and weapons tech (marines don't count).

The weapons tech for each ship type present counts separately and is limited by the number of ships present (eg. if you have 3 carriers and Carrier Weapons of 6 then you add only 3 for the weapons tech).

6.10 DEFENCE STRENGTHS The strength of the defender in any space battle is three for each defending carrier, two for each defending cruiser or escort, and one for each defending fighter or rider, plus the weapons techs of the defender. In a ground battle add the number of militia, population and defence tech to the defence strength (for a ground battle to take place all defending ships must already have been destroyed). Against a meteor attack the defence strength is the usual for defending ships, plus weapons tech and defence tech (militia, marines and population don't count).

Weapons tech for defending ships work the same as for attacking ships, but when the Defence Tech counts for the defender it counts the whole value (defence tech is actual installations, rather than being carried into action by other forces).

6.11 ASSIGNING HITS The numbers of "hits" against each side in a space battle is normally equal to half the strength of the opponent in ASSAULT and DEEP actions and a quarter in MOVE actions. The weaker fleet in a battle normally suffers extra hits according to the difference in the strength of the sides (the same calculation, so the "extra" ships effectively get to shoot twice).

6.11a SPILLOVER FIRE The three different ship types fire on the opposing ships of the same type. If all the opposing ships of the same type are destroyed then they "spill over" to fire against the next larger ship type. When a ship is firing on a larger ship type you get one extra hit for each firing ship. There is no bonus when shooting at smaller ships.

6.12 ASSIGNING LOSSES Three hits are required to destroy a carrier. Two hits are required to destroy a cruiser or escort. One hit is sufficient to destroy a fighter or rider. Hits are assigned to the different ships types according to the type of ships firing. Fractional losses are ignored (e.g. two hits against a carrier have no effect). A proportion of the ships lost actually survive but are "lost in space" and can be salvaged (see 4.8)

6.13 AMBUSHES If an attack is made by deep space movement, or the defence mode is AMBUSH with the ambush location being the system from which the attacker is attempting to move (except with a PROBE action) then any losses inflicted on the attacker are made before any losses inflicted on the defender are calculated (i.e. a successful ambush allows the defender to fire first) and the attacker suffers one extra hit in each round of battle.

6.14 GROUND BATTLES The attacker wins the "ground" battle (any contest for control of any system, including space systems) if the attack strength is greater than the defence strength. Any defending militia are wiped out. The attacker takes losses equal to one third of the defence strength, but takes control of the system. If the attacker does not win the ground battle then both sides take losses equal to one third of the strength of the opponent.

Losses inflicted on the attacker in "ground" battles are now applied first to marines, then fighters, cruisers and carriers. Ground defences DO COUNT for spillover fire in in ground battles (see 6.11a). They count as marines or militia, which are smaller than fighters/riders. Defending losses are applied to militia only (there are no other defenders since any defending ships must have been destroyed in the space battle). One population and one industry are also destroyed in any ground battle and the number of merchanters and transports is halved. Victory points are also affected (see 5.18).

Note: A "ground" battle is the battle for control of any system (not just planetary systems). Population in space defend themselves in the same way as population on-world.

6.15 BOMB The BOMB action is used in several different ways according to which type of bomb is to be employed. You must have at least one cruiser (or escort) in the system from which the attack is to be made. You may only employ hyperspace weapons that are already in your stockpile, but for meteor attacks it is assumed that suitable lumps of rock are always on hand when they're needed. The cost is 5 BPs in each case. Allowable codes for the "which" box are SBB for a star buster bomb, LBB for a link buster, PLB for a planet buster, or MET for a meteor attack.

Note: There's a fourth type of hyperspace weapon, called a warp buster bomb, and these are used for moving fleets through deep space (see rule 2.14) rather than being fired at the enemy.

Format [BOMB] [WHICH] [WHERE FROM] [WHERE TO] [--]

SBB	The target for a Star Buster must be an adjacent star. The star flares up, destroying half the population, industry, merchanters and transports (losses are rounded down) in the system and any subsystems. Habitable planets also suffer ten points of ecodamage. Any station in the target star system is destroyed (those in subsystems are not). Any warships present are unaffected but are stuck until the following turn.
LBB	The target for a Link Buster must be an adjacent star. The hyperspace link to the target star is destroyed.
PLB	The target for a Planet Buster must be an adjacent planet. The planet disintegrates and is replaced with an empty asteroid belt. All population, industry, ships etc are lost.
MET	The target for a Meteor "bomb" must be an adjacent planet. If the defence strength of the defender is greater than the attack strength then the attack fails and the attacker suffer hits (see 6.11 and 6.12) equal to the difference in the totals. If the attack strength is greater or equal then the defender suffers hits equal to the difference in the totals, and also loses one population and one industry.

Note: It's quite common for people with larger fleets to build fleet bases underneath them wherever they go (to reduce their supply costs). Exploding a star buster in the system is an effective counter-measure. If you catch an enemy fleet at a planet, then consider dropping a planet buster.

6.16 VICTORY & "KILL" POINTS Whenever an attacker captures a system the defender pays a penalty in victory points equal to two plus the number of surviving population and industry captured by the defender. When an attacker makes a successful meteor attack the defender pays a penalty of two victory points. The penalty paid by the defender is added to the "kills" tally of the attacker (see 9.3).

Note: Losing systems, population and industry is always bad, and costs victory points. Only Xenophobes actually GAIN victory points directly for kills and captures, but everyone gains relative to whoever loses them.

7 SCOUTS & PROBES

7.1 SCOUTING You get a scouting report each week from every system you don't own that is adjacent to a system where you have at least one carrier or cruiser. Information about scouted systems is included in your player report at the end of the turn.

7.2 PROBES These are unmanned craft which operate independently from your fleet. Probes can move around from system to system without regard to ownership. Information on any system visited or occupied by your probes is included in your game report at the end of the turn. Probes are not normally visible to other players, but may be tracked down and destroyed (if the searcher knows Where to look, and what to look for). There's no cost in BPs for any probe actions (even ones that build new probes).

7.2(a) Active & Inactive Probes You may have more than one probe in play at the same time (according to your current probe tech level) but only one may be "active". You may have a number "inactive" probes equal to your probe tech level. Only your current active probe may move. Inactive probes do not move, but simply sit and report on the system in which they're located.

7.2(b) Deep Space Probes can move through deep space. Your active probe makes a deep space jump when ordered to a star or planetoid somewhere within jump range that it can't reach otherwise.

7.2(c) Probe Actions A number (equal to your current probe tech level) of boxes on your turnsheet are provided for probe actions. These may not be used for any other actions, and probe actions may not be entered in the general actions section. Simply enter in each box the system code for the next system to be probed. There is no cost in BPs. If your current active probe can reach the system ordered then this probe is moved. Otherwise, if the system contains an inactive probe then this probe is activated and your current active probe (if any) becomes inactive.

7.2(d) New Probes If your active probe can't reach the system and there is no inactive probe there already, then a new probe is built and activated in that system (but new probes may only be built in systems that you own). If your active probe can't be deactivated (due to having too many inactive probes already) the action fails.

7.3 FIND The FIND action is used to search for probes from other empires. This action may be used in either of three formats, by specifying either the owner of the probe to search for, or the system in which to search, or both (but the two "open" forms will not normally work as standing orders). There is no cost in BPs. You can only find probes in systems you own.

If you specify an empire in the "who" box then your game report will show the location of that empire's active probe at the time the action was processed. If you give a system code in the "Where" box then your game report will show whether or not there were any probes in that system at the time the action was processed (if there is more than one probe in the system then only one, chosen at random, will be reported). If you specify both an empire and a system then your game report will show whether or not there was a probe from that particular empire in the system at the time the action was processed.

The FIND action takes one of the following formats:

[FIND] [--] [--] [WHOSE PROBE] search for "whose" probe

[FIND] [--] [WHERE] [--] search for any probe in "Where"

[FIND] [--] [WHERE] [WHOSE PROBE] check for "whose" probe in "Where"

7.4 KILL The KILL action is used to destroy enemy probes lurking in systems you own. There is no cost in BPs. If any probes belonging to the empire indicated are located in the system specified then one probe is immediately destroyed.

Format [KILL] [--] [WHERE] [WHOSE PROBE] [--]

8 TECHNOLOGY

8.1 TECH LEVELS Each empire has a number of technology levels. Each tech level has a different function, explained in the appropriate parts of the rules (see below for references). Most tech levels are zero at the start of the game. Additional tech levels are purchased by spending treasury BPs. The cost of each new tech level increases rapidly. Tech levels may be traded between empires. The different technologies, and the codes which are used to specify them in your orders are given below.

Each turn your top three tech levels are shown in the roundup section of the game report. Other than this you tech levels are not visible to your opponents, although they may be able to guess them by watching what you do.

AT	Agricultural Tech	The level of agricultural production for each habitable planet (see 5.2).
BL	Birth Labs	The maximum population increase in GROW actions (see 3.6).
BP	Income Tech	Extra BPs added to your income every turn.
CL	Cosmology	The ability to see nearby stars (added to luminosity, see 2.10)
DT	Defence Tech	Defences to decide control of systems in “ground” battles (see 6.14).
ET	Eco Tech	Automatically repairs ecological damage to habitable planets (see 2.7).
FC	Fighter Capacity	The max number of riders that may be attached to each carrier (see 4.2).
FS	Fleet Supply	Reduces the cost of fleet supply and maintenance (see 3.5a).
GL	Growth Level	Adds to population at the end of every turn (see 3.7a)
HP	Hydroponics	Adds to production in any system with industry producing food.
HT	Hyper Tech	The maximum squared distance for hyperspace building (see 2.15).
IS	Industrial Supply	Reduces the cost of industrial supply and maintenance (see 3.5c).
IT	Industrial Tech	The maximum industrial production per system (see 5.4).
JT	Jump Tech	The maximum squared distance for deep space movement (see 2.14).
LS	Life Support	Increases pop limits in space and for non-terran planets (see 2.5).
MC	Marines Capacity	The max number of marines that can be carried by each carrier (see 4.2).
MT	Mining Tech	The maximum levels of mining production per system (see 5.3).
OL	Order Limit	The number of standing orders allowed (see 1.9). Maximum is 12.
PC	Petrochemicals	Adds to production in any system with industry producing hydrocarbons.
PS	Population Supply	Reduces the cost of population supply and maintenance (see 3.5b).
PT	Probe Tech	The number of inactive probes allowed, and also the number of probe actions you can make each turn (see 7.2). Maximum is 9.
RC	Recovery Tech	The number of ships “lost in space” recovered per turn (see 4.9)
RS	Reserve Tech	The number of ships allowed per reserve action (see 4.8)
RT	Robot Tech	The level of robot industry allowed for each system (see 5.6).
TF	Terra Forming	The ability to convert martian and venusian to terran planets (see 3.15).
TR	Treasury Tech	Extra BPs added to your treasury every turn.
TT	Transport Tech	Transfers excess production (see 5.5)
VP	Culture Level	Extra VPs added every turn.
WA	Carrier Weapons	Weapons tech for carriers (see 6.9, 6.10 and 6.14).
WC	Cruiser Weapons	Weapons tech for cruisers (see 6.9, 6.10 and 6.14).
WF	Fighter Weapons	Weapons tech for fighters (see 6.9, 6.10 and 6.14).
XT	Extra Tech	Adds extra lines to your turnsheet for standing orders (see 1.9). Max is 4.

Note: Hydroponics and petrochemicals produce extra, at no extra cost, wherever your industry (not agriculture or mining) produces that resource (that's each system, not each industry in each system).

8.2 ACTIONS Boxes are provided on your turnsheet for four tech actions (you can't enter tech actions in other sections). One of the four may only be used to offer a trade of technology to another empire (you enter an empire code in the "which empire" box). The other three may be used to buy tech levels, or to accept trades from other players (it's a TAKE action if you enter an empire code in the "which empire" box an a TECH action if the "which empire" box is blank).

8.3 TRADE ACTIONS The TRADE action tradeS technology to another empire, which may take it up by using a TECH action (see 8.4). You must specify the empire to which the technology is to be traded. This empire must have a tech level lower than the level traded, and must specify a TAKE action the same turn. There is no BP cost for trading and you may gain some BPs (see 8.4).

Note that a single TRADE action may be matched by more than one TAKE action (if the difference in technology is greater than one level). As an option you may specify a tech level lower than your current tech level in the "number" box. In this case the empire taking the trade may only take technology up to the level indicated. A TRADE action takes one of the following formats:-

TRADE OFFER [WHICH TECH] [WHICH EMPIRE] [--] unlimited trade
 TRADE OFFER [WHICH TECH] [WHICH EMPIRE] [LEVEL] trade limited by level

8.4 TAKE ACTIONS These actions are used to spend BPs on increasing a tech level by trade with another empire. You must specify the empire which is trading you this technology. This empire must have a tech level at least equal to the technology traded, and must offer a TRADE action in the same turn (see 8.3). You may only gain one tech level in each action (if you wish to gain more than one tech level from trading you must make multiple TAKE actions).

The cost of the action, if successful, is half the cost of the equivalent TECH action (see 8.6), deducted from your treasury. Half the cost paid is added to the treasury of the empire that offered the trade. A TAKE action takes one of the following formats:-

TAKE OR TECH [WHICH TECH] [WHICH EMPIRE] [--]
 TAKE OR TECH [WHICH TECH] [WHICH EMPIRE] [LEVEL]

If you order a "take" without a number/level then you take whatever's available/offered (if anything). If you enter a number/level then you buy that tech level whether or not it's offered as a trade (so you might get it cheap as a TAKE, but you'll buy it with a TECH if the trade isn't offered).

8.5 TECH These actions are used to spend treasury BPs on increasing a tech level. You may enter the new level to be bought in the LEVEL box, or you may leave this blank (in which case the increase is one level). A TECH action takes one of the following formats:-

TAKE OR TECH [WHICH TECH] [--] [--] normal tech action
 TAKE OR TECH [WHICH TECH] [--] [LEVEL] multiple tech action

8.6 TECH COSTS The cost in BPs of a TECH action is normally the square of the new level, times the number of levels increased (so increasing a tech level from one to two costs 4 BPs, but increasing it from zero to two costs 8 BPs, and so on). Tech costs are deducted from your TREASURY (not your current balance). Robot Tech, Hydroponics & Petrochemicals cost five times the normal rates (these are the "higher costs" in the table below) and Extra Tech cost ten times the normal rate.

New Level:-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Normal Cost:-	1	4	9	16	25	36	49	64	81	100	121	144	169	196	225
Higher Cost:-	5	20	45	80	125	180	245	320	405	500	605	720	845	980	1125
Extra Tech:-	10	40	90	160											

8.7 TECH LIMITS Probe Tech has a maximum value of nine, the Order Limit technology has a limit of twelve, and Extra Tech has a limit of four.

8.8 RESEARCH Each turn you get one free tech level from research (after your actions are processed). The tech is chosen by chance in proportion to the tech levels you've already got.

9 WINNING & LOSING

9.1 ELIMINATION An empire is considered to have been eliminated if it has either no systems or no income and no treasury. Note that this means it is possible to be eliminated in positions from which you might otherwise be able to recover.

9.2 VICTORY POINTS Each turn you score victory points (VPs) equal to EITHER your actual score in the scoring system appropriate to your empire type OR your percentage score in that category, whichever is LESS. VPs are lost when you lose a system, or lose population and industry to attacks.

Example: An industrialist with 8 industry out of 80 scores 8, and a populist with 100 population out of 1000 scores 10.

Note: Usually it's your percentage score that matters, but the extra restriction is so that empires don't get very high scores in the early turns (two diplomats making the first trade in the game, for example, would probably count 50 each, and a xenophobe making the first "kill" would probably score 100).

9.3 EMPIRE TYPES There are ten different empire types, as listed below. At the start of the game all empires are allocated at random.

A	Imperialist	Scores for Systems % (all systems owned)	AT
D	Diplomat	Scores for Trade % (successful trades completed)	DT
E	Ecologist	Scores for Ecology % (undamaged earthlike planets)	ET
F	Freebooter	Scores for VPs % (i.e. previous VP totals)	VP
I	Industrialist	Scores for Industry % (all industry in owned systems)	IT
M	Merchanter	Scores for Merchants % (merchants in systems owned)	TT
P	Populist	Scores for Population % (all pop in owned systems)	BL
S	Militarist	Scores for Ships % (carriers and cruisers only)	FS, IS or PS
T	Technologist	Scores for Technology % (all tech levels)	TR
X	Xenophobe	Scores for Kill % (all "kill" points scored, see 6.16)	WC, WA or WF

Each EMPIRE action (see 9.4) also gives you a free tech level (these are the tech levels shown in the far right hand column in the table above). Where there's more than one tech level shown then you get one selected at random (in each case the first one shown is more likely than the others).

Ecology totals are for earthlike planets only (40 less ecodamage for terran and big worlds, 80 less three times eco damage for eden worlds). Kill points are scored for destroying or capturing population and industry from other empires.

9.4 CHANGING EMPIRE TYPE The EMPIRE action is used to change your current empire type. Enter the one character code for the new empire type (indicated in the table above) in the WHICH box. There is NO cost in BPs, but you lose ten percent of your current VP total whenever you change empire type (so it's very cheap early in the game, but very expensive later on) and you're only allowed one in each turn.

Format [EMPIRE] [WHICH] [--] [--] [--]

Note: The free tech level is to help you think about it early in the game (later on you probably won't want to). In the first few turns you will almost certainly want to change your empire type every time so as to get the extra tech levels.

9.5 VICTORY CONDITIONS Every three to five turns there is a census turn, at the end of which the win conditions are checked. Census turns are not indicated in advance, and are selected at random (the first will be turn three, four or five, and subsequent census turns will be three, four or five turns after the last).

To win a game of Spaceplan you must satisfy any of the following three victory conditions:-

RUNAWAY WIN: You have the highest total of victory points, and your total is at least double the next highest.

KNOCKOUT WIN: You have the highest total of victory points, and your total is at least 40% of the total victory points of all the surviving players.

POINTS WIN: You have the highest total of victory points, and your total is greater than a target set at the start of the game, normally the maximum total population that will fit on the map (which varies from game to game).

9.6 GAME END The game ends on the NEXT census turn AFTER one of the victory conditions is achieved if ANY of the victory conditions is met (not necessarily the same one, or even the same player). If the win no longer applies, then the game continues. Essentially, you get a few turns warning of a potential win.

9.7 PRIZE DISCOUNTS Winners and survivors (players who are still active and have turns in credit at the end of the game) receive a discount for future games of Spaceplan in the form of bonus turns which may be claimed each and every time they buy ten or more turns (in a single payment).

A player that achieves a runaway win or knockout win receives a bonus of three turns (i.e. each time that player pays for ten turns, he/she is actually credited with thirteen). A player that achieves a points win receives a bonus of two turns. A player that survives to the end of the game in a points win gets a bonus of one turn. Discounts may be accumulated, up to a total of ten (i.e. turns become half price). Dropouts forfeit all accumulated discounts, including any in games already in play.

Note: Bonuses gained for games completed should be shown on your game report. If you've earned a discount then you get extra turn credits according to each multiple of ten turns you buy. If you buy fewer than ten turns in a batch, then it doesn't apply.

It's up to you to ensure that your discount is kept up to date. Inform the GM of your current discount when you join a new game (the necessary information is shown on the return slip of your end game report), or if your discount increases (which will happen if you're more than one game at a time). It's simple for a GM to check a discount when you claim it, but would be very time consuming to be scurrying around old records all the time looking for discounts to allocate automatically.