

M42-4X Game System

The Ghost of War

Version 1.2

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1 Strategic Resources

Resources are produced, consumed and wasted in vast amounts by the endless wars of the far future. Planets produce and sometimes consume a certain amount of resources, depending on the planet type. E.g. a Hive world is able to produce a decent amount of goods as well as a steady supply of recruits for the armies of the Emperor – but only if supplied with food. Diametrically opposed to that, Agri-Worlds produce enormous amounts of food, but have only minimal defenses and rely on regular import of promethium and tools to keep up production.

[Maybe talk about resource units and consumption here.](#)

1.1 Resource Types

The following resources are tracked in the game:

- **General Goods (GG):** Catch-all term for uniforms, basic weapons and ammunition, tools, medical supplies, power packs, etc. Required by nearly any unit during production as well as supply requirement.
- **Food:** Man must eat (and drink). What they consume is rather secondary but without food and water no war will be fought and ancient dynasties crumble into anarchy. Most units require this resource to keep supplied.
- **Men:** If there is one thing the Imperium of Man has in abundance, then it is unlimited quantities of manpower. Many military assets consume one unit of this particular resource upon creation.
- **Ore:** Catch-em-all for any one of a stunning amount of raw materials used by the forges of the Imperium to build their weapons. Required to build anything, from bolters to prefabricated building parts and star ship hulls. All mechanical or mechanized units require this resource during production.
- **Rare Minerals:** Catchphrase for high quality or particularly rare mining resources, required for producing advanced technology like warp drives, plasma weapons, engines, psi-technology or void shields. Required by most high-tech units during production.

- **Promethium:** The Imperium of Man runs on promethium. Any vehicle, from civil ground cars to void ships use it as fuel. Flamers utilize it as a weapon against the Heretic and the Alien. Complex chemical products are based on it. All mechanical and mechanized units require it for supply.
- **Shells:** Large calibre-shells, fired by any solid-projectile weapon the size of a Leman Russ Battlecannon or larger requires this resource to stay supplied. Shells are produced by planets from Ore and Promethium.
- **Missiles:** Fast, precise and powerful missiles are fielded by many units in the Imperial arsenal. As powerful an asset as they are, they need to be produced carefully, from skilled manufacturers or specialized and supervised machinery. Units that use missile weapons, require this resource to stay supplied. Missiles are produced by planets from GG, Ore and Promethium.

In addition to these, a couple of faction-specific resources are available:

- **Neophytes:** Recruits of an Astartes Chapter -- the raw material from which squads of new Space Marines are forged.
- **Gene-Seed:** The genetic material carried by all Space Marines. Used to allow new Neophytes to ascend to an Astartes. Collected from fallen Space Marines. Generated from Space Marines reaching Tactical-level.
- **Princes:** Strong-minded, intelligent and well-trained individuals are required to pilot the knights and titans of the Adeptus Mechanicus.
- **Officers:** Both, the Imperial Navy and Imperial Guard rely on the skill of its officers to win wars. Well trained individuals with command skill are a rarity under the 'protective' gauntlet of Imperial regime.

1.2 Trade Routes

Often, resources are produced far from the manufactoria that will use them to create war material. Thus, inter-system cargo trade routes are a matter of fact in the Imperium. To simplify the game experience, only trade routes crossing the sub-sector boundary will be tracked. Any cargo transfer within systems of the same sub-sector will be automatic.

Note: Should a system become contested with the enemy having void supremacy, its products cannot be transferred within the sub-sector either.

Trade routes usually follow similar paths as the Immaterium is far from being equally hard to traverse in all places. Thus, trade routes usually follow certain 'warp routes' - well-charted routes between sub-sectors. The entries and exits of these routes are usually guarded by the Imperial Navy to prevent pirates from attacking the merchant ships plying these trade routes. In times of immediate danger, however, these forces will have to be redeployed, leaving the trade lines vulnerable.

A trade line is denoted as follows: Origin → Destination: Resource (Amount). E.g. Hastea → Atria: Food(4). In many cases, trade routes are chained, with several destination worked in sequence. This can be represented by several chained arrows, like this: Hastea → Atria: Food(4) → Meridian: Food (2)

1.2.1 Establishing a Trade Route

To establish a new trade route (or supply line), proceed as follows:

1. Select the origin and target planet as well as the number (and type) of resources to transport. Obviously, only resources can be transported that are available on the origin planet.
2. Select the route from source to destination. If 2/3 or more of the routes total path is following well-charted warp routes note down: 'well charted'.
3. A merchant house will be selected (after the usual offer and bidding time), ships will be assembled and loaded. The delay between establishing a trade line and the arrival of the first wares at the target is as follows:
 $0.5 \times \text{WareCount} + \text{TravelTime}$
The travel time is halved if the trade line has the 'well charted' property. See section 5.1 for information about warp travel speed.

An established trade line will remain active as long as it is not cancelled or interrupted.

2 Supply, Upkeep and Activity

Any single entity in the game, from a single unit to vast armies and entire planets, is storing, consuming and or producing certain amounts of resources to oil the complex machinery that is the Imperium of Men.

2.1 Upkeep

Be it a single unit or an entire planet, most entities are not entirely self-sufficient in the grim-darkness of the 42nd millennia. This is represented by the upkeep of the entity. Each round, the listed amount of resources is consumed.

2.2 Activity

The exact upkeep cost of an entity is decided by the activity it is taking during a round. Four types of activities are discerned. Some of those can be combined. In such a case, add together the upkeep cost of each activity to get the total upkeep.

- **Idle:** This is the most basic activity and generally frowned upon. Only acceptable during times of severe resource shortage, entities in this stance try to keep their upkeep as low as possible. Units are confined to their base without field training, planets stop their industry and send their workers home and fleets are put into high anchor or a stable orbit. Effects:
 - Planets loose their basic production and halt any projects and recruitment processes.

- Units loose 1 experience point per round while staying idle.
- The listed upkeep cost of the Idle activity has to be paid every round, regardless of other activities.
- This activity cannot be combined with other activities.
- **Produce:** This activity represents the expenditure of resources to produce something (usually another resource, a unit or planetary advancement). Mostly used by planets and similar fix entities, but armies too have some limited production options like the set-up of a fortified position or a supply depot. Effects:
 - Enables the production slots specified for the entity.
 - The entity crafts its specified basic production each round this activity is active.
 - Can be combined with the Brace and Recovery activities.
- **Brace:** Being prepared for war is a matter of life and death in the endless wars of the 42nd millennia. Units have to perform regular life-fire drills and regular exercise to keep their edge. Planetary defense force need regular drills as well, walls and gun emplacements need to be repaired, fleets have patrol and perform maneuvers and orbital defences require regular maintenance. Effects:
 - Units gains one experience point per turn
 - Non-Unit entities (e.g. planets) can raise their CE beyond 100% by taking this action. It rises by 10% per round to a maximum of 150%.
 - Units taking this activity gain the 'on guard' trait for the duration of the activity thus raising the chance to detect enemy activity in the local area.
 - Can be combined with the Recovery and Produce activities. If combined with the Production activity, the entity loses half its production slots of the Minima and Vexillus level (round down).
- **Fight:** In the far future, there is only war. While not entirely accurate for every world in the Imperium, it certainly is for the Imperium at large. War is an unmatched devourer of resources: food, medical supplies, ammunition, soldiers, war-gear: all are spent in vast quantities every day to keep the Imperium intact throughout another day. This activity represents a major military conflict, leaving no time for anything else beside. Minor military activity, e.g. guard duty, light skirmishes or patrolling fall under 'Brace'. Effects:
 - Units gain experience from combat (2-8 experience points depending on the scale of the fighting and outcome - victory yields more than defeat).
 - Cannot be combined with any other activity.
- **Recover:** Combat losses and collateral damage are inevitable in the struggle for mankind's survival. Restoring good order, repairing damaged war-gear and filling up the losses with new recruits is the purview of the recover activity. Effects:

- Allows the entity in question to restore CE. Note that advanced units may have additional requirements that must be fulfilled before recovery kicks in (e.g. some may require a certain tech-level to be met).
- Recovering causes the unit to lose some experience points as new recruits fill up the ranks of dead veterans. For mechanical units, this represents the introduction of new parts (and thus machine spirits) into a greater whole, introducing minute changes in its behavior. A unit loses one experience for each 20% CE it recovers.
- Can be combined with the Brace and Produce activities.

2.3 Supply Buffer

Every entity has a so-called supply buffer, representing the amount of supplies it currently has stored in a way to easily access it if need be - e.g. to its own upkeep. Unless otherwise noted, an entity's upkeep is taken from its supply buffer at the end of each round, reducing the remaining amount according to the entity's current upkeep. Each resource is tracked individually and the maximum size of each buffer might vary between resources. In the 'Buffer' section of an entity's description, the individual buffer sizes are given like this: GG(4/8), meaning that the entity's buffer of GG is currently half empty. It has 4 units of GG left from a maximum buffer capacity of 8.

2.4 Resupply

There are many ways to resupply - that is to raise the supply counter of an entity. The following are the basic possibilities that are open to most factions.

- **Trade:** Old as humankind, trading is most basic way to get what you need - although usually at a price. Entities in the same system can simply exchange goods (from their respective supply buffers) if both sides agree to the exchange - which is far from given, even if both sides are loyal imperial organisations. Trading between systems is another matter entirely, requiring intergalactic travel, void-capable merchant ships (and a navigator), trading allowances, certificates and lots (and lots and lots then some) triplets. See section 1.2 for trade routes.
- **War Spoils:** Since the beginning of time, crusading armies have put any leftovers of enemy equipment to good use to keep the own soldiers supplied. Imperial armies are not above this should the need arise. Destroyed vehicles can be cannibalized for ore and rare minerals required to repair the own battle gear and vehicles. Captured soldiers can be mind scrubbed and put to work as servitors and even sent to the front as penal legionaries. Lastly, Bolt shells, grenades, fuel and rations will serve anyone who possesses them after all.

2.5 Tithes

To be added later...

3 Planets and Production

3.1 Stats

Planets (and some other places like orbital stations) have several defining stats.

- **Tech-Level:** This attribute defines the highest level production capability of the planet. The levels are as follows:
 - **None:** This planet has no production ability of note.
 - **Minima:** This place offers minimal production ability, without major industrial manufactoria. Manual labor and simple tools, nothing more.
 - **Vexillus:** Most civilized planets fall under this category, representing decent industrial workshops capable of producing all technology that is not reserved by the Adeptus Mechanicus for its own forge worlds.
 - **Exactus:** The ability to produce the most advanced technology of mankind is reserved to the forge worlds of the Adeptus Mechanicus, represented by this category.
- **Production Slots:** While the Tech-Level describes the quality of goods and units that can be produced on a planet, its production slots define the number of projects that can be undertaken in parallel - and thus represents the amount of workforce this planet has to offer. Production slots are subdivided into the three Tech-Level (Minima, Vexillus and Exactus). Example: Slots 2/2/1 means that the planet in question can have up to two Minima, two Vexillus and one Exactus project running in parallel.
- **Strategic Resources:** Here, the planets produced and consumed strategic resources are noted. Consumed resources have to be imported from other systems. Produced resources can either be used up for local production projects or be exported to other systems in need of that particular resource.

Add an example planet stat array here.

3.2 Boost System

To be added at a later version.

3.3 Projects

Anything a planets produces beside basic resources, is represented as a Production Project. Such a project can be the raising of a new combat unit, the production or refinement of resources, a planetary advancement or an event-specific project.

A project has the following defining entries:

- **Name:** The name of the project.
- **Tech-Level:** The minimal required Tech-Level of the project. Lower-tier projects can always be produced in a higher-tier slot - but obviously not the other way round.
- **Duration:** The number of rounds this project takes to complete - given that it's requirements are met each round. The production stalls, if any requirement is violated in any given round.
- **Requirements:** A list of requirements that must be met to make progress in a round. Most commonly, strategic resource requirements are listed here, but sometimes additional requirements like the availability of a specific planetary advancement is listed too.
- **One-Time Requirement:** Sometimes, projects require a specific resource to be available only once during the production. Such requirements are listed separately.
- **Yield:** The project outcome. A specific unit, an advancement, resources, ...

3.3.1 Minima-rated Projects

The following projects are available for Minima slots.

- **GG** Nearly any planet can produce something of value. Be it small arms, basic ammunition, tools, medical supplies, clothing, latrine utensilia. Duration: 1 round. Requirement: -. Yield: GG(1)
- **Basic Infantry:** One of the most basic tithes an Imperial planet is subject to, is the regular tithing of its able population for the foundation of new Imperial Guard regiments. Duration: 1 round, Requirement: GG, Men, Yield: one unit of basic infantry adequate to the recruiting planet.
- **Shells:** Production of large-calibre shells can be done on most planets albeit with massive manual labor. Duration: 1 round, Requirement: Ore, Promethium, Yield: Shells(1)
- **Basic Planetary Advancements:** Basic planetary Advancements include the strategic supply depot (increases supply buffer) and the Trench Network (increases defenses). Duration: varies, usually 1-3 years. Requirements: varies, usually GG, Ore, Men, Food. Yield: various planetary boni.

3.3.2 Vexillus-rated Projects

The following projects are available for Vexillus slots.

- **Luxury Goods** Many goods fetch extreme prices in certain echelon of the upper society. Duration: 1 round. Requirement: Trade Hub (advancement), any one strategic resource (but GG). Yield: GG(2)

- **Advanced Units:** The industrial capabilities of most Vexillus-rated worlds can produce the necessary equipment for most units, as well as parts of large units. Only high-tech weapon systems are beyond their capabilities. Duration: varies, Requirement: varies, Yield: one advanced unit
- **Shells:** Rather than by many, many hands, shells at this planet are assembled by specialized tool-machines, assembly-streets and servitors which speeds up production considerably. Duration: 1 round, Requirement: Specialized Manufactoria (Shells), GG, Ore, Promethium, Yield: Shells(3)
- **Missiles:** With the aid of tool machines and under supervision of Tech-Priests, missiles are constructed by highly trained workers. Duration: 1 round, Requirement: -, GG(2), Promethium, Yield: Missiles(1)
- **Industrial Planetary Advancements:** Industrial planetary Advancements include (extract): Trade Hub, Training Center, Specialized Manufactoria, Bastion. Duration: varies, usually 2-5 years. Requirements: varies, usually GG, Ore, Men, Food. Yield: various planetary boni.

3.3.3 Exactus-rated Projects

The following projects are available for Exactus slots.

- **High-Tech Goods:** Bionic enhancements, juvenate treatments, stasis fields and other high-tech goods, produced on some forge worlds, bear the exchange value of entire cargo ships of resources. Duration: 1 round. Requirement: Trade Hub (advancement), any one strategic resource (but GG). Yield: GG(4)
- **High-Tech Units:** Only the forge worlds of the Adeptus Mechanicus are able to produce the systems that power the most advanced weapon systems of the Imperium, like plasma weapons or Titans.
- **Missiles:** Highly refined production processes together with automated, high-precision servitor workers can speed up the production and quality of ammunition considerably. Duration: 1 round, Requirement: Specialized Manufactorium (Ammunition), GG(3), Promethium(2), Rare Minerals, Yield: Shells(8) or Missiles(4)
- **Industrial Planetary Advancements:** Massive planetary Advancements requiring high-technology, this includes (extract): Terraforming, highly-specialized manufactorium, space station. Duration: varies, usually 4-8 years. Requirements: varies, usually GG, Ore, Men, Food, Rare Minerals. Yield: various planetary boni.

4 Units, Recruitment and Recovery

4.1 Unit Types

The game uses the catch-all phrase unit to talk about a collection of (mostly) heterogeneous combatants. A unit range from a regiment of Imperial Guardsman, over a squad of Adeptus Astartes, to the God-Machines of the Adeptus Mechanicus or a single void ship.

For the sake of recruiting, deployment and other generalized concepts, the following unit types are used:

- **Basic Infantry:** A couple hundred men and women under arms without vehicle support of note or specialized training or equipment. Cheap and fast to recruit. Deployed en masse.
- **Advanced Infantry:** These units use higher grade equipment, training and often have vehicle support and thus have greater potential, but at the price of longer recruitment and the need for additional resources. Advanced Infantry is subdivided in mechanized and specialized infantry.
 - **Mechanized Infantry:** An infantry unit with vehicle support, ranging from Recon-Units on Sentinel-Walkers, to towed artillery units and Iron Fist regiments, riding inside heavy Chimera APCs into the thickest of battle before deploying right into the enemies line.
 - **Specialized Infantry:** Specialized infantry units, using special tactics, superior equipment or performing special tasks on the battlefield. Units falling into this category are: drop troopers, storm troopers, MASH unit.
- **Armor** Heavy combat vehicles, like all Leman Russ pattern as well as self-propelled artillery pieces (Basilisk/Manticore).
- **Imperial Knight:** Combat walkers that are not yet counted as a true Titan, these machines are still able to wreak havoc in nearly any combat situation rivalling a super-heavy tank. A detachment of Knight (usually 4 walkers) can even threaten a Titan if they manage to close or surprise it.
- **Titan:** The god-machines of the Adeptus Mechanicus are the masters of the battlefield, only truly threatened by other Titan-grade units. It takes years to build even one of these mighty machines and they require specialized ships to carry, deploy and refit them. Titans are subdivided into scout and battle titans.
 - **Scout Titans:** Represented by the Warhound class of the Adeptus Titanicus, these Titans (while considerably smaller than their greater cousins) still tower over small buildings and are able to topple over a battletank with a kick from its feet. Being much more agile and fast compared to a true battle titan, scout titans are used for reconnaissance, ambushes and flanking maneuvers. They are usually fielded in pairs of two.
 - **Battle Titans:** Ranging from the old Reaver class, over the widespread Warlord class to the towering, ancient Emperor titan, battle titans represent the mechanical

gods of war that flatten battle tanks with a mere step and lay waste to entire cities if let loose.

- **Astartes Combat Squad:** A single squad of Space Marines are a devastating force, able to lay waste to hundreds of lesser enemies during a single mission. It takes years to train and "make" a Space Marine and every loss is felt dearly within the chapter.

4.2 Macro Units

Due to the sheer scale of combat in the grim darkness of the far future, a single unit usually does not suffice to turn the tide of war. Thus, the game uses the term Macro unit to refer to a collection of units of (potentially) different types that act as one game piece on the huge game board of the sector. While every faction has different names for its formations, all have three tiers of macro units, each one larger than the previous one. We will use the names of the Imperial Guard as generic name as they are quite intuitive.

- **Battlegroup:** A small collection of (typically) up to five single units. The Navy splits this category into Patrols (2-6 ships) and Subsector Fleet (up to 15 ships), while the Adeptus Astartes call a formation of exactly five squads a Demi-Company and anything less than that a Combat Detachment. In the Imperial guard, the term Battlegroup is used for any formation consisting of anything between two and fifteen regiments.
- **Army:** A large formation of units, usually twice to quadruple the size of a Battlegroup. The Navy equivalent is the Sector Battlefleet. In the Astartes terminology, a full company (including armor and air support) takes this position.
- **Army Group:** Any formation larger than an army with no upper limit. If the Navy pulls all it Subsector fleets together to reinforce the sector battlefleet, they call it an armada. Only in the most dire situation will an Astartes Chapter go to war in chapter strength. The Adeptus Titanicus calls its largest formation Legion.

4.2.1 Astartes Chapter

An Astartes Chapter is a highly self-sufficient organisation structure, with its own recruitment holds, void-ships, astropathic relays, navigator houses, manufactoria and thousands of chapter serfs. According the Codex Astartes, written by the Lord Regent Roboute Guilliman himself, a chapter consist of up to a thousand Adeptus Astartes, organized into 10 companies of 100 soldiers each, which in turn are sub-organized into two demi-companies of 5 squads each.

But even the most self-contained organization has need of resources being produced somewhere to fill up their stock from time to time. In addition, an Astartes Chapter is always at war readiness. That is, even if they currently are not engaged in active battle, the brothers are performing lengthy and tasking combat drills, which deplete the chapters resources nearly as fast as if they were waging actual war. To represent this, the entirety of the chapter has a supply counter for each resource it requires. Planet-based chapters usually draw their required resources from their homeworlds (and/or additional honor-bound worlds). Fleet-based chapters on the other hand roam the galaxy and will often be far off systems incorporating chapter holds, who might supply them at short notice. Astartes chapters can resupply via one of the following means (in addition to the standard means listed in section 2.4):

- **Honor-bound Systems:** Chapter holds as well as systems the chapter has gone to great length to protect, are considered honor-bound to the chapter and will go to great lengths to supply the chapter fleet with any resources they have available should the fleet pay a visit to their system.
- **Grateful Systems:** Systems that were recently (within one year) protected by the Angels of Death will usually agree to supply their saviours with whatever products they can. Should a system be saved multiple times (or in a particular spectacular and memorable way) the system may eventually become honor-bound.
- **Imperial Subvention:** By publicly declaring to be in dire need of supplies, an Astartes chapter may requisition resources from any loyal imperial system. While most regents are intelligent and pious enough to follow such a request, some may hold back on the amount of provided resources to keep their planets economy from stalling. Most chapters view this options as a last resort, to be taken only in the most grim of situation and it is generally considered a grave insult to the chapter honor to rely on external help in such a manner.

4.3 Supply Counter

All units have a supply counter representing the status of its tactical supplies - food, medical supplies, replacement parts, ammunition, and a myriad things more. Each round, in which the unit does not have access to all its required resources and is either in combat, training or redeployment, the supply counter is reduced by one. The Combat Efficiency of the unit is (heavily) influenced by the current value of its supply counter.

- **Counter = max:** The unit is fully supplied. Combat Efficiency is slightly increased.
- **Counter \geq 0:** The unit has enough tactical reserves to continue fighting without suffering major ill effect.
- **Counter $<$ 0:** The unit is suffering from supply shortages. Its Combat Efficiency is reduced - the severity depends on the unit type.
- **Counter = -max:** The unit is no longer combat effective. The infantry or crew personal is either dead or starving. Vehicles and machines are no longer combat ready due to combat damage and lack of maintenance.

Consult the following table to check what kind of resources a unit in question requires to supply. Depending on the units main weaponry, consult section 4.5.1 for details about the units ammunition requirement. If the general supply requirement and the ammunition requirement overlap, the unit only requires the greater number of the two. E.g. a unit of mechanized infantry in Hellhounds (main weaponry: heavy flamer) has general Promethium(1) upkeep and a weaponry-dependant upkeep of Promethium (2) thus, the unit requires two units of Promethium to restore one point of its supply counter.

Unit	Supply Counter	Resources
Basic Infantry	5	Food, GG, ammo
Specialized Infantry	3	Food, GG, ammo

Unit	Supply Counter	Resources
Mechanized Infantry	4	Food, GG, Promethium, ammo
Armor	3	Food, GG, Promethium, ammo
Knights	2	GG, Promethium, ammo
Scout Titan	3	GG, Promethium, ammo
Battle Titan	2	GG, Promethium, ammo
Astartes Combat Detachment	6	GG, Food, with Thunderhawk: Promethium
Astartes Chapter	16	Food(2), Men(1), GG(2) Promethium(2), Ore, Rare Minerals Shells, Missiles
Imperial Navy Recon Group	12	Food, GG, Promethium
Imperial Navy Subsector Fleet	8	Food, GG(2), Promethium(2)
Imperial Navy Sector Battlefleet	8	Food(2), GG(3), Promethium(4)

4.3.1 Resupplying

To increase the supply counter, the unit must have access to all resource listed in the units supply section. A unit is considered to have access to a resource, if the system it is stationed in has access to the resource. Units in a warzone or in a system lacking the necessary resources, must be supplied via a Supply Line, shipping in the required resources from other worlds. Supply lines work exactly like Trade Routes (see 1.2).

A unit can never have a supply counter greater than its maximum. The speed of resupplying depends on the unit size and the number of units in a system.

- **Single Unit or small Detachment:** Supply timer increases by six each round.
- **Single Macro Unit** Supply timer increases by four per round.
- **Single Battlegroup or up to four Macro Units** Increases by two per round.
- **Armies composed of more than four Macro Units** Require additional goods to be shipped in to supply them. Split the army into several Battlegroups of no more than four macro units. Each Battlegroup must have a separate supply line.

4.4 Recruitment

To recruit a unit, the following prerequisites must be met:

- The planet which shall recruit the unit must have a free production slot available, which is at the same level (or higher) than the unit it wants to recruit.
- Any Planetary advancement requirements the unit may have has to be met.
- Any one-time resource requirements must be met. This may happen at any round of the recruitment.
- Any resource requirements must be met - at any round for the duration of the recruitment process.

4.5 Recruitment Chart

Name	Type	Tech Level	Time	Parts	Resources	One-Time
Basic Infantry	Basic	Minima	1	-	Men, GG	-
Mechanized Infantry	Advanced	Vexillus	3	-	GG, Ore	Promethium, Men, Ammo
Special Infantry	Advanced	Vexillus	3	-	GG	Men
Pulled Artillery	Advanced	Vexillus	3	-	GG, Ore	Promethium, Men, Ammo
Leman Russ Hull	Part	Vexillus	2	-	GG, Ore	-
Turret (Basic)	Part	Vexillus	2	-	GG, Ore	-
Turret (Advanced)	Part	Exactus	3	-	GG, Ore	Rare Minerals
Leman Russ Assembly	Assembly	Vexillus	1	Hull, Turret	GG	Promethium, Men, Ammo
Astartes Scouts	Advanced	Minima	4	-	GG, Food	Rare Minerals, Neophytes, Geneseed(10)
Astartes Wargear	Part	Exactus	4	-	GG, Ore, Rare Minerals	-
Astartes Squad	Assembly	-	1	Scouts, Wargear	-	-
Knight Chassis	Part	Vexillus	1	-	GG, Ore	Rare Minerals
Knight Power Core	Part	Exactus	2	-	GG, Ore, Rare Minerals	Promethium
Titan Regular Weapon	Part	Vexillus	1	-	GG, Ore	Ammo

Name	Type	Tech Level	Time	Parts	Resources	One-Time
Titan Advanced Weapon	Part	Exactus	2	-	GG, Ore, Rare Minerals	Ammo
Knight	Assembly	Vexillus	1 per part	Chassis, Core, Weapons	GG	Princeps, Promethium
Warhound Chassis	Part	Vexillus	4	-	GG, Ore	Rare Minerals
Warhound Power Core	Part	Exactus	4	-	GG, Ore, Rare Minerals	Promethium
Warhound	Assembly	Exactus	1 per part	Chassis, Core, Weapons	GG	Princeps, Promethium
Warlord Chassis	Part	Vexillus	4	-	GG, Ore	Rare Minerals
Warlord Legs	Part	Vexillus	2	-	GG, Ore	Rare Minerals
Warlord Head	Part	Exactus	4	-	GG, Ore, Rare Minerals	-
Warlord Power Core	Part	Exactus	6	-	GG, Ore, Rare Minerals	Promethium
Warlord	Assembly	Exactus	1 per part	Chassis, Core, Legs, Head, Weapons	GG	Princeps, Promethium
Ship Hull Section	Part	Vexillus	4	-	GG, Ore	-
Ship Core	Part	Exactus	6	-	GG, Ore, Rare Minerals	-
Ship Bridge	Part	Exactus	4	-	GG, Rare Minerals	Ore
Ship Engines	Part	Exactus	4	-	GG, Ore	-
Macro cannon Battery	Part	Vexillus	2	-	GG, Ore	Shells
Lance Battery	Part	Exactus	3	-	GG, Ore, Rare Minerals	-
Torpedo Tubes	Part	Vexillus	1 per 2 tubes	-	GG, Ore, Missiles	Rare Minerals
Flight Deck	Part	Vexillus	6	-	GG, Ore	Promethium, Missiles

Name	Type	Tech Level	Time	Parts	Resources	One-Time
Frigate	Assembly	Vexillus	1 per part	Hull, Core Engine Weapons	GG, Men	Officers, Promethium
Cruiser	Assembly	Exactus	1 per part	2xHull, 2xCore Engine Bridge Weapons	GG, Men	Officers(2), Promethium
Battleship	Assembly	Exactus	1 per part	4xHull, 2xCore 2xEngine Bridge Weapons	GG, Men	Officers(3), Promethium

4.5.1 Ammunition

Many units in the above list, require a stack of ammunition once during production, to fill the units supplies and make it combat ready. Rather than having multiple copies of the same unit but with different ammunition requirements for various patterns, consult the following table for ammunition requirement depending on the units main weaponry.

Weapon Type	Example	Requirement
Small Arms	H.Stubber, Multilaser, Bolter	GG
Cannons	Battlecannon, Earthshaker	Shells
High-Power Las	Las-Destructor, Lance-Battery	Rare Minerals
Flamer	Heavy Flamer, Inferno-Cannon	Promethium(2)
Missile Launcher	Hunter-Killer, Manticore	Missiles(2)
Plasma/Melta	Plasmacannon, Plasma-Broadside	Rare Minerals, Promethium

5 Unit Deployment and Combat

5.1 Warp Travel

To redeploy units to another system, void-ships are required (unless the unit in question is itself a void-ship of course). Depending on the unit in question, not any warp-ship suffices (e.g. Titan require special transports).

Unless otherwise noted, warp travel required **one round for each five hexes** traveled (rounded up), counting the starting and destination as one hex. travelling to an adjacent hex happens within one round - thus can be considered instantaneous', but can only happen once per round. Each hex within a radius of two of a warp storm (or the great rift or the shadow in the warp) count as three hexes for the purpose of determining the travelled distance.

5.2 Combat Effectiveness (CE)

CE is an abstract notation of the total combat effectiveness of a unit, including combat losses, damaged wargear and exhaustion of soldiers and crew.// CE is measured in percentages, starting with 100% at the time of unit recruitment. Battle will see this number drop (potentially fast). Recovering (see /refrecovery), unit merging and certain events will see the number rise.//

- Many units will suffer morale degradation if they are below 75% CE.
- Units below 50% CE contribute less to battles and take increased damage.
- Mechanised Units below a CE of 10% are effectively immobilised but can still be salvages.
- Once a unit sinks to a CE of 0% it is beyond saving. Soldiers succumbing to their injuries or flee. Vehicles are beyond battlefield repair or blown up. Void Ships have lost life support and are either reduced to drifting, dead husks or blow up in a short immigration of the stars.

5.3 Recovering

Units with supplies left (or a supply line) will recover CE, up to a maximum of 80% over several rounds. Recovering to 100% requires the unit to be far from battle for at least one round. Some advanced units have additional requirements for recovery to kick in. Recovering from supplies, reduces the supply counter by two each round.

Unit Name	CE	Requirement	Resources	One-Time	Recovery
Regular Infantry	any	-	Men	-	40%
Special Infantry	any	-	Men	-	33%
Mechanized	any	Vexillus	Men, Ore	-	33%
Armored	any	Vexillus	Ore	Men	25%
Astartes	≥75%	-	-	-	5%
Astartes	<75%	-	-	-	0%
Astartes	≥50%	Hold or Fleet	Chapter Supply	-	40%
Astartes	<50%	Hold or Fleet	Chapter Supply	Scout(s)	vary
Knight	≥50%	Vexillus or Knight World	GG, Ore	-	25%
Knight	<50%	Exactus or Knight World	GG, Ore, Rare Minerals	Princeps	20%
Titan	≥75%	Vexillus	GG, Ore	-	15%
Titan	≥50%	Exactus	GG, Ore, Rare Minerals	-	15%

Unit Name	CE	Requirement	Resources	One-Time	Recovery
Titan	<50%	Exactus	GG, Ore, Rare Minerals	Princeps, Part(s)*	15%
Void Ship	≥75%	-	Fleet Supplies	-	5%
Void Ship	≥75%	Space Port	GG, Men, Ore	-	25%
Void Ship	≥50%	Vexillus, Space Port	GG, Men, Ore	One Part*	20%
Void Ship	≥25%	Vexillus, Space Port	GG, Men, Ore, Rare Minerals	Officers, 2 Parts*	10%
Void Ship	<25%	Exactus	GG, Men, Ore, Rare Minerals	Officers(x), 3+ Parts*	10%

6 Commanders & Heroes

Each macro unit has a single commander, responsible for the unit in question. Heroes are highly capable and skilled characters than can be assigned to any unit or even operate alone. Heroes have special actions they can perform depending on their type and provide unique buffs to any unit they are assigned to.

Both, commanders and heroes will accumulate experience as well as traits and advisors depending on their actions, the campaign's they lead or participate in and the due to events.

6.1 Adeptus Astartes

To be recognized as a commander or hero within the ranks of the superhuman warriors of death, an individual must have breached the pinnacle of his art indeed.

6.1.1 Commanders

- **Chapter Master:** Powerful, experienced commander with several traits and advisors. Unique within a chapter. Provides a powerful morale boost to all allied units in the same system. May re-roll a fate dice once per year.
- **Captain / Lieutenant:** General space marine commander. Well rounded. Provides morale boost to units under his direct command. Starts with a two random traits.

6.1.2 Heroes

- **Chaplain:** Extremely capable, fear inducing melee specialist tasked with the mental well-being and loyalty of allies.
 - Special Action [Preach]: Greatly improves loyalty and morale of local population or targeted allied unit.

- Special Action [Purge]: Reduce CE of an allied unit with the "Corrupted" or "Infected" to remove the effect. CE reduction depends on the severity of the respective effect.
- Passive Effect: Morale boost for all allied units on the same battlefield.
- Passive Effect: Morale penalty for enemy units subject to fear.
- **Librarian:** Powerful psychic combatant, wielding the powers of the warp to destroy the enemy. When activating any of active effect, there is a risk involved of his talents to backfire.
 - Special Action [Precognition]: Attempt to divine the strategic moves of the enemy up to a year in advance.
 - Special Action [Holocaust]: Unleashes a massively powerful psychic firestorm against an enemy unit. Induces direct CE damage to the selected target. Increased damage against units with the [Psyker], [Demonic], [Mutant] or [Tyrannid] trait.
 - Passive Effect: Detects powerful psychic enemies, performed rituals and large-scale warp movement (e.g. from an approaching fleet) within the sub-sector.
 - Passive Effect: Shields assigned units from most psychic powers. Reduces the effect of powerful psychic powers on assigned units.
- **Apothecari:** Honor-bound to retrieve the geneseed of fallen brethren as well as to see to the wounded.
 - Special Action [Cure]: Attempts to cure one of father Nurgle's many 'gifts' from a target unit or population.
 - Special Action [Screen]: Increase the chance of the local planet to produce one unit of Neophytes.
 - Passive Effect: Slightly reduces the CE damage allied units within the same battlefield take from combat.
 - Passive Effect: Increase the recovery rate of Astartes units in the field by 5% and aboard the chapter fleet or at a chapter hold by 10 %.
 - Passive effect: Increase the chance to recover the geneseed of fallen Astartes (regardless of chapter) on the same battlefield.
- **Tech-Marine:** Trained by the Adeptus Mechanicus in the way of the machine god. His task is to oversee the maintenance of the chapters wargear.
 - Special Action [Rite of Entombment]: After the death of a Commander, Hero or Veteran-ranked combat squad, the Tech-Marine can perform the rite of entombment, allowing for duty beyond death for his fallen brother. This action triggers a recruitment process with the following specifics:

- * Dreadnought | Assembly | Chapter Hold or Fleet | 1 | Dreadnought Chassis | GG, Rare Minerals | -
- Special Action [Artificer Wargear]: Being even less dependant on sleep than his brethren, a Tech-Marine spends any free time on the anvil to produce armour and arms of exceptional quality. In addition to Astartes wargear (see: 4.5) a Tech-Marine can also create Terminator armor and dreadnought chassis given enough time and resources. This action triggers one of the following production processes:
 - * Dreadnought Chassis | Part | Chapter Hold or Fleet | 12 | - | GG, Ore, Rare Minerals | Promethium
 - * Suit of Terminator Armor | Part | Chapter Hold or Fleet | 4 | - | GG, Ore, Rare Minerals | -
- Special Action [Fortify]: The Tech-Marine works in concert with chapter Servitors and serfs to create a fortified position on the battlefield (or to reinforce the protection of an existing stronghold). Any such fortified position provides a considerable CE boost to any allied unit defending itself against attacks.
- Special Action [Jam]: The Tech-Marine attempts to jam the communication equipment of an enemy macro unit, slightly reducing the CE of all its units for one round. Shock and surprise assaults on a jammed macro unit inflict additional damage.
- Passive Effect: Attached Astartes units may recover in the field regardless of their remaining CE, as the Tech-Marine is keeping their equipment in working condition.
- Passive effect: Attached Astartes armored units recover 5% CE in the field, as long as they have more than 50% CE left.

6.2 Imperial Guard

6.2.1 Commanders

- **Lord General:** Unique commander per sector. Provides a decent morale boost to all allied units within the same system. Starts with two random traits and a random advisor.
- **General:** General macro-unit commander of the imperial guard. Starts with one random trait.

6.2.2 Heroes

- **Sanctioned Psyker:**
- **Commissar:**
- **Engineer:**

- **Munitorum Priest:**

6.3 Adeptus Mechanicus

6.3.1 Commanders

- **Magos Militant:**
- **Princeps Maximus:**

6.3.2 Heroes

- **Magos Biologis:**
- **Magos Ordinatus:**
- **Explorator:**

6.4 Traits & Advisors

Example Traits:

- **Defensive Expert:** Increase CE during defensive actions. Gained after several successful defensive battles.
- **Tactical Genius:** May re-roll a fate-dice once per year (must take the second roll). Gained after several decisive victories.
- **Logisticor:** Increase the max supply counter of units under his command by two. Decrease the time required to install a supply depot on a world by one round. Gained after several prolonged wars, where a supply depot had to be installed to keep the units under his command supplied.

Example Advisors:

- **Psyker:** May detect rituals, summons, daemons, portals and similar warp-related events early. May occasionally trigger a precognition event.
- **Expert Navigator:** Decreases warp-travel time by one round (min: 1). May detect incoming or outgoing warp travel.
- **Adeptus Titanicus Interfacer:** Specialized Adeptus Mechanicus trained councilor, allowing for better cooperation with Titan elements. Increases CE of units fighting alongside Titans and reduces friendly fire events or its severity.

Some factions have different types of commanders, with varying inherent benefits.