



Cepheus Engine

System Reference Document



***A Classic Era Science Fiction 2D6-Based Open Gaming System
From Samardan Press Publications***

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A Classic Era Science Fiction 2D6-Based Open Gaming System

By Jason “Flynn” Kemp

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Table of Contents

INTRODUCTION	11
What Is Roleplaying?.....	11
What Is The Cepheus Engine?.....	11
The Core Task Resolution System	11
The Referee	11
The Characters	12
Characteristics.....	12
Careers	12
Skills.....	12
Game Play	12
Common Cepheus Engine Themes.....	13
Die Rolls.....	13
Difficulty and Effect	14
Opposed Checks.....	14
Trying Again	14
Circumstance Modifiers.....	14
Time and Checks	15
Aiding Another	15
Types of Checks.....	15
Skill Checks.....	15
Attack Rolls	15
Characteristic Checks.....	15
The Combat Round	16
Pseudo-Hexadecimal Notation	16
Important Terms	16
BOOK ONE: CHARACTERS	20
CHAPTER 1: CHARACTER CREATION	21
Character Creation Checklist.....	21
Characteristics	22
Social Standing and Noble Titles.....	22
Psionic Strength, the Seventh Characteristic.....	23
Generating Characteristic Scores.....	23
Characteristic Modifiers.....	23
Altering Characteristic Scores.....	24

On Gender and Race	24
On Alien Species and Social Standing	24
The Universal Persona Profile (UPP)	24
The Explanation	25
Universal Character Format	25
Background Skills.....	25
Homeworld Skills	25
Primary Education Skills.....	26
Careers	26
Career Descriptions.....	27
Qualifying and the Draft	27
Terms of Service	28
Basic Training.....	28
Survival	28
Commission and Advancement.....	28
Skills and Training.....	29
Cascade Skills	29
Injuries.....	29
Injury Crisis.....	29
Medical Care	29
Medical Debt.....	30
Aging.....	30
Aging Crisis	30
Anagathics.....	30
Reenlistment and Retirement	31
Mustering Out Benefits	31
Cash Benefits.....	31
Material Benefits.....	31
Final Details	41
Name.....	41
Gender	41
Appearance	41
Personal Goals.....	41
On Alien Species	41
Avians.....	41

Espers.....	42	Grav Vehicle	52
Insectans	42	Gravitics	52
Merfolk	42	Gun Combat (Cascade Skill)	52
Reptilians	42	Gunnery (Cascade Skill).....	52
Alien Species Trait Descriptions.....	43	Heavy Weapons	52
CHAPTER 2: SKILLS	46	Jack-of-All-Trades (Jack o' Trades or JoT).....	52
Skill Checks	46	Leadership.....	53
Task Description Format	46	Linguistics.....	53
Untrained and Zero-Level Skills	46	Liaison	53
Going Faster or Slower	46	Life Sciences	53
Multiple Actions.....	47	Mechanics	53
Local Law Level	47	Medicine	53
Available Skills List.....	48	Melee Combat (Cascade Skill).....	54
Skill Descriptions	49	Mole	54
Admin.....	49	Motorboats	54
Advocate	49	Natural Weapons	54
Aircraft (Cascade Skill)	49	Navigation	54
Animals (Cascade Skill).....	49	Ocean Ships.....	54
Archery.....	49	Physical Sciences.....	54
Athletics	49	Piercing Weapons	54
Battle Dress.....	49	Piloting	54
Bay Weapons	50	Recon	54
Bludgeoning Weapons.....	50	Riding	55
Bribery.....	50	Rotor Aircraft	55
Broker	50	Sciences (Cascade Skill).....	55
Carousing	50	Sailing Ships.....	55
Comms	50	Screens.....	55
Computer.....	51	Shotgun	55
Demolitions.....	51	Slashing Weapons	55
Electronics.....	51	Slug Pistol.....	55
Energy Pistol	51	Slug Rifle.....	55
Energy Rifle	51	Social Sciences	55
Engineering	51	Space Sciences	55
Farming	51	Spinal Mounts	55
Gambling.....	51	Steward	55

Streetwise	56	Send Thoughts	62
Submarine	56	Probe	62
Survival	56	Assault	62
Tactics	56	Shield	63
Tracked Vehicle	56	Teleportation	63
Turret Weapons	56	Psionic Technology	64
Vehicle (Cascade Skill)	56	Psionics in Society	64
Veterinary Medicine	56	Psi-Hostile Societies	64
Watercraft (Cascade Skill)	56	Psi-Neutral Societies	65
Wheeled Vehicle	57	Psi-Friendly Societies	65
Winged Aircraft	57	CHAPTER 4: EQUIPMENT	66
Zero-G	57	Technology Level Overview	66
Gaining New Skill Levels during Game Play	57	Currency	66
CHAPTER 3: PSIONICS	58	Armor	67
Psionic Strength	58	Armor Descriptions	67
Recovering Psionic Strength Points	58	Communicators	68
Psionic Training	58	Computers	68
Psionic Talents	58	Computer Options	69
Using a Psionic Talent	59	Computer Software	69
Range	59	Drugs	71
Awareness	59	Explosives	72
Suspended Animation	59	Personal Devices	72
Psionically Enhanced Strength	60	Robots and Drones	73
Psionically Enhanced Endurance	60	Robot and Drone Options	75
Regeneration	60	Sensory Aids	75
Clairvoyance	60	Shelters	76
Sense	60	Survival Equipment	76
Clairvoyance	61	Tools	78
Clairaudience	61	Vehicles	78
Clairsentience	61	Vehicle Options	80
Telekinesis	61	Weapons	81
Telepathy	61	Melee Weapons	81
Life Detection	62	Ranged Weapons	82
Telempathy	62	Grenades	86
Read Surface Thoughts	62	Heavy Weapons	87

CHAPTER 5: PERSONAL COMBAT	89	Fighting in Zero Gravity.....	95
Personal Combat Checklist.....	89	Firing into Combat	95
Range.....	89	Grappling.....	95
Starting Range.....	89	Panic Fire.....	95
Initiative	90	Shotgun Spread	96
The Combat Round	90	Suppression Fire.....	96
Dynamic Initiative	90	Stance.....	96
Minor Actions.....	90	Tactics and Leadership.....	96
Aiming	90	Thrown Weapons.....	97
Aiming for the Kill	90	Damage	97
Changing Stance.....	90	Armor	97
Drawing and Reloading.....	91	Fatigue	97
Movement	91	Unconsciousness.....	97
Miscellaneous	91	Injury and Recovery.....	97
Significant Actions.....	91	Natural Healing	98
Minor Actions	91	Medical Treatment	98
Miscellaneous	91	Healing and Mental Characteristics	98
Attack.....	91	Vehicles in Personal Combat	98
Coup de Grace	92	Closed and Open Vehicles.....	98
Reactions.....	92	Vehicle-Mounted Weapons	99
Dodging.....	92	Collisions	99
Parrying.....	92	Vehicular Actions	99
Other Actions	92	Vehicle Damage	100
Free Actions	92	Repairs	102
Extended Actions	92	Ground Force Weaponry against Starship-scale	
Delay	93	Targets.....	102
Special Considerations	93	BOOK TWO: STARSHIPS AND INTERSTELLAR TRAVEL	
Battlefield Comms	93	103
Battlefield Conditions	93	CHAPTER 6: OFF-WORLD TRAVEL	104
Battlefield Sensors	93	Interplanetary Travel.....	104
Blind Firing	94	Interstellar Travel	104
Burst Fire.....	94	Jump Success Roll	105
Cover	94	Jump Failures and Misjumps.....	105
Explosions	95	Starship Operations.....	105
Extreme Range Firing.....	95	Ship's Passage	106

Standard Operating Procedures	107	Standard Designs vs. New Designs.....	119
Starship Expenses.....	107	Ship Design Checklist.....	119
Mortgage or Debts.....	107	A Note on System Redundancy	119
Crew Salaries.....	108	Displacement Tons	120
Fuel	109	Ship Hull.....	120
Life Support.....	109	Ship Configuration	120
Port Fees	109	Ship Armor	121
Routine Maintenance	109	Ship Armor Options.....	121
Starship Revenue	109	Hull and Structure	121
Bulk Cargo	110	Ship Sections	121
Passengers	110	The Engineering Section.....	121
Mail and Incidentals.....	110	The Main Compartment.....	121
Charters	110	Ship Drives.....	122
Speculative Trading.....	111	Fuel.....	124
Miscellaneous Topics	111	Bridge	124
Airlocks.....	111	Ship Computer.....	125
Distress Signals.....	111	Ship Computer Options.....	125
Docking	111	Ship Software	125
Boarding.....	111	Ship Electronics	126
Landing.....	112	Ship Crew.....	126
Ship Security.....	112	Staterooms.....	127
Physical Security Systems	112	Low Passage Berths.....	127
Cybersecurity	112	Barracks.....	127
Security Measures	113	Additional Ship Components.....	127
Planetary Travel on Other Worlds	113	Armory	127
Characters and the Law.....	113	Briefing Room	128
Arrests and Sentencing.....	114	Cargo Hold.....	128
CHAPTER 7: TRADE AND COMMERCE	115	Detention Cells.....	128
Speculative Trade Checklist.....	115	Fuel Scoops	128
Find a Supplier.....	115	Fuel Processors	128
Determine Goods Available	115	Laboratory.....	128
Determine Purchase Price.....	117	Launch Tubes	128
Local Brokers.....	117	Library	128
Selling Goods.....	118	Luxuries	129
CHAPTER 8: SHIP DESIGN AND CONSTRUCTION ..	119	Ship's Locker	129

Vault.....	129	TL9 Merchant Trader.....	142
Vehicle and Drone Hangar.....	129	TL11 Patrol Frigate.....	142
Armaments.....	130	TL9 Raider.....	143
Turrets.....	130	TL9 Research Vessel.....	143
Missiles.....	131	TL11 Survey Vessel.....	143
Bays.....	131	TL9 System Defense Boat.....	144
Screens.....	131	TL9 System Monitor.....	144
Universal Ship Description Format.....	132	TL9 Yacht.....	145
Alternative Star Drives.....	132	Common Small Craft.....	145
Warp Drive.....	133	TL 9 Cutter.....	145
Teleport Drive.....	133	TL 9 Fighter.....	145
Hyperspace Drive.....	133	TL 9 Launch.....	146
Alternative Power Plants.....	133	TL 9 Pinnacle.....	146
Fission Plants.....	133	TL 9 Ship's Boat.....	146
Antimatter Power Plants.....	134	TL 9 Shuttle.....	146
Small Craft Design.....	134	CHAPTER 10: SPACE COMBAT.....	148
Small Craft Ship Hull.....	134	Space Combat Checklist.....	148
Small Craft Armor.....	134	Range in Space Combat.....	148
Small Craft Drives.....	135	Crew Positions.....	149
Small Craft Fuel.....	136	Automated Positions.....	149
Small Craft Cockpits and Control Cabins.....	137	Initiative.....	150
Airlock.....	137	The Space Combat Turn.....	150
Small Craft Crew.....	138	Note on Personal Actions.....	150
Small Craft Armaments.....	138	Minor Actions.....	151
CHAPTER 9: COMMON VESSELS.....	139	Adjust Speed.....	151
TL9 Asteroid Miner.....	139	Change Positions.....	151
TL11 Corvette.....	139	Maintain Course.....	151
TL9 Courier.....	139	Personal Action.....	151
TL11 Destroyer.....	140	Miscellaneous.....	151
TL14 Dreadnought.....	140	Significant Actions.....	151
TL9 Frontier Trader.....	140	Take Minor Actions.....	151
TL11 Heavy Cruiser.....	141	Attack.....	152
TL11 Light Cruiser.....	141	Avoid Collision.....	152
TL9 Merchant Freighter.....	141	Boarding Action.....	152
TL9 Merchant Liner.....	142	Break Pursuit.....	152

Calculate Jump Plot.....	152	Bay.....	160
Dock with Another Vessel.....	152	J-Drive	160
Coordinate Crew	152	M-Drive	160
Electronic Warfare	153	Power Plant.....	160
Evasive Manuevers	153	Sensors.....	160
Increase Initiative.....	153	Bridge	160
Intercept Enemy Communications	153	Fuel.....	160
Line Up the Shot	153	Hold.....	161
Maintain Communications	153	Crew	161
Pursuit.....	153	Scaling Damage: Ship Weapons Against Personal- Scale Targets.....	161
Ram	154	BOOK THREE: REFEREES	162
Range Check.....	154	CHAPTER 11: ENVIRONMENTS AND HAZARDS....	163
Reload Weapons System	154	Acid.....	163
Repair Damaged System	154	Carrying Capacity.....	163
Sensor Targeting	154	Gravity and Carrying Capacity.....	163
Miscellaneous	154	Diseases.....	163
Reactions	155	Extremes of Temperature	164
Dodge Incoming Fire.....	155	Catching on Fire	164
Fire Sand	155	Falling and Gravity.....	164
Point Defense.....	155	Poisons	164
Trigger Screens	155	Radiation Exposure.....	165
Other Actions	156	Starvation and Dehydration	166
Free Actions	156	Suffocation	166
Extended Actions	156	Vacuum Exposure.....	166
Delay	156	Weather.....	166
Special Considerations	156	CHAPTER 12: WORLDS.....	167
Abstract Boarding Rules.....	156	The Universal World Profile (UWP)	167
Missiles	157	The Explanation	167
Planetary Maneuvers.....	158	Star Mapping	167
Special Weapon Rules.....	158	World Size.....	168
Damage	158	High and Low Gravity Worlds	168
Hull.....	159	Atmosphere.....	168
Structure	159	Atmosphere Types	169
Armor	159	Hydrographics	170
Turret	159		

World Population	170	Using the Encounter Tables.....	184
Population Modifier	171	Animal Reactions in Encounters.....	184
Primary Starport.....	171	CHAPTER 14: SOCIAL ENCOUNTERS	186
World Government	172	Routine Encounters	186
Law Level	172	Scenario Encounters.....	186
Technology Level.....	173	Random Encounters	186
Trade Codes.....	173	Legal Encounters	187
Planetoid Belt Presence	174	Patron Encounters.....	188
Gas Giant Presence	174	Format for Patron Encounters	189
Bases	174	Bruce Ayala, Interplanetary Playboy.....	189
Naval Base.....	174	Rumors	190
Scout Base.....	175	Influencing Attitudes	191
Pirate Base	175	CHAPTER 15: STARSHIP ENCOUNTERS	192
Base Codes.....	175	Encounter Range	192
Travel Zones	175	Space Encounter Descriptions.....	192
Amber Zone	175	CHAPTER 16: REFEREEING THE GAME.....	196
Red Zone	175	Rule Zero	196
Politics and World Allegiance	175	Gaming Style.....	196
Communications Routes and Trade Routes.....	175	Improvisation	197
CHAPTER 13: PLANETARY WILDERNESS		Improvisational Preparation	197
ENCOUNTERS.....	177	Recycling Game Material	198
Animal Encounters	177	Running the Game.....	198
Animals and Characteristics.....	177	Assigning Difficulties	198
Planetary Themes	177	Modifying the Roll or the Difficulty.....	198
Step One: Choose a Terrain	177	Circumstance Modifiers	199
Step Two: Determine the Animal's Type and		Automatic Successes.....	199
Subtype	178	Using Opposed Checks.....	199
Step Three: Note Modifiers and Skills by		That's not in the Rules.....	199
Subtype	178	Solo Play as Referee Prep Work	199
Step Four: Determine Animal Size and		Character Creation	200
Characteristics	179	Personal Combat.....	200
Step Five: Determine Animal's Weapons,		Starship Construction.....	200
Armor and Base Speed	180	Space Combat	200
Universal Animal Format.....	182	Subsector Creation.....	200
Animals in Combat	183	Animal Encounter Creation.....	200
Creating Encounter Tables	183		

Practice Trade and Commerce.....	200
Patron Encounter Creation	200
CHAPTER 17: ADVENTURES	201
Conflict	201
The Plot	201
The EPIC Adventure System	201
The Cast of Characters	201
The Background	201
Minor Scenes	202
Plot Keys.....	202
Chapters.....	202
Adventure Checklist.....	202
Adventures in Five Acts.....	203
The Story Hook	203
The Escalation	203
The Complication	203
The Climax.....	203
The Reward	204
Other Suggestions.....	204
The Three-Dimensional Campaign	204
The Rule of Three.....	204
LEGAL.....	205
Publishing Your Own Materials	205
The Cepheus Engine Compatibility-Statement License (CSL)	205
OPEN GAME LICENSE Version 1.0a	206

INTRODUCTION

Welcome to the *Cepheus Engine System Reference Document*, which outlines the core rules used by a Classic Era Science Fiction 2D6-Based Open Gaming System. This Introduction provides you with an overview of what the Cepheus Engine is and how it works, while the later chapters show you how to create characters and embark on your own exciting science fiction adventures.

What Is Roleplaying?

If you are new to roleplaying, you might be asking yourself, “What is a roleplaying game?”

A roleplaying game (sometimes abbreviated as RPG) is a game in which players assume the roles of characters in a fictional setting. Players take responsibility for acting out these roles within a narrative, either through literal acting or through a process of structured decision-making or character development. Actions taken within many games succeed or fail according to a formal system of rules and guidelines, such as the Cepheus Engine rules. A session of Cepheus Engine play is conducted through discussion. One player, the Referee, usually arbitrates any decision based on the rules and presents the setting of the game, while each of the other players plays the role of a single character. Together, the Referee and players create a story, much like the way many of us used to create stories playing games of make believe as young children, except with more dice and more structure.

What Is The Cepheus Engine?

The Cepheus Engine is simply a set of rules for conducting a game based on classic science fiction. Within its pages, you will find rules on creating characters, resolving tasks, fighting other creatures and engaging in huge space battles, building worlds, enjoy the risks of interstellar speculative trading, exploring new worlds, and a host of other diverse activities. Although no rules set can be complete, the Cepheus Engine attempts to provide enough rules to allow you to create almost any science fiction adventure.

The Cepheus Engine is inspired by classic science fiction games from the early days of roleplaying, and shares a lot of similarities with these gaming systems. Material from these older rules sets and those created under the Cepheus Engine are mutually compatible with only a minimum of adjustments required.

To play, you need a copy of the Cepheus Engine rules; several six-sided dice, available at game and hobby stores (you'll need two at a minimum, but more is better); and a pencil and some paper.

The Core Task Resolution System

The Cepheus Engine uses a core task resolution system to resolve actions. Whenever your character attempts any action with a chance of failure, do the following:

1. Roll two six-sided die (abbreviated 2D6).
2. Add any relevant modifiers (for things like characteristics, skills, difficulty and circumstances).
3. If the result equals or exceeds 8, the action succeeds. If the result is lower than 8, the action fails.

This simple system is used for nearly everything in the Cepheus Engine, with variations based on the modifiers added to a roll and the effects of success and failure.

The Referee

Within the Cepheus Engine rules, one of the players is asked to assume the mantle of Referee. The Referee is the person who will act as an organizer, officiant for questions regarding rules, arbitrator, and moderator for a Cepheus Engine gaming session, or an ongoing Cepheus Engine campaign. The role of the Referee is to weave the other participants' player-character stories together, control the non-player aspects of the game, create environments in which the players can interact, and solve any player disputes.

The Characters

A player character or playable character (PC) is a fictional character in a Cepheus Engine game whose actions are directly controlled by a player of the game rather than the rules of the game. The characters that are not controlled by a player are called non-player characters (NPCs). The actions of non-player characters are typically handled by the Referee.

Using the Cepheus Engine rules as guidelines, a player will create a character reflecting the sort of role they'd like to have in the game. The character is usually of a certain race (depending on those available with the Referee's universe) and possesses a unique combination of skills and levels of expertise. The attributes of a character is given as numerical values which can change as the gamer progresses, and characters grow and develop over the course of their adventures.

Characteristics

All characters have certain basic characteristics that define what they are capable of doing. These characteristics are Strength, Dexterity, Endurance, Intelligence, Education, and Social Standing. They each have a numeric characteristic score, averaging 7 for a normally capable human. Higher characteristic scores grant bonuses (+1 or more) on task resolution checks, while lower characteristic scores grant penalties (as low as -2). As part of creating your character, you decide how strong, smart, and tough your character is by choosing the appropriate characteristic scores. See **Chapter 1: Character Creation** for more information.

Careers

As a part of their development, characters follow certain life paths called careers. The Cepheus Engine provides a variety of career options for characters to pursue, which opens up opportunities for characters to gain skill levels, characteristic boosts and significant mustering out benefits before they enter into play. See **Chapter 1: Character Creation** for more information.

Skills

Skills represent training in a particular sort of task or knowledge, everything from acrobatic maneuvers to negotiation, piloting a starship, and programming a computer. Someone trained in athletics is able to climb faster and with more confidence than someone who isn't, for example. Skills are measured in levels, reflecting how much training a character has in the skill. When recording skills and their associated levels, the skill name is written first, followed by a hyphen, and then the number of levels that the character possesses in that skill. For example, Gambling-2 means that the character has two levels of Gambling skill.

Each skill level represents roughly two years' worth of education and training in that skill. For skills of an academic bent, you could equate that to an Associate's Degree (or similar two-year academic program) at level one, a Bachelor's Degree (or other four-year program) at level two, a Master's Degree at level three, a Doctorate at level four, and so on. Skill levels act as a bonus on task resolutions rolls when a character attempts an action related to a skill. As your character follows their career, they gain skills. See **Chapter 2: Skills** for more information on specific skills.

Game Play

Playing a session using the Cepheus Engine rules resembles verbally acting out chapters from a science fiction novel. Game sessions can last from short sessions of an hour or two, up to marathon games covering most of a weekend. The average game session tends to run three to five hours, however. Over the course of a session, the player-characters pursue their adventures. Some resolve quickly, within a single session, while others may take place in multiple acts spread out over several sessions.

Each adventure is like its very own story, consisting of a series of scenes that are explored during play. In general, most scenes are simply the players interacting with the non-player characters and the universe created

by the Referee. The players describe their actions, and the Referee describes the results of those actions, in a back-and-forth exchange. Certain kinds of situations, such as personal or space combat, have more structure and more rules to help the players resolve their actions in ways reflecting the abilities of their characters.

Common Cepheus Engine Themes

On-going games using the Cepheus Engine rules are generally designed around a theme. Based in the classic era of science fiction, these rules lend themselves to games following certain common themes, which are detailed in the Common Cepheus Engine Themes table. This is not a complete list of the type of games that the Cepheus Engine is designed to handle; this is simply a general list of common themes for consideration.

Table: Common Cepheus Engine Themes

Theme	Description
Colonial	The adventurers are on the borders of explored space, helping to select a new world for a colony and then settle it. These campaigns allow a group to develop a single world extensively.
Commerce	The adventurers live aboard a frontier trader or merchant trader, making a living through the transport of freight, passengers, speculative cargo and the occasional odd job. These campaigns heavily explore the trade and commerce rules.
Drifter	The adventurers constantly move from place to place, without any fixed home or job, seeking employment through odd jobs as they explore the universe that the Referee has created. These campaigns are sometimes called "Sandbox Campaigns" because they explore an area that has been previously created and populated by the Referee.
Espionage	The adventurers all belong to the same government or corporate intelligence agency, and make a living by going on spy missions against their enemies. These campaigns tend to be more episodic than other common campaign themes.
Exploration	The adventurers serve aboard a survey vessel, making a living travelling through previously uncharted regions of space, exploring strange new worlds, and seeking out new life and new civilizations as they boldly go where no sophont has gone before. These campaigns make heavy use of the rules for generating worlds.
Mercenary	The adventurers all belong to the same mercenary unit, making a living by participating in military actions in the hire of an interested party to the conflict. These campaigns make significant use of the personal combat rules, with a particular focus on large-scale military scenarios.
Political	The adventurers are heavily involved in the social and political arena of an interstellar polity, dealing with diplomats, nobles and other factions with vested interests in controlling aspects of the government. These campaigns tend to focus on diplomacy and political intrigue.
Rebellion	The adventurers are involved in a blossoming civil war, seeking either to preserve or overthrow the current government. These campaigns typically start with intrigue and end with action.

Die Rolls

Using the Cepheus Engine, when you have to make a die roll to resolve an action, it will typically follow the core system of a 2D6 roll plus modifiers versus a target of 8+ (read as eight or higher). This is called a check. You always want to roll high on a check. Rolling 12 before adding modifiers (where two sixes appear on the dice naturally) is not an automatic success, and rolling 2 before adding modifiers (where both dice show a one naturally) is not an automatic failure.

Difficulty and Effect

A check's Difficulty is a number set by the Referee that modifies your check result. When no Difficulty is given, the assumed Difficulty is +0. So, for a task with a Difficulty of +2, you must add +2 to the check result. You succeed on a total of 8 or better. The list of Difficulty ratings can be found in the Task Difficulty table

Table: Task Difficulties

Difficulty	DM
Simple	+6
Easy	+4
Routine	+2
Average	+0
Difficult	-2
Very Difficult	-4
Formidable	-6

In some cases, the consequences of a check vary based on how much the check result is above or below the target of 8. The difference between the check result and the target of 8 is called the Effect. If the Effect is 6 or higher, the check is considered an Exceptional Success. When the Effect is -6 or lower, the check is considered an Exceptional Failure. See **Chapter 2: Skills** for more details.

Table: Degrees of Success

Effect Range	Degree of Success
-6 or lower	Exceptional Failure
-1 to -5	Failure
0 to +5	Success
+6 or higher	Exceptional Success

Opposed Checks

If two characters are opposing each other directly in a task, then the character who obtains the highest Effect wins. For ties on opposed checks, the character with the highest relevant characteristic score wins. If the characters tie on characteristic scores, they reroll.

Trying Again

In general, you can try a check again if you fail, and keep trying indefinitely. Some tasks, however, have consequences for failure. For example, failing an Athletics check while climbing a cliff might mean you fall, which might make it difficult to try again. Some tasks can't be attempted again once a check has failed. For most tasks, once you've succeeded, additional successes are meaningless. (Once you've discovered a computer account's password using the Computer skill, for instance, there's no further benefit from additional Computer checks to determine the account's password.)

Circumstance Modifiers

Some circumstances make a check easier or harder, resulting in a bonus or penalty that is added to the check result. The Referee can alter the odds of success in two ways:

- If a character has help, such as good tools, competent aids or other beneficial circumstances, he receives a +1 bonus to his skill check.
- If a character is hampered, such as having defective tools, incompetent assistance or other negative circumstances, he receives a -1 penalty to his skill check.

Time and Checks

Outside of stressful situations such as combat, performing a particular task often takes a random amount of time, depending on circumstances. For most tasks, roll 1D6 and multiply it by the increment that the Referee provides for that action. For example, breaking a flimsy wooden door down may only require 1D6 seconds, while performing delicate surgery might take 1D6 hours. More information on time increments can be found in **Chapter 2: Skills**.

During combat, most actions are more refined to a finite period. Some of these actions are considered minor actions, while others are deemed significant actions. More information is provided in **Chapter 5: Personal Combat**.

Aiding Another

Sometimes characters work together and help each other out. In this case, one character (usually the one with the highest total of modifiers on the check) is considered the leader of the effort and makes the check normally, while each helper makes the same check. The Effect of a helper's check result can provide either a bonus (DM+1 with a successful result, DM+2 with an Exceptional Success) or a penalty (DM-1 with a failed result, DM-2 with an Exceptional Failure) to the leader's check result. In many cases, outside help isn't beneficial, or only a limited number of helpers can aid someone at once. The Referee limits aid as appropriate for the task and conditions.

Types of Checks

There are two main types of checks: skill checks and characteristic checks.

Skill Checks

A skill check determines what you can accomplish with a particular skill (sometimes whether you're trained in that skill or not). It is a roll of 2D6, modified by your levels in the skill, the skill's key characteristic score modifier, and the Difficulty, against a target of 8 or higher. Skill checks sometimes have gradations of success and failure based on the Effect of your check result (how much higher or lower your check result is when compared to the target of 8). When making a skill check, if a character does not have any levels in the required skill, then he suffers a -3 penalty for being unskilled.

Attack Rolls

An attack roll determines whether or not you hit an opponent in combat. An attack roll is essentially a skill check, using your skill levels in combat skills as modifiers.

Characteristic Checks

A characteristic check is like a skill check, but measures raw ability, like strength, endurance, or intelligence. These checks are used when the task is one not covered by an obvious skill, or where the character's innate abilities are the most important influence on the result. To make a Characteristic check, you must roll 2D6 and add the appropriate characteristic score modifier. Characteristic checks tend to be all or nothing (you can either accomplish the task or you can't), although there are sometimes gradations of success or failure.

The Combat Round

When things really start happening in a Cepheus Engine game, time is broken down into six-second segments called rounds, or combat rounds, since they're most often used in fights. A round isn't very much time, just long enough for a character to do something. The types of actions your character can perform during a round are significant actions, minor actions, extended actions, free actions, and reactions. During a round you can do one of the following:

- Initiate or continue an extended action.
- Take a significant action and a minor action.
- Take three minor actions, and forego taking a significant action this turn.

You can perform as many free actions and reactions in a round as you wish, although the Referee may choose to limit them to a reasonable number to keep the game moving. See **Chapter 5: Personal Combat** for more information.

Pseudo-Hexadecimal Notation

The Cepheus Engine uses a form of pseudo-hexadecimal notation as a type of shorthand in noting specific values of characteristic scores, world statistics, drive type designations and similar design elements. The pseudo-hexadecimal notation proceeds as normal for values from 0 to 15, but extends beyond F for 15, with G for 16, etc. The Cepheus Engine skips the use of the letters I and O, because they might be mistaken for the numbers 1 and 0. The Pseudo-Hexadecimal Notation table provides a quick reference for converting values for use in Cepheus Engine.

Table: Pseudo-Hexadecimal Notation

Actual Value	PseudoHex	Actual Value	PseudoHex	Actual Value	PseudoHex
0	0	12	C	24	Q
1	1	13	D	25	R
2	2	14	E	26	S
3	3	15	F	27	T
4	4	16	G	28	U
5	5	17	H	29	V
6	6	18	J	30	W
7	7	19	K	31	X
8	8	20	L	32	Y
9	9	21	M	33	Z
10	A	22	N		
11	B	23	P		

Important Terms

The Cepheus Engine uses certain words and abbreviations throughout the rules system. In order properly understand the Cepheus Engine rules, both players and Referees should become familiar with these terms. The following words, phrases and abbreviations are commonly used in The Cepheus Engine:

2D6: Two six-sided dice, used to resolve all actions in the Cepheus Engine.

Action: A character activity. There are significant actions, minor actions, extended actions, free actions, and reactions.

Adventure: A story created by the Referee and players, comprised of a series of related scenes or encounters.

Attack bonus: A modifier used to measure a character's combat skill.

Attack roll: A skill check used to determine whether an attack hits.

Attack: Any of numerous actions intended to harm, disable, or neutralize an opponent.

Bonus: A positive modifier to a die roll.

Campaign: A series of linked adventures.

Character: A fictional individual in the game. The players control characters, while the Referee controls non-player characters.

Characteristic modifier: A modifier determined by the value of the characteristic score, applied as a bonus or penalty to checks as needed.

Characteristic score: One of the six basic character traits -- Strength (Str), Dexterity (Dex), Endurance (End), Intelligence (Int), Education (Edu), and Social Standing (Soc).

Check (or Throw): A method of deciding the result of a character's action. Checks are based on a relevant ability, skill, or other trait. To make a check, roll 2D6 and add any relevant modifiers. If the check result equals or exceeds a target of 8 or the result of an opponent's check, it succeeds.

Coreward: An astrographical term indicating the direction of Sagittarius A* (pronounced "Sagittarius A-star", standard abbreviation Sgr A*), a bright and very compact astronomical radio source at the center of the Milky Way galaxy.

Credit (Cr): The primary unit of currency used in the Cepheus Engine. For very large amounts of money, the kilocredit (KCr) represents one thousand credits and the megacredit (MCr) represents one million credits.

Critical hit (crit): An attack inflicting extra damage. Critical hits are only involved in vehicular and space combat.

D66: A special die roll generated by rolling two six-sided dice of different colors (or rolling one die twice, noting each number rolled), multiplying the first die by 10 and then adding the second die, to create a number between 11 and 66.

Damage bonus: A modifier used to determine the damage of an attack.

Damage: Harm caused to a character by injury, illness, or some other source.

Dice modifier (DM): A modifier applied to a check.

Die (plural is dice): A small polyhedron, typically a cube, with each side having a different number on it, ranging from one to the number of sides of the polyhedron, thrown and used in gambling and other games involving chance. The Cepheus Engine uses six-sided dice exclusively to create random results during play.

Difficulty: A modifier applied to a check that is assigned by the Referee, reflecting the relative ease or difficulty of a given action.

Dominant race: A sentient species capable of interstellar travel via jump drive technology, and that has used that technology to expand their presence over a significant region of space. Dominant Races typically control a fairly expansive interstellar government, and have settlements and significant populations more than ten parsecs away from their planet of origin.

Dying: Near death and unconscious. A dying character can take no actions.

Effect: The difference between a check result and the target of 8 (i.e. how much higher or lower the result is).

Encounter: An unexpected or casual meeting with someone or something. A large part of the Referee's job is the administration of encounters.

Explorer's Society: A private interstellar travel service which maintains exclusive resorts and facilities at various starports. Several interstellar organizations provide membership to the Explorer's Society as a reward for outstanding service.

Exceptional failure: Any check that fails by 6 or greater (i.e. has an Effect of -6 or worse).

Exceptional success: Any check that succeeds by 6 or greater (i.e. has an Effect of +6 or better).

Extended action: An action in combat that takes longer than a single combat round to complete.

Free action: An extremely fast activity, requiring very little time and effort.

Homeworld: 1) The world that serves as a character's place of origin, usually the world on which the character was raised and which had the most impact on their development during their pre-adult life. **2)** The world of origin for an alien species, i.e. Earth is the homeworld for the human species.

Jump: A form of faster-than-light movement using Jump drives, which always takes one week to travel a number of parsecs equal to its Jump rating and consumes a vast amount of fuel.

Jump point: A point in space more than 100 diameters out from any nearby celestial body, chosen by a navigator as the point from which a ship will enter into Jump space.

Jump space: The alternate dimension through which starships travel when transitioning from one point in normal space to another.

Lesser race: A sentient species that has not developed jump drive technology on its own. While individuals of the Lesser races can and do engage in interstellar travel, settled populations of any given Lesser Race are rarely encountered further than ten parsecs from their homeworld.

Lethal damage: Damage that can potentially disable or kill a target.

Mainworld: The primary world of a star system; the world represented by the UWP in a list of worlds for a given region of space.

Melee attack: A physical attack in close combat.

Melee weapon: A handheld weapon designed for close combat.

Minor action: An action intended to move a distance or to manipulate or move an object. You can take up to three minor actions per round, at the loss of a significant action.

Misjump: A mishap caused by an inaccurate jump, which results in jumping to a random location with damage to the vessel and potentially the crew. Common causes for misjumps include bad Jump plots, damaged Jump drives, diverting energy into the Jump drive improperly, jumping from within the hundred-diameter limit and using unrefined fuel.

Modifier: Any bonus or penalty applied to a die roll.

Natural: A natural result on a roll or check is the actual number appearing on the die, not the modified result obtained by adding bonuses or subtracting penalties.

Non-lethal damage: Damage that can potentially stun or knock out a target, but does no permanent harm.

Non-player character (NPC): A character controlled by the Referee (as opposed to a character controlled by a player).

Non-starship: A spaceship without a jump drive, and thus incapable of interstellar travel on its own.

Patron: A non-player character who gives financial or other support to a person, organization, cause, or activity. Referees often use patrons as a tool to attempt to engage player characters in adventures.

Penalty: A negative modifier to a die roll.

Player character (PC): A character controlled by a player, one of the protagonists of an adventure or campaign.

Psion: A character with psionic abilities.

Ranged attack: Any attack made at a distance.

Ranged weapon: A projectile or thrown weapon designed for attacking at a distance.

Reaction: An action taken in response to the action of another. You can perform as many reactions as you want per round in Personal Combat, but the number of Reactions that a vessel can undertake is based on Initiative in Space Combat.

Referee: The player who portrays characters not controlled by the other players, arbitrates the rules, and makes up the story and setting for the game.

Rimward: An astrographical term indicating the direction opposite of Coreward, or directly away from the radio source of Sagittarius A*.

Round: A six-second unit of game time used to manage actions, usually in combat.

Significant action: An action intended to do something within about 3 seconds. You can perform a single significant action per round, or forego it to perform a total of three minor actions.

Seriously wounded: If you have lost at least one point from all three of your physical characteristics, you are considered seriously wounded. When conscious, you cannot move except to hobble or crawl along at 1.5 meters per combat round. You also lose your minor action in combat. You can only regain characteristic points equal to your Endurance DM per day of rest through natural healing. You require surgery.

Skill: An ability to perform a set action, such as navigating a starship, operating a rifle, or programming a computer. Skills are attained in levels (Navigation-1, Computer-2, etc); the higher the level of a skill, the more expertise a character has in that area. Many different individual skills are available to characters.

Small Craft: A vessel under 100 tons, capable of interplanetary travel.

Sophont: A sentient being with a base reasoning capacity roughly equivalent to or greater than that of an average human being.

Spinward: An astrographical term indicating the direction of the galaxy's rotation.

Standard Day: A unit of time that is 24 hours long.

Standard Year: A unit of time that is 365 Standard Days in length.

Starport: A port where interstellar and interplanetary vessels load or unload, especially one where customs officers are stationed.

Starship: A spaceship with a jump drive, capable of interstellar travel on its own.

Target (also subject): The intended recipient of an attack, action, or effect.

Trailing: An astrographical term indicating the direction opposite of the galaxy's rotation.

Trained: Having knowledge of, and therefore levels in, a skill.

Unarmed attack: A melee attack made with no weapon.

Universe: The setting presented by a Referee, in which characters play out adventures and campaigns. A Referee may use a published setting for their adventures, or create their own with the Cepheus Engine rules.

Untrained: Having no ranks in a skill. Some skills cannot be used untrained. Unskilled skill checks suffer a DM-3 penalty.

Vessel: General term used to starships, small craft, or vehicles as a general inclusive group. Most commonly, it refers to any vehicle or ship capable of interplanetary or interstellar travel.

World: A generic term in the Cepheus Engine for any inhabitable celestial body or similar location represented by a Universal World Profile.

BOOK ONE: CHARACTERS

CHAPTER 1: CHARACTER CREATION

Cepheus Engine characters are rarely beginners fresh from the farm. There is no reason not to play a young and inexperienced character if you like, but since a broad range of skills is important to success in the game most players will want their character to be a little more experienced in the world.

All characters begin at the age of majority, typically 18. Having generated characteristic scores and background skills, the character should begin serving terms in his or her chosen career. Each 4-year term spent in a career gives the character more experience in the universe, generally in the form of skills. Generate the results of each term before proceeding to the next. At the end of a period of service, characters roll for benefits gained upon "mustering out" (i.e. leaving the service). They may then begin adventuring.

This chapter provides complete instructions for the generation of twenty-four distinct career paths.

Character Creation Checklist

1) Characteristics

- a) Roll your six characteristics using 2D6, and place them in order on your character sheet.
- b) Determine characteristic modifiers.

2) Homeworld (Optional)

- a) Determine homeworld.
- b) Gain background skills. Character gains a number of background skills at Level 0 equal to 3 + their Education modifier. The first two have to be taken from your homeworld (based on the world's trade codes or law level); the rest are taken from the education list.

3) Career

- a) Choose a career. You cannot choose a career you've already left except Drifter.
- b) Roll to qualify for that career, as indicated in the description of the career. If this is not your first career, you suffer a -2 DM for every previous career in which you have served.
- c) If you qualify for this career, go to step 4.
- d) If you do not qualify for that career, you can enter the Drifter career or submit to the draft. You may only enter the draft once.

4) Basic training

For your first term in your first career, you get every skill in the service skills table at level 0.

For your first term in subsequent careers, you may pick any one skill from the service skills table at level 0.

5) Survival

Roll for survival, as indicated in the description of the career.

If you succeed, go to step 8.

If you did not succeed, you have died. Alternately, events have forced you from this career. Roll on the mishap table and go to step 10 (you do not receive a benefit roll for this term.)

6) Commission and Advancement

- a) You begin as a Rank 0 character.
- b) If your career offers a Commission check and you are Rank 0, you can choose to roll for Commission. If you are successful, you are now Rank 1 in your chosen career. Choose one of the skills and training tables and roll on it for an extra skill. Take any bonus skills from the ranks table for this career.
- c) If your career offers an Advancement check and you are Rank 1 or higher, you can choose to roll for Advancement. If you are successful, your Rank improves by one in your chosen career. Choose one of the skills and training tables and roll on it for an extra skill. Take any bonus skills from the ranks table for this career. You can roll for Advancement in the same term that you succeed in a Commission roll.

7) Skills and Training

a) Choose one of the Skills and Training tables for this career and roll on it. If you gain a characteristic improvement as a result, apply the change to your characteristic score immediately. If you gain a skill as a result and you do not already have levels in that skill, take it at level 1. If you already have the skill, increase your skill by one level.

b) If your career does not have a Commission or Advancement check, you may roll a second time, choose one of the Skills and Training tables for this career (which may be the same or different from the first table chosen for this term.)

8) Aging

a) Increase your age by 4 years.

b) If your character is 34 or older, roll for aging.

9) Re-enlistment

a) Roll for re-enlistment. If you fail, you must leave this career. If you roll a natural 12, you cannot leave this career and must continue for another term, go to step 5.

b) If you have served a total of seven terms or more in character creation, then you must retire, go to step 10.

c) If you wish to continue in this career, go to step 5.

d) If you wish to leave this career, go to step 10.

10) Benefits

If you are leaving the career, roll for benefits. A character gets one Benefit Roll for every full term served in that career. You also get extra benefit rolls if you reached a higher rank.

11) Next Career

If you're leaving your current career and your total number of terms in character creation is less than seven, you may go to step 3 to choose a new career or to step 12 if you wish to finish your character.

12) Buy starting equipment

Purchase your starting equipment and, if you can afford it, possibly a starship.

Characteristics

Characteristics measure a character's most basic abilities: how strong, dexterous, educated or intelligent he is. Characteristic scores influence almost everything your character does. Stronger characters can lift greater weights, more dexterous characters have better balance, and so forth.

Characters have six abilities: Strength (Str), Dexterity (Dex), Endurance (End), Intelligence (Int), Education (Edu), and Social Standing (Soc). Strength, Dexterity, and Endurance are called physical abilities, whereas Intelligence, Education, and Social Standing are loosely termed mental abilities. Each above-average ability score provides a bonus on certain die rolls; while below average abilities apply a penalty to some die rolls.

The six characteristics for your character are briefly described as follows:

- **Strength (Str):** A character's physical strength, fitness and forcefulness.
- **Dexterity (Dex):** Physical co-ordination and agility, reflexes.
- **Endurance (End):** A character's ability to sustain damage, stamina and determination.
- **Intelligence (Int):** A character's intellect and quickness of mind.
- **Education (Edu):** A measure of a character's learning and experience.
- **Social Standing (Soc):** A character's place in society.

Social Standing and Noble Titles

In a Cepheus Engine universe where characters of sufficiently high Social Standing characteristic scores are considered nobility, specific values of Social Standing are often associated with specific titles of nobility. The Titles of Nobility by Social Standing table captures some examples, but actual values may vary from universe to universe. Versions of these titles traditionally given to the female gender are provided in parentheses.

Table: Titles of Nobility by Social Standing

Social Standing	Title of Nobility
10 (A)	Lord (Lady)
11 (B)	Knight (Knightess, Dame)
12 (C)	Baron (Baroness), Baronet
13 (D)	Marquis (Marquesa, Marchioness)
14 (E)	Count (Countess)
15 (F)	Duke (Duchess)
16 (G)	Archduke (Archduchess)
17 (H)	Crown Prince (Crown Princess)
18 (J)	Emperor (Empress)

Psionic Strength, the Seventh Characteristic

Within the Cepheus Engine, characters can sometimes have a seventh characteristic score. When a character learns psionics, they generate a Psionic Strength characteristic (abbreviation Psi), which powers their psionic talents. This characteristic cannot be rolled or bought during character creation without the Referee's permission. For more information on this topic, see **Chapter 3: Psionics**.

Generating Characteristic Scores

Generating characteristics scores is fairly straightforward. Roll your six characteristics using 2D6, and record them in the standard order: Strength (Str), Dexterity (Dex), Endurance (End), Intelligence (Int), Education (Edu), and Social Standing (Soc).

Optional Rule: With the Referee's approval, roll 2D6 six times, and assign the results to the six different characteristic scores based on a particular character concept. For example, if you picture your character as a highly-educated researcher, then you might assign your highest result to Education, and assign your second highest to Intelligence.

Characteristic Score Limits: For player characters, a characteristic score may not typically exceed a maximum of 15, nor may a score drop permanently below 1 except under certain circumstances.

Characteristic Modifiers

Once you have assigned your characteristic scores, you can determine your characteristic modifiers. These modifiers are applied to any check when you do something related to that characteristic. An ability score modifier is calculated by dividing the ability score by three, dropping all fractions, and then subtracting one, so that the average characteristic score of 7 has a DM+0. Thus, a characteristic value of 2 or less has a modifier of DM-2, characteristic values of 3 to 5 have a modifier of DM-1, and so on. The Characteristic Modifier by Score Range table provides a synopsis of these modifiers, already calculated for you.

Table: Characteristic Modifier by Score Range

Score Range	PseudoHex	Characteristic Modifier
0 through 2	0-2	-2
3 through 5	3-5	-1
6 through 8	6-8	+0
9 through 11	9-B	+1
12 through 14	C-E	+2
15 through 17	F-H	+3
18 through 20	J-L	+4
21 through 23	M-P	+5
24 through 26	Q-S	+6
27 through 29	T-V	+7
30 through 32	W-Y	+8
33 or higher	Z	+9

Altering Characteristic Scores

Over the course of play, your character's characteristic scores may change for the following reasons:

- Aging can permanently lower physical characteristic scores.
- Physical damage, such as from combat, falling, disease or poison, temporarily lowers physical characteristic scores.
- Mental trauma, such as head injuries and psionic attack, temporarily lowers mental characteristic scores.
- Certain medications, psionic enhancements, and other scenarios can temporarily or permanently enhance specific characteristic scores.

Whenever a characteristic score changes, you will need to determine the new characteristic modifier.

On Gender and Race

The core Cepheus Engine rules make no distinctions between different members of the same species, regardless of gender or race. In the realm of classic science fiction literature, heroes came in many different flavors and capacities, and were generally unhindered by their gender or the color of their skin.

Alien species may have additional gender choices that can impact a character's characteristic scores and grant specific abilities or traits based on gender selection. For example, if an insectoid species has four genders (queen, soldier, worker and drone), each might grant different characteristic bonuses or penalties that impact character creation. The definition of alien species lies in the realm of the Referee's powers of creativity, as befits the nature of their campaign and universe.

On Alien Species and Social Standing

Alien species may have different criteria for Social Standing: Caste or Charisma. When dealing with a race that has a different concept of Social Standing, all DMs from Social Standing or its alien equivalent – whether positive or negative – are halved.

The Universal Persona Profile (UPP)

The Cepheus Engine utilizes a concise format to encapsulate data on an individual character's characteristic scores in a manner that, with a little practice, can be quickly and easily read. The specifics of the Universal Persona Profile can be found below:

123456, or 123456-7 for psionic characters

The Explanation

The numbers represent the position of a pseudo-hexadecimal notation of an individual's characteristic scores. These scores are, in order:

1. **Strength** (Str)
2. **Dexterity** (Dex)
3. **Endurance** (End)
4. **Intelligence** (Int)
5. **Education** (Edu)
6. **Social Standing** (Soc)
7. **Psionic Strength** (Psi)

For example, if a character has the following characteristic scores:

Strength 6, Dexterity 8, Endurance 7, Intelligence 11, Education 9, Social Standing 12

Then the character's UPP would be 687B9C. If the character later tested for Psionics, and ended up with a Psionic Strength of 4, the UPP would then become 687B9C-4.

Universal Character Format

The following format is used to represent a character's basic game statistics in the Cepheus Engine rules.

[Character Name, with rank and/or noble title, if appropriate] [Character UPP] Age [Character Age]
[Character Careers, with terms listed in parentheses] Cr[Character Funds]
[Character Skill List, in alphabetical order, with skill levels listed after skill names]
[Species Traits, if not human; optional]
[Character Equipment, if available; list only significant property]

Here is an example of a system-wide human celebrity that has been entertaining his holovid fans for almost two decades with his heroic action movies:

Bruce Ayala 786A9A Age 38
Entertainer (5 terms) Cr70,000
Athletics-1, Admin-1, Advocate-1, Bribery-1, Carousing-3, Computer-2, Gambling-0, Grav Vehicle-0, Liaison-2,
Linguistics-0, Streetwise-0
High passage (x2)

Background Skills

Before embarking on your careers, you get a number of background skills equal to 3 + your Education DM (1 to 5, depending on your Education score).

Homeworld Skills

Growing up on your homeworld gave you skills that depend on the planet's nature. You can select any skill that matches your homeworld's planetary description and trade codes. If you came from a planet already established in the Referee's universe, then consult those sources for the planet's description.

Table: Homeworld Skills by Planetary Description

Descriptor	Skill
No Law	Gun Combat-0
Low Law	Gun Combat-0
Medium Law	Gun Combat-0
High Law	Melee Combat-0

Table: Homeworld Skills by Trade Code

Trade Code	Skill
Agricultural	Animals-0
Asteroid	Zero-G-0
Desert	Survival-0
Fluid Oceans	Watercraft-0
Garden	Animals-0
High Technology	Computer-0
High Population	Streetwise-0
Ice-Capped	Zero-G-0
Industrial	Broker-0
Low Technology	Survival-0
Poor	Animals-0
Rich	Carousing-0
Water World	Watercraft-0
Vacuum	Zero-G-0

Primary Education Skills

A formal education gives you a basic level of competence in various sciences and academic disciplines. Any character may choose from the following list:

Admin-0, Advocate-0, Animals-0, Carousing-0, Comms-0, Computer-0, Electronics-0, Engineering-0, Life Sciences-0, Linguistics-0, Mechanics-0, Medicine-0, Physical Sciences-0, Social Sciences-0, Space Sciences-0.

Careers

Characters in the Cepheus Engine do not start at the age of majority and jump immediately into play with only their background skills. Instead, characters gain experience by pursuing one of twenty-four different careers. The random nature of career paths (also known as prior history or prior careers) leads to characters of all levels of experience, and from all walks of life. A character gains more skills the longer they stay in character creation, but not without risk of aging. Player choices will have great impact on the final disposition of a character. At many points during a career, a character will have to make a throw of some sort. Most of these throws are characteristic throws – roll 2D6, add the DM from the listed characteristic, and try to get a total higher than the listed value. A throw of Int 8+ means ‘roll 2D6, add your Intelligence DM, and you succeed if you roll an 8 or more’. A few throws are skill checks, where you add any levels in that skill and the DM from an appropriate characteristic, if specified. For example, a throw of Gambling 8+ would mean ‘roll 2D6, add your Gambling skill and the DM from an appropriate characteristic such as Dexterity, if specified, and get over 8’.

Career Descriptions

The following twenty-four career paths are detailed at the end of this chapter:

- **Aerospace System Defense:** Member of a planetary armed military force operating within a world's atmosphere and close orbit. Also known as the "planetary air force".
- **Agent:** Individual that secretly collects and reports information on the activities, movements and plans of a political or corporate enemy or competitor. Also known as a spy or intelligence operative.
- **Athlete:** Individual that has achieved celebrity status for their proficiency in sports and other forms of physical exercise.
- **Barbarian:** Individual from a primitive world (TL4 or less) capable of surviving on their world without support from a technologically advanced civilization.
- **Belter:** Individual that explores asteroid belts in search of mineral deposits and salvageable material for profit.
- **Bureaucrat:** Official in a government department, charged with following the details of administrative process.
- **Colonist:** Individual that moves to a new world or settles in a new planetary colony.
- **Diplomat:** Individual that is appointed by a planetary or interstellar government to conduct official negotiations and maintain political, economic and social relations with another polity or polities.
- **Drifter:** Individual that continually moves from place to place, without any fixed home or job.
- **Entertainer:** Individual that has achieved celebrity status for their proficiency in publicly entertaining others.
- **Hunter:** Individual that kills or traps large game, almost always large terrestrial mammals, for meat, other animal by-products (such as horn or bone), trophy or sport.
- **Marine:** Member of an interstellar armed military force trained to serve in a variety of environments, often carried on board starships as an adjunct to an interstellar navy. Also known as the "space marines".
- **Maritime System Defense:** Member of a planetary armed military force operating within and on the surface of a world's oceans. Also known as the "planetary wet navy".
- **Mercenary:** Professional soldier hired to serve in a foreign military force or perform a specific military action.
- **Merchant:** Individual involved in wholesale interstellar trade, particularly between individual worlds or polities.
- **Navy:** Member of an interstellar armed military force that conducts military operations in interplanetary or interstellar space. Also known as the "space navy".
- **Noble:** Member of an elite upper class, having high social or political status.
- **Physician:** Individual that is skilled in the science of medicine and is trained and licensed to treat sick and injured people.
- **Pirate:** Individual that attacks and steals from interplanetary and interstellar ships in space.
- **Rogue:** Individual that makes their living through illicit means.
- **Scientist:** Individual that is engaged in and has expert knowledge of a science, especially a biological or physical science.
- **Scout:** Member of an interplanetary exploratory service, surveying unfamiliar territory in space.
- **Surface System Defense:** Member of a planetary armed military force operating on the non-hydrographic surface of a world. Also known as the "planetary army".
- **Technician:** Individual that is skilled in mechanical or industrial techniques or in a particular technical field.

Qualifying and the Draft

The Qualification check determines if you can successfully enter into your chosen career. Military careers use Enlistment as the description for this roll instead of qualification. If you fail this check then you cannot enter your chosen career this term. You must either submit to the Draft or take the Drifter career for this term. You

suffer a DM–2 to qualification rolls for each previous career you have entered. Once you leave a career you cannot return to it. The Draft and the Drifter career are exceptions to this rule – you can be Drafted into a career you were previously in but got ejected from, and the Drifter career is always open.

Table: The Draft

Roll	Draft Career
1	Aerospace System Defense (Planetary Air Force)
2	Marine
3	Maritime System Defense (Planetary Navy)
4	Navy
5	Scout
6	Surface System Defense (Planetary Army)

Terms of Service

Each step through the cycle of resolving your career path, you will go through a term of service that lasts approximately four years long. This adds four years to the character’s age. Each time the character reenlists, or enters into a new career, it is for another term, or four additional years of service.

Basic Training

On the first term of a new career, you gain Basic Training as you learn the basics for your chosen career. For your first career only, you get all the skills listed in the Service Skills table at Level 0 as your basic training. For any subsequent careers, you may pick any one skill listed in the Service Skills table at Level 0 as your basic training.

Survival

Each career has a survival roll. If you fail this roll, your character is dead, and you must create a new one. A natural 2 is always a failure.

Optional Rule: With the Referee’s approval, you can keep the character that fails a survival roll and roll on the Survival Mishaps table instead. This mishap is always enough to force you to leave the service after half a term, or two years of service. You lose the benefit roll for the current term only.

Table: Survival Mishaps

1D6	Mishap
1	Injured in action. (This is the same as a result of 2 on the Injury table.) Alternatively, roll twice on the Injury table and take the lower result.
2	Honorably discharged from the service.
3	Honorably discharged from the service after a long legal battle. Legal issues create a debt of Cr10,000.
4	Dishonorably discharged from the service. Lose all benefits.
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits.
6	Medically discharged from the service. Roll on the Injury table.

Commission and Advancement

Within military careers, a Commission check represents an opportunity to join the ranks of the commissioned officers. In non-military careers, the Commission check represents an opportunity to gain a position within the hierarchy common to your chosen career. Some careers do not have an established hierarchy, as such, and so do not offer Commission checks. A character that succeeds at a Commission roll becomes a Rank 1 officer in that career, and uses the officer Rank table from then on. In addition, you gain an extra roll on any of the Skills and

Training Tables for this career. A character may attempt a Commission roll once per term, and trying for commission is optional. A draftee may not attempt a Commission check in the first term of service. Each career that has a commission check also has an Advancement roll, representing your character's ability to advance with the ranks of your chosen career's hierarchy. If you are Rank 1 or higher, you may attempt an Advancement roll each term. If you are successful, then you move to the next rank and gain an extra roll on any of the Skills and Training Tables for this career. You also get any benefits listed for your new rank. You may only attempt to advance once per term, and you may attempt to advance in the same term in which you are commissioned.

Commissions and advancement are not available in the Athlete, Barbarian, Belter, Drifter, Entertainer, Hunter and Scout careers.

Skills and Training

Each career has skill tables associated with it – Personal Development, Service Skills, Specialist Skills and Advanced Education. In each term you spend in a career, pick one of these tables and roll 1D6 to see which skill you increase. You may only roll on the Advanced Education table if your character has Education 8+. Because the Athlete, Barbarian, Belter, Drifter, Entertainer, Hunter and Scout careers do not have commission or advancement checks, characters get to make two rolls for skills instead of one every term.

Cascade Skills

Some skills are "cascade skills" meaning that they have specializations – specialized forms of that skill. When a cascade skill is selected, the character must immediately decide on a specialization. Each cascade skill will list one or more specializations that may be chosen from. Upon taking a level in a cascade skill specialization, all other specializations of that skill without skill levels are treated as Zero-level skills. A character may have multiple specializations in a skill, such as Natural Weapons-2 and Slashing Weapons-1, under Melee Combat.

Injuries

Characters that are wounded in combat or accidents during character creation must roll on the Injury table.

Table: Injury Table

1D6	Injury
1	Nearly killed. Reduce one physical characteristic by 1D6, reduce both other physical characteristics by 2 (or one of them by 4).
2	Severely injured. Reduce one physical characteristic by 1D6.
3	Missing eye or limb. Reduce Strength or Dexterity by 2.
4	Scarred. You are scarred and injured. Reduce any one physical characteristic by 2.
5	Injured. Reduce any physical characteristic by 1.
6	Lightly injured. No permanent effect.

Injury Crisis

If any characteristic is reduced to 0, then the character suffers an injury crisis. The character dies unless he can pay 1D6x10,000 Credits for medical care, which will bring any characteristics back up to 1. The character automatically fails any Qualification checks from now on – he must either continue in the career he is in or become a Drifter if he wishes to take any more terms.

Medical Care

If your character has been injured, then medical care may be able to undo the effects of damage. The restoration of a lost characteristic costs Cr5,000 per point.

If your character was injured in the service of a patron or organization, then a portion of his medical care may be paid for by that patron. Roll 2D6 on the table below, adding your Rank as a DM. The result is how much of his medical care is paid for by his employer.

Table: Medical Bills

Career	Roll of 4+	Roll of 8+	Roll of 12+
Aerospace System Defense, Marine, Maritime System Defense, Navy, Scout, Surface System Defense	75%	100%	100%
Agent, Athlete, Bureaucrat, Diplomat, Entertainer, Hunter, Mercenary, Merchant, Noble, Physician, Pirate, Scientist, Technician	50%	75%	100%
Barbarian, Belter, Colonist, Drifter, Rogue	0%	50%	75%

Medical Debt

During finishing touches, you must pay any outstanding costs from medical care or anagathic drugs out of your Benefits before anything else.

Aging

The effects of aging begin when a character reaches 34 years of age. At the end of the fourth term, and at the end of every term thereafter, the character must roll 2D6 on the Aging Table. Apply the character's total number of terms as a negative Dice Modifier on this table.

Table: Aging Table

2D6	Effects of Aging
-6	Reduce three physical characteristics by 2, reduce one mental characteristic by 1
-5	Reduce three physical characteristics by 2.
-4	Reduce two physical characteristics by 2, reduce one physical characteristic by 1
-3	Reduce one physical characteristic by 2, reduce two physical characteristic by 1
-2	Reduce three physical characteristics by 1
-1	Reduce two physical characteristics by 1
0	Reduce one physical characteristic by 1
1+	No effect

Aging Crisis

If any characteristic is reduced to 0 by aging, then the character suffers an aging crisis. The character dies unless he can pay 1D6x10,000 Credits for medical care, which will bring any characteristics back up to 1. The character automatically fails any Qualification checks from now on – he must either continue in the career he is in or become a Drifter if he wishes to take any more terms.

Anagathics

While using anagathic drugs, the character effectively does not age – add the number of terms since the character started taking anagathics as a positive Dice Modifier to rolls on the aging table. If a character stops taking anagathics, then he must roll immediately on the aging table to simulate the shock that comes from his system beginning to age again.

The risk of trying to obtain a reliable supply and the disruption to the character's biochemistry means the character must make a second Survival check if he passes his first Survival check in a term. If either check is failed, the character suffers a mishap and is ejected from the career.

The drugs cost 1D6x2,500 Credits for each term that the character uses the drugs. These costs are paid out of the character's eventual mustering-out cash benefits. If the character cannot pay these bills, he goes into debt.

Reenlistment and Retirement

At the end of each term, the character must decide that they wish to continue on their career path or if they wish to muster out. If continuation is desired, the character must make a successful Reenlistment check as listed for their current profession or service. If the character rolls a natural 12, they cannot leave their current career and must continue for another term. If the check is not successful, then they cannot reenlist and the character must leave their current career.

A character that has served 7 or more terms in character creation must retire and cannot undertake any more prior experience, unless they roll a natural 12 during Reenlistment and must serve another term of service.

Optional Rule: The Referee may want to change the maximum number of terms spent in character creation from 7 to something else. For example, the Referee may feel that characters built up to a maximum of 3 or even 4 terms are in the prime of their life, but not so experienced that they won't take up adventuring opportunities as they are presented.

Optional Rule: In some universes, the Referee may elect to totally remove the maximum number of terms spent in character creation.

A character who has served 5 or more terms in a single service receives a yearly retirement pension, even if he or she later becomes an adventurer.

Table: Retirement Pay by Terms Served

Terms	Annual Retirement Pay
5	Cr10,000
6	Cr12,000
7	Cr14,000
8	Cr16,000
9+	+Cr2,000 per term beyond 8

Mustering Out Benefits

Characters who end their careers receive one benefit per term served in which they did not lose benefits. An additional benefit is gained if the character held rank O4, and two for rank O5. A character with rank O6 gains three extra benefits.

Cash Benefits

Up to 3 benefit rolls can be taken on the Cash table. All others must be taken in material benefits. Characters with Gambling skill or who have retired gain +1 on Cash Benefit rolls.

Material Benefits

Material benefits may be characteristics alterations, passages or ship shares. Membership in the Explorers' Society is possible, and subsequent receipts of weapon benefits may be taken as skill levels instead. Note that characters of rank O5 or O6 gain +1 on Material Benefit rolls.

- **Courier Vessel:** The character considered to be on detached duty with the scout exploration service, and has been granted the use of a surplus 100-ton TL9 Courier starship on a reserve basis. The scout exploration service also provides free maintenance and fuel at any scout base. All other ship expenses are the responsibility of the character. While the character is at liberty to use the vessel as they see fit, the vessel still belongs to the scout exploration service, and thus cannot be abandoned or sold without consequences.

In exchange for the use of the ship, the character and the ship are both considered to be available to return to active duty at a moment's notice, should the scout exploration service have need.

- **Explorers' Society:** The character is a member of the prestigious Explorers' Society. The Explorers' Society will provide members with a free high passage ticket every two months, plus access to the Society's information network and Society-run resorts. This benefit can only be received once; any further receipt of this has no additional benefit. After character creation, characters may purchase membership into the Explorers' Society. A successful application for lifetime membership requires a Routine (-2) Admin check modified by the character's Social Standing, and if accepted, a payment of Cr1,000,000. Failure on the application process indicates the character has been black listed. If a character has been black listed, the Explorers' Society will no longer accept membership applications from them. Membership is non-refundable and non-transferrable.
- **Passage:** The character has a single ticket of the type named (low, mid, high) for travel on a starship. It is good for one Jump to any destination.
- **Research Vessel:** A scientific foundation, an interstellar corporation or some other equally affluent patron has granted the character the use of a 200-ton TL9 Research Vessel. All ship expenses, other than annual maintenance, are the responsibility of the character. This ship still belongs to the patron, and therefore cannot be sold or abandoned without consequences.
- **Ship Shares:** Ship shares may be received as benefits. Each ship share is worth approximately Cr2,000,000 toward the purchase of a vessel. A starship can be purchased for one-fifth of its base value with a 40-year loan attached to it. For every one-fifth of its base value that is paid to the bank in either ship shares or cash, the period of the loan is reduced by ten years. Ship shares may not be redeemed for cash.
- **Weapon:** The character leaves the service with an appropriate weapon (gun or blade). Once a weapon is taken as a benefit, additional receipts of the weapon may be taken as skill in that weapon instead. An individual is always free to take additional physical examples of the weapons instead of skill levels, if so desired.

Career	Athlete	Aerospace Defense	Agent	Barbarian	Belter	Bureaucrat
Qualifications	End 8+	End 5+	Soc 6+	End 5+	Int 4+	Soc 6+
Survival	Dex 5+	Dex 5+	Int 6+	Str 6+	Dex 7+	Edu 4+
Commission	--	Edu 6+	Edu 7+	--	--	Soc 5+
Advancement	--	Edu 7+	Edu 6+	--	--	Int 8+
Re-enlistment	6+	5+	6+	5+	5+	5+
Ranks and Skills	Athlete	Aerospace	Agent	Barbarian	Belter	Bureaucrat
0	[Athletics-1]	Airman [Aircraft-1]	Agent [Streetwise-1]	[Melee Combat-1]	[Zero-G-1]	Assistant [Admin-1]
1	--	Flight Officer	Special Agent	--	--	Clerk
2	--	Flight Lieutenant	Sp Agent in Charge	--	--	Supervisor
3	--	Squadron Leader [Leadership-1]	Unit Chief	--	--	Manager
4	--	Wing Commander	Section Chief [Admin-1]	--	--	Chief [Advocate-1]
5	--	Group Captain	Assistant Directory	--	--	Director
6	--	Air Commodore	Director	--	--	Minister
Material Benefits						
1	Low Passage	Low Passage	Low Passage	Low Passage	Low Passage	Low Passage
2	+1 Int	+1 Edu	+1 Int	+1 Int	+1 Int	+1 Edu
3	Weapon	Weapon	Weapon	Weapon	Weapon	+1 Int
4	High Passage	Mid Passage	Mid Passage	Weapon	Mid Passage	Mid Passage
5	Explorers' Society	Weapon	+1 Soc	+1 End	1D6 Ship Shares	Mid Passage
6	High Passage	High Passage	High Passage	Mid Passage	High Passage	High Passage
7	--	+1 Soc	Explorers' Society	--	--	+1 Soc
Cash Benefits						
1	2000	1000	1000	0	1000	1000
2	10000	5000	5000	1000	5000	5000
3	20000	10000	10000	2000	5000	10000
4	20000	10000	10000	5000	5000	10000
5	50000	20000	20000	5000	10000	20000
6	100000	50000	50000	10000	20000	50000
7	100000	50000	50000	10000	50000	50000

Career	Athlete	Aerospace Defense	Agent	Barbarian	Belter	Bureaucrat
Skills and Training	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development
1	+1 Dex	+1 Str	+1 Dex	+1 Str	+1 Str	+1 Dex
2	+1 Int	+1 Dex	+1 End	+1 Dex	+1 Dex	+1 End
3	+1 Edu	+1 End	+1 Int	+1 End	+1 End	+1 Int
4	+1 Soc	Athletics	+1 Edu	+1 Int	Zero-G	+1 Edu
5	Carousing	Melee Combat	Athletics	Athletics	Melee Combat	Athletics
6	Melee Combat	Vehicle	Carousing	Gun Combat	Gambling	Carousing
	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills
1	Athletics	Electronics	Admin	Mechanics	Comms	Admin
2	Admin	Gun Combat	Computer	Gun Combat	Demolitions	Computer
3	Carousing	Gunnery	Streetwise	Melee Combat	Gun Combat	Carousing
4	Computer	Melee Combat	Bribery	Recon	Gunnery	Bribery
5	Gambling	Survival	Leadership	Survival	Prospecting	Leadership
6	Vehicle	Aircraft	Vehicle	Animals	Piloting	Vehicle
	Specialist	Specialist	Specialist	Specialist	Specialist	Specialist
1	Zero-G	Comms	Gun Combat	Gun Combat	Zero-G	Admin
2	Athletics	Gravitics	Melee Combat	Jack o' Trades	Computer	Computer
3	Athletics	Gun Combat	Bribery	Melee Combat	Electronics	Perception
4	Computer	Gunnery	Leadership	Recon	Prospecting	Leadership
5	Leadership	Recon	Recon	Animals	Sciences	Steward
6	Gambling	Piloting	Survival	Tactics	Vehicle	Vehicle
	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education
1	Advocate	Advocate	Advocate	Advocate	Advocate	Advocate
2	Computer	Computer	Computer	Linguistics	Engineering	Computer
3	Liaison	Jack o' Trades	Liaison	Medicine	Medicine	Liaison
4	Linguistics	Medicine	Linguistics	Leadership	Navigation	Linguistics
5	Medicine	Leadership	Medicine	Tactics	Comms	Medicine
6	Sciences	Tactics	Leadership	Broker	Tactics	Admin

Career	Colonist	Diplomat	Drifter	Entertainer	Hunter	Marine
Qualifications	End 5+	Soc 6+	Dex 5+	Soc 8+	End 5+	Int 6+
Survival	End 6+	Edu 5+	End 5+	Int 4+	Str 8+	End 6+
Commission	Int 7+	Int 7+	--	--	--	Edu 6+
Advancement	Edu 6+	Soc 7+	--	--	--	Soc 7+
Re-enlistment	5+	5+	5+	6+	6+	6+
Ranks and Skills	Colonist	Diplomat	Drifter	Entertainer	Hunter	Marine
0	Citizen [Survival-1]	Attaché [Liaison-1]	--	[Carousing-1]	[Survival-1]	Trooper [Zero-G-1]
1	District Leader	Third Secretary	--	--	--	Lieutenant
2	District Delegate	Second Secretary	--	--	--	Captain
3	Council Advisor [Liaison-1]	First Secretary [Admin-1]	--	--	--	Major [Tactics-1]
4	Councilor	Counselor	--	--	--	Lt Colonel
5	Lieutenant Governor	Minister	--	--	--	Colonel
6	Governor	Ambassador	--	--	--	Brigadier
Material Benefits						
1	Low Passage	Low Passage	Low Passage	Low Passage	Low Passage	Low Passage
2	+1 Int	+1 Edu	+1 Int	+1 Edu	+1 Int	+1 Edu
3	Weapon	Mid Passage	Weapon	+1 Soc	Weapon	Weapon
4	Mid Passage	High Passage	Weapon	High Passage	High Passage	Mid Passage
5	Mid Passage	+1 Soc	Mid Passage	Explorers' Society	1D6 Ship Shares	+1 Soc
6	High Passage	High Passage	Mid Passage	High Passage	High Passage	High Passage
7	+1 Soc	Explorers' Society	--	--	--	Explorers' Society
Cash Benefits						
1	1000	1000	0	2000	1000	1000
2	5000	5000	1000	10000	5000	5000
3	5000	10000	2000	20000	10000	10000
4	5000	20000	5000	20000	20000	10000
5	10000	20000	5000	50000	20000	20000
6	20000	50000	10000	100000	50000	50000
7	50000	100000	10000	100000	100000	50000

Career	Colonist	Diplomat	Drifter	Entertainer	Hunter	Marine
Skills and Training	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development
1	+1 Str	+1 Dex	+1 Str	+1 Dex	+1 Str	+1 Str
2	+1 Dex	+1 End	+1 Dex	+1 Int	+1 Dex	+1 Dex
3	+1 End	+1 Int	+1 End	+1 Edu	+1 End	+1 End
4	+1 Int	+1 Edu	Melee Combat	+1 Soc	+1 Int	+1 Int
5	Athletics	Athletics	Bribery	Carousing	Athletics	+1 Edu
6	Gun Combat	Carousing	Gambling	Melee Combat	Gun Combat	Melee Combat
	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills
1	Mechanics	Admin	Streetwise	Athletics	Mechanics	Comms
2	Gun Combat	Computer	Mechanics	Admin	Gun Combat	Demolitions
3	Animals	Carousing	Gun Combat	Carousing	Melee Combat	Gun Combat
4	Electronics	Bribery	Melee Combat	Bribery	Recon	Gunnery
5	Survival	Liaison	Recon	Gambling	Survival	Melee Combat
6	Vehicle	Vehicle	Vehicle	Vehicle	Vehicle	Battle Dress
	Specialist	Specialist	Specialist	Specialist	Specialist	Specialist
1	Athletics	Carousing	Electronics	Computer	Admin	Electronics
2	Carousing	Linguistics	Melee Combat	Carousing	Comms	Gun Combat
3	Jack o' Trades	Bribery	Bribery	Bribery	Electronics	Melee Combat
4	Engineering	Liaison	Streetwise	Liaison	Recon	Survival
5	Animals	Steward	Gambling	Gambling	Animals	Recon
6	Vehicle	Vehicle	Recon	Recon	Vehicle	Vehicle
	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education
1	Advocate	Advocate	Computer	Advocate	Advocate	Advocate
2	Linguistics	Computer	Engineering	Computer	Linguistics	Computer
3	Medicine	Liaison	Jack o' Trades	Carousing	Medicine	Gravitics
4	Liaison	Linguistics	Medicine	Linguistics	Liaison	Medicine
5	Admin	Medicine	Liaison	Medicine	Tactics	Navigation
6	Animals	Leadership	Tactics	Sciences	Animals	Tactics

Career	Maritime Defense	Mercenary	Merchant	Navy	Noble	Physician
Qualifications	End 5+	Int 4+	Int 4+	Int 6+	Soc 8+	Edu 6+
Survival	End 5+	End 6+	Int 5+	Int 5+	Soc 4+	Int 4+
Commission	Int 6+	Int 7+	Int 5+	Soc 7+	Edu 5+	Int 5+
Advancement	Edu 7+	Int 6+	Edu 8+	Edu 6+	Int 8+	Edu 8+
Re-enlistment	5+	5+	4+	5+	6+	5+
Ranks and Skills	Maritime	Mercenary	Merchant	Navy	Noble	Medical
0	Seaman [Watercraft-1]	Private [Gun Combat-1]	Crewman [Steward-1]	Starman [Zero-G-1]	Courtier [Carousing-1]	Intern [Medicine-1]
1	Ensign	Lieutenant	Deck Cadet	Midshipman	Knight	Resident
2	Lieutenant	Captain	Fourth Officer	Lieutenant	Baron	Senior Resident
3	Lt Commander [Leadership-1]	Major [Tactics-1]	Third Officer [Pilot-1]	Lt Commander [Tactics-1]	Marquis	Chief Resident
4	Commander	Lt Colonel	Second Officer	Commander	Count [Advocate-1]	Attending Phys. [Admin-1]
5	Captain	Colonel	First Officer	Captain	Duke	Service Chief
6	Admiral	Brigadier	Captain	Commodore	Archduke	Hospital Admin.
Material Benefits						
1	Low Passage	Low Passage	Low Passage	Low Passage	High Passage	Low Passage
2	+1 Edu	+1 Int	+1 Edu	+1 Edu	+1 Edu	+1 Edu
3	Weapon	Weapon	Weapon	Weapon	+1 Int	+1 Int
4	Mid Passage	High Passage	High Passage	Mid Passage	High Passage	High Passage
5	Weapon	+1 Soc	1D6 Ship Shares	+1 Soc	Explorers' Society	Explorers' Society
6	High Passage	High Passage	High Passage	High Passage	High Passage	High Passage
7	+1 Soc	1D6 Ship Shares	Explorers' Society	Explorers' Society	1D6 Ship Shares	+1 Soc
Cash Benefits						
1	1000	1000	1000	1000	2000	2000
2	5000	5000	5000	5000	10000	10000
3	10000	10000	10000	10000	20000	20000
4	10000	20000	20000	10000	20000	20000
5	20000	20000	20000	20000	50000	50000
6	50000	50000	50000	50000	100000	100000
7	50000	100000	100000	50000	100000	100000

Career	Maritime Defense	Mercenary	Merchant	Navy	Noble	Physician
Skills and Training	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development
1	+1 Str	+1 Str	+1 Str	+1 Str	+1 Dex	+1 Str
2	+1 Dex	+1 Dex	+1 Dex	+1 Dex	+1 Int	+1 Dex
3	+1 End	+1 End	+1 End	+1 End	+1 Edu	+1 End
4	Athletics	Zero-G	Zero-G	+1 Int	+1 Soc	+1 Int
5	Melee Combat	Melee Combat	Melee Combat	+1 Edu	Carousing	+1 Edu
6	Vehicle	Gambling	Steward	Melee Combat	Melee Combat	Gun Combat
	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills
1	Mechanics	Comms	Comms	Comms	Athletics	Admin
2	Gun Combat	Mechanics	Engineering	Engineering	Admin	Computer
3	Gunnery	Gun Combat	Gun Combat	Gun Combat	Carousing	Mechanics
4	Melee Combat	Melee Combat	Melee Combat	Gunnery	Leadership	Medicine
5	Survival	Gambling	Broker	Melee Combat	Gambling	Leadership
6	Watercraft	Battle Dress	Vehicle	Vehicle	Vehicle	Sciences
	Specialist	Specialist	Specialist	Specialist	Specialist	Specialist
1	Comms	Gravitics	Carousing	Gravitics	Computer	Computer
2	Electronics	Gun Combat	Gunnery	Jack o' Trades	Carousing	Carousing
3	Gun Combat	Gunnery	Jack o' Trades	Melee Combat	Gun Combat	Electronics
4	Demolitions	Melee Combat	Medicine	Navigation	Melee Combat	Medicine
5	Recon	Recon	Navigation	Leadership	Liaison	Medicine
6	Watercraft	Vehicle	Piloting	Piloting	Animals	Sciences
	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education
1	Advocate	Advocate	Advocate	Advocate	Advocate	Advocate
2	Computer	Engineering	Engineering	Computer	Computer	Computer
3	Jack o' Trades	Medicine	Medicine	Engineering	Liaison	Jack o' Trades
4	Medicine	Navigation	Navigation	Medicine	Linguistics	Linguistics
5	Leadership	Sciences	Sciences	Navigation	Medicine	Medicine
6	Tactics	Tactics	Tactics	Tactics	Sciences	Sciences

Career	Pirate	Rogue	Scientist	Scout	Surface Defense	Technician
Qualifications	Dex 5+	Dex 5+	Edu 6+	Int 6+	End 5+	Edu 6+
Survival	Dex 6+	Dex 4+	Edu 5+	End 7+	Edu 5+	Dex 4+
Commission	Str 7+	Str 6+	Int 7+	--	End 6+	Edu 5+
Advancement	Int 6+	Int 7+	Int 6+	--	Edu 7+	Int 8+
Re-enlistment	5+	4+	5+	6+	5+	5+
Ranks and Skills	Pirate	Rogue	Scientist	Scout	Surface	Technician
0	Crewman [Gunnery-1]	Independent [Streetwise-1]	Instructor [Sciences-1]	[Pilot-1]	Private [Gun Combat-1]	Technician [Computer-1]
1	Corporal	Associate	Adjunct Professor	--	Lieutenant	Team Lead
2	Lieutenant [Pilot-1]	Soldier [Gun Combat-1]	Research Professor	--	Captain	Supervisor
3	Lt Commander	Lieutenant	Assistant Professor [Computer-1]	--	Major [Leadership-1]	Manager
4	Commander	Underboss	Associate Professor	--	Lt Colonel	Director [Admin-1]
5	Captain	Consigliere	Professor	--	Colonel	Vice-President
6	Commodore	Boss	Distinguished Professor	--	General	Executive Officer
Material Benefits						
1	Low Passage	Low Passage	Low Passage	Low Passage	Low Passage	Low Passage
2	+1 Int	+1 Int	+1 Edu	+1 Edu	+1 Int	+1 Edu
3	Weapon	Weapon	+1 Int	Weapon	Weapon	+1 Int
4	High Passage	Mid Passage	Mid Passage	Mid Passage	Mid Passage	Mid Passage
5	+1 Soc	Weapon	+1 Soc	Explorers' Society	Weapon	Mid Passage
6	High Passage	High Passage	High Passage	Courier Vessel	High Passage	High Passage
7	1D6 Ship Shares	+1 Soc	Research Vessel	--	+1 Soc	+1 Soc
Cash Benefits						
1	1000	1000	1000	1000	1000	1000
2	5000	5000	5000	5000	5000	5000
3	10000	5000	10000	10000	10000	10000
4	20000	5000	10000	10000	10000	10000
5	20000	10000	20000	20000	20000	20000
6	50000	20000	50000	50000	50000	50000
7	100000	50000	50000	50000	50000	50000

Career	Pirate	Rogue	Scientist	Scout	Surface Defense	Technician
Skills and Training	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development
1	+1 Str	+1 Str	+1 Str	+1 Str	+1 Str	+1 Str
2	+1 Dex	+1 Dex	+1 Dex	+1 Dex	+1 Dex	+1 Dex
3	+1 End	+1 End	+1 End	+1 End	+1 End	+1 End
4	Melee Combat	Melee Combat	+1 Int	Jack o' Trades	Athletics	+1 Int
5	Bribery	Bribery	+1 Edu	+1 Edu	Melee Combat	+1 Edu
6	Gambling	Gambling	Gun Combat	Melee Combat	Vehicle	Gun Combat
	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills	Service Skills
1	Streetwise	Streetwise	Admin	Comms	Mechanics	Admin
2	Electronics	Mechanics	Computer	Electronics	Gun Combat	Computer
3	Gun Combat	Gun Combat	Electronics	Gun Combat	Gunnery	Mechanics
4	Melee Combat	Melee Combat	Medicine	Gunnery	Melee Combat	Medicine
5	Recon	Recon	Bribery	Recon	Recon	Electronics
6	Vehicle	Vehicle	Sciences	Piloting	Battle Dress	Sciences
	Specialist	Specialist	Specialist	Specialist	Specialist	Specialist
1	Zero-G	Computer	Navigation	Engineering	Comms	Computer
2	Comms	Electronics	Admin	Gunnery	Demolitions	Electronics
3	Engineering	Bribery	Sciences	Demolitions	Gun Combat	Gravitics
4	Gunnery	Broker	Sciences	Navigation	Melee Combat	Linguistics
5	Navigation	Recon	Animals	Medicine	Survival	Engineering
6	Piloting	Vehicle	Vehicle	Vehicle	Vehicle	Animals
	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education	Adv Education
1	Computer	Computer	Advocate	Advocate	Advocate	Advocate
2	Gravitics	Gravitics	Computer	Computer	Computer	Computer
3	Jack o' Trades	Jack o' Trades	Jack o' Trades	Linguistics	Jack o' Trades	Jack o' Trades
4	Medicine	Medicine	Linguistics	Medicine	Medicine	Linguistics
5	Advocate	Advocate	Medicine	Navigation	Leadership	Medicine
6	Tactics	Tactics	Sciences	Tactics	Tactics	Sciences

Final Details

It takes more than a set of characteristic scores and skill levels to create a fun character. By adding some final details at the end of character creation, you might find the experience of playing the character far more rewarding.

Name

At the very least, every character needs a name, preferably one that fits the style of your gaming group and the Referee's universe. Consider choosing a name based on actual "real world" names, on fictional characters or one you've simply made up entirely. If you are stuck, try choosing two of your favorite science fiction characters, and taking parts of each of their names to create a unique name for your character.

Gender

In most games, that means choosing either male or female, but some Referees or universes may offer other options. There's nothing that says you have to play a character of your own gender. Many consider it a roleplaying challenge to try to portray a different gender in a realistic manner.

Appearance

Choosing details such as your character's height, weight, hair color, wardrobe preferences and so forth make it easier to describe your character, which helps everyone visualize your character in their minds as they play. Distinctive features often give your character a way of standing out.

Personal Goals

Time and experience has shown that characters with personal goals are far more rewarding to play in the long run. A personal goal should be something that takes more than a single adventure to resolve. Good examples might include learning the secrets of ancient civilizations, mastering the psionic arts, or securing political power. Personal goals often provide the Referee with an opportunity to develop story arcs based on that character, because the goals inform the Referee about what the character (and presumably the player) is interested in pursuing. It's okay if the character's goals change over time. In fact, that's a great sign of character growth and development.

On Alien Species

Humans are assumed to be the standard species defined in these rules, and thus have no special abilities or disadvantages to distinguish themselves as a species from the basic rules assumptions for characters.

The definition of alien species lies in the realm of the Referee's powers of creativity, as befits the nature of their campaign and universe. This System Reference Document offers the following examples of alien species in an effort to demonstrate common archetypes found in many forms of classic science fiction. Some universes only have humans, while others have hundreds of alien species that characters can encounter. Your Referee is the final arbiter on whether these or any other alien species are present in your campaign.

More specific information on the creation of alien species can be found in *Flynn's Guide to Alien Creation*, a supplement published by Samardan Press.

Avians

Descended from Omnivore/Hunter flyers, Avians are a small winged sentient race capable of flight on smaller worlds. Avians are a homeothermic, bi-gendered species averaging 1.2 meters in height with a wingspan over 2.5 meters long from wingtip to wingtip, and have a typical mass of around 35 kilograms. The natural aptitude of the Avian race toward exceptional spatial awareness, both conceptually and physically, immediately lends itself to Piloting and Navigation.

Game Mechanics

Avians have Weak Strength (1D6), Notable Dexterity (3D6) and Weak Endurance (1D6). Avians also have the Flyer (9m), Low Gravity Adaptation, Natural Pilot, Slow Speed (4.5m) and Small traits. This winged race reaches maturity at 22, starts aging at 46, stands 105+(2D6x2) centimeters tall, and have a mass of 20+(2D6x2) kilograms.

Espers

Espers are humans or near-human humanoids that have embraced the commonplace usage of psionics. Espers tend to be tall and slender in build, and their aloof and detached nature makes them inscrutable to other humans not of their culture. As a race, they have a tendency to be more mystical or philosophical than other species.

Game Mechanics

Espers follow the standard rules for human characters. In addition, Espers possess the Psionic trait.

Insectans

Descended from Carnivore/Chaser stock, the Insectans are an insectoid race that is hard for most other races to understand. Averaging 1.8 meters in height, and massing around 90 kilograms, the poikilothermic Insectans are very community-conscious, putting the needs of the “colony” before the needs of the individual. They have a very limited ability of individual identity, and more often consider themselves as an extension of the “queen.” With improved nutrition impacting intelligence, as well as exposure to other cultures, a growing minority of Insectans have begun to establish a stronger sense of a personal Self, but remain heavily influenced by their communal instincts. Insectans often serve the greater whole of interstellar society in service-oriented roles, depending on their particular gender, those being “worker” (sterile female), “soldier” (sterile female), “drone” (fertile male), or “queen” (fertile female). While there is little in the way of gross anatomical differences between the genders, carapace coloration and bearing help non-Insectans distinguish one from another.

Game Mechanics

Insectans have Notable Dexterity (2D6+2). Insectans also have the Armored, Bad First Impression, Caste, Cold-blooded, Fast Speed (9m), Great Leaper and Hive Mentality traits. Insectans reach maturity at 18 and start aging at 34 (much like humans), stand 160+(2D6x5) centimeters tall, and have a mass of 60+(2D6x5) kilograms. NOTE: Insectans have a different characteristic score called Caste, which replaces Social Standing. Caste is generated in the same manner as Social Standing. All modifications to Social Standing referenced in the character creation process impacts Caste equally.

Merfolk

Genetically manipulated from pure human stock to life on a waterworld, Merfolk bear less and less resemblance with their genetic ancestors with each passing generation. The changes in skin coloration toward pale greens and blues, combined with the presence of their gills, webbed appendages and a thin layer of protective blubber give the Merfolk a somewhat amphibian appearance.

Game Mechanics

Merfolk possess the Amphibious, Aquatic, Natural Swimmer and Water Dependent alien traits.

Reptilians

Bearing a strong saurian appearance, the Reptilians descend from homeothermic carnivorous chaser stock. Their scales tend to be brilliantly patterned, particularly among the males of the species. Standing approximately 1.9 meters tall, with a mass of 85 kilograms, the Reptilians still bear many of the features of their saurian ancestors.

Reptilians are driven by a strong sense of territoriality and a primal need to hunt. After discovering Jump Drive, the Reptilians found themselves with entire new worlds to claim.

Game Mechanics

Reptilians have Notable Strength (2D6+1), Notable Dexterity (2d+1) and Weak Endurance (2D6-2). Reptilians also possess the Anti-Psionic, Fast Speed (9m), Heat Endurance, Low-Light Vision, Natural Weapon (teeth) and Low Gravity Adaptation traits. Reptilians reach maturity at 22, start aging at 42, stand 155+(2D6x5) centimeters tall, and have a mass of 50+(2D6x5) kilograms.

Alien Species Trait Descriptions

Many of the races in this section possess unusual racial traits, which are described below.

- **Amphibious:** A member of this species is adapted to life underwater as well as on land. It can breathe underwater, or hold its breath for a long period (Endurance \times 10 minutes on average). Its Dexterity is halved on land.
- **Anti-Psionic:** Members of this species are innately anti-psionic. The character's Psionic Strength rating always equals zero, and they cannot be trained in psionics. In addition, the character cannot suffer the mental effects of psionics, including telepathy and psionic assault. A species cannot have this alien trait if they already have the Psionic alien trait.
- **Aquatic:** The alien is adapted to life underwater. It can breathe underwater, or hold its breath for a long period (Endurance \times 10 minutes on average). If amphibious, its Dexterity is halved on land. If the species is not amphibious, then it cannot operate out of water without mechanical aid or telepresence.
- **Armored:** The alien possess thick fur, scales, a bony exoskeleton or other natural protection that gives it one point of natural armor.
- **Atmospheric Requirements:** The species requires an unusual combination of gasses to breathe, and cannot survive in most atmospheres without artificial aid.
- **Bad First Impression:** Members of this species possess an almost universally unpleasant appearance or physical trait that invokes an instinctive reaction in races other than their own. Most races will automatically have an Unfriendly attitude towards these characters, although this is overcome after an individual has interacted with the character for a few minutes, based on the character's personality and the circumstances of their interaction.
- **Caste:** Members of this species have a genetic structure for social hierarchy. When dealing with races that use Social Standing or Charisma, all social attribute DMs, whether positive or negative, are halved.
- **Cold-Blooded:** Members of this species are sensitive to cold climates. If exposed to extreme cold without protective equipment, the character suffers a DM-2 to initiative. The character suffers 1D6 damage for every ten minutes of exposure.
- **Engineered:** The species has been altered by some external factor to adapt to changed circumstances or a different environment. Medical treatment of Engineered species by a facility of a lower Technology Level than that at which the species was created receives a negative DM equal to the difference.
- **Fast Metabolism:** Creatures with a fast metabolism require more food than most species, and their life support costs are doubled. In combat, fast-metabolism creatures gain a +2 initiative bonus. Fast-metabolism creatures halve their Endurance for the purposes of determining fatigue.
- **Feral:** Feral species are uncivilised, regardless of their technological knowledge. Feral species roll Education on 1d6 only.
- **Flyer:** This species can fly using wings. Characters of this species gain the Athletics skill at Level 0 and can travel at a speed noted in their description. Flying creatures that are aloft must spend one minor action every round on movement or stall and fall out of the air. Winged flight is tiring and can only be sustained for a number of hours equal to the creature's Endurance before requiring a like amount of rest.

- **Great Leaper:** Members of this species can jump great distances. As a significant action, a member of this species may make an Athletics skill check. If successful, it jumps four squares, plus a number of squares equal to the Effect of the skill check. In addition, members of this species are treated as having the Athletics skill at level 0.
- **Heat Endurance:** Members of this species do not suffer hourly damage from the effects of hot weather and exposure.
- **Heavy Gravity Adaptation:** Members of this species evolved on a world with a higher gravity and do not have to acclimatize to high-gravity environments.
- **Hive Mentality:** Members of this species are driven by a hive mentality, and often pursue actions that support the greater good of their current identified family group, even at the risk of their own personal safety. Characters must make an Intelligence check to avoid risking their own safety when doing so would help their family group. The difficulty of the Intelligence check varies based on the degree of perceived benefit to the family group (this is usually an Average task (DM+0), although circumstances can arise where the difficulty ranges from Routine (DM+2) to Difficult (DM–2).)
- **Large:** The species is considerably larger than the average for sophonts. Large creatures generally have a Strength and Endurance of 3d6 or even 4d6, and a Dexterity of 1d6. Life support requirements for Large creatures are doubled. Some Large creatures are described as Huge. Attacks against Huge creatures receive a +1 DM to hit.
- **Low Gravity Adaptation:** Members of this species evolved on a world with a lower gravity and do not have to acclimatize to low-gravity environments.
- **Low-Light Vision:** Members of this species can see twice as far as a human in starlight, moonlight, torchlight, and similar conditions of poor illumination. They retain the ability to distinguish color and detail under these conditions.
- **Natural Pilot:** Members of this species have an innate understanding of multi-dimensional space, and so receive a DM+2 to their Piloting and Navigation checks.
- **Natural Swimmer:** Members of this species are natural swimmers and gain a +2 DM on all skill checks related to swimming.
- **Natural Weapon:** The species has a natural weapon, such as claws, a strong bite or a poisonous stinger. Such weapons are usable at Personal range and deal +1 damage. The creature gains Natural Weapons at level 0.
- **Naturally Curious:** Members of this species are driven by a natural sense of curiosity, and are easily dragged into any adventure. They have to check out everything and always want to know what's behind a potential mystery. Characters must make an Intelligence check to avoid acting on their curious impulses. The difficulty of the Intelligence check varies based on the degree of perceived mystery (this is usually an Average task (DM+0), although circumstances can arise where the difficulty ranges from Routine (DM+2) to Difficult (DM–2).)
- **No Fine Manipulators:** The species has no fingers or other prehensile appendages, preventing them from easily picking things up, pushing small buttons, reaching into tight spaces, and so on.
- **Notable (Characteristic):** Some species are notably dexterous, intelligent, tough or strong. Characters from such races have a positive Dice Modifier when rolling for that characteristic (+2 unless otherwise specified), and their racial maximum for that characteristic is increased by the same amount.
- **Psionic:** All members of the species are Psionic, and may determine their Psionic Strength and talents at the start of character generation.
- **Small:** Small species generally have a Strength and Endurance of only 1D6, and a Dexterity of 3D6. The minimum size for a sophont is about half that of a human.
- **Slow Metabolism:** Creatures with a slow metabolism require less food than most species, and their life support costs are halved. In combat, slow-metabolism creatures suffer a –2 initiative penalty.

- **Uplifted:** This species was originally non-sentient, but has been raised to a higher intelligence by another species. Uplifted races generally become client species of their patron. Two common uplifted animals are apes and dolphins:
 - **Uplifted apes** have Notable Strength and Endurance (+2) but all other characteristics are Weak (–2). They have the Uplifted trait.
 - **Uplifted dolphins** have Notable Strength (+4) and Notable Endurance (+2) but Weak Intelligence, Education and Social Standing (–2). They have the Uplifted, Aquatic (fully aquatic, air-breathers) and No Fine Manipulators traits.
- **Water Dependent:** Although members of this species are amphibious, they can only survive out of the water for 1 hour per 2 points of Endurance (after that, refer to the drowning rules).
- **Weak (Characteristic):** The opposite of Notable (Characteristic), some species are weaker, less resilient or less well educated than others. Characters from such races have a negative Dice Modifier when rolling for that characteristic (–2 unless otherwise specified), and their racial maximum for that characteristic is decreased by the same amount.

CHAPTER 2: SKILLS

Characters in Cepheus Engine games engage in a variety of activities, using their various skills to accomplish the challenges that confront them. Skills and their usage are described in this chapter.

Skill Checks

Skill checks use the core task resolution system for the Cepheus Engine to resolve actions. Whenever your character attempts any action with a chance of failure, roll 2D6, add any skill levels, the appropriate characteristic score modifier, and your difficulty DM. If the result equals or exceeds 8, the action succeeds. If the result is lower than 8, the action fails. The basics of the task resolution system can be found in the **Introduction** chapter, under **Die Rolls**.

Task Description Format

Task descriptions can be formally written in a specific format, as follows.

Task Description: Required Skill, Characteristic, Time Increment, Difficulty.

Task Description: Describes the action of the task itself. In print, this is often italicized to help it stand out.

Required Skill: The skill required for the task. Skill levels are added as a positive DM to the check. Unskilled characters suffer a -3 DM if they do not have this skill.

Characteristic: The characteristic modifier that is added to the check.

Time Increment: The time range required to perform the task.

Informal Skill Check Descriptions

Skill checks are also informally written by Difficulty followed by Required Skill throughout this System Reference Document. For example, repairing damage on a starship in mid-combat might be a Very Difficult (-4) Engineering task. When listed in this manner, the Referee gets to choose an appropriate Characteristic to modify the skill check, as well as the time increment involved, if it is not already obvious from context.

Untrained and Zero-Level Skills

Characters can perform some tasks without any training in a skill, using only raw talent (defined by their characteristic scores), but skilled characters tend to be better at such things. Unless the Referee says you cannot, you can always attempt tasks involving that skill even if you have no training in it.

If a character has no level in a skill, then he is untrained and will suffer a -3 Dice Modifier when trying to use that skill.

If a character has zero level in a skill (Skill 0), then he is competent in using that skill, but has little experience. He does not get any bonus from his skill ranks when using that skill but at least he avoids the penalty for being untrained.

Going Faster or Slower

You can choose, before you roll, to move up or down one or two rows on the Time Frames table. Moving up (reducing the time increment) gives you a -1 DM for every row you move; moving down and increasing the time taken gives you a +1 DM for every row you move. Your Referee will help adjudicate any issues that might arise from a change in the time frame.

Table: Time Frames

Time Frame	Base Increment
1D6 seconds	One second

1D6 rounds	One personal combat round (6 seconds)
1D6 minutes	One minute (60 seconds, or 10 personal combat rounds)
1D6 kiloseconds	One kilosecond (~16.67 minutes, or one space combat turn)
1D6 hours	One hour (60 minutes)
1D6 days	One day (24 hours)
1D6 weeks	One week (7 days)
1D6 months	One common month (30-31 days)
1D6 quarter	One quarter (3 common months)

Multiple Actions

A character can try to do two or more things at once, like firing a spacecraft's weapons while also flying, or disarming a bomb while hiding from guards. For every extra thing that the character is doing, he suffers a –2 DM to all skill checks.

Local Law Level

Some tasks are impacted by a world's local Law Level, as presented in the Universal World Profile. For tasks that are impacted by the local laws, rules and regulations, the usual difficulty for tasks can be found in the Base Difficulty by Law Level table.

Table: Base Difficulty by Law Level

Law Level	Difficulty
0	Routine (DM+2)
1-3	Average (DM+0)
4-6	Difficult (DM-2)
7-9	Very Difficult (DM-4)
10+	Formidable (DM-6)

Available Skills List

The following is a list of the available skills used in the core Cepheus Engine rules. Referees may add other skills as needed to better fit the universe they have created.

Table: Available Skills

Basic Skills	Weapon Skills	Transport Skills
Admin	Gun Combat (Cascade Skill)	Vehicle (Cascade Skill)
Advocate	Archery	Aircraft (Cascade Skill)
Animals (Cascade Skill)	Energy Pistol	Grav Vehicle
Farming	Energy Rifle	Rotor Aircraft
Riding	Shotgun	Winged Aircraft
Survival	Slug Pistol	Mole
Veterinary Medicine	Slug Rifle	Tracked Vehicle
Athletics	Gunnery (Cascade Skill)	Watercraft (Cascade Skill)
Battle Dress	Bay Weapons	Motorboats
Bribery	Heavy Weapons	Ocean Ships
Broker	Screens	Sailing Ships
Carousing	Spinal Mounts	Submarine
Comms	Turret Weapons	Wheeled Vehicle
Computer	Melee Combat (Cascade Skill)	
Demolitions	Bludgeoning Weapons	
Electronics	Natural Weapons	
Engineering	Piercing Weapons	
Gambling	Slashing Weapons	
Gravitics		
Jack-of-All-Trades (Jack o' Trades)		
Leadership		
Linguistics		
Liaison		
Mechanics		
Medicine		
Navigation		
Piloting		
Recon		
Sciences (Cascade Skill)		
Life Sciences		
Physical Sciences		
Social Sciences		
Space Sciences		
Steward		
Streetwise		
Tactics		
Zero-G		

Skill Descriptions

This section describes each skill found in the Cepheus Engine, including its common uses. You may be able to use skills for tasks other than those given here. The Referee sets the Difficulty and decides the results in all cases.

Admin

The character has experience with bureaucratic agencies, and understands the requirements of dealing with and managing them. When attempting tasks like avoiding police harassment, ensuring the prompt issuance of licenses, approval of applications, avoidance of close inspection of papers, etc., a successful Admin skill check (with a Difficulty based on Base Difficulty by Law Level table), will provide a positive outcome to the situation.

Bureaucrats and Administrators: Dealing with administrators and bureaucrats is always a time consuming and tedious chore, which somehow seems to play a common part in Cepheus Engine adventures. No special skills are needed to deal with bureaucrats, but characters with the Admin (or Advocate) skill will be familiar with their ways and find the task much smoother and easier.

The offer of a bribe and a Bribery skill check may also be attempted in place of an ability or Admin or Advocate skill check. See the **Bribery** skill description for more information.

Advocate

The character is familiar with the general laws and regulations that govern interstellar travel, commerce and relations. This skill does not impart knowledge of the myriad of laws on each individual world, nor does it allow the person to act as an attorney.

Ship Inspections: Typically, when a ship arrives at a new world, it will be inspected by the port authorities to check for compliance with all applicable laws and regulations. It is also not uncommon for patrol ships to stop and board merchant and other ships while in deep space. When such an inspection does occur, the character may make an Advocate check (with a Difficulty based on Base Difficulty by Law Level table) to be found in compliance and pass inspection. If there is anything illegal on board, the character suffers a -2 DM to the check.

Aircraft (Cascade Skill)

The various specialties of this skill cover different types of flying vehicles. When this skill is received, the character must immediately select one of the following: Grav Vehicle, Rotor Aircraft or Winged Aircraft.

Animals (Cascade Skill)

The various specialties of this skill cover different aspects of animal handling. When this skill is received, the character must immediately select one of the following: Farming, Riding, Survival, or Veterinary Medicine.

Archery

The character is skilled at using bows and crossbows for hunting or in combat.

Athletics

This skill covers physical fitness and training, similar to that of a trained athlete. This includes acts requiring physical coordination, such as climbing, juggling or throwing; acts of endurance, such as long-distance running or hiking; and acts of strength, such as weight-lifting or bodybuilding.

Aliens with Wings: For alien species with wings, this skill is also used to reflect their ability to fly.

Battle Dress

This skill permits the character to operate advanced battle armor, a powered form of combat armor that enhances the wearer's capabilities in various ways. Ground-based military forces, and numerous mercenaries, are often trained in the basics of battle dress operation. This skill also covers the ability to operate vehicles designed as mechanical exoskeletons.

Bay Weapons

The character is skilled at operating bay weapons on board a ship.

Bludgeoning Weapons

The character is skilled at using bludgeoning weapons, such as clubs, staffs and really big wrenches, in personal combat.

Bribery

The character has experience in bribing petty and not-so petty officials in order to circumvent regulations or ignore cumbersome laws. The amount of a bribe is often based on the level of offense, as outlined in the Bribery Checks By Offense table.

Table: Bribery Checks By Offense

Offense	DM	Minimum Bribe
Petty Crime or Infraction	+2	1D6xCr10
Misdemeanor, Minor Infraction	+0	1D6xCr50
Serious Crime or Infraction	-2	1D6xCr100
Capital Crime or Infraction	-4	1D6xCr500

If the bribe is less than the minimum bribe required, the attempt will automatically fail. Characters may offer more than the minimum bribe required and receive a +1 DM for each multiple of the bribe offered. If the first offer is refused, a character may make a second attempt at twice the previous value of the bribe. If both attempts are refused (failed), the Referee should have the character make a Social Standing check, with a Difficulty based on Base Difficulty by Law Level table. If this also fails, the character will be brought up on charges of attempted bribery.

For example, a character trying to bribe an official to ignore a minor smuggling infraction would have to offer a minimum bribe of Cr200. If the character offered Cr400 instead the character could gain a +1 DM on the check. If Cr600 were offered, the character could gain a +2 DM, etc.

Broker

A broker is skilled in locating suppliers and buyers, and facilitating the purchase and resale of commercial goods, as per the **Trade and Commerce** rules.

Carousing

This skill reflects the interpersonal art of interacting and socializing with others. The character is skilled in the art of small talk and making others feel at ease in their presence in almost any social situation, such as a party, ball, inauguration, bar hopping, etc.

Comms

The character is trained in the use, repair, and maintenance of communications and sensor devices. While anyone can press the button and make a communicator function, this skill is necessary to understand why the device does not work, or how to use the device for purposes other than open transmission. When using sensors, this skill allows the character to interpret the long-range data of a ship's sensors and scanners. Skilled characters can boost an incoming or outgoing signal, create or break a secure channel, detect signals and anomalies, hide or piggyback on another signal, jam local communications, locate and assess potential threats, and analyze complex sensor data.

Computer

The character is skilled in the programming and operation of electronic and fiber optic computers, both ground and shipboard models. Computers can be found on any world with a TL of 8 or higher, becoming exponentially more common at higher technology levels.

A character without at least some computer training might find himself at disadvantage in the highly technical universe of science fiction. Anyone with Computer-0 or better can perform the following without a skill check: Log on to a Datanet, send and receive messages, search for non-classified information, and retrieve data and files. More skilled users can create or break data encryption; mine data effectively; create or break data and network security protocols; and perform other general programming tasks.

Demolitions

This skill covers the use of demolition charges and other explosive devices, including assembling or disarming bombs.

Electronics

The character is practiced in installing, using, maintaining, repairing and/or creating electronic devices and equipment. The character can practice a trade and make a decent living, earning a paycheck for every week of dedicated work. The character knows how to use the tools of the trade, how to perform routine tasks, how to supervise untrained helpers, and how to handle common problems.

Disabling Devices: The character is skilled at disarming alarm systems, picking electronic locks, disabling a malfunctioning robot, or similar tasks involving electronic devices.

Energy Pistol

The character is skilled at using advanced pistol-style energy weapons like laser pistols and stunners.

Energy Rifle

The character is skilled at using advanced energy weapons like laser rifles or plasma rifles.

Engineering

The character is skilled in the operation and maintenance of starship maneuver drives, Jump drives, and power plants. The character can practice a trade and make a decent living, earning a paycheck for every week of dedicated work. The character knows how to use the tools of the trade, how to perform routine tasks, how to supervise untrained helpers, and how to handle common problems. Engineering is particularly important in diverting power to the Jump Drives for a successful transition into Jump space.

Farming

The character can grow and harvest crops and raise animals. This also covers hydroponic farming and clone harvesting for food production, at sufficiently high tech levels.

Gambling

The individual is well informed on games of chance, and wise in their play. He or she has an advantage over non-experts, and is generally capable of winning when engaged in such games. Gambling, however, should not be confused with general risk-taking.

Non-Competitive Games: These are games such as Slots, Roulette, Blackjack, Keno, etc. These games are played strictly against the house and the odds are pretty much constant, as are the payoff values. The character chooses a game by its odds of winning (high, average, low, small or remote) and places a bet. The Referee determines if the game is rigged. The character then rolls their Gambling score. On a success, the character receives the payoff amount based on the amount of their initial bet. House always wins on a natural 2.

Table: Gambling by Odds of Winning

Odds of Winning	DM	Payoff	Maximum Bet
Rigged	-8	Varies	Varies
Remote	-6	1:10	Cr5,000
Small	-4	1:8	Cr1,000
Low	-2	1:4	Cr500
Average	+0	1:2	Cr100
High	+2	2:3	Cr50

Competitive Games: If playing against a group of other players, each member of the game will make their Gambling skill check with the highest roll taking the pot. A character may attempt to cheat during a game at any time by stating his or her intent to cheat and making an extra Gambling check. If any other player in the game makes a successful opposing Gambling check against the character's attempt at cheating they are caught red-handed. Otherwise the player has successfully cheated and takes the pot. If more than one person attempts to cheat during the same round of play, the person with the highest roll wins the pot.

Grav Vehicle

This skill grants the ability to properly maneuver and perform basic, routine maintenance on air/rafts and other vehicles that use gravitic technology. Grav vehicles have theoretically perfect maneuverability and can hover, but skill checks may be necessary when performing high-speed aerobatics.

Gravitics

The character is practiced in installing, maintaining, repairing and/or creating gravitic devices and equipment. Such items include air/raft lift modules, grav belts, grav sleds, grav tanks, etc. Gravitics skill deals with the technical details of such vehicles; Grav Vehicle skill is required to actually pilot or drive them. The character can practice a trade and make a decent living, earning a paycheck for every week of dedicated work. The character knows how to use the tools of the trade, how to perform routine tasks, how to supervise untrained helpers, and how to handle common problems.

Gun Combat (Cascade Skill)

The various specialties of this skill cover different types of ranged personal weapons. When this skill is received, the character must immediately select one of the following: Archery, Energy Pistol, Energy Rifle, Shotgun, Slug Pistol, or Slug Rifle.

Gunnery (Cascade Skill)

The various specialties of this skill cover different types of devastating weapons commonly used against vehicles, spaceships and ground installations. When this skill is received, the character must immediately select one of the following: Bay Weapons, Heavy Weapons, Screens, Spinal Mounts, or Turret Weapons.

Heavy Weapons

The Heavy Weapons skill covers man-portable and larger weapons that cause extreme property damage, such as rocket launchers, artillery and plasma weapons.

Jack-of-All-Trades (Jack o' Trades or JoT)

The Jack of All Trades skill works differently to other skills. It reduces the unskilled penalty a character receives for not having the appropriate skill by one for every level of Jack of All Trades. Jack of All Trades cannot grant a skill bonus at higher levels.

Leadership

The character possesses the ability to rally, inspire, organize and direct team efforts to ensure the best cooperation and productivity possible.

Coordinating Effort: Whenever a task requires one or more characters to combine their efforts (i.e. Teamwork; each makes a skill or ability check towards a common goal), the character gains a pool of points equal to the Effect of the skill check (minimum of 1), which can be distributed by the leader to individual team members as DMs (grant a +1 DM per point) on skill or ability checks made toward the common goal.

Improving Initiative: The Leadership skill can be used to increase another character's Initiative. The character with Leadership makes a Leadership check, and the target character's Initiative is increased by the Effect of the check. Making a Leadership skill check is a significant action.

Linguistics

The character can read and write a different language for every level of Linguistics they possess. All characters can speak and read their native language without needing the Linguistics skill, and automated computer translator programs mean that the Linguistics skill are not always needed on other worlds. Having Linguistics-0 implies that the character has a smattering of simple phrases in many languages. In addition, Linguistics can be used to attempt to decipher the general meaning of a preserved specimen of language, such as an inscription or a recorded message.

Liaison

The character is trained in the art of dealing with others, including knowledge of proper protocols, manners of address, codes of conduct and other information needed when dealing with a wide range of societal types. Such a character is quite useful when attempting to negotiate a particularly edgy deal, to convince the Duke's secretary to admit the party into the Duke's presence, help settle a dispute between two opposing groups, or other acts of negotiation and diplomacy.

Influencing Others: The character can change others' attitudes with a successful check. In negotiations, participants roll opposed Liaison checks to see who gains the advantage. Opposed checks also resolve cases when two diplomats are engaged in negotiations.

Life Sciences

This skill represents theoretical and practical knowledge derived from the scientific study of living organisms. This covers a wide range of related fields, such as biochemistry, biology, botany, cybernetics, genetics, physiology and psionocology.

Mechanics

The character is practiced in installing, using, maintaining, repairing and/or creating mechanical devices and equipment. The character can practice a trade and make a decent living, earning a paycheck for every week of dedicated work. The character knows how to use the tools of the trade, how to perform routine tasks, how to supervise untrained helpers, and how to handle common problems.

Disabling Devices: The character is skilled at disabling mechanical alarm systems, picking mechanical locks, or similar tasks involving mechanical devices.

Medicine

The individual has training and skill in the medical arts and sciences, from diagnosis and triage to surgery and other corrective treatments. This skill represents a character's ability to provide emergency care, short term care, long-term care, and specialized treatment for diseases, poisons and debilitating injuries. When treating a patient of a race other than their own, the character suffers a -2 DM.

Melee Combat (Cascade Skill)

The various specialties of this skill cover different types of personal melee combat weapons. When this skill is received, the character must immediately select one of the following: Natural Weapons, Bludgeoning Weapons, Piercing Weapons or Slashing Weapons.

Mole

This skill grants the ability to properly maneuver and perform basic, routine maintenance on vehicles that move through solid matter using drills or other earth-moving technologies, like plasma torches or cavitation.

Motorboats

This skill grants the ability to properly maneuver and perform basic, routine maintenance on small motorized watercraft.

Natural Weapons

The character is skilled at using their natural weapons in personal combat. Among humans, this includes brawling, martial arts and wrestling.

Navigation

The character is trained in the science of normal and Jump space navigation. The Navigator on a starship plots the course and ensures that the astrogational information required by the pilot and other crewmembers is available when it is needed. This skill includes the ability to determine a ship's new location after a Jump ends, plotting a standard course through normal space, and plotting a Jump route through Jump space. A starship cannot make a Jump safely without a Jump route.

Ocean Ships

This skill grants the ability to properly maneuver and perform basic, routine maintenance on large motorized sea-going ships.

Physical Sciences

This skill represents theoretical and practical knowledge derived from the scientific study of the nature and properties of energy and non-living matter. This covers a wide range of related fields, such as chemistry, electronics, geology and physics.

Piercing Weapons

The character is skilled at using piercing and thrusting weapons, such as spears and polearms, in personal combat.

Piloting

The individual has training and experience in the operation of interplanetary and interstellar spacecraft. Piloting expertise is necessary to handle such craft, though a check is usually only made when circumstances become challenging, such as due to rough atmospheric conditions or hostile action.

Recon

This skill represents the ability to scout out dangers and spot threats, unusual objects or out of place people. Characters skilled in Recon are adept at staying unseen and unheard.

Riding

This skill grants the ability to properly maneuver and provide basic, routine care for horses and other living creatures that are trained to bear a rider.

Rotor Aircraft

This skill grants the ability to properly maneuver and perform basic, routine maintenance on helicopters, hovercraft and other similar craft. Rotor aircraft can hover but may require skill checks to keep steady in the face of adverse environmental conditions.

Sciences (Cascade Skill)

The various specialties of this skill cover different types of planetary transportation. When this skill is received, the character must immediately select one of the following: Life Sciences, Physical Sciences, Social Sciences, or Space Sciences.

Sailing Ships

This skill grants the ability to properly maneuver and perform basic, routine maintenance on wind-driven watercraft.

Screens

The character is skilled at activating and using a ship's energy screens like nuclear dampers or meson screens.

Shotgun

The character is skilled at using shotguns.

Slashing Weapons

The character is skilled at using cutting and slashing weapons, such as swords and axes, in personal combat.

Slug Pistol

The character is skilled at using projectile-based pistols like the body pistol or snub pistol.

Slug Rifle

The character is skilled at using projectile-based rifle weapons such as the autorifle or gauss rifle.

Social Sciences

This skill represents theoretical and practical knowledge derived from the scientific study of sophont society and social relationships. This covers a wide range of related fields, such as archeology, economics, history, philosophy, psychology and sophontology.

Space Sciences

This skill represents theoretical and practical knowledge derived from several scientific disciplines that study phenomena occurring in interplanetary and interstellar space, and the celestial bodies that exist within that space. This covers a wide range of related fields, such as astronomy, cosmology, planetology and xenology.

Spinal Mounts

The character is skilled at operating bay or spinal mount weapons on board a ship. These weapons can be used against other ships or for planetary bombardment or attacks on stationary targets.

Steward

The Steward skill allows the character to serve and care for nobles and high-class passengers. This includes knowledge of concierge duties, housekeeping services, meal preparation and presentation, personal grooming assistance and valet service, and proper social etiquette.

Streetwise

A character with the Streetwise skill understands the urban environment and the power structures in society. A skilled character knows where to go for information, how to handle strangers without offending them, and who can handle activities bordering on the fringe of legality.

Submarine

This skill grants the ability to properly maneuver and perform basic, routine maintenance on vehicles that travel underwater.

Survival

The character is skilled in the art of survival in the wild, including hunting or trapping animals, avoiding exposure, locating sources of food and fresh water (if available), producing fires (where possible), finding shelter, avoiding dangerous flora and fauna, avoiding getting lost, and dealing with the dangers of hazardous climates (arctic, desert, etc.).

Tactics

This skill covers tactical planning and decision making, from board games to squad level combat to fleet engagements.

Tracked Vehicle

This skill grants the ability to properly maneuver and perform basic, routine maintenance on tanks and other vehicles that move on tracks.

Turret Weapons

The character is skilled at operating turret-mounted weapons on board a ship.

Vehicle (Cascade Skill)

The various specialties of this skill cover different types of planetary transportation. When this skill is received, the character must immediately select one of the following: Aircraft, Mole, Tracked Vehicle, Watercraft, or Wheeled Vehicle.

Veterinary Medicine

The individual has training and skill in the medical care and treatment of animals. This skill represents the character's ability to provide animals with emergency care, short term care, long-term care, and specialized treatment for diseases, poisons and debilitating injuries.

Watercraft (Cascade Skill)

The various specialties of this skill cover different types of watercraft and ocean travel. When this skill is received, the character must immediately select one of the following: Motorboats, Ocean Ships, Sailing Ships or Submarine.

Wheeled Vehicle

This skill grants the ability to properly maneuver and perform basic, routine maintenance on automobiles and similar wheeled vehicles.

Winged Aircraft

This skill grants the ability to properly maneuver and perform basic, routine maintenance on jets and other airplanes using a lifting body. Winged aircraft must keep moving forwards or they will stall and fall out of the sky.

Zero-G

The character is acclimated to working and living in micro-gravity environments and freefall. The character is trained and familiar with the use of weapons and combat in such environments. In addition, the individual has been trained in the wearing, care, and maintenance of all types of Vacuum Suits and Combat Armor commonly used in these conditions.

Gaining New Skill Levels during Game Play

A character's Skill Total is calculated by summing the levels of each skill (level zero skills count as zero). A character with Mechanics 1 and Slug Pistol 2 would have a Skill Total of 3.

To increase a skill, a character must train for a number of weeks equal to his current Skill Total plus the desired level of the skill. So, to advance from Piloting 2 to Piloting 3 with a current Skill Total of 3 would take (three, plus three) six weeks. A character may only train one skill in a given week.

The Jack of all Trades skill cannot be learned.

CHAPTER 3: PSIONICS

For characters in Cepheus Engine campaigns, psionics covers a broad category of mental disciplines and paranormal abilities originating from the mind. Psionics are divided into five different categories, called talents. These talents are: Awareness, Clairvoyance, Telekinesis, Telepathy, and Teleportation. The contents of this Chapter are optional. It is up to the individual Referee if psionics is even available, much less how a character may acquire these talents.

Psionic Strength

Psionics are powered by the Psionic Strength characteristic (abbreviation Psi). This characteristic cannot be rolled or bought during character creation without the Referee's permission. To determine a character's Psionic Strength, roll 2D6 and subtract the number of terms served by the character in any career (Psionic Strength diminishes over time unless actively used).

Using a psionic talent costs a number of Psionic Strength points, temporarily reducing the character's total. As the Characteristic DM for all Psionic skill checks is determined by the characters' current Psionic Strength total, it gets harder and harder to use powers as the character's strength declines.

Recovering Psionic Strength Points

Expended Psionic Strength points are recovered at the rate of one point per hour, beginning three hours after the character last used a psionic talent.

Psionic Training

The first step is testing a character's Psionic Strength, which is determined as described above (2D6 – number of terms served). If the character still has any Psionic Strength remaining, he can be trained.

Training requires four months of work, and costs Cr100,000. As part of training, the character may attempt to learn any of the common psionic talents on the Psionic Training table by making a Psionic Strength check. He may attempt the talents in any order, but suffers a –1 DM per check attempted. If a character learns a talent, he gains that talent at level 0.

Table: Learning DMs by Talent

Talent	Learning DM
Awareness	+1
Clairvoyance	+3
Telekinesis	+2
Telepathy	+4
Teleportation	+0
Per previous talent acquisition check	–1

Psionic Talents

There are several psionic talents, each of which works like a skill for the powers in question. A character trained in the use of psionics may develop his talents over time just as if they were normal skills. Unlike other skills, psionic talents cannot be used untrained. The most common talents are:

- **Awareness** – control over one's own mind and body.
- **Clairvoyance** – perceiving at a distance.
- **Telekinesis** – mind over matter.
- **Telepathy** – reading minds and mental communication.
- **Teleportation** – moving from one point to another instantly.

Each talent grants access to all of its powers – a character with Telepathy 0 can use life detection, read surface thoughts or assault as the situation demands.

Using a Psionic Talent

To activate a talent, the psion must make a skill check using the appropriate talent (Telepathy, Telekinesis, etc), adding his Psionic Strength characteristic DM and any other DMs. He must also spend the listed number of Psionic Strength points if he succeeds, or one point if he fails. If this cost brings him below zero Psionic Strength, then any excess points are applied to his Endurance score as damage. A character with no Psionic Strength points cannot attempt to activate a power.

Using a talent in combat is a significant action.

Many abilities are ranged. The Psionic Range table lists the number of points to project psionic abilities out to a given range – these must be paid as well as any points to activate the ability. Each talent has a different set of costs, with the exception of Awareness – all Awareness abilities apply to the Psion only.

Range

Psionic range costs are paid based on range bands based on those used in personal combat or communication devices. These are defined in the Psionic Range Costs table.

Table: Psionic Range Costs

Range	Distance to Target	Clairvoyance	Telekinesis	Telepathy	Teleportation
Personal	Less than 1.5 meters	0	0	0	1
Close	1.5 to 3 meters	0	2	1	1
Short	3 to 12 meters	1	4	1	2
Medium	12 to 50 meters	1	5	2	2
Long	51 meters to 250 meters	2	7	2	3
Very Long	251 meters to 500 meters	2	9	3	3
Distant	501 meters to 5 km	3	--	3	4
Very Distant	5 km to 500 km	3	--	4	4
Regional	50 km to 500 km	4	--	4	5
Continental	500 km to 5000 km	4	--	5	5

Awareness

Awareness is the psionic talent which allows control of one's own body. Awareness powers never have a range – they are used only on yourself.

Table: Awareness

Ability	Difficulty	Timing	Cost
Suspended Animation	Average (+0)	1D6 minutes	3
Psionically Enhanced Strength	Average (+0)	1D6 seconds	1/Point
Psionically Enhanced Endurance	Average (+0)	1D6 seconds	1/Point
Regeneration	Very Difficult (-4)	1D6 rounds	1/Point

Suspended Animation

Personal body activity may be suspended for varying periods of time. A character with Awareness may enter a suspended animation state (similar to cold sleep but without the intrinsic danger of death) by willing himself into it. Such a state continues for 7 days without need for food or water and with minimal air needs. Such a person could effectively travel in a low passage berth without actually undergoing cold sleep and its dangers.

Suspended animation may be stopped at any time previous to its duration expiring, provided external stimulus is given to awaken the sleeper (such as a friend or a mechanical alarm).

Psionically Enhanced Strength

Psionic Strength points may be converted to normal Strength points on a temporary basis. The character makes the commitment, reduces his Psionic Strength by a specific number of points, and increases his physical Strength characteristic by that number. In no case may the number of Strength points gained exceed the character's current level in Awareness, and Strength may not be increased beyond the character's racial maximum. Psionically enhanced strength reaches its new level immediately, remains at that peak for ten minutes, and then declines at the rate of 1 Strength point per minute until the normal Strength level is reached. This power works as normal on wounded characters but their Strength returns to the wounded level rather than the normal value. It cannot be used as a 'quick heal'.

Psionically Enhanced Endurance

Psionically enhanced endurance works in exactly the same way as psionically enhanced strength except the characteristic boosted is Endurance rather than Strength, including its lack of healing ability.

Regeneration

Wounds and injuries may be healed rapidly. Strength, Dexterity and Endurance lost to injury, disease, poison or other trauma may be healed by the application of this ability, exchanging one Psionic Strength point to regenerate one characteristic point. Any amount of Psionic Strength may be expended with a single use of regeneration but it may not be used again until all expended Psionic Strength is recovered. Regeneration may also be applied to the growing of new limbs or organs to replace lost ones or to heal unrecovered old wounds suffered prior to psionic training. Regeneration may not be used to counteract aging. Awareness is not capable of affecting others and may not be used for healing or enhancing other characters.

Clairvoyance

Clairvoyance is the general talent which allows a person to sense events at some location displaced from the viewer. There are several levels of clairvoyant ability. Clairvoyance abilities allow eavesdropping activities as well as spying and detection-free exploration of situations. While telepathic life detection will determine the presence of living minds in a closed room, for example, sense will determine if a room is occupied or empty. Clairvoyant activity cannot be sensed by others, including by other psionic individuals.

Table: Clairvoyance

Ability	Difficulty	Timing	Cost
Sense	Routine (+2)	1D6 rounds	1+Range
Clairvoyance	Average (+0)	1D6 rounds	2+Range
Clairaudience	Average (+0)	1D6 rounds	2+Range
Clairsentience	Difficult (-2)	1D6 rounds	3+Range

Sense

This is the basic ability to sense things at some point in the distance. A character will become aware of the most rudimentary characteristics of a location when applying this ability. For example, the Referee will give a basic description, without detail: 'a room containing four dogs' or 'an open plain with a tree, and no animals or men present'. The clairvoyant character must state the range at which he is applying his talent, and will generally sense the most interesting or important feature at that range. The Effect of the check determines the level of accuracy and clarity.

Clairvoyance

This specific ability allows actual remote viewing of a situation at some displaced point. Rather than the 'snapshot' that sense gives, clairvoyance allows the psion to observe as if he was there in person. The clairvoyant character must state the range at which he is applying his talent. The Effect of the check determines the level of detail perceived and the duration in rounds the vision can be maintained for.

Clairaudience

This ability is identical to clairvoyance, with the exception that it allows hearing instead of seeing.

Clairsentience

This power combines the effects of clairvoyance and clairaudience. The character is capable of both seeing and hearing a specific situation.

Telekinesis

Telekinesis is the talent which allows objects to be manipulated without physically touching them. Any manipulation is treated as if the person was physically handling the item but physical danger, pain, or other stimuli are not present. Telekinesis includes a limited amount of sensory awareness, sufficient to allow actual intelligent manipulation. The Effect of the check determines the duration of the telekinesis in rounds. Items may be thrown using telekinesis. Such items use the Ranged (thrown) category when attacking, using the higher of the distance between either the psion and the target or the object's starting location and the target. The amount of damage inflicted by such an object is given in the Telekinesis object; the psion can add the Effect of the attack's skill check to the damage inflicted. If a creature is the thrown object, both the creature and the target take the same damage on a successful hit.

Table: Telekinesis

Ability	Difficulty	Timing	Cost	Throwing Damage
Telekinetically Lift 10 Grams	Easy (+4)	1D6 seconds	2+Range	None
Telekinetically Lift 100 Grams	Routine (+2)	1D6 seconds	3+Range	None
Telekinetically Lift 1 kg	Average (+0)	1D6 seconds	5+Range	1 point
Telekinetically Lift 10 kg	Difficult (-2)	1D6 seconds	7+Range	1D6
Telekinetically Lift 100 kg	Very Difficult (-4)	1D6 seconds	9+Range	2D6
Telekinetically Lift 1000 kg	Formidable (-6)	1D6 seconds	10+Range	8D6

Telepathy

Telepathy is the talent of mind-to-mind contact. It is subtle by nature but can also be used to bluntly crush the wills of those who oppose the telepath.

Table: Telepathy

Ability	Difficulty	Timing	Cost
Life Detection	Easy (+4)	1D6 rounds	1+Range
Telempathy	Routine (+2)	1D6 rounds	1+Range
Read Surface Thoughts	Average (+0)	1D6 rounds	2+Range
Send Thoughts	Difficult (-2)	1D6 rounds	2+Range
Probe	Very Difficult (-4)	1D6 minutes	4+Range
Assault	Formidable (-6)	1D6 seconds	8+Range
Shield	--	--	--

Life Detection

The most elementary form of telepathy is the ability to detect the presence of other minds. Life detection enables a character to sense the presence of other minds, the number of minds present, the general type of minds (animal, human, and so on) and their approximate location.

Life detection is reasonably sophisticated, and can distinguish intelligent beings from bacteria or unimportant animals in the area. It functions best at detecting intelligent minds. Shielded minds are undetectable (whether the shield is natural or artificial in origin). If an individual whom the telepath knows is 'life detected' he or she will be recognized.

Telepathy

The communication of emotions and basic feelings is accomplished by telepathy. This ability serves well in the handling of animals and beasts of burden but may also be applied as a psychological weapon against humans. Sending of emotions such as love, hate, fear, and others may influence other beings (although not necessarily in the manner desired). Telepathy also allows the emotions and feelings of others to be read by a character. The Effect of the check determines the strength of the projected emotion.

Telepaths will always recognize when someone is using telepathy to bend their emotions but others will not. The change in mood may be dramatic and inexplicable but most people will simply ascribe it to the mercurial nature of human emotions. Shielded individuals are immune to telepathy as they are all other Telepathy powers.

Read Surface Thoughts

The most widely known feature of Telepathy is the ability to read the thoughts of other individuals. Only active, current thoughts are read by this ability, with the subject (if himself not a telepath) unaware of the activity. Individuals with telepathic ability cannot be read due to the presence of their natural shields, unless they willingly lower their shielding. The Effect of the check determines the clarity of the telepath's perceptions.

Send Thoughts

Complementary to the ability to read surface thoughts is the ability to send thoughts to others. Such individuals need not themselves be telepathic to receive such thoughts. Telepathic individuals are normally open to such transmissions, but may close their shields against them if they become bothersome or threatening.

Probe

The application of great psionic strength will enable a telepath to delve deep into the mind of a subject and to then read his innermost thoughts. Questioning can be used in the procedure to force the subject to divulge specific information. The prober can easily determine deliberate untruths told (thought) by the subject. Probe cannot be used against a shielded mind. Again, the Effect of the check determines the clarity of the telepath's perceptions.

Assault

Violence may be dealt by a telepath. An unshielded mind, when assaulted telepathically, is rendered unconscious immediately and the character suffers 2D6 + Effect damage. Unlike normal damage, assault damage is applied to Psionic Strength (if the victim has it), then Intelligence, then Endurance. Psionic Strength and Endurance return as normal. Intelligence returns at the rate of one point per day.

When a shielded mind is assaulted the two telepaths make opposed Telepathy checks. If the attacker wins, the victim suffers damage as normal.

Shield

All telepathically able characters learn how to create a mental shield which protects the mind against unwanted telepathic interference. Shield is automatically in force at all times and requires no Psionic Strength point expenditure to maintain. However, while a telepath has his shield up he cannot use any telepathic powers either. Shield can be lowered to allow telepathic contact or to use telepathic powers – this takes a mere thought (a free action in combat).

Teleportation

Teleportation is a talent which allows effectively instantaneous movement from one point to another point without regard to intervening matter. Psionic teleportation is limited to the movement of the teleported character's body and (for highly skilled teleporters) his or her clothing and other possessions.

Table: Teleportation

Ability	Difficulty	Timing	Cost
Teleport self, unclothed	Average (+0)	1D6 seconds	0+Range
Teleport self, light load	Difficult (-2)	1D6 seconds	2+Range
Teleport self, moderate load	Very Difficult (-4)	1D6 seconds	3+Range
Teleport self, heavy load	Very Difficult (-4)	1D6 seconds	4+Range

Teleportation always involves the movement of one's body to another location. Independent items or other individuals may not be moved. Teleportation involves certain requirements in order to be accurate, and to insure obedience of the laws of physics.

Pre-Knowledge of Destination: A character must always have a mental image of his or her destination before teleporting. This mental image is acquired by personally visiting the location first (or viewing it from a distance), having the mental image implanted in one's mind (by telepathy) by another person who has visited the destination, or by viewing the location through clairvoyance. The key to remember is that someone has to actually view the location – recorded images are not enough.

Energy and Momentum: Teleportation involves serious restrictions on movement in order to assure the conservation of energy and momentum.

On planetary surfaces, teleportation is restricted to jumps of Very Distant range or less. Jumps at Very Distant range involve disorientation for a period of 20 to 120 seconds (2D6x10) after arrival. This restriction results from the law of conservation of momentum: on a rotating planet, two locations will have different rotational speeds and directions. A jump from a point on the Earth's equator to one of its poles would result in a total velocity difference between the character and his surroundings of over 3300 kph, which would lead to a messy death in short order.

Teleporting to or from vehicles travelling at high speed can also result in energy gains or losses. When teleporting into, onto or out of a fast-moving vehicle the psion takes damage as if the vehicle had rammed him at its current speed.

Changes in altitude (actually all movement to locations of differing gravitational potential) will result in potential energy changes, manifesting themselves as changes in body temperature. A jump of one kilometer straight down will result in a temperature increase of 2.5 degrees Celsius; this is sufficient to cause extreme fever, brain damage, and even death. A jump up will cool the body by the same amount, with equally serious results. To be safe, a jump may not involve an elevation change of more than 400 meters, and multiple jumps should not involve a cumulative elevation change of more than 600 meters in one hour. These problems may be gotten around through the use of technological devices: energy compensators, heated suits, and other means.

Characters may feel driven to invent such materials, commission their invention, or seek them out from those who already have them.

Psionic Technology

In a Cepheus Engine universe where psionic abilities are possible, the following psionic-related technology may be available, either legally or on the black market.

Inhibitor Drug (TL 9): Psionic inhibitors dampen the brain's ability to generate psychic effects. A character who takes (or, more often, is forcibly injected with) an inhibitor drug suffers a –4 DM to all Psionic Strength checks and cannot regain Psionic Strength points. Each hour the character may make an Endurance check to throw off the effects of the drug with a +1 DM for every previous check. Inhibitor drugs have no effect on non-psionic individuals. The drugs cost Cr500 per dose.

Psi-Drugs (TL 8+): These drugs restore Psionic Strength if taken when the character has already spent Psionic Strength points, or temporarily increase the character's Psionic Strength if taken when he is at full Psionic Strength, as given in the Psi-Drug Effects and Cost table.

Table: Psi-Drug Effects and Cost

Drug	TL	Psionic Strength	Psionic Strength	Cost (Cr)
		Restored	Boosted	
Standard	8	3	2	1,000
Double	9	6	4	4,000
Special	10	9	6	10,000

A character who takes more than one dose of Standard or Double Psi-Drug, or a single dose of the Special drug must make an Endurance check, with a –1 DM per dose of psi-drug taken in the last week (not including the one just taken). If the check is failed the character falls ill with a serious fever, suffering 3D6 damage and permanently reducing his Psionic Strength by one.

Psionic Shield (TL 12): Any armor incorporating a helmet or hood can be outfitted with a psionic shield, blocking Telepathy. Unlike the Telepathy power shield a technological shield is invulnerable to assault and blocks send thoughts. It cannot be lowered without removing the helmet or hood containing the shield. Cr40,000.

Buildings and vehicles can also be psionically shielded, but this is much more costly, increasing the cost by 10%.

Teleportation Suit (TL 12): This device can be integrated into a suit of armor or worn as a form-hugging body-suit. It rapidly cools or warms the body after a teleport, minimizing the damage from sudden energy gains or losses. The suit costs Cr50,000 and allows a character to jump up to 600 meters up or down in a single teleport, or up to ten kilometers in a single hour when using successive jumps.

Psionic Interface (TL 14): Any weapon or technological device can be outfitted with a psionic interface. A character using a device with a psionic interface can use his Psionic Strength DM instead of his Dexterity DM when using the weapon or device; a character without psionic ability cannot use the device. The character must either touch the device or use telekinesis to interact with it at range. Adding a psionic interface increases the cost of the device by 20%.

Psionics in Society

The Cepheus Engine assumes that there are generally three different mindsets in which a society might view psionics. In generic terms, these categories are called Psi-Hostile, Psi-Neutral and Psi-Friendly.

Psi-Hostile Societies

Humanity fears what it doesn't understand. In Psi-Hostile societies, some precipitating event has brought that fear into the court of public opinion, and as a result, psionics became banned. In the least offensive case, the use of psionics is forbidden and violations are punished as a capital crime. In the worst cases, governments and

angry mobs often go on witch hunts, looking for psions and generally lynching, lobotomizing, imprisoning or exiling the offenders. Individuals may even be informants or potential informants, ready to call the local authorities at the slightest hint of psionic abilities in use. Governments in psi-hostile societies will publicly denounce the use of psionics, but it is likely that they might maintain a secret training facility due to the usefulness of such powers in espionage and warfare. In a Psi-Hostile society, even having sympathy for the plight of psionic people can cause an individual to be ostracized.

This type of society is the most commonly encountered in Cepheus Engine campaigns, because the world it creates is closest to the “real world” experiences shared by most Cepheus Engine players, and the rules tend to operate as if this were the standard.

Psi-Neutral Societies

In Psi-Neutral societies, psionics does not have the stigma that they do in Psi-Hostile societies. The general populace recognizes the existence of psions, and considers it just another set of talents one can possess, much like athletic prowess or superior marksmanship. The use of psionics is fairly regulated by law level, as the public is aware that psionics have great potential for abuse, but such a culture generally holds a stronger view of personal responsibility and punishes abusers accordingly. Training in such a culture is easier to come by, but is treated much like a vocational school, in that only those who can pay for it are tested and trained. Psionic technology is more likely to be available in such a society, at the discretion of the Referee. Telepaths figure prominently in major corporate and government negotiations. Teleporters are used for quick and sometimes clandestine courier work. Corporate and foreign espionage require another layer of security to address psionic abilities. The accepted use of psionics in such a culture can cause some dramatic changes.

Psi-Friendly Societies

In Psi-Friendly societies, psions are revered and psionic abilities are often considered a mark of the socially elite. It is likely that children are tested at various points during their childhood, and those with potential are taught to use their gifts from a very young age. Psionics are integrated at every level of society, and may even lead to a highly structured or caste-like culture where the upper classes are comprised of psionically-gifted individuals. These classes may be further stratified based on an individual’s psionic strength and/or mastery of psionic skills. Non-psions may even be persecuted as second-class citizens without voting or personal rights, in extreme cases. The actual culture of such a society, like anything else, is ultimately up to the Referee to determine and present.

CHAPTER 4: EQUIPMENT

The following section lists examples of common equipment that adventurers may want. Aside from armor and weapons, each listing notes the object's name and a basic description. The technological level indicates local technology required to manufacture something with the capabilities listed. Price and weight are for an item manufactured by an interstellar society of tech level 10-15; items produced at lower tech levels will probably be bulkier and more expensive. An item with no weight or size given can be carried or worn without difficulty. Additional lines of explanation are given where considered necessary.

Technology Level Overview

Technology Level, also known as Tech Level or TL, is a measure of the scientific and production capacity of a world and the complexity and effectiveness of a piece of equipment.

Table: Technology Level Overview

TL	Descriptor	Notable Characteristics
0	Primitive	No technology.
1	Primitive	Roughly on a par with Bronze or Iron age technology.
2	Primitive	Renaissance technology.
3	Primitive	Mass production allows for product standardization, bringing the germ of industrial revolution and steam power.
4	Industrial	Transition to industrial revolution is complete, bringing plastics, radio and other such inventions.
5	Industrial	Widespread electrification, tele-communications and internal combustion.
6	Industrial	Development of fission power and more advanced computing.
7	Pre-Stellar	Can reach orbit reliably and has telecommunications satellites.
8	Pre-Stellar	Possible to reach other worlds in the same system, although terraforming or full colonization is not within the culture's capacity.
9	Pre-Stellar	Development of gravity manipulation, which makes space travel vastly safer and faster; first steps into Jump Drive technology.
10 (A)	Early Stellar	With the advent of Jump, nearby systems are opened up.
11 (B)	Early Stellar	The first primitive (non-creative) artificial intelligences become possible in the form of "low autonomous" interfaces, as computers begin to model synaptic networks.
12 (C)	Average Stellar	Weather control revolutionizes terraforming and agriculture.
13 (D)	Average Stellar	The battle dress appears on the battlefield in response to the new weapons. "High autonomous" interfaces allow computers to become self-actuating and self-teaching.
14 (E)	Average Stellar	Fusion weapons become man-portable.
15 (F)	High Stellar	Black globe generators suggest a new direction for defensive technologies, while the development of synthetic anagathics means that the human lifespan is now vastly increased.

Higher Technology Levels exist and may appear in some Cepheus Engine universes.

Currency

The Credit (Cr) is the standard unit of currency in Cepheus Engine. Larger denominations include the KiloCredit (KCr; 1,000 Credits) and the MegaCredit (MCr; 1,000,000 Credits).

Armor

Armor reduces the amount of damage a character takes from a hit, based on the type of armor worn. The armor rating for a set of armor is equal to the amount of damage reduced by the armor when you are hit in combat. A hit with Effect 6+ always inflicts at least one point of damage, regardless of the target's armor.

Unless otherwise noted, only one type of armor can be worn at a time. Resolve damage from the outside in – damage that gets through the outer layer of armor is next applied to the inner layer.

TL: The earliest tech level at which this item first becomes available.

Armor Rating (AR): The amount of damage reduced by the armor when an attack strikes the character. When two values are listed separated by a slash, the number to the left of the slash represents the armor rating against all attacks except lasers, while the number to the right of the slash represents the armor rating against laser attacks.

Cost: The cost of the item in Credits (Cr).

Weight: The weight of the item in kilograms.

Skill Required: Some armors have a required skill. A character suffers the usual unskilled penalty when using armor without levels in the required skill.

Table: Common Personal Armor

Armor	TL	AR	Cost	Wgt	Skill Required
Ablat	9	3/8*	Cr75	2kg	--
Battle Dress	13	18	Cr200,000	60kg	Battle Dress
Cloth	6	9	Cr250	2kg	--
Combat Armor	11	11	Cr20,000	18kg	Zero-G
Hostile Env Vacc Suit	12	8	Cr18,000	40kg	Zero-G
Jack	1	3	Cr50	1kg	--
Mesh	7	5	Cr150	2kg	--
Reflec	10	0/14	Cr1500	1kg	--
Vacc Suit	9	6	Cr9000	8kg	Zero-G

Armor Descriptions

Ablat (TL 9): A cheap alternative to Reflec, ablat armor is made from a material that ablates (vaporizes) when hit by laser fire. Each laser hit on ablat reduces its armor value (versus lasers) by one, but the armor is cheap and easily replaceable.

Battle Dress (TL 13): The ultimate personal armor, battle dress is a powered form of combat armor. The servomotors vastly increase the user's speed and strength, boosting his Strength and Dexterity by +4 while wearing the armor. Damage to the wearer's characteristics is calculated as normal, but the values from the armor are used for all other purposes such as hand to hand damage or skill checks. The suit has a built-in Model 2 computer running an Expert Tactics-2 program to give tactical advice and updates and is commonly outfitted with numerous upgrades. The suit is fully enclosed, with a six-hour air supply and gives full protection against environmental hazards – including NBC shielding – as if it was an HEV suit.

Cloth (TL 7): A heavy duty body suit tailored from ballistic cloth. The fabric absorbs impact energy and spreads it over the body, which can result in bruising. However, cloth armor is highly useful and versatile – it can be effectively concealed under normal clothing although observers making an Investigate or Recon check at 8+ will notice something unusual.

Combat Armor (TL 11): This full-body suit is used by the military and not generally available on the open market, although those with military or criminal contacts can obtain it without much difficulty. It is issued to troop units and mercenary battalions. Combat armor protects from hard vacuum in the same way as a vacc suit and provides life support for six hours.

Hostile Environment Vacc Suit (TL 8): Hostile environment suits are designed for conditions where a normal vacc suit would be insufficient, such as deep underwater, worlds shrouded in toxic or corrosive gases, extremes of radiation or temperature, or other locales that offer serious physical danger as well as the lack of a breathable atmosphere. HEV suits provide all the life support offered by a normal vacc suit (for six hours) but are also impervious to flames, intense radiation such as that found at nuclear blast sites (decreasing radiation exposure by 180 rads), and high pressure environments like undersea trenches.

Jack (TL 1): A natural or synthetic leather jacket or body suit covering the torso and upper arms and legs.

Mesh (TL 6): A jacket or body suit lined with a flexible metal or plastic mesh that gives it added protection against bullets.

Reflec (TL 10): Reflec armor is a flexible plastic suit with layers of reflective material and heat-dispersing gel. It is highly effective against lasers, but provides no protection against other attacks. Reflec can be worn with other armor.

Vacc Suit (TL 8): The vacc suit or space suit is the spacer's best friend, providing life support and protection when in space. A vacc suit provides a breathable atmosphere and protection from the extremes of temperature, low pressure and radiation typically found in a hard vacuum (decreasing exposure by up to 40 rads), for six hours.

Communicators

Characters separated by physical location often have a need to maintain communications. These examples of communications equipment fulfill that need. Routine use of these devices does not require a skill check. When attempting to overcome interference or use these devices for other purposes, the Comms skill check is used.

Table: Communications Equipment

Communicator	TL	Cost	Wgt	Range
Long Range Communicator	6	Cr500	15 kg	500 km
Medium Range Communicator	5	Cr200	10 kg	30 km
Short Range Communicator	5	Cr100	5 kg	10 km
Personal Communicator	8	Cr250	0.3 kg	Special

Long Range Communicator: Back-pack mounted radio capable of ranges up to 500 km and contact with ships in orbit. Ten separate channels. At tech level 7 reduce the weight to 1.5 kg and it becomes belt or sling mounted.

Medium Range Communicator: Belt-mounted or sling carried radio set capable of up to 30 km range, and contact with official radio channels. Five separate channels. At tech level 7, reduce the weight to 500 grams.

Short Range Communicator: Belt-mounted radio capable of 10 km range (much shorter underground or underwater). Three separate channels. At tech level 7 reduce the weight to 300 grams and it becomes hand-held.

Personal Communicator: A hand-held, single channel communication device. On world with a tech level of 8 or higher a personal communicator is able to tap into the world's satellite communication network and with the proper address, contact any other communicator in the world (for a fee). The channel is private, but not secure and may be monitored on some worlds. Usually network access can be arranged at the local starport for a small fee. On worlds with a tech level of 7 or less, personal communicators will not work.

Computers

The power of a computer is given by its rating (Model 1, Model 2 and so forth), which measures the complexity of the programs it can run. (Storage space is effectively unlimited at TL 9 and above.) Programs are rated by the computer rating they require. A system can run a number of programs up to its rating.

The computers listed here are laptop size. Battery life is two hours at TL 7, eight hours at TL 8, and effectively unlimited at TL 9 and above. Desktop computers offer a slightly greater amount of processing power for the same cost but not enough to make a difference in-game. Desktops become obsolete during TL 8.

Table: Computers by TL

Optimum TL	Computer Power	Mass (kg)	Cost (Cr)
TL 7	Model 0	10	50
TL 8	Model 1	5	100
TL 9	Model 1	5	250
TL 10	Model 2	1	350
TL 11	Model 2	1	500
TL 12	Model 3	0.5	1,000
TL 13	Model 4	0.5	1,500
TL 14	Model 5	0.5	5,000

Computer Terminal (TL 7): This is a ‘dumb terminal’, with only limited processing power. It serves as an interface to a more powerful computer such as a ship’s computer or planetary network. Terminals range in size depending on their control method – a holographic display terminal can be much smaller than one with a physical keyboard and screen. A computer terminal has Model 0, and costs Cr200.

Hand Computer (TL 7): A hand computer is a portable computer system with considerable processing power. It is more powerful than a computer terminal, and can be used without access to a network. A hand computer costs twice as much as a normal computer of the same TL but can be held in one hand and operated with the other.

Computer Options

Data Display/Recorder (TL 13): This headpiece worn over one or both eyes provides a continuous heads-up display for the user, allowing him to view computer data from any linked system. Because of the transparent screen vision is not obscured while using a DD/R headset. DD/Rs can display data from any system, not just computers – they can display vacc suit oxygen reserves, grav belt status, neural activity scanner results and so forth. Cr5,000.

Data Wafer (TL 10): The principle medium of information storage is the standard data wafer, a rectangle of hardened plastic about the size of a credit card. A TL 10 data wafer is memory diamond, with information encoded in structures of carbon atoms; more advanced wafers use more exotic means of data storage. Cr5.

Specialized Computer: A computer can be designed for a specific purpose, which gives it a Rating of 1 or 2 higher for that program only. The navigation computer on a starship might be only a Model 1, but it could run the Expert Navigation/3 program because it is specially designed for that task. A specialized computer costs 25% more per added Rating. In addition, when working out how many programs the computer can run simultaneously, the program that the computer is specialized for does not count against that total.

Computer Software

A character can use any high-rating software at a lower rating, to a minimum of the lowest rating shown. Programs above Rating/1 cannot be copied easily, as they require a non-trivial amount of bandwidth to transfer.

Table: Computer Software

Software	Rating	TL	Cost	Description
Database	-	7	Cr10 to Cr10,000	A database is a large store of information on a topic that can be searched with a Computer check or using an Agent.
Interface	0	7	Included	Displays data. Using a computer without an interface is a Formidable (–6 DM) task.
Security	0	7	Included	Security programs defend against intrusion. Rating 0 is Average (+0 DM).
	1	9	Cr200	Difficult (–2 DM) difficulty
	2	11	Cr1,000	Very Difficult (–4 DM) difficulty
	3	12	Cr20,000	Formidable (–6 DM) difficulty
Translator	0	9	Cr50	Translators are specialized Expert systems that only have Language skills. Provides a near-real-time translation.
	1	10	Cr500	Works in real-time and has a much better understanding of the nuances of language.
Intrusion	1	10	Cr1,000	Intrusion programs aid hacking attempts, giving a bonus equal to their Rating. Intrusion software is often illegal.
	2	11	Cr10,000	
	3	13	Cr100,000	
	4	15	N/A	
Intelligent Interface	1	11	Cr100	“Low autonomous” artificial intelligence allows voice control and displays data intelligently. Required for using Expert programs.
	2	13	Cr1,000	“High autonomous” artificial intelligence allows a primitive artificial intelligence to self-initiate and learn on its own.
	3	17	Cr10,000	True artificial intelligence capable of independent creative thought.
Expert	1	11	Cr1,000	Expert programs mimic skills. A character using an expert system may make a skill check as if he had the skill at the program’s Rating –1. Only Intelligence and Education-based checks can be attempted. If the character already has the skill at a higher level, then an Expert program grants a +1 DM instead.
	2	12	Cr10,000	
	3	13	Cr100,000	
Agent	0	11	Cr500	Agent programs have a Computer skill equal to their Rating, and can carry out tasks assigned to them with a modicum of intelligence. For example, an agent program might be commanded to hack into an enemy computer system and steal a particular data file. They are effectively specialized combinations of Computer Expert and Intellect programs.
	1	12	Cr2,000	
	2	13	Cr100,000	
	3	14	Cr250,000	
Intellect	1	12	Cr2,000	Intellects are improved agents, who can use Expert systems. For example, a robot doctor might be running Intellect/1 and Expert Medic/3, giving it a Medic skill of 2. An Intellect program can use a number of skills simultaneously equal to its Rating.
	2	13	Cr50,000	
	3+	14	-	

Drugs

Medications often supplement the direct medical attention of a trained health professional. The following drugs are commonly encountered in Cepheus Engine campaigns.

Table: Drugs

Description	TL	Cost
Medicinal Drugs	5	Cr5+
Anti-Radiation Drugs	8	Cr1,000
Panaceas	8	Cr200
Stim Drugs	8	Cr50
Combat Drug	10	Cr1,000
Fast Drug	10	Cr200
Metabolic Accelerator	10	Cr500
Medicinal Slow Drug	11	Cr500
Anagathics	15	Cr2,000

Anagathics: Slow the user's aging process. Synthetic anagathics become possible at TL 15, but there are natural spices and other rare compounds that have comparable effects at all Technology Levels. Anagathics are illegal or heavily controlled on many worlds. One dose must be taken each month to maintain the anti-aging effect – if the character taking anagathics misses a dose they must make an immediate roll on the aging table as their body reacts badly to the interrupted supply.

Anti-Radiation Drugs: Must be administered before or immediately after (within ten minutes) radiation exposure. They absorb up to 100 rads per dose. A character may only use anti-rad drugs once per day – taking any more causes permanent Endurance damage of 1D6 per dose.

Combat Drug: This drug increases reaction time and improves the body's ability to cope with trauma, aiding the user in combat. A character using a combat drug adds +4 to his initiative total at the start of combat (or whenever the drug takes effect). He may also dodge once each round with no effect on his initiative score and reduces all damage suffered by two points. The drug kicks in twenty seconds (four rounds) after injection, and lasts around ten minutes. When the drug wears off, the user is fatigued.

Fast Drug: Also known as 'Hibernation', this drug puts the user into a state akin to suspended animation, slowing his metabolic rate down to a ratio of 60 to 1 – a subjective day for the user is actually two months. Fast drug is normally used to prolong life support reserves or as a cheap substitute for a cryoberth.

Medicinal Drugs: These medications include vaccines, antitoxins and antibiotics. They range in cost from Cr5 to 1D6x1,000 Credits, depending on the rarity and complexity of the drug. Medicinal drugs require the Medic skill to use properly – using the wrong drug can be worse than doing nothing. With a successful Medic check the correct drug can counteract most poisons or diseases, or at the very least give a positive DM towards resisting them. If the wrong drug is administered, treat it as a Difficult (–2 DM) poison with a damage of 1D6.

Medicinal Slow: A variant of the slow drug. It can only be applied safely in a medical facility where life-support and cryo-technology is available as it increases the metabolism to around thirty times normal, allowing a patient to undergo a month of healing in a single day.

Metabolic Accelerator: Also known as 'Slow Drug', this drug boosts the user's reaction time to superhuman levels. A character using slow drug in combat adds +8 to his initiative total at the start of combat (or whenever the drug takes effect). He may also dodge up to twice each round with no effect on his initiative score. The drug kicks in 45 seconds (eight rounds) after ingestion or injection and lasts for around ten minutes. When the drug wears off, the user's system crashes. He suffers 2D6 points of damage and is exhausted.

Panaceas: Wide-spectrum medicinal drugs that are specifically designed not to interact harmfully. They can therefore be used on any wound or illness and are guaranteed not to make things worse. A character using panaceas may make a Medic check as if he had Medic 0 when treating an infection or disease.

Stim Drugs: Removes fatigue, at a cost. A character who uses stim may remove the effects of fatigue but suffers one point of damage. If stims are used to remove fatigue again without an intervening period of sleep, the character suffers two points of damage the second time, three points the third time, and so on.

Explosives

The Demolitions skill is used with explosives – the Effect of the Demolitions skill check multiplies the damage, with a minimum of x1 damage for an Effect of 0 or 1. Explosives are not legally available on any world with a Law Level of 1 or greater.

Table: Explosives

Weapon	TL	Damage	Radius	Cost (Cr)
Plastic	6	3D6	2D6 meters	200
Pocket Nuke	12	2D6 x 20	15D6 meters	20,000
TDX	12	4D6	4D6 meters	1,000

Plastic: This generic, multi-purpose plastic explosive is a favorite of military units, terrorists, demolition teams and adventurers across known space.

Pocket Nuke: Hideously illegal on many worlds, the pocket nuke is actually the size of a briefcase and so is too large to fit into a grenade launcher.

TDX: An advanced gravity-polarized explosive, TDX explodes only along the horizontal axis.

Personal Devices

Characters often possess any of a number of personal devices, such as those described in this section.

Table: Personal Devices

Description	TL	Cost	Wgt
Magnetic Compass	3	Cr10	--
Wrist Watch	4	Cr100	--
Radiation Counter	5	Cr250	1
Metal Detector	6	Cr300	1
Hand Calculator	7	Cr10	0.1
Inertial Locator	9	Cr1,200	1.5
Electromagnetic Probe	10	Cr1,000	--
Hand Computer	11	Cr1,000	0.5
Holographic Projector	11	Cr1,000	1
Densitometer	14	Cr20,000	5
Bioscanner	15	Cr350,000	3.5
Neural Activity Sensor	15	Cr35,000	10

Bioscanner: The bioscanner 'sniffs' for organic molecules and tests chemical samples, analysing the make-up of whatever it is focussed on. It can be used to detect poisons or bacteria, analyse organic matter, search for life signs and classify unfamiliar organisms. The data from a bioscanner can be interpreted using the Comms or the Life Sciences skill.

Densitometer: The remote densitometer uses an object's natural gravity to measure its density, building up a three-dimensional image of the inside and outside of an object.

Electromagnetic Probe: This handy device detects the electromagnetic emissions of technological devices, and can be used as a diagnostic tool when examining equipment (+1 DM to work out what's wrong with it) or when searching for hidden bugs or devices. The Comms skill can be used to sweep a room for bugs.

Hand Calculator: Allows the user to perform mathematical calculations quickly.

Hand Computer: The 'handcomp' provides services of a small computer, plus serves as a computer terminal when linked (by its integral radio, network interface jack, or by other circuit) to a standard computer.

Holographic Projector: A holographic projector is a toaster-sized box that, when activated, creates a three-dimensional image in the space around it or nearby – the range is approximately three meters in all directions. The image can be given pre-programmed animations within a limited range and the projector includes speakers for making sound. The projected holograms are obviously not real so this device is mostly used for communication. The TL 12 version can produce holograms real enough to fool anyone who fails an Intelligence check (made upon first seeing the hologram), at double the cost, and the TL 13 version can produce holograms that are true-to-life images, at ten times the cost.

Inertial Locator: Indicates direction and distance traveled from the starting location.

Magnetic Compass: Indicates direction of magnetic north, if any exists.

Metal Detector: Indicates presence of metal within a 3 meter radius (including underground), with the indicating signal growing stronger as it gets closer to the source.

Neural Activity Sensor (NAS): This device consists of a backpack and detachable handheld unit, and can detect neural activity up to 500 meters away. The device can also give a rough estimation of the intelligence level of organisms based on brainwave patterns. The data from a neural activity scanner can be interpreted using the Comms, the Life Sciences or the Social Sciences skills.

Radiation Counter: Indicates presence and intensity of radioactivity within a 30-meter radius. The indicating signal will grow stronger as it gets closer to the source.

Wrist Watch: Allows the user to tell time. At tech level 9, can be configured to multiple worlds, as well as standard time, and allows the user to configure alarms based on specific times.

Robots and Drones

Robots are iconic to science fiction. This section describes the robots and drones commonly available in a Cepheus Engine campaign. A robot has an Intellect program running, allowing it to make decisions independently, while drones are remote-controlled by a character with the Comms skill.

Robots and drones operate in combat like characters but take damage as if they were vehicles. They have Hull and Structure characteristics instead of an Endurance characteristic, and an Endurance DM of 0. Any robot running an Intellect program has an Intelligence and Education score. Drones have neither. A robot's Education characteristic is representative of the information programmed into it and even low-end robots can have high Education scores. Most robots have Social Standing characteristics of 0 as they are not social creations but there are some exceptions, usually high-end models running advanced Intellect programs. Drones do not have Social Standing but in cases where they are used to engage in diplomacy or other social intercourse the operator can use his own Social Standing score.

Cargo Robot (TL 11): These simple, heavy-duty robots are found in starport docks and on board cargo ships. Cargo drones can be constructed as low as Technology Level 9 but their utility is extremely limited until the invention of Intellect programs.

Strength 30 (+8), Dexterity 9 (+1), Hull 2, Structure 2
Intelligence 3 (–1), Education 5 (–1), Social Standing 0 (–3)

Traits: Armor 8, Huge, Specialized Model 1 computer (running Intellect/1 and Expert (appropriate skill)/1)

Weapons: Crushing Strength (Natural Weapons, 3D6 damage)

Price: Cr75,000

Repair Robot (TL 11): Shipboard repair robots are small crab-shaped machines that carry a variety of welding and cutting tools. Specialized repair robots may run Expert Engineering rather than Expert Mechanics.

Strength 6 (+0), Dexterity 7 (+0), Hull 1, Structure 1

Intelligence 5 (–1), Education 6 (+0), Social Standing 0 (–3)

Traits: Integral System (mechanical toolkit), Specialized Model 1 computer (running Intellect/1 and Expert Mechanics/2)

Weapons: Tools (Natural Weapons, 1D6 damage)

Price: Cr10,000

Personal Drone (TL 11): This is a small floating globe about thirty centimeters in diameter. It is equipped with holographic projectors which can display the image of a person, allowing a character to have a virtual presence over a great distance.

Strength 2 (–2), Dexterity 7 (+0), Hull 1, Structure 1

Traits: Tiny, Integral System (comm, audio/visual), Integral System (grav floater), Integral System (TL 11 holographic projector)

Price: Cr2,000

Probe Drone (TL 11): A probe drone is a hardened version of a personal remote, armored and carrying more sensor packages. They have an operating range of five hundred kilometers, and can fly at a speed of 300 kph.

Strength 3 (–1), Dexterity 7 (+0), Hull 3, Structure 3

Traits: Armor 5, Integral System (comm, audio/visual), Integral System (grav belt), Integral System (TL 11 holographic projector), Integral System (every sensor available at TL 11 and below)

Price: Cr15,000

Autodoc (TL 12): An autodoc is a specialized, immobile medical robot, which is often installed inside vehicles or spacecraft.

Strength 6 (+0), Dexterity 15 (+3), Hull 1, Structure 1

Intelligence 9 (+1), Education 12 (+2), Social Standing 0 (–3)

Traits: Integral System (TL 12 medikit), Specialized Model 1 computer (running Intellect/1 and Medicine/2)

Weapons: Surgical Tools (Slashing Weapons, 1D6 damage)

Price: Cr40,000

Combat Drone (TL 12): Combat drones are little more than flying guns mated to a grav floater and a computer system. The drones must be piloted with the Remote Operations skill but attacks are made using the appropriate weapon skill. Combat drones loaded with Intellect and combat Expert programs (making them autonomous combat robots) are illegal on many worlds.

Strength 12 (+2), Dexterity 10 (+1), Hull 4, Structure 4

Traits: Armor 9, Integral System (grav floater), Integral Weapon (any)

Weapons: Any gun

Price: Cr90,000, plus the cost of the weapon (the Integral Weapon upgrade is included)

Servitor (TL 13): Servitor robots are expensive humanoid robots who are programmed to act as butlers or servants to the nobility. Some servitor owners reprogram their robots with Expert Carousing or Expert Gambling to better suit their lifestyle.

Strength 7 (+0), Dexterity 9 (+1), Hull 2, Structure 2

Intelligence 9 (+1), Education 12 (+2), Social Standing 7 (+0)

Traits: Computer/3 (running Intellect/1 and Expert Steward/2 – servitors also have Expert Liaison/2 and Translator/1 available should they be necessary)

Weapons: Robot Punch (Natural Weapons, 1D6 damage)

Price: Cr120,000

Robot and Drone Options

Armor: Armor can be increased by 5, which increases the drone or robot's cost by 25%.

Integral System: Certain devices can be built into drones or robots by increasing the cost of the device by +50%. Popular choices include toolkits of different kinds, various sensors, or mobility upgrades like thruster packs or grav floaters.

Integral Weapon: Any suitable weapon can be added to a drone or robot, at the cost of Cr10,000 + the cost of the weapon.

Sensory Aids

The following aids provide enhance a character's physical senses.

Table: Sensory Aids

Description	TL	Cost	Wgt
Torch	1	Cr1	0.25
Lamp Oil	2	Cr2	--
Oil Lamp	2	Cr10	0.5
Binoculars	3	Cr75	1
Electric Torch	5	Cr10	0.5
Cold Light Lantern	6	Cr20	0.25
Infrared Goggles	6	Cr500	--
Light Intensifier Goggles	7	Cr500	--

Binoculars: Allows the user to see further. At TL 8 electronic enhancement allows images to be captured; light-intensification allows them to be used in the dark. Cr750. At TL 12 PRIS (Portable Radiation Imaging System) allows the user to observe a large section of the EM-spectrum, from infrared to gamma rays. Cr3,500.

Cold Light Lantern: A fuel cell powered version of the electric torch, but will last 3 days with continuous use. Produces a wide cone of light up to 18 meters away with a radius of 6 meters at the end of the beam. Also capable of producing a tight beam of light up to 36 meters away with a 1 meter radius or be used to illuminate a 10 meter radius.

Electric Torch: The common flashlight. It is battery powered and will last for about 6 hours of continuous use. A torch produces a wide cone of light up to 18 meters long with a radius of 6 meters at the end of the beam. Later

TL models have adjustable beams allowing them to also produce a tight beam of light up to 36 meters long, with a 1 meter radius, or be used to illuminate a circle of 10 meter radius.

Infrared Goggles: Permits the user to see exothermic (heat-emitting) sources in the dark.

Light Intensifier Goggles: Permits the user to see normally in anything less than total darkness by electronically intensifying any available light.

Oil Lamp: A lamp clearly illuminates a 4.5 meter radius, provides shadowy illumination out to a 9 meter radius, and burns for 6 hours on a pint of oil. You can carry a lamp in one hand.

Torch: A torch burns for 1 hour, clearly illuminating a 6 meter radius and providing shadowy illumination out to a 12 meter radius.

Shelters

Whenever characters are not indulging in the creature comforts of civilization, they need shelter, such as the items described in this section.

Table: Shelters

Description	TL	Cost	Wgt
Tarpaulin	1	Cr10	2
Tent	2	Cr200	3
Pre-Fabricated Cabin	6	Cr10,000	4,000
Basic Life Support Supplies	7	Cr100	2
Pressure Tent	7	Cr2,000	25
Advanced Base	8	Cr50,000	6,000

Advanced Base: Modular pressurized quarters for 6 persons and capable of withstanding anything less than hurricane force winds. Offers excellent shelter from precipitation and all but the most extreme of temperature ranges. Requires 12 man-hours to erect or dismantle. There are 16 modules, each, 1.5m wide by 1.5m long by 2m high that can be organized into any layout required. Dismantled and ready for shipment, the advanced base weighs 6 tons. The cost includes life-support for six people for 7 days.

Basic Life Support Supplies: Basic life support supplies (waste reclamation chemicals, oxygen supply, CO2 scrubbers, etc.) necessary to support one person for one day in an enclosed, pressurized environment, such as a pressure tent or an advanced base.

Pre-Fabricated Cabin: Modular unpressurized quarters for 6 persons and capable of withstanding light to severe winds. Offers excellent shelter from precipitation, storms, and temperatures down to -10⁹ Celsius. Requires 8 man-hours to erect or dismantle. There are 16 modules, each, 1.5m wide by 1.5m long by 2m high that can be organized into any layout required. Dismantled and ready for shipment, the cabin weighs 4 tons.

Pressure Tent: Basic pressurized shelter for two persons, providing standard atmosphere and conditions, along with protection from precipitation, storms, and up to strong winds. There is no airlock: the tent must be depressurized to enter or leave it.

Tarpaulin: A heavy hard-wearing waterproof fabric made of canvas or similar, for outdoor use as a temporary shelter or protective covering against moisture. Measures 4 meters long by 2 meters wide.

Tent: Basic shelter for two persons offering protection from precipitation, storms, and temperatures down to 0⁹ Celsius, and withstanding light to moderate winds. Larger, more elaborate tents capable of sheltering more people, higher winds or colder temperatures weigh and cost more.

Survival Equipment

Survival equipment helps the character stay physically alive and able to take action, even in the most unusual of environments.

Table: Survival Equipment

Description	TL	Cost	Wgt
Cold Weather Clothing	1	Cr200	2
Filter Mask	3	Cr10	--
Swimming Equipment	3	Cr200	1
Combination Mask	5	Cr150	--
Oxygen Tanks	5	Cr500	5
Respirator	5	Cr100	--
Underwater Air Tanks	5	Cr800	5
Artificial Gill	8	Cr4,000	4
Environment Suit	8	Cr500	--
Rescue Bubble	9	Cr600	3
Thruster Pack	9	Cr2,000	5
Portable Generator	10	Cr500,000	15

Artificial Gill: Extracts oxygen from water to allowing the wearer to breathe for an unlimited time while submerged under water. Functions only on worlds with thin, standard, or dense (type 4 through 9) atmospheres.

Cold Weather Clothing: Protects against frigid weather (-20° Celsius or below). Adds a DM+2 to all Endurance checks made to resist the effects of cold weather exposure. Reduce the weight by 1kg for every 5 TL.

Combination Mask: A combination of both filter mask and respirator, which allows breathing of very thin, tainted atmospheres (type 2), plus all atmospheres listed under filter and respirator masks.

Environment Suit: Designed to protect the wearer from extreme cold or heat, the environment suit has a hood, gloves and boots but leaves the face exposed in normal operations.

Filter Mask: A filter set that allows an individual to breathe tainted atmospheres (types 4, 7, and 9). Also protects against the inhalation of heavy smoke or dust.

Oxygen Tanks: A complete set of compressed oxygen tanks, which allow independent breathing in smoke, dust, gas, or exotic (type A) atmosphere. Two tanks last 6 hours. Refill of proper atmospheric mixture for race cost Cr20.

Portable Generator: This is a heavy-duty portable fusion generator, capable of recharging weapons and other equipment for up to one month of use.

Rescue Bubble: A large (2m diameter) pressurized plastic bubble. Piezoelectric layers in the bubble wall translate the user's movements into electricity to recharge the bubble's batteries and power its distress beacon, and a small oxygen tank both inflates the bubble and provides two person/hours of life support. A self-repairing plastic seal serves as an emergency airlock. Rescue bubbles are found on both space vessels and water craft as emergency lifeboats.

Respirator: A small compressor that allows an individual to breathe in very thin atmospheres (type 3).

Swimming Equipment: Includes swim fins, wet suit, face mask. Protects against the effects of cold (5° Celsius or below), along with improving speed and maneuverability underwater; add DM +1 to all Athletics skill checks in these situations when wearing proper swimming equipment.

Thruster Pack: A simple thruster pack gives the user the ability to maneuver in zero-gravity. A Zero-G check is required to use a thruster pack accurately. Thruster packs can only be used in microgravity environments and are only practical for journeys between spacecraft at Adjacent range.

Underwater Air Tanks: Equivalent to oxygen tanks but designed for use underwater. Two tanks last 6 hours. Refill of proper atmospheric mixture for race and expected depth cost Cr20.

Tools

Technical skills require specialist tools of various kinds.

Table: Tools

Description	TL	Cost	Wgt
Mechanical Toolkit	4	1,000	12
Electronics Toolkit	5	1,000	12
Lock Pick Set	5	10	--
Medical Kit	7	1,000	10
Forensics Toolkit	8	1,000	12
Engineering Toolkit	9	1,000	12
Scientific Toolkit	9	1,000	12
Surveying Toolkit	9	1,000	12

Electronics Toolkit: Required for electrical repairs and installations. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

Engineering Toolkit: Required for performing repairs and installing new equipment. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

Forensics Toolkit: Required for investigating crime scenes and testing samples. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

Lock Pick Set: Allows picking of ordinary mechanical locks. Lock pick sets are illegal on worlds of law level 8+; on such worlds the cost rises to Cr100 or more.

Mechanical Toolkit: Required for repairs and construction. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

Medical Kit: This medical kit contains diagnostic devices and scanners, surgical tools and a plethora of drugs and antibiotics, allowing a medic to practice his art in the field.

Scientific Toolkit: Required for scientific testing and analysis. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

Surveying Toolkit: Required for planetary surveys or mapping. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

Vehicles

In classic science fiction, characters rarely travel on foot. Vehicles play a big role in Cepheus Engine games. All vehicles have the following traits:

TL: The lowest Technology Level that the vehicle is available at.

Skill: The skill used to drive or pilot the vehicle.

Agility (Agi): How easy the vehicle is to drive, expressed as a DM to the pilot's skill check.

Speed (Spd): The vehicle's maximum speed.

Crew and Passengers (C&P): How many people the vehicle can carry.

Open/Closed (O/C): If the vehicle is open or closed.

Armor: How much armor the vehicle has. Damage sustained by a vehicle is reduced by its armor.

Hull: The number of hits the vehicle can sustain to its Hull before being disabled.

Structure (Struc): The number of hits the vehicle can sustain to its Structure before being destroyed.

Weapons (Wpns): What weapons the vehicle has, if any, and what fire arcs they are in.

Cost: How much the vehicle costs.

Table: Common Vehicles

Vehicle	TL	Skill	Agi	Spd	C&P	O/C	Armor	Hull	Struc	Wpns	Cost (KCr)
Steamship	4	Ocean Ships	-3	30 kph	5 crew, 10 psgr	Closed	2	40	40	None	720
Biplane	5	Winged Aircraft	+1	250 kph	1 pilot, 1 psgr	Closed	2	1	1	None	46
Ground Car	5	Wheeled Vehicle	+0	150 kph	1 driver, 3 psgr	Closed	6	3	2	None	6
Motor Boat	5	Motorboats	-3	120 kph	5 crew, 10 psgr	Closed	3	16	17	None	530
Helicopter	6	Rotor Aircraft	+1	100 kph	1 pilot, 7 psgr	Closed	3	2	3	None	250
Submersible	6	Submarine	-4	40 kph	5 crew, 10 psgr	Closed	3	85	85	None	1,700
Twin Jet Aircraft	6	Winged Aircraft	+1	600 kph	2 pilots, 6 psgr	Closed	3	5	5	None	480
Hovercraft	7	Rotor Aircraft	+1	150 kph	1 pilot, 15 psgr	Closed	3	7	8	None	880
Air/Raft	8	Grav Vehicle	+0	400 kph	1 pilot, 3 psgr	Open	6	2	2	None	275
Speeder	8	Grav Vehicle	+2	1500 kph	1 pilot, 1 psgr	Closed	3	1	2	None	890
Destroyer	9	Ocean Ships	-5	40 kph	10 crew, 8 gunners, 12 psgr	Closed	8	63	63	None	4,800
Grav Floater	11	Grav Vehicle	-2	40 kph	1 rider	Open	-	-	1	None	0.5
AFV	12	Tracked Vehicle	+0	80 kph	1 driver, 9 psgr	Closed	18	5	5	Triple Laser (turret)	65
ATV	12	Tracked Vehicle	+0	100 kph	1 driver, 15 psgr	Closed	12	5	5	None	50
Grav Belt	12	Zero-G	+2	300 kph	1 wearer	Open	-	-	-	None	100
G/Carrier	15	Grav Vehicle	+0	620 kph	1 driver, 1 gunner, 14 psgr	Closed	25	8	8	Fusion Gun (turret)	150

AFV: A heavily armored ATV, known as an Armored Fighting Vehicle, equipped with a triple laser turret. The lasers use the Energy Rifle skill, do 4D6 damage each using the Ranged (rifle) range modifiers, and one, two or three may be fired at the same target with one attack action.

Air/Raft: An open-topped vehicle supported by anti-gravity technology. Air/rafts can even reach orbit (taking a number of hours equal to the world's Size code) but passengers at that altitude must wear vacc suits. They are ubiquitous, remarkably reliable and flexible vehicles.

ATV: An enclosed, pressurized all-terrain ground vehicle. The vehicle is capable of floating on calm water, and has a suite of built-in sensors and communications equipment (usually a laser transceiver) making it ideal for exploration. An ATV has a hardpoint for a turret, but does not come with a weapon normally.

Biplane Aircraft: A primitive form of aircraft with two pairs of wings, one above the other. This vehicle can only transport 100kg of cargo.

Destroyer A fast maneuverable long-endurance watercraft built for military action, intended to escort larger watercraft in a fleet, convoy or battle group and defend them against smaller powerful short-range attackers. Powered by a fusion power plant, the destroyer carries deck-mounted turrets capable of firing major. Cargo capacity is limited to 40 tons, mostly used to carry ammunition.

G/Carrier: A grav carrier is effectively a flying tank, and is the standard fighting vehicle of many military forces. The turret-mounted fusion gun is a vehicle-mounted version of the TL 15 FGMP and uses the same 'serious firepower' rules. Advanced containment systems mean that it does not leak radiation with each shot in the same way as the man-portable version. Like the air/raft, the G/Carrier can reach orbit (taking a number of hours equal to the world's Size code).

Grav Belt: A grav belt resembles a parachute harness, and is fitted with artificial gravity modules allowing the wearer to fly. The internal battery can operate for a maximum of four hours before needing to be recharged. At TL 15, the battery can operate for 12 hours before charging. Options cannot be added to the grav belt.

Grav Floater: A grav floater is a forerunner of the grav belt, a platform upon which a single person can stand and be carried along. It cannot achieve any great speed but can, like an air/raft, achieve any altitude up to orbit (taking a number of hours equal to the world's Size code).

Ground Car: A ground car is a conventional wheeled automobile.

Helicopter: An aircraft that derives both lift and propulsion from one or more sets of horizontally revolving overhead rotors. It is capable of moving vertically and horizontally, the direction of motion being controlled by the pitch of the rotor blades. The helicopter can carry 500 kg of cargo.

Hovercraft: A vehicle that travels over land or water on a cushion of air provided by a downward blast, the hovercraft is only usable on worlds with a Thin atmosphere or thicker. The hovercraft has 3 tons of cargo space.

Motor Boat: Watercraft using hydrofoils to achieve exceptional speed and performance. The hold of the vehicle can accommodate 10 tons of cargo.

Small Steamship: A watercraft that is propelled by a steam engine. The steamship has a cargo capacity of 50 tons.

Speeder: Capable of high speed transit across a planetary surface, the speeder is a streamlined grav vehicle with a limited cargo capacity of 100kg. This vehicle only takes an hour to reach orbit.

Submersible: A watercraft designed to operate under an ocean's surface. Submersibles are often used as transport between domed cities on waterworlds and other planets with large fluid oceans. The submersible can carry 30 tons of cargo.

Twin Jet Aircraft: A fixed-wing aircraft propelled by jet engines, often used to transport cargo. The hold has a cargo capacity of 5 tons.

Vehicle Options

With the exception of on-board computer, each of these options can only be taken once on a given vehicle.

Autopilot (TL 11): An autopilot has a Model 1 computer specialized to run Intellect/1 and an Expert/1 in an appropriate skill and specialty. This will be in addition to any other computers installed. An autopilot is often mandatory on cheaper commercial models. In many areas (primarily urban) they are required to be in use. Higher Law Level polities may require a slave modification to the autopilot for centralized and/or emergency traffic control. Cr3,000.

Enclosed: This modification turns an open vehicle into a closed one. It costs 10% of the base cost of the vehicle, reduces Agility by 1 and top speed by 10%.

Extended Life Support: A vehicle which is sealed can be equipped for extended life support, which increases the duration to 18 hours per person. Costs another 10% of the base cost of the vehicle.

Heavy Armor: Increasing the armor of a vehicle by 5 adds 25% to the cost of the vehicle.

High Performance: A vehicle can be made into a high-performance vehicle, increasing its top speed by 20%. The vehicle costs 50% more.

On-board Computer: Adding an on-board computer costs the same as a hand computer.

Sealed: This option can be added to any closed vehicle (it is included in the ATV, AFV, G/Carrier and Speeder). The vehicle can be sealed and provides life support for its passengers and crew for two hours per person. This option adds 20% to the cost of the vehicle.

Style: Allows a vehicle to be customized to the buyer's wishes. Costs Cr200 to Cr2,000.

Weapons

A small selection of the weaponry available in a Cepheus Engine campaign can be found in the tables below. The Law Level of a world will limit the availability of certain weapons.

Melee Weapons

A number of melee weapons are described in the Common Personal Melee Weapons table. Each column is described as follows:

Cost: Price in Credits (Cr) or 1000s of Credits (KCr).

TL: The minimum tech level required to manufacture such an item.

Wgt: Weight in grams (g) or kilograms (kg).

Range: The range category for this weapon.

Damage: The damage a weapon inflicts.

Type: Type of damage inflicted – (B)ludgeoning, (E)nergy, (P)iercing or (S)lashing.

LL: The Law Level where the weapon first becomes illegal.

Table: Common Melee Personal Weapons

Weapon	TL	Cost	Wgt	Range	Damage	Type	LL
Unarmed Strike	--	--	--	melee (close quarters)	1D6	B	--
Cudgel	0	Cr10	1kg	melee (close quarters)	3D6	B	9
Dagger	0	Cr10	250g	melee (close quarters) or ranged (thrown)	1D6	P	5
Spear	0	Cr10	1500g	melee (extended reach) or ranged (thrown)	3D6	P	8
Pike	1	Cr40	8kg	melee (extended reach)	4D6	P	8
Sword	1	Cr150	1kg	melee (extended reach)	3D6	P/S	8
Broadsword	2	Cr300	3kg	melee (extended reach)	4D6	S	8
Halberd	2	Cr75	3kg	melee (extended reach)	4D6	S	8
Bayonet	3	Cr10	250g	melee (close quarters)	1D6	P	5
Blade	3	Cr50	350g	melee (extended reach)	2D6	P	8
Cutlass	3	Cr100	1250g	melee (extended reach)	3D6	S	8
Foil	3	Cr100	500g	melee (extended reach)	3D6	P	8

Bayonet: A small knife-like weapon similar to a dagger, frequently attached to a rifle. When not attached to a rifle, the bayonet performs as a dagger.

Blade: A hybrid knife weapon with a heavy, flat two-edged blade nearly 300mm in length, and (often, but not always) a semi-basket handguard. Because of the bulk of the handguard, it is generally carried in a belt scabbard. Blades are as much survival tools as weapons, and are often found in emergency kits, lifeboats etc.

Broadsword: The largest of the sword weapons, also called the two-handed sword because it requires both hands to swing. The blade is extremely heavy, two-edged, and about 1000 to 1200mm in length. The hilt is relatively simple, generally a cross-piece only, with little basketwork or protection. When carried, the

broadsword is worn in a metal scabbard attached to the belt; less frequently, the scabbard is worn on the back, and the broadsword is drawn over the shoulder.

Cudgel: A basic stick used as a weapon. Easily obtained from standing trees or through the use of an unloaded long gun such as a rifle or carbine (laser weapons are too delicate to be used as cudgels). Length: 1000 to 2000mm.

Cutlass: A heavy, flat-bladed, single-edged weapon featuring a full basket hilt to protect the hand. The cutlass is the standard shipboard blade weapon and sometimes kept in lockers on the bulkhead near important locations; when worn, a belt scabbard is used. Blade length varies from 600 to 900mm.

Dagger: A small knife weapon with a flat, two-edged blade approximately 200mm in length. Daggers are usually carried in a belt sheath, or less frequently concealed in a boot sheath or strapped to the forearm. Daggers are usually as much a tool as a last-resort weapon of defense, and worn constantly. Each weighs 250 grams; that weight, however, does not count against the weight load of the character as the weapon is worn constantly and comfortably.

Foil: Also known as the rapier, this weapon is a light, sword-like weapon with a pointed, edged blade 800mm in length, and a basket or cup hilt to protect the hand. Foils are worn in scabbards attached to the belt.

Halberd: A two-handed pole weapon having an axe-like blade and a steel spike mounted on the end of a long shaft. Length: 2500mm.

Pike: A two-handed weapon with a pointed steel or iron head on a long wooden shaft. Length: 3000 to 4000mm.

Spear: A weapon with a long shaft and a pointed tip, typically of metal, used for thrusting or throwing. Length: 3000mm.

Sword: The standard long-edged weapon, featuring a flat, two-edged blade. It may or may not have a basket hilt or hand protector. A scabbard to carry the sword may be attached to the belt, or to straps (or a sash) over the shoulder. Blade length may vary from 700 to 950mm.

Ranged Weapons

The Common Ranged Weapons table lists the ranged weapons commonly available in a Cepheus Engine campaign. Each column is described as follows:

Cost: Price in Credits (Cr) or 1000s of Credits (KCr).

TL: The minimum tech level required to manufacture such an item.

Wgt: Weight in grams (g) or kilograms (kg).

RoF: Rate of Fire. The number of rounds that may be fired during a significant action in the format: Single Shot / Burst Shot / Automatic Fire.

Range: The range category for this weapon.

Dmg: The damage a weapon inflicts.

Type: Type of damage inflicted – (B)ludgeoning, (E)nergy, (P)iercing or (S)lashing.

Recoil: Lists if the weapon has recoil when fired.

LL: The Law Level where the weapon first becomes illegal.

The Common Ranged Ammunition table describes the cost of ammunitions and power packs for certain ranged weapons. Each column is described as follows:

Cost: The cost of a full magazine of standard ammunition or power pack for a weapon.

TL: The minimum tech level required to manufacture such an item.

Wgt: The weight of a full magazine or power pack for a weapon.

Rounds: The number of rounds the weapon may fire before it must be reloaded or recharged.

Table: Common Personal Ranged Weapons

Weapon	TL	Cost	Wgt	RoF	Range	Dmg	Type	Recoil	LL
Bow	1	Cr60	1kg	1	ranged (assault weapon)	2D6	P	Yes	6
Crossbow	2	Cr75	3kg	1	ranged (rifle)	2D6	P	Yes	6
Revolver	4	Cr150	900g	1	ranged (pistol)	2D6	P	Yes	6
Auto Pistol	5	Cr200	750g	1	ranged (pistol)	2D6	P	Yes	6
Carbine	5	Cr200	3kg	1	ranged (shotgun)	2D6	P	Yes	6
Rifle	5	Cr200	4kg	1	ranged (rifle)	3D6	P	Yes	6
Shotgun	5	Cr150	3750g	1	ranged (shotgun)	4D6	P	Yes	7
Submachinegun	5	Cr500	2500g	0/4	ranged (assault weapon)	2D6	P	Yes	4
Auto Rifle	6	Cr1000	5kg	1/4	ranged (rifle)	3D6	P	Yes	6
Assault Rifle	7	Cr300	3kg	1/4	ranged (assault weapon)	3D6	P	Yes	4
Body Pistol	7	Cr500	250g	1	ranged (pistol)	2D6	P	Yes	1
Laser Carbine	8	Cr2500	5kg	1	ranged (pistol)	4D6	E	No	2
Snub Pistol	8	Cr150	250g	1	ranged (pistol)	2D6	P	No	6
Accelerator Rifle	9	Cr900	2500g	1/3	ranged (rifle)	3D6	P	No	6
Laser Rifle	9	Cr3500	6kg	1	ranged (rifle)	5D6	E	No	2
Advanced Combat Rifle	10	Cr1000	3500g	1/4	ranged (rifle)	3D6	P	Yes	6
Gauss Rifle	12	Cr1500	3500g	1/4/10	ranged (rifle)	4D6	P	No	6
Laser Pistol	12	Cr1000	1200g	1	ranged (pistol)	4D6	E	No	2

Table: Common Ranged Ammunition

Weapon	TL	Cost	Wgt	Rounds
Bow	1	Cr1	25g	1
Crossbow	2	Cr2	20g	1
Revolver	4	Cr5	100g	6
Auto Pistol	5	Cr10	250g	15
Body Pistol	7	Cr20	50g	6
Snub Pistol	8	Cr10	30g	6/15
Shotgun	5	Cr10	750g	10
Rifle	5	Cr20	500g	10
Carbine	5	Cr10	125g	20
Auto Rifle	6	Cr20	500g	20
Assault Rifle	7	Cr20	330g	30
Accelerator Rifle	9	Cr25	500g	15
Advanced Combat Rifle	10	Cr15	500g	20
Gauss Rifle	12	Cr30	400g	40
Submachinegun	5	Cr20	500g	30
Laser Pistol	12	Cr100	500g	25
Laser Carbine	8	Cr200	3kg	50
Laser Rifle	9	Cr300	4kg	100

Accelerator Rifle: Designed specifically for zero-g combat, the accelerator rifle fires a specially designed round which upon leaving the barrel is accelerated by a secondary propelling charge. Normally the rifle fires bursts of three rounds per pull of the trigger, but may be adjusted to fire single rounds.

Advanced Combat Rifle (ACR): A progressive development of the assault rifle.

Assault Rifle: A lighter and less expensive version of the automatic rifle.

Automatic Rifle: A highly refined and tuned version of the rifle, capable of full automatic fire as well as semi-automatic shots. Normally, the automatic rifle fires bursts of four bullets for each pull of the trigger. It may be switched to semi-automatic fire at the end of a combat round, after all firing, in which case it is treated as a rifle until switched back to burst mode. Ammunition and magazines are identical to those used for the rifle.

Auto Pistol: Also referred to as a Semi-Automatic Pistol, Automatic Pistol or just a Pistol, the auto pistol is a basic repeating handgun. One cartridge is fired for each pull of the trigger. Auto pistol ammunition is interchangeable with submachinegun ammunition (although magazines are not). Preloaded magazines may be inserted into an empty pistol, but require a reload action to complete.

Body Pistol: A small, non-metallic semiautomatic pistol designed to evade detection by most weapon detectors. One cartridge is fired for each pull of the trigger. Pre-loaded magazines may be inserted into the pistol when it is empty, requiring a reload action to do so. Body pistol ammunition is not interchangeable with the ammunition for any other types of guns.

Bow: A stout but supple piece of wood carved to a specific shape and strung with a piece of cord, string or gut to increase tension. The string is pulled back and released to hurl an arrow long distances with surprising force. At higher technology levels, bows are modified with additional strings and pulley systems to add accuracy and power.

Carbine: A short type of rifle firing a small caliber round. A magazine containing ten rounds is inserted into the underside of the carbine ahead of the trigger guard or behind the handgrip (this configuration is referred to as “Bullpup”, and in some localities carbines may be referred to as Bullpups), and one round is fired with each pull of the trigger. Replacement of an empty magazine takes a reload action. Carbine ammunition is not interchangeable with any other type of ammunition. In essence, a carbine is a short rifle, firing a cartridge of smaller, lighter caliber. A sling usually allows the carbine to be carried on the shoulder, out of the way.

Crossbow: A horizontal bow set into a mechanical firing mechanism and stronger-than-normal pull, crossbows are very powerful weapons that are very time consuming to reload. At higher technology levels, crossbows are built with crank and pulley systems that make the weapons easier to reload, even self-loading at TL9. Reloading a TL2 crossbow takes 6 minor actions, at TL4 this is reduced to 3 minor actions.

Gauss Rifle: The ultimate development of the slug thrower, the gauss rifle generates an electromagnetic field along the length of the barrel which accelerates a bullet to high velocities. The round itself consists of a dense armor piercing core surrounded by a softer metal covering, ending in a hollow point, giving the round excellent stopping power and good armor penetration.

Laser Carbine: A lightweight version of the laser rifle, firing high energy bolts using current from a backpack battery/power pack. The laser carbine fires a 2mm beam of energy, aimed by integrated optic sights. The power pack is capable of producing 50 shots before it requires recharging. Recharging requires at least eight hours connected to a high-energy source. The laser carbine is connected to the power pack by a heavy-duty cable.

Laser Pistol: A pistol equivalent of the laser carbine, though still dependent on an external power pack.

Laser Rifle: The standard high energy weapon, firing energy bolts in the same manner as the laser carbine. Heavier, the laser rifle is also capable of longer sustained action, and is somewhat sturdier. The power pack can provide 100 shots before recharging. As in the laser carbine, the laser rifle is connected to the power pack by a heavy-duty cable. Power packs are not interchangeable between the two weapons, however.

Revolver: An early handgun, the revolver fires 9mm bullets with characteristics similar to those used by the automatic pistol but not interchangeable with them. No magazine is used: six cartridges are inserted into the revolver individually. Reloading takes two combat rounds, or one combat round if the individual foregoes the benefit of evasion.

Rifle: The standard military arm, firing a 7mm, 10 gram bullet at a velocity of approximately 900 meters per second. Longer and heavier than a carbine, it is also more effective. Standard equipment includes provisions for attaching a bayonet and telescopic sights, and a shoulder sling. A twenty-round magazine is attached to the front of the trigger guard, and one round is fired with each pull of the trigger. Replacement of the empty

magazine requires a reload action. Rifle ammunition may also be used in automatic rifles; rifle and auto rifle magazines are interchangeable, and weigh the same.

Shotgun: The basic weapon for maximum shock effect without regard to accuracy. The shotgun has an 18mm diameter barrel and fires shells containing either six 7mm bullets, or one hundred and thirty 3mm pellets. In each case, the projectiles weigh a total of 30 grams. Velocity for the projectiles is about 350 meters per second. A cylindrical magazine containing 10 shells is inserted under the barrel and parallel to it; cartridges are then fed automatically into the shotgun for firing. Reloading consists of replacing the cylindrical magazine and takes two combat rounds. One shot is fired for each pull of the trigger. Magazines measure approximately 350mm long by 20mm in diameter and are quite clumsy to carry. Shotguns are equipped with a sling for carrying.

Snub Pistol: A low velocity revolver designed for use shipboard and in zero-g environments.

Submachinegun (SMG): A small automatic weapon designed to fire pistol ammunition. Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design. The gun fires a burst of four rounds per pull of the trigger. Replacement of an empty magazine requires one combat round. Submachinegun ammunition (but not magazines) is interchangeable with autopistol ammunition. Most submachineguns are equipped with slings for ease of carrying. Some are small enough to be carried in a shoulder or hip holster.

Ranged Weapon Options

The following options are generally available for certain ranged weapons.

Folding Stocks: Carbines, rifles, and shotguns can be equipped with folding stocks which make it possible to reduce the overall length of the weapon by 300mm.

Grenade Launcher: An underslung RAM grenade launcher can be added to any rifle. This grenade launcher has a magazine of one grenade, cannot fire on automatic and takes four minor actions to reload.

Gyrostabilizer: Stabilizers can be added to any weapon with recoil, reducing the recoil penalty by one point (to DM-1).

Intelligent Weapon: This adds a Model/ 0 computer to any weapon. The TL 13 upgrade adds Model /1 to any weapon, for Cr5,000.

Laser Sight: Integrated optics and laser sights give an extra +1 DM bonus to any attack that has been aimed. At TL 10, x-ray lasers and improved display technology removes the tell-tale 'red dot' of a vislight laser. Cr200.

Laser Telescopic Sights: Electronic sights combining the capabilities of both electronic and telescopic sights. They are still rather fragile.

Secure Weapon: A secure weapon requires authentication in some fashion (scanning the user's DNA or iris patterns, entering a password, transmission of an unlocking code from a comm) before it can be fired.

Shoulder Stocks: It is possible to produce a shoulder stock which may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. When firing a pistol or revolver equipped with such a stock, treat the weapon as ranged (shotgun). The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

Silencer: A silencer can be added to any slug thrower with ROF 4 or less, masking the sound produced by firing. (−4 DM to detect.)

Telescopic Sights: High-quality telescopic sights for attachment to weapons, for increasing their accuracy, especially at longer ranges. A weapon equipped with such sights gains an extra +1 DM bonus to any attack that has been aimed. Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left untended in a moving truck, a close explosion, or being dropped) on an 8+ on 2D6. When the sights go out of adjustment, the firer will always miss.

Table: Ranged Weapon Accessories

Accessory	TL	Cost	Wgt (kg)
Shoulder Stocks	5	Cr75	1
Folding Stocks	6	Cr100	0.5
Telescopic Sights	6	Cr200	0.8
Grenade Launcher	8	Cr1000	--
Laser Sights	8	Cr100	1.5
Silencer	8	Cr250	--
Gyrostabilizer	9	Cr300	--
Laser Telescopic Sights	9	Cr3000	1.8
Secure Weapon	10	Cr100	--
Intelligent Weapon	11	Cr1000	--

Grenades

A grenade is a small explosive device designed to be thrown by hand (treat as Ranged (thrown) for Difficulty by range) or launched from a grenade launcher (treat as Ranged (shotgun) for Difficulty by range). A number of grenades are described in the Common Grenades table. Each column is described as follows:

Cost: Price in Credits (Cr) for a case of six grenades.

TL: The minimum tech level required to manufacture such an item.

Wgt: Weight per grenade in grams (g) or kilograms (kg).

Damage: The damage a weapon inflicts.

LL: The Law Level where the weapon first becomes illegal.

Table: Common Grenades

Weapon	TL	Cost per Case	Wgt	Damage	LL
Frag	6	180	0.5	5D6/3D6/1D6; see description	1
Smoke	6	90	0.5	Special; see description	1
Aerosol	9	90	0.5	Special; see description	1
Stun	9	180	0.5	3D6 stun; see description	1

Aerosol: Aerosol grenades create a fine mist six meters in radius that diffuses lasers but does not block normal vision. Any laser attack made through the mist has its damage reduced by 10. Laser communications through the mist are completely blocked. The mist dissipates in 1D6x3 rounds, although high winds and other extreme weather can sharply reduce this time.

Frag: The damage from fragmentation grenades decreases with distance from the blast:

Table: Frag Grenade Damage by Distance

Distance	Damage
3 meters	5D6
6 meters	3D6
9 meters	1D6

Smoke: Smoke grenades create a thick cloud of smoke six meters in radius, centered on the location of the grenade. This smoke imposes a –2 DM on all attacks within or through the cloud (doubled for laser weapons). Smoke dissipates in 1D6x3 rounds, although high winds and other extreme weather can sharply reduce this time.

Stun: Stun weapons, such as stun grenades, are non-lethal and do not inflict normal damage. A character within six meters of a stun grenade detonation must make an Endurance check with a negative DM equal to the damage (after armor is subtracted). If this Endurance check is failed the character is knocked unconscious. If the Endurance check is successful, the character is unaffected by the weapon and the stun damage is ignored.

Heavy Weapons

Heavy weapons are man-portable and larger weapons that cause extreme property damage. Common Heavy Weapons table lists the heavy weapons commonly available in a Cepheus Engine campaign. Each column is described as follows:

Cost: Price in Credits (Cr) or 1000s of Credits (KCr).

TL: The minimum tech level required to manufacture such an item.

Wgt: Weight in grams (g) or kilograms (kg).

RoF: Rate of Fire. The number of rounds that may be fired during a significant action in the format: Single Shot / Auto

Range: The range category for this weapon.

Damage: The damage a weapon inflicts.

Recoil: Lists if the weapon has recoil when fired.

LL: The Law Level where the weapon first becomes illegal.

The Common Heavy Weapons Ammunition table describes the cost of ammunitions and power packs for certain heavy weapons. Each column is described as follows:

Cost: The cost of a full magazine of standard ammunition or power pack for a weapon

TL: The minimum tech level required to manufacture such an item.

Wgt: The weight of a full magazine or power pack for a weapon.

Rounds: The number of rounds the weapon may fire before it must be reloaded or recharged.

Table: Common Heavy Weapons

Weapon	TL	Cost	Wgt	RoF	Range	Damage	Recoil	LL
Grenade Launcher	7	400	6	1	ranged (shotgun)	By grenade	Yes	3
Rocket Launcher	7	2,000	6	1	ranged (rocket)	4D6	No	3
RAM Grenade Launcher	8	800	6	1/3	ranged (assault weapon)	By grenade	Yes	3
PGMP	12	20,000	10	1/4	ranged (rifle)	10D6	Yes	2
FGMP	14	100,000	12	1/4	ranged (rifle)	16D6	Yes	2

Table: Common Heavy Weapon Ammunition

Weapon	TL	Cost	Wgt	Rounds
Grenade Launcher	7	180	0.5	6
Rocket Launcher	7	300	1	1
RAM Grenade Launcher	8	180	0.5	6
PGMP	12	2,500	6	40
FGMP	14	65,000	9	40

FGMP (Fusion Gun, Man-Portable): It includes a gravity suspension system to reduce its inertia, making it easier to use than the PGMP (minimum Strength 9) and fires what amounts to a directed nuclear explosion. Those without radiation protection who are nearby when a FGMP is fired will suffer a lethal dose of radiation – each firing of an FGMP emits 2D6 x 20 rads, which will affect everyone within the immediate vicinity.

Grenade Launcher: Grenade launchers are used to fire grenades over long distances. Grenades for a grenade launcher are not interchangeable with handheld grenades.

PGMP (Plasma Gun, Man-Portable): It is so heavy and bulky that it can only be used easily by a trooper with a Strength of 12 or more – usually attained by wearing battle dress. Every point by which a user's Strength falls short is a –1 DM on any attack rolls made with it.

RAM Grenade Launcher: Rocket Assisted Multi-purpose grenade launchers have a longer range and are capable of firing up to three grenades with a single attack. This uses the rules for firing on full auto; unlike other automatic weapons, a RAM grenade launcher cannot fire in burst mode. It takes two minor actions to reload a RAM grenade launcher. Grenades for a RAM grenade launcher are not interchangeable with handheld grenades.

Rocket Launcher: To counteract the recoil of the weapon, a rocket launcher channels exhaust backwards in an explosive back blast. Anyone up to 1.5 meters behind a rocket launcher when it fires takes 3D6 damage from the burning gasses. Vehicle-mounted rocket launchers lose this side-effect as a vehicle is a more stable firing platform than a person. It takes three minor actions to reload a rocket launcher.

The rockets presented are high-explosive models. Do not add the Effect of the attack roll to their damage but apply that damage to everything within six meters of the impact point. A rocket that misses has a 50% chance (4+ on 1D6) of detonating upon impact with the ground (6 – Effect meters away in a random direction). Otherwise it will miss completely and leave the battlefield without striking anything or detonating.

CHAPTER 5: PERSONAL COMBAT

Personal combat is a common means of resolving conflicts. This chapter provides detailed rules for personal combat.

Personal Combat Checklist

Personal combat in the Cepheus Engine is cyclical. Everybody acts in turn in a regular cycle called a round. Generally, combat runs in the following way:

1. The Referee determines which characters are aware of their opponents at the start of the battle. If some but not all combatants are aware of their opponents, the combatants that are aware of their opponents are considered to get an automatic 12 on their initiative roll, giving them an Initiative of 12 + Dexterity DM.
2. Any remaining combatants roll initiative. All combatants are now ready to begin their first round of combat.
3. Combatants act in initiative order.
4. When everyone has had a turn, the combatant with the highest initiative total acts again, and steps 4 and 5 repeat until combat ends.

Range

Personal combat is divided into a series of range bands. These are identified in the Personal Combat Range Bands table.

Table: Personal Combat Range Bands

Range	Distance to Target	Squares to Target
Personal	Less than 1.5 meters	0 (combatants are in the same square)
Close	1.5 to 3 meters	1 to 2 squares
Short	3 to 12 meters	3 to 8 squares
Medium	12 to 50 meters	9 to 34 squares
Long	51 meters to 250 meters	35 to 166 squares
Very Long	251 meters to 500 meters	167 to 334 squares
Distant	501 meters+	334 squares+

The Difficulty of any attack is based on the weapon type and the range of the attack, as per the Attack Difficulties by Weapon Type table.

Table: Attack Difficulties by Weapon Type

Weapon	Personal	Close	Short	Medium	Long	Very Long	Distant
Close Quarters	Average	Difficult	--	--	--	--	--
Extended Reach	Difficult	Average	--	--	--	--	--
Thrown	--	Average	Difficult	Difficult	--	--	--
Pistol	Difficult	Average	Average	Difficult	Very Difficult	--	--
Rifle	Very Difficult	Difficult	Average	Average	Average	Difficult	Very Difficult
Shotgun	Difficult	Average	Difficult	Difficult	Very Difficult	--	--
Assault Weapon	Difficult	Average	Average	Average	Difficult	Very Difficult	Formidable
Rocket	Very Difficult	Difficult	Difficult	Average	Average	Difficult	Very Difficult

Starting Range

When a combat begins, the Referee must decide the starting range that separates the groups of combatants. For combat in tight quarters, such as inside an office complex or starship, or within an underground tunnel system, the starting range is usually Short. The range for outdoor encounters is usually Medium, although open

areas such as prairies, deserts, open roads and ocean surfaces make it easier to see at a distance, so Long or even Very Long range would not be inappropriate. Total darkness reduces starting range to Short or less. Partial darkness restricts starting range to Medium or less.

Initiative

If the combatants are all unprepared for combat, then each rolls 2D6 and adds their Dexterity DM to determine starting Initiative. Initiative determines the order that characters act in, but it can also be spent to react to events. If some of the combatants are ready for combat and some are not, such as in an ambush, the prepared characters are considered to get an automatic 12 on their roll, giving them an Initiative of 12 + Dexterity DM. Characters that are aware of a group, and that group is unaware of them, may elect to avoid conflict entirely. Characters that have the Tactics skill may make a Tactics check and add the Effect of this check to the Initiative of everyone in their unit with whom they are in direct communication.

The Combat Round

Each combat round lasts around six seconds of game time. In a combat round each character gets a minor action and a significant action. Actions are taken in descending order of Initiative. If two characters have the same Initiative, the character with the highest Dexterity goes first. If they are still tied, then characters act simultaneously. When a character acts, he takes all his actions at once. Once everyone has acted a combat round is over and a new round begins. Initiative is not re-rolled but is dynamic, and may be adjusted up and down by actions taken during a round.

Dynamic Initiative

During the course of a round a character's Initiative score may be changed by reactions and hastening. Any changes affect your Initiative for one round only – either the current round if you have yet to act or the following round if you have acted already. Reactions reduce your Initiative in order to allow you to defend yourself from attacks. Hastening your action lets you act sooner but at a penalty to your roll. At the start of each combat round a character may declare that he is acting hastily. This gives him a +2 bonus to his Initiative for that round only but all his actions receive a –1 DM. A character can only hasten once.

Minor Actions

Minor actions are actions intended to move a distance or to manipulate or move an object. You can take up to three minor actions per round, at the loss of a significant action.

Aiming

A character that spends a minor action aiming at a target gets a +1 DM to his next attack on the target, as long as the character does nothing except aim until he makes his attack. A character may spend multiple actions on aiming, gaining a maximum aiming DM of +6 if he spends six minor actions on aiming.

Aiming for the Kill

Specifically aiming for a kill works exactly like regular Aiming, but does not add to the character's DM to hit the target. Instead, the character gains a bonus of +2 to his damage equal to the number of minor actions he spends Aiming for the Kill. He cannot dodge, duck, or move while aiming. He also loses his Aim bonus if hit or distracted. The maximum bonus obtainable from Aiming for the Kill is +6.

Changing Stance

A character can change to any one of the three stances – prone, crouched or standing – as a minor action.

Drawing and Reloading

The time taken to draw a weapon depends on its size and ease of use. The number of minor actions to ready or reload a weapon is listed in the description of each weapon. Most weapons take one minor action to draw and another minor action to reload, but some weapons are especially fast or slow.

Movement

The character moves up to six meters. When using a square grid for modelling the combat, each square should measure 1.5 meters to the side. This means that the average character moves four squares on his turn. Difficult terrain, such as rubble, mud or thick under-brush can halve a character's movement, allowing him to move only three meters per movement action. Crouching also halves movement.

Miscellaneous

The Referee may permit a character to perform a skill check or other action as a minor action if the use of the skill does not require the character's full attention or complex physical actions.

Significant Actions

Significant actions are intended to do something within about 3 seconds. You can perform a single significant action per round, or forego it to perform a total of three minor actions.

Minor Actions

A character can take two minor actions instead of a significant action.

Miscellaneous

A character may make a skill check or do something else as a significant action when such an action requires the character's full attention, concentration, complicated physical actions or some combination thereof. Any skill check with a time interval of 1-6 seconds is simply considered a significant action during combat.

Attack

The most common significant action is an attack. The basic attack action is trying to injure a foe with a melee attack or a ranged weapon. The attacker declares his target, and the foe may choose to react. The attacker then makes a skill check, and if successful, deals damage to his target. The actual Difficulty of this skill check is determined using the weapon type and the range of the attack, as given earlier in this chapter under **Range**. The standard skill checks used in making an attack are:

- **Melee Attack** = 2D6 + appropriate melee combat skill + Strength or Dexterity DM (attacker's choice)
- **Shooting Attack** = 2D6 + appropriate gun combat skill + Dexterity DM
- **Thrown Attack** = 2D6 + Athletics + Dexterity DM

Table: Common Modifiers to Attacks in Personal Combat

Action	Modifier
Aiming	+1 per Aim action
Cover	−0 to −6
Environmental Effects	−1 to −2
Intelligent Weapon	+1 if total DM is within the program's tolerance
Laser Sight	+1 if aiming
Movement	−1 for every 10 full meters of target movement
Target Dodges (Reaction)	−1
Target Parries (Reaction)	−Defender's appropriate melee skill
Target Stance	−2 if attacking a prone target at Medium or greater range +2 if attacking a prone target at Personal range
Weapons with Recoil (in Zero Gravity)	−2

Coup de Grace

A character can use a melee weapon to deliver a coup de grace to a helpless opponent that is within close range. They can also use a ranged weapon to do so, provided they are adjacent to the target. The attack automatically hit and the opponent dies.

Reactions

Reactions are actions taken immediately in response to the action of another. The more time a character spends reacting, the longer it will be until he acts himself. Each reaction lowers Initiative by 2 and applies a −1 DM to all skill checks until the following round. There is no limit to how many times a character can react in a round but a character can only react once to each attack and the penalties from reacting are cumulative.

A character can only react to attacks that he is aware of.

Dodging

A character who is being attacked may dodge, giving his attacker a −1 DM and giving himself a −1 DM on all skill checks until the next round. If the character is in cover or has an obstruction to duck or dodge behind, the DM to hit him is increased to −2.

Parrying

A character who is being attacked in melee can parry, applying his Melee skill as a negative DM equal to the attack roll. A parrying character also has a −1 DM on all skill checks until the next round.

Other Actions

Other types of action can take place during personal combat.

Free Actions

Some actions are so fast they do not even qualify as a minor action – shouting a warning, pushing a button, checking your watch, and so on. A character can perform as many of these free actions as he likes in a turn, although if he performs several the Referee may require him to spend a minor or even a significant action on his various tasks.

Extended Actions

Some skill checks will take longer than a single combat round to complete. Make a Timing roll for the task and then work out how many six second combat rounds it will take to complete. A character engaging in an

extended action cannot do anything else but can abandon their action at any time and return to the normal Initiative order. A character who is hit by an attack while undertaking an extended action must make an 8+ roll using the skill in question with a negative DM equal to the amount of damage the attack causes (after armor). Failure indicates that this round's work does not count towards the completion of the task. Failure by six or more (an Exceptional Failure) ruins the task and the character must start again.

Delay

A character does not have to act when his turn comes up in the Initiative order. He may act at any later point during the round, even interrupting another's actions to do so. When he acts, his Initiative is set to the count on which he acted. If the character has not acted by the end of the round he may choose to act first in the next round, effectively giving up his actions in the previous round in exchange for an Initiative advantage. His new Initiative is set to one higher than that of the current first person in the order. When multiple characters are delaying and all wish to act first in the following round, their Initiatives are all set to the same score and they act in Dexterity order as normal.

Special Considerations

The following are special considerations in Personal Combat.

Battlefield Comms

Communications technology is a vital part of the battlefield. If a character is not in communication with the rest of his unit and his commander, then he cannot benefit from Tactics or Leadership. Characters that benefitted from Tactics at the start of combat and are later cut off from their commander have their Initiative lowered by the same amount it was boosted at the start of combat. Unlike other Initiative modifications, this lasts until combat ends or communication is re-established. There are several methods of communication:

- **Direct:** This covers hand signals and verbal communications.
- **Hardlinks:** Hardlinks are wires or other physical connections, and cannot be jammed.
- **Radio:** Radio communications allow communications as long as the radio signal can get through – they can be jammed or blocked by local conditions.
- **Laser:** Two characters with tight beam lasers are in communication as long as line of sight exists between a character and another friendly laser-comm equipped character.
- **Masers:** These work just like lasers, but can cut through smoke and aerosols.
- **Meson:** Meson communicators cannot be jammed or blocked, but cannot be used while a character is moving.

Battlefield Conditions

Certain battlefield conditions affect ranged attacks:

- **Darkness:** Low light gives a –1 DM to ranged attacks. Complete darkness gives a –4 DM. Light penalties can be avoided by using sensors to target instead of the naked eye.
- **Smoke or Fog:** Smoke gives a –1 DM to ranged attacks by obscuring the target; especially thick and impenetrable smoke gives a –2 DM. These penalties are doubled for laser weapons.
- **Extreme Weather:** Driving wind, rain, snowstorms and so forth give a –1 DM to ranged attacks from poor visibility and a –1 DM to ranged attacks from environmental interference. Sensors can be used to avoid the visibility penalty.

Battlefield Sensors

There are several types of sensors.

- **Bioscanner:** Bioscanner 'sniffers' detect airborne pathogens and hazardous chemicals.

- **Infra-Red (Heat):** Infra-red sensors detect warm bodies, and negate concealment from smoke and soft cover, but can be jammed by strong heat sources.
- **Densitometer:** An outgrowth of gravitic technology, a densitometer can scan an area and plot variable densities, effectively creating a three-dimensional map of all objects.
- **Electromagnetic Detectors:** These sensors can detect unshielded high-power electrical devices, such as gauss weapons or transmitters.
- **Laser-Assisted Targeting:** A low-powered laser is reflected off the target, giving targeting data to the firer.
- **Light Intensification:** Light intensification technology magnifies visible light, negating the penalties for darkness or low light.
- **Motion Sensors:** Can detect motion within range.
- **Neural Activity Sensor (NAS):** A combination of highly sensitive EM-detectors and psionic theory, NAS detectors pick up on the brain activity of living beings and classify them according to amount and complexity, giving a rough idea of the intelligence of subjects.

Blind Firing

Blind firing works exactly like any other form of firing (including automatic), but it always treats the firer as having Level 0 in that weapon's relative skill. Additionally an extra die is thrown when firing, but before any calculations are made the highest die (or one of the highest, in case of a tie) is removed completely. Any successful attack(s) needs to then have a die rolled to randomly choose which eligible target in the firing line is hit – whether friend or foe.

Burst Fire

Weapons that fire a burst of 2, 3, 4, 10, 20, or 100 rounds may improve the attacker's odds of either hitting a target or inflict additional damage. The attacker must decide whether to spray the target, increasing the chances of scoring a hit, or to fire a precise, grouped burst in the hope of inflicting greater damage. Either sort of burst fire is considered a significant action.

Table: Burst Fire Effects

Burst Size	Attack DM	Extra Damage
1 round	+0	+0 damage
3 round burst	+1	+1 point of damage
4 round burst	+1	+1D6 damage
10 round burst	+2	+2D6 damage
20 round burst	+3	+3D6 damage
100 round burst	+4	+4D6 damage

Cover

Any sort of low wall, undergrowth, convenient rocks or other objects can serve as cover. Attacks made on characters who are behind cover suffer the negative cover DM on the Cover Modifiers table below. Crouching or prone targets can claim cover one step higher on the table. If a character in full cover is crouching or prone they are impossible to hit but cannot return fire.

Table: Cover Modifiers

Cover	Cover DM
1/4 (undergrowth, small rock, corner of a building)	–0
1/2 (thick forest, low wall, crate)	–1
3/4 (jungle, trench, reinforced position)	–2
Full (pillbox)	–4

Explosions

Grenades, rockets and other explosives affect an area. A character caught in an explosion may dodge at the usual Initiative cost. A character that dodges an explosion may reduce the damage by 1D6 if he just dodges or by half if he dives for cover. A character that dives for cover ends up prone and loses his next significant action.

Extreme Range Firing

Any weapon that has the ability to fire into the Distant range band (including ranged(Rifle), ranged(Assault Weapon) and ranged(Rocket) attacks) can potentially strike targets even beyond, so long as the firer can see the target. Weapons fired at this extreme range do so using the modifiers for Distant range with an additional DM of -2. Only characters with at least three levels of skill in the weapon may fire at extreme range. To fire at extreme range, characters must be stationary and prepared to fire from some kind of rest (tripod, tree limb, bunker embrasure and so on). Vehicles must be stationary for weapons to be fired at extreme range from it. Energy-based weapons (lasers, PGMPs, and so on) inflict half damage (round up) at this extreme range. This can be combined with Aiming for the Kill (above).

Fighting in Zero Gravity

When fighting in zero gravity, a character's skill levels are limited to lower of the character's Zero-G skill and the appropriate combat skill. For example, if a character has Laser Pistol-2 and Zero-G-1, then the character shoots with an effective skill level of 1, since his Zero-G skill level is lower than his Laser Pistol skill level. Characters without Zero-G skill are treated as unskilled in their attack, because of the disorientation. In addition, characters using weapons with recoil suffer a DM -2 on attack rolls when fighting in zero gravity conditions.

Firing into Combat

If a character is firing a weapon at a target that is at Personal range to another combatant, then the attack suffers a -2 DM. If the attack misses, roll 1D6. On a 4+, the attack hits the nearest other combatant to the original target.

Grappling

A character can attempt to wrestle or grab another person instead of hitting him. The attacker must move to Personal range and beat his target in an opposed Natural Weapons skill check. If he wins, he may do any one of the following:

- Continue the grapple with no other effects.
- Disarm his opponent. If he succeeds by 6+ he can take the weapon away; otherwise it ends up on the floor.
- Drag his opponent up to three meters.
- Escape the grapple and move away (as if with a normal movement action).
- Inflict damage equal to 2 + the Effect.
- Knock his opponent prone.
- Throw his opponent up to three meters for 1D6 damage.

Throwing an opponent always ends the grapple. With any other option the winner can choose to end or continue the grapple as he sees fit. A character in a grapple cannot move nor do anything other than make opposed Natural Weapons skill checks. Each time an opposed check is made the winner can choose an option from the above list.

Panic Fire

In order to call upon Panic Fire, a character must be using some form of small arms slug thrower. Panic fire uses all remaining rounds in the weapon, and hits are resolved as if the weapon were being fired using the Burst Fire rules for damage (not for accuracy). There is a DM -2 penalty to hit.

Shotgun Spread

Any shotgun loaded specifically with flechette rounds can be fired like a common round at a single target up to Short range, using the standard statistics for the weapon. If firing at a target or group of targets at Medium or Long range, the frag shell has its damage reduced to 2d6 but gains a DM+1 bonus to hit, and can hit not only the target aimed at but also anyone (friend or foe) in Personal range with the initial target.

Suppression Fire

Suppression fire works by having the character actually target the areas surrounding the target; a wall, a tree or even the ground at their feet are all perfectly suitable. The impact of the character's attacks are often enough to give pause to a potential attacker. The firing character rolls his shooting attack as normal, except with a -2 DM for trying to hit cover and nearby objects to the target(s). This attack action also uses up double the normal amount of ammunition per attack. Failures are treated as normal misses. Success means that the firer has hit close enough to the target to force them to duck away, stalling their next action by adding an initiative penalty equal to the Effect of the attack. Suppressed targets also receive a DM-1 penalty to any skill checks that they try to perform in both the current and following combat round.

Automatic fire can be used for Suppression fire, but no target can be affected twice by Suppression fire on the same action. The target must be allowed to take one action before he can be suppressed again. If multiple hits are used upon the same target, the highest Effect takes precedence.

There are some situations and instances that can make a target so unshakeable that they do not care about Suppression fire, and will not be harried by it. Some of those exceptions are found on the list below.

- Vehicles, or targets fully enclosed in vehicles
- Zealots
- Mechanical or android targets
- Targets wearing full Battle Dress
- Suicidal targets

Stance

A character can be standing, crouched or prone.

Standing: A standing character uses the normal rules.

Crouching: A crouching character moves at half speed but can make better use of cover. If a crouching character is in cover, consider it one row lower on the Cover Modifiers table. For example, if a character is crouching behind a waist-high wall, he is considered to be at 3/4 cover rather than 1/2 cover.

Prone: A prone character cannot make melee attacks or dodge. He may make improved use of cover like a crouching character and he may still parry melee attacks. All ranged attacks targeting him suffer a -2 DM penalty. At Close range, the penalty is reduced to +0; a prone character being attacked at Personal range grants a +2 DM to attacks against him.

Tactics and Leadership

The Tactics skill can be used to give an Initiative bonus to a whole unit at the start of combat. The unit commander may make a Tactics check, and everyone in the unit may increase their Initiative by the Effect of the check.

The Leadership skill can be used to increase another character's Initiative. The character with Leadership makes a Leadership check, and the target character's Initiative is increased by the Effect of the check. Making a Leadership skill check is a significant action.

Thrown Weapons

There are two kinds of thrown weapons: the first kind strike a single target and do damage from the force of their impact, such as throwing knives or a thrown rock. These use the normal rules for ranged combat. The other kind of thrown weapon is a grenade or other explosive projectile that inflicts no damage from impact but typically delivers a harmful payload. The first kind of thrown weapon adds the Effect of the Athletics check to its damage. The second does not.

If the attack fails the projectile scatters in a random direction for (6 + Effect) meters. This is usually only important if the projectile explodes on or after impact.

Damage

Each weapon lists the damage it inflicts as a number of D6. Add the Effect of the attack roll to this damage. The first time a character takes damage, it is applied to the target's Endurance. If a target is reduced to Endurance 0, then further damage is subtracted from the target's Strength or Dexterity (of the character's choice). If either Strength or Dexterity is reduced to 0, the character is unconscious and any further damage is subtracted from the remaining physical characteristic. If all three physical characteristics are reduced to 0, the character is killed.

Once a character has taken damage, any damage from subsequent attacks is allocated to any of the three physical characteristics as the character so chooses.

Table: Damage Results

Characteristic Damage	Result
At least 1 characteristic is damaged	Character is wounded
All 3 characteristics are damaged	Character is seriously wounded
2 characteristics are at Zero	Character is unconscious
3 characteristics are at Zero	Character is dead

Armor

Armor reduces damage by the value of the armor. A hit with Effect 6+ always inflicts at least one point of damage, regardless of the target's armor.

Fatigue

A character can become fatigued in numerous ways, such as staying awake too long, over-exerting themselves or even using certain medications. A fatigued character suffers a –2 DM to all checks until he rests. The amount of rest needed is 3 – the character's Endurance DM hours. If a character suffers fatigue while already fatigued they fall unconscious.

Unconsciousness

An unconscious character may make an Endurance check after every minute of unconsciousness – if successful, he regains consciousness. If he fails he must wait another minute and can then try again with a +1 DM on the check for every check previously failed.

Injury and Recovery

Injured characters are either wounded or seriously wounded. A character is considered seriously wounded if he has lost at least one point from all three of his physical characteristics. As soon as one of his physical characteristics is restored, no matter how, he is no longer seriously wounded.

Seriously wounded characters who have somehow avoided unconsciousness cannot move except to hobble or crawl along at 1.5 meters per combat round. They also lose their minor action in combat.

Wounded characters heal naturally and can also benefit from medical care. When characteristic points return from healing, players may choose which characteristic regains the points and may split healing between characteristics if they wish.

Natural Healing

An injured character regains a number of characteristic points equal to his 1D6 + Endurance DM per day of full rest. If the character continues an active lifestyle he only heals a number of characteristic points equal to 1 + Endurance DM per day. Characters with a low Endurance DM (quite possibly from injury) may degrade (lose more characteristic points) over time if they are unlucky or cannot (or will not) rest.

A seriously wounded character only regains characteristic points equal to his Endurance DM per day of rest, which means that the character may never heal naturally and will even get worse if his Endurance DM is currently negative.

Medical Treatment

Natural healing is not the only way to recover damage. Characters can also seek out medical treatment.

First Aid: Applying first aid restores a number of characteristic points equal to twice the Effect of the Medic check. Points restored by first aid are divided as desired among all damaged physical characteristics. First aid must be applied within five minutes of the injuries being received to be fully effective. A character can still benefit from first aid up to an hour after their injury but they only receive a number of characteristic points equal to the Effect of the Medic check. Performing first aid on yourself is a Difficult (–2) task.

Surgery: A character that is seriously wounded (after first aid has been applied) requires surgery. Surgery restores characteristic points just like first aid but if the check is failed the patient loses characteristic points equal to the Effect. Surgery requires a hospital or sickbay. Once one characteristic is back to its maximum level the patient can benefit from medical care. Surgery does not benefit characters that are not seriously wounded. Performing surgery on yourself is a Very Difficult (–4) task.

Medical Care: Medical care restores 2 + the character's Endurance DM + the doctor's Medic skill in characteristic points per day, divided evenly among all damaged characteristics. Medical care requires a hospital or sickbay and for the patient to undergo full bed rest.

Healing and Mental Characteristics

Other than Psionic Strength, characters may also suffer damage to their Intelligence or even their Education. Unless otherwise specified, each mental characteristic heals at the rate of one point per day.

Vehicles in Personal Combat

Combat in and on vehicles is much the same as ordinary combat. The differences are as follows:

- Unlike people, who are mobile and maneuverable, careful track must be kept of which way a vehicle is facing. Vehicle-mounted weapons – and armed passengers, to a lesser extent – are restricted to certain fire arcs.
- Vehicles are considered to move on the driver's Initiative. The driver must spend a minor action every round to keep control of the vehicle under normal circumstances – a straight road or simple maneuvers – or a significant action to navigate obstacles, conduct evasion or pursuit, or dodge incoming fire.
- Attackers gain a +1 DM to hit most vehicles because of their size.

Closed and Open Vehicles

There are two main types of vehicles: open and closed.

Closed Vehicles: Closed vehicles grant cover to the occupants – unless the description mentions otherwise civilian vehicles grant ½ soft cover and military vehicles full hard cover. Only a few people in a closed vehicle can shoot out, depending on the number of windows or other firing ports and the internal space available. Unless

the description mentions otherwise up to two people can fire into each arc from a civilian vehicle and one person in each arc in a military one.

Open Vehicles: Open vehicles grant no cover to the passengers. Any passenger in an open vehicle can shoot (or otherwise attack) in any direction.

Vehicle-Mounted Weapons

Weapons mounted on vehicles are limited in what directions they can fire. A weapon mounted in the front arc, for example, can only fire into a 90° area in front of the vehicle. Weapons in turrets can fire in any direction.

Collisions

When a vehicle collides with something else everything takes damage. Roll 1D6 for every 10 kph of the vehicle's speed (round up). This is applied as damage directly to anything hit and, if the thing struck is solid enough, also to the ramming vehicle. Any unsecured passengers in a vehicle damaged in a collision take the same damage and, if possible, are thrown three meters for every 10 kph of speed. Secured passengers (those wearing seatbelts or something similar) are not thrown anywhere and take one quarter damage.

Vehicular Actions

These are all significant actions that the driver of a vehicle can take when his turn in the initiative order arrives.

Evasive Action

Vehicles are not typically maneuverable enough to dodge as a reaction. Instead, the driver may declare that he is taking evasive action when his turn arrives. He makes a skill check (skill determined by vehicle) and the Effect acts as a –DM to all attacks against the vehicle or its passengers. The Effect also acts as a –DM to any attacks made from the vehicle as well. This lasts until the driver's next action.

Maneuvering

A driver or pilot can maneuver his vehicle without making a skill check. This allows the vehicle to avoid large or obvious obstacles, to get where it is going, to move out of one fire arc of an enemy vehicle and into a different one, or to change the fire arc that a single target is in.

Ram

Deliberately driving a vehicle into someone or something requires a significant action and a successful skill check (skill determined by vehicle). Rams are affected by dodging and evasive action as normal. The Referee may grant bonuses to a ram attempt or declare it automatically successful if the target is particularly large.

Stunt

With a significant action and a successful vehicle control check the driver or pilot of a vehicle can do pretty much anything it is possible to do in his vehicle – stand a car up on two wheels, perform stunning aerobatics in a jet plane, or skim a speedboat over a low sandbar. A stunt can be used to put a single target into one additional fire arc for one round, to set up some other skill check using the rules for task chains, to achieve something that would normally be difficult or impossible in your vehicle, to achieve up to three maneuver actions in one go, just to show off, or anything else you can imagine.

Weave

In an environment with many obstacles, such as an inner city or tight underground caverns, a driver or pilot may choose to weave his vehicle in and around the obstacles at high speed in order to evade pursuit. The driver chooses a weaving number, as low as one or as high as one per 20 km/h of speed (round up), and must then make a skill check (skill determined by vehicle) with the weaving number as a penalty on his roll. If he fails, he

has woven into an obstacle and crashed. If he succeeds, any pursuers must choose a weave action on their turn and make their skill test at the same penalty with the same consequence for failure. Alternatively, they can choose to break off pursuit and either give up or try to reacquire the target later.

Vehicle Damage

Vehicles have a Hull value and a Structure value, which measure the vehicle's structural integrity. When Hull is reduced to 0, the vehicle starts taking damage to its internal systems. When Structure is reduced to 0, the vehicle is reduced to scrap. Vehicles also suffer damage to onboard systems as they take damage.

To determine the effects of an attack on a vehicle, first determine how much damage the vehicle suffers as normal. Many vehicles will have one or more points of armor that reduces the damage. Consult the Vehicle Damage table to determine how many 'hits' the vehicle suffers. Each hit is then applied to a particular location on the vehicle. Double or Triple hits count as two or three hits on the same location.

Table: Vehicle Damage

Damage	Effect
0 or less	No damage
1–3	Single Hit
4–6	Two Single Hits
7–9	Double Hit
10–12	Three Single Hits
13–15	Two Single Hits, Double Hit
16–18	Two Double Hits
19–21	Triple Hit
22–24	Triple Hit, Single Hit
25–27	Triple Hit, Double Hit
28–30	Triple Hit, Double Hit, Single Hit
31–33	Two Triple Hits
For every extra three points	+1 Single Hit
For every extra six points	+1 Double Hit

Table: Vehicle Hit Location

2D6	External Hit (Vehicle)	Internal Hit (Vehicle)	Robot or Drone
2	Hull	Structure	Hull
3	Sensors	Power Plant	Power Plant
4	Drive	Power Plant	Sensors
5	Weapon	Cargo	Weapon or Limb
6	Hull	Structure	Hull
7	Armor	Passengers	Armor
8	Hull	Structure	Hull
9	Weapon	Cargo	Weapon or Limb
10	Drive	Computers	Drive
11	Sensors	Cockpit	Sensors
12	Hull	Cockpit	Computer

Hull

Reduce the vehicle or drone's Hull by one. If a vehicle runs out of Hull, further Hull hits become hits on the same row of the Internal Damage table (if a vehicle) or Structure hits (if a robot or drone).

Structure

Reduce the vehicle or drone's Structure by one. If a vehicle runs out of Structure, it is destroyed. If the vehicle is destroyed by an attack that reduces it to a negative Structure score it explodes, doing 4D6 damage to everyone within six meters (including the occupants) and 2D6 damage to everyone within twelve meters. The occupants of a closed vehicle cannot dodge or dive for cover from this explosion but the occupants of an open vehicle can.

Armor

Reduce the vehicle's armor by one.

Drive

First Hit: Reduce movement by 10% and apply a –1 DM to all vehicle control skill checks.

Second Hit: Reduce movement by 25% and apply a –2 DM to all vehicle control skill checks.

Third Hit: Drive disabled.

Further drive hits count as Hull hits.

Weapon

Choose a weapon or device randomly for each hit.

First Hit: The weapon or device suffers a –2 DM to all checks related to its operation.

Second Hit: The weapon or device is destroyed.

If no weapons remain to be destroyed, further hits on this location become Hull hits.

Sensors

First Hit: The vehicle or drone suffers a –2 DM to all Comms checks to use sensors. For drones and robots, this also applies to Recon checks.

Second Hit: The sensors are destroyed, blinding the vehicle or drone.

Further Sensor hits count as Hull hits.

Power Plant

First Hit: The vehicle or drone loses one round's worth of actions.

Second Hit: The vehicle or drone's movement is reduced by 50%.

Third Hit: The power plant is destroyed, disabling the vehicle and inflicting 1D6 Hull hits on it.

Limb

Choose a limb randomly for each limb hit.

First Hit: The limb suffers a –2 DM to all checks related to its operation.

Second Hit: The limb is destroyed.

Further Limb hits count as Hull hits.

Passengers

Choose a passenger randomly for any passenger hit. The passenger takes damage equal to the damage inflicted on the vehicle. If all the passengers are dead, further passenger hits become Structure hits.

Cargo

Any cargo present is hit and may be destroyed. If no cargo remains, further cargo hits become Structure hits.

Cockpit

The pilot of the vehicle is hit, and takes damage equal to the damage inflicted on the vehicle. If the pilot is dead, further pilot hits become Structure hits.

Computer

First Hit: The vehicle's computer system is disabled. A drone or robot with a disabled computer system shuts down for 1D6 rounds.

Second Hit: The vehicle's computer system is destroyed. A drone or robot with no computer system is completely disabled.

Further Computer hits count as Structure hits.

Repairs

Damage to a vehicle or drone falls into three categories – System Damage, Hull Damage, and Structure Damage.

System Damage: A damaged system can be jury-rigged back to functioning, but it will stop functioning again after 1D6 hours. Repairing a damaged system requires not only an Average skill check (using the appropriate skill as determined by the Referee, such as Electronics, Engineering, Gravitics, Mechanics) taking 1–6 hours but also a source of spare parts. The spare parts can come from a scrap yard, a workshop, systems on another vehicle, or can be taken from other systems on the same vehicle. When taking spare parts from other vehicle systems, each 'hit' of damage provides enough spare parts to make a single repair check.

The Passengers and Cockpit systems cannot take hits to provide spare parts, although cybernetic parts might be able to provide enough spare material to repair minor damage.

A destroyed system costs 2D6x10% of its original cost to repair, and cannot be repaired using spare parts. It requires a full workshop and specialist materials.

Hull Damage: Hull damage can be repaired with a Mechanics check taking 1–6 hours and consumes one 'hit' of spare parts.

Structure Damage: Structure damage can only be repaired in a workshop and requires 10–60 hours per point of damage. It costs 20% of the base cost of the vehicle per point repaired. No skill check is required.

Ground Force Weaponry against Starship-scale Targets

Gaining a DM +4 bonus to hit anything on the starship-scale, ground force weaponry must divide its damage by 50 before comparing it to a starship-scale target's armor. Because a single weapon will, obviously, be unable to punch through armor it is possible for multiple weapons to all target the starship simultaneously, and the cumulative effect can inflict damage. Every additional ground weapon beyond the first can add half its damage dice to the total before dividing the total by 50 in order to calculate damage.

BOOK TWO: STARSHIPS AND INTERSTELLAR TRAVEL

CHAPTER 6: OFF-WORLD TRAVEL

Characters in science fiction don't live in a single village on a single planet all their lives. Instead, their stories often take them out of a planet-bound existence and out into the stars. Adventurers in Cepheus Engine games are no different. They will travel to different worlds, seeking out new, exciting and hopefully profitable activities to pursue. Therefore, it is important to develop an understanding of off-world travel. Off-world travel can take one of two different forms, interplanetary travel through normal space and interstellar travel through Jump space. This chapter explores both facets.

Interplanetary Travel

All ship operations, including interstellar flights, involve some sublight maneuvering. Ships making short interplanetary flights usually accelerate halfway there, then reverse thrust and decelerate the rest of the way. The Common Travel Times by Acceleration table offers rounded values for common travel times. For Referees desiring more accuracy in their numbers, use the formula:

$$T=2\sqrt{\frac{D}{A}} \quad \text{where } T \text{ is time in seconds, } D \text{ is distance in meters, and } A \text{ is acceleration in m/sec}^2$$

Table: Common Travel Times by Acceleration

Distance (km)	1-G	2-G	3-G	4-G	5-G	6-G	Example
1,000	10m, 32s	7m, 27s	6m, 5s	5m, 16s	4m, 43s	4m, 18s	Jump pt., planetoid
10,000	33m, 20s	23m, 34s	19m, 15s	16m, 40s	14m, 54s	13m, 36s	Typical surface to orbit
100,000	1h, 45m	1h, 15m	1h, 1m	52m, 42s	47m, 8s	43m, 2s	
160,000	2h, 13m	1h, 34m	1h, 17m	1h, 7m	59m, 38s	54m, 26s	Jump pt., UWP size 1
320,000	3h, 9m	2h, 13m	1h, 49m	1h, 34m	1h, 24m	1h, 17m	Jump pt., UWP size 2
480,000	3h, 51m	2h, 43m	2h, 13m	1h, 55m	1h, 43m	1h, 34m	Jump pt., UWP size 3
640,000	4h, 27m	3h, 9m	2h, 34m	2h, 13m	1h, 59m	1h, 49m	Jump pt., UWP size 4
800,000	4h, 58m	3h, 31m	2h, 52m	2h, 29m	2h, 13m	2h, 2m	Jump pt., UWP size 5
960,000	5h, 27m	3h, 51m	3h, 9m	2h, 43m	2h, 26m	2h, 13m	Jump pt., UWP size 6
1,000,000	5h, 33m	3h, 56m	3h, 12m	2h, 47m	2h, 29m	2h, 16m	
1,120,000	5h, 53m	4h, 9m	3h, 24m	2h, 56m	2h, 38m	2h, 24m	Jump pt., UWP size 7
1,280,000	6h, 17m	4h, 27m	3h, 38m	3h, 9m	2h, 49m	2h, 34m	Jump pt., UWP size 8
1,440,000	6h, 40m	4h, 43m	3h, 51m	3h, 20m	2h, 59m	2h, 43m	Jump pt., UWP size 9
1,600,000	7h, 2m	4h, 58m	4h, 3m	3h, 31m	3h, 9m	2h, 52m	Jump pt., UWP size A
5,000,000	12h, 25m	8h, 47m	7h, 10m	6h, 13m	5h, 33m	5h, 4m	Jump pt., small gg
10,000,000	17h, 34m	12h, 25m	10h, 9m	8h, 47m	7h, 51m	7h, 10m	Jump pt., large gg
45,000,000	1d, 13h	1d, 2h	21h, 31m	18h, 38m	16h, 40m	15h, 13m	Close neighbor
100,000,000	2d, 8h	1d, 15h	1d, 8h	1d, 4h	1d, 1h	22h, 41m	
255,000,000	3d, 17h	2d, 15h	2d, 3h	1d, 20h	1d, 16h	1d, 12h	Far neighbor
600,000,000	5d, 16h	4d, 0h	3d, 7h	2d, 20h	2d, 13h	2d, 8h	Close gas giant
900,000,000	6d, 23h	4d, 22h	4d, 0h	3d, 11h	3d, 3h	2d, 20h	Far gas giant
1,000,000,000	7d, 8h	5d, 4h	4d, 5h	3d, 16h	3d, 7h	3d, 0h	

Interstellar Travel

Interstellar flights require the use of Jump drive. Jump is also often used for long-distance flights within a solar system, where the real-space transit time would be greater than the 1-week Jump time. A ship can only safely Jump when it is more than one hundred diameters distant from any object. Gravity can cause a Jump bubble to

collapse prematurely, bringing a ship back into normal space early. To enter Jump, a vessel needs a properly aligned hull Jump grid, a suitable set of course vectors (called a Jump Plot), and a working and properly fueled Jump drive.

The Jump grid allows the Jump field to properly form around the ship and protect it from Jump space. A damaged or misaligned grid can cause a ship to misjump, or to suffer Jump Intrusions while in Jump space. In the worst-case scenario, a ship with a damaged drive or a distorted grid may be destroyed at entry or breakout.

A Jump Plot is also required. A Jump Plot can be created by a navigator using the ship's computer. In addition, all Class-D and better starports can provide pre-calculated jump plots for any populated worlds within jump range for Cr1,000 per jump number. Each jump course tape provides the jump plot necessary to perform a jump from one specific world to a specific destination, and become increasingly less reliable as they get older.

Creating a Jump Plot is an Easy (+4) Education-based Navigation skill check taking 1D6 kiloseconds, modified by the Jump distance (thus, a Jump-4 gives a -4 DM to the check). If the check is failed, then the navigator must plot the Jump again, or the starship suffers a misjump. A Jump cannot be made until the navigation calculations are complete. Jump Plots can be created in advance, but quickly become out of date.

When the ship is ready to Jump, the engineer must properly divert power to the Jump drive. Firing the Jump drive is an Average (+0) Education-based Engineer check taking 10-60 seconds. The Effect of this check aids the Jump Success roll.

All normal Jumps take roughly one week (148+6D6 hours), and are subject to random variations in the point of emergence. The older a plot is, the more variance there is in the actual Jump performance. Thus course tapes tend to err on the side of caution, and give emergence points a long way out from the destination world.

A Jump carries the vessel a number of parsecs equal to the Jump number. Jumps of less than one parsec (less than three light years, or one hex) are possible, and count as Jump-1 for the purposes of navigation and fuel expenditure.

Jump Success Roll

Roll 2D6 and add the following DMs. If the result is 0 or less, the ship misjumps. If the result is 8+ the Jump is accurate. Any other result is an inaccurate Jump. If a Jump was made using a bad Jump Plot, the ship automatically misjumps.

- + the Effect of the divert power Engineer check
- 1 per month that the Jump Plot is out of date (such as when using older Jump course tapes)
- 2 per Jump drive hit
- 2 for using Unrefined fuel
- 8 if still within the hundred-diameter limit at the time of Jump

Jump Failures and Misjumps

When a starship suffers an inaccurate Jump, the vessel emerges from Jump in the wrong part of the target star system, requiring 1D6 days travel through normal space. When a starship misjumps, the ship ends up 1D6x1D6 parsecs in a random direction.

In both cases, the emergence is extremely hard. The vessel takes the equivalent of a critical hit from the discordant transition. In addition, everyone aboard the vessel suffers severe headaches, nausea and even nosebleeds for several hours before and after the ship emerges from Jump space.

Starship Operations

Standard procedures exist to govern how a starship goes about its business and handles emergency situations. Under normal circumstances, a ship will not deviate from these procedures. A captain whose vessel ignores standard operating procedure will usually have to explain himself to a patrol vessel or the local port authority.

Ship's Passage

A ship must provide sufficient accommodation for its crew; normally this means one stateroom per two crewmembers (this is termed double-occupancy). Any remaining stateroom space may be used to carry passengers. Passengers cannot share accommodation with crew, with the exception of working passage. Normally, one passenger per small stateroom and two per large stateroom room can be carried.

Passenger travel can be classified into five overarching categories – high, middle, low, working and stowaway.

High Passage: The best method of travel is called high passage, which involves first class accommodations and cuisine. High passengers have the services of the ship's steward, entertainment and complete attention to their comfort. There is a baggage allowance of up to 1,000 kilograms. High passage costs Cr10,000 and provides food and lodging for 1 person for a distance of 1 jump. Double occupancy is allowed at a discounted rate of Cr16,000 (Cr8000 per passenger). Each level of Steward skill (including level 0) allows the steward to effectively look after two high passage passengers on board a ship (so a character with Steward 2 could care for six passengers).

Middle Passage: In order for starships to fill their staterooms with passengers, middle passage is offered on a standby basis, in the event that not enough high passages are sold. While middle passengers occupy staterooms normally similar to those occupied by high passengers, they do not receive the service or entertainment accorded the higher paying passengers. In addition, the quality of the cuisine is rather low. Baggage totaling 100 kilograms is allowed. A middle passenger may be 'bumped' and the stateroom taken by a late arriving high passenger; the middle passenger's ticket is returned, but no other compensation is made. (The middle could then buy a high passage and 'bump' another middle passenger, if the extra cost seemed worth it. Middle passage costs Cr8,000 and provides food and lodging for 1 person for a distance of 1 jump. Double occupancy is allowed at a discounted rate of Cr13,000 (Cr6500 per passenger). Each level of the Steward skill (including level 0) allows the steward to care for five middle passengers.

Low Passage: Transportation while in cold sleep (suspended animation) is possible at relatively low cost to the passenger. The passenger is placed in a low passage berth before the ship takes off, and travels the entire journey in a state of suspended animation. He does not age, and requires very little life support. Unfortunately, the low passage system involves some intrinsic dangers to the passenger, and he runs some risk of not surviving the voyage. Therefore a qualified medic should always be in attendance when reviving passengers from low berths. When a passenger is revived from cold sleep, they must make an Easy (+4) Endurance check; failure means that the passenger dies during revival. If a medic is present, the medic may assist the passenger with an Education-based Routine (+2) Medicine skill check, as per the Aid Another rules. Low passage costs Cr1,000 and includes a 10 kg baggage allowance; many commercial cryoberth units have a built-in baggage compartment.

Working Passage: A starship captain with a crew shortage may hire an individual to fill the vacant position, paying not money but passage in return. Working passage may not continue for more than three jumps, or the individual is considered to have been hired for standard salary. In order to be hired for working passage, the individual must have some expertise in the position for which he is hired. Baggage totaling 1,000 kilograms is allowed.

Stowaway: A stowaway is a person who secretly boards a vessel in order to travel without paying and without being detected. Unnoticed by the captain, crew, port officials and customs authorities, stowaways may gain access to a vessel with or without the assistance of port personnel. Once on board the ship, stowaways often hide in empty containers, cargo holds, maintenance shafts, crawl spaces, storage rooms, engine rooms, unused staterooms, and behind false panels. Stowaways risk imprisonment or heavy fines if caught, as it is considered a crime in most jurisdictions. If caught at the destination world, stowaways may be deported. Should this occur, the travel costs for the stowaway's return to the previous world visited, per the ship's logs, can become the obligation of the ship's owner or captain. Because of this, most commanders do not take kindly to any stowaways they discover aboard their vessels, and have been known to space them.

Standard Operating Procedures

Most commercial starships follow a simple schedule, spending one week in Jump space and one week in normal space, taking care of business. Once a ship emerges from Jump space, it travels to the destination world, where passengers disembark, old cargo is unloaded and new cargo replaces it, the crew performs routine ship maintenance and refueling, new passengers come aboard the vessel, and then the starship travels to a Jump point in preparation for entering Jump space and traveling to the ship's next destination.

Non-commercial starships typically follow a similar schedule. Without the obligations of passengers or cargo, however, these vessels can choose to travel much faster. The week in-system can be reduced to simply refueling by the quickest means possible and then making the next Jump.

When a vessel first emerges from Jump space, the first course of action is to scan normal space for potential dangers. Once the commander determines that the vessel is safe, the navigator then determines the ship's location in normal Space and plots a course to the ship's destination in-system.

The commander may want to skim a local gas giant for free fuel. If so, the pilot achieves orbit and skims the "surface" of the gas giant for fuel. Scooping a gas giant for fuel takes 1D6 hours per 40 tons of fuel. When the fuel tanks are full, the pilot can then take the ship back out to a Jump point to leave for the next system, or travel to another destination in-system, such as a local world.

If the commander wishes to visit a local world, such as the mainworld, the pilot follows a course laid out by the navigator to the destination. After arriving at the world, the pilot achieves orbit and then proceeds to either the orbital starport or surface starport. Once docked at the starport, the vessel unloads any high passengers, followed by mail, middle passengers, cargo and finally low passengers. The ship refuels, if needed, and renews its life support. If the ship's owner or captain is interested in speculative trading, they then sell off speculative cargo and buy new cargo to replace it, if they find any good deals. In addition, the commander or purser addresses all ship's business, including paying the ship expenses.

While on planet, crew members may explore local areas of interest, hire new crew to fill any available positions, and even take on the occasional odd job.

When the commander determines it is time to depart, cargo handlers load all cargo into the vessel. Low passengers are then put into cryoberths. High passengers are then escorted to their staterooms, followed by mid passengers, if any staterooms remain available. Finally, vessels with a mail contract load up on outgoing mail. Income is collected and placed into the ship's accounts.

After getting clearance from starport control, the pilot takes the ship into orbit. The navigator then plots a course through normal space to a Jump point. As the pilot takes the vessel to the Jump point, the navigator works out the Jump plot. Once at the Jump point, the engineer diverts power to the Jump drive, and the ship enters Jump space.

Along the way, the vessel may encounter other ships. Gas giants are often used by pirates to attack unsuspecting vehicles, so system defense boats are prevalent in the region. Patrol vessels may hail a ship as it travels to and from the Jump point. Port authorities may perform a customs inspection before allowing a ship to dock at the starport. Other ships, civilian and military, commercial and non-commercial, may be travelling in and out of the system.

Starship Expenses

The primary expenses for a starship are the ship's mortgage or debts, crew salaries, fuel, life support, port fees and routine maintenance.

Mortgage or Debts

If the crew is paying off debts on their spacecraft, then these debts must be paid each month. The standard terms for a ship mortgage are paying 1/240th of the cash price each month for 480 months (40 years). In effect, interest and bank financing cost a simple 120% of the final cost of the ship, and the total financed price equals

220% of the cash purchase price. Ship shares are treated as reducing the cash price of the ship, and so reduce the monthly cash payments.

Crew Salaries

All starships and space vessels need a crew of some kind. Small craft like shuttles normally just have a pilot (and usually a copilot). Larger ships, and especially those using Jump drive to travel between the stars, need a larger crew. At a minimum, a starship will need:

Pilot: A qualified Pilot to maneuver the ship. A Pilot makes Cr6,000 per month.

Navigator: Someone to create Jump Plots and navigate the ship. On small ships, this job is often doubled up with the Pilot's duties. A Navigator makes Cr5,000 per month.

Engineer: Someone to maintain the ship and operate the drives. Larger ships may need several engineers and technicians to back them up. A Chief Engineer makes Cr4,000 per month.

Other crew positions exist:

Master: A vessel's Master, or Captain, is responsible for the vessel and the safety of everyone aboard. A Merchant who receives the Starship benefit at mustering-out will hold this position. Aboard a small ship, he will usually have another job, such as Pilot or Navigator. The pay due to a ship's Master can vary. Assume a standard of Cr6,000 per month, or the salary of highest-paid job he is qualified to do. Many merchant ship owners take a cut of the ship's profits instead of a salary.

Medic: Ships that carry passengers must have a qualified medic. All vessels should have some form of medical assistance available. A medic makes Cr2,000 a month.

Purser: Commercial ships often employ someone to look after the accounts and supplies. This is the purser's job. It is often doubled-up with other duties. A purser is often paid a cut of the ship's profits rather than a salary; a standard salary would be Cr3,000 per month.

Gunner: Armed ships must employ gunners to operate the weapons. Salary is Cr1,000 per month.

Assistant Engineers and Technicians: Technically adept people can assist the Engineer in maintaining the ship and operating her drives. Salary is Cr1000 per month.

Cargo Handlers, Deck Hands and Security: Some ships employ personnel to carry out these duties. While not essential to the operation of the ship, these people are useful to have around. Salary is Cr1000 per month.

Stewards: While anyone can be assigned to look after the passengers and cook everyone's meals, professional stewards are useful in ensuring the passengers enjoy their trip, and thus that the ship stays in business. Salary is Cr3,000 per month.

The basic living expenses of crewmembers during their shipboard duties are considered paid out of the ship's overheads. Note that salaries are generalized and can vary considerably depending upon circumstances and special arrangements.

Table: Crew Salaries

Position	Monthly Salary
Ship's Master	Varies
Ship's Purser	Varies or Cr3,000
Pilot	Cr6,000
Navigator	Cr5,000
Engineer	Cr4,000
Steward	Cr3,000
Medic	Cr2,000
Gunner	Cr1,000
Other Crewmember	Cr1,000

Fuel

Refined fuel may be purchased at any class A or B starport for Cr500 per ton delivered at the starport. If fuel must be ferried out to a ship, add Cr100 per ton to the cost. Refined fuel may also be obtained by running unrefined fuel through a Fuel Purification System installed onboard a ship. Refined fuel decreases the chance of a problem occurring with a ship's power plant, maneuver drive, and Jump drive.

Unrefined fuel is available for Cr100 per ton from any class A, B, or C starport delivered at the starport. If fuel must be ferried out to a ship, add Cr100 per ton to the cost. Unrefined fuel is also available for free from the following sources:

Water: On worlds with a hydrographic rating of 1 or higher, a ship may land near an open body of water or ice and pump fuel into their fuel tanks for free. Using water as fuel in this manner is considered to be running unrefined fuel. Note that many worlds may not allow ships to land and fuel for free, preferring to control the availability of fuel from the starport only, thus earning the revenue from the operation.

Gas Giants: Streamlined ships equipped with fuel scoops may dive into the upper atmosphere of a gas giant and fill their tanks with unrefined hydrogen. Larger ships may use streamlined fuel shuttles to ferry fuel loads back to the main ship as needed to refill the tanks. Scooping takes 1D6 hours per 40 tons of fuel. There are no fees associated with 'skimming' a gas giant for fuel, but these are also often the favorite point of attack for pirates. Fuel skimmed from a gas giant is considered to be unrefined.

Life Support

Each stateroom on a ship costs Cr2,000 per month, occupied or not. This cost covers supplies for the life support system as well as food and water, although meals at this level will be rather spartan. Each low passage berth costs Cr100 per month.

A spacecraft with power can sustain life support for one person per stateroom for one month comfortably, and for six months at a stretch (number of staterooms \times 5,000 person/hours). Without power, this drops to two weeks at most.

Life support supplies can be purchased in bulk. One ton of life support supplies will provide 20 passengers or crew with life support for one month, at a cost of Cr54,000. One ton of luxury life support supplies costs Cr72,000, and covers the same number of people for the same amount of time.

Port Fees

It typically costs Cr100 to berth for 6 days in a starport, and Cr100 a day thereafter.

Routine Maintenance

A ship needs maintenance, which costs 0.1% (1/1000th) of the total cost of the ship per year and requires a shipyard. Maintenance should be carried out each month. If maintenance is skipped or skimmed on, roll 2D6 each month, with a +DM equal to the number of months skipped. On an 8+, the ship takes damage to a random system. Roll on the System Degradation table for the number of hits. Repair supplies cost Cr10,000/ton.

Table: System Degradation

Roll	Number of Hits
1-3	1
4-5	2
6	3

Starship Revenue

Starships generate revenue by carrying passengers, cargo, mail and charters. Goods taken on in orbit are delivered when placed in orbit around the destination. Goods taken on a planetary surface are considered to be

delivered when off-loaded on the surface of the destination world. This custom applies to cargo, passengers, and mail.

Table: Available Freight And Passengers

Starport Class	Freight (tons)	High Passengers	Mid Passengers	Low Passengers
A	3D6x10	3D6	3D6	3D6 X3
B	3D6x5	2D6	3D6	3D6 X3
C	3D6x2	1D6-1	2D6	3D6
D	3D6	0	1D6-1	2D6
E	1D6	0	1d3-1	1D6-1
X	No Freight	0	0	0

Bulk Cargo

Ships will commonly pay their way by transporting cargo in bulk. This is on a flat-fee basis per ton of cargo. A ship's accounts are credited with Cr1,000 per ton of cargo, upon delivery. For any given destination world, roll on the Available Freight and Passengers table to find out how many tons of freight are available. A ship may choose to remain in port and see if new cargoes present themselves; roll again every 3 days. If desired, players may determine how much freight there is for every destination, and then choose where to go based upon profitability. The number of passengers must be determined at the same time as cargo; if a ship remains in port waiting for freight, passengers will find another ship, and vice versa.

A ship without the capacity to carry all the available freight or passengers can take some of what is available, up to its total capacity.

Passengers

For any given destination world, roll on the Available Freight and Passengers table to find out how many passengers are available. A ship may choose to remain in port and see if new passengers present themselves; roll again every 3 days. If desired, players may determine how many passengers there are for every destination, and then choose where to go based upon profitability. The number of passengers must be determined at the same time as cargo; if a ship remains in port waiting for more passengers, freight could be shipped out on another ship, and vice versa.

Mail and Incidentals

Merchant ships may receive mail delivery contracts, usually as an adjunct to their established routes. Five tons of ship cargo capacity must be committed to postal duty on a full time basis, the ship must be armed, and a gunner must be a part of the crew. The starship is paid Cr25,000 (Cr5,000 per ton of postal cargo area) for each trip made, regardless of the actual mail tonnage carried. Such tonnage will not exceed 5 tons per trip. Roll 1D6-1 for the number of actual tons of mail, though the ship receives the Cr25,000 fee whether there is anything to carry, or not.

Other ships may be approached to deliver private messages, at times through the ship's owner or captain, and at times clandestinely through a crew member. Private mail is usually intended for delivery to a specific point (such as an Explorer's Society resort, or to a bar owner in the starport), and is generally accompanied by a Cr20 to Cr120 honorarium. The Referee should decide if a private message is awaiting transmittal, and determine randomly which crew member is approached to carry it. Serving as a carrier for private mail also serves as an introduction to the recipient as a dependable, trustworthy person.

Charters

Vessels are often chartered by commercial or private concerns. The reasons vary: private transport, standby cargo capacity for a priority load, special or "discreet" deliveries, etc. The standard price to charter a non-

starship is Cr1 per ton per hour, usually with a twelve-hour minimum. Charter price for a starship is computed based on its capacity. Starships are chartered in 2-week blocks; the charge is Cr900 per ton of cargo hold plus Cr9,000 per high passage berth and Cr900 per low passage berth. The owner pays all overhead and supplies a crew.

Speculative Trading

A trader with cargo space available and free capital with which to speculate may seek out suitable goods to buy and sell. A complete Trade and Commerce system is presented in **Chapter 7: Trade and Commerce**.

Miscellaneous Topics

The following topics relate to aspects of starship operations that might impact an adventurer's experience over the course of a Cepheus Engine adventure or campaign.

Airlocks

A ship has at least one airlock per 100 tons. The average airlock is large enough for three people in vacc suits to pass through at the same time. An airlock takes ten seconds to cycle. Under normal circumstances, airlocks are locked down from the bridge and require a Very Difficult (–4) Engineer (electronics) check to override. An unlocked airlock can be triggered from outside. Airlocks generally have vacc suits, rescue bubbles and cutlasses in a ship's locker nearby.

Ships with cargo space have cargo hatches, allowing up to 10% of their cargo to be transferred at any time.

Distress Signals

A distress signal indicates that a person or group of people, vessel, small craft, or other vehicle is threatened by grave and imminent danger and requests immediate assistance. The use of distress signals under other circumstances is against most system and interstellar laws; in fact, most jurisdictions have large penalties for false, unwarranted or prank distress signals. Given the vastness of interplanetary space, help is hard to come by. Therefore, most interstellar and interplanetary governments mandate that the commander or master of any vessel that detects a distress signal is legally obligated to either respond and offer assistance or contact the authorities to report the signal.

Some pirates have been known to use false distress signals to lure other vessels into a trap. This behavior has created significant mistrust of distress signals among civilian starship commanders, but interstellar law still requires that assistance be rendered if authorities cannot be reached within a reasonable time period. In the event that the commander of a vessel is unable or unwilling to respond to such a call, they are required by law to officially log their reason for not doing so into the ship's logs. Such commanders can be held accountable for their decision, and can pay a fine on some worlds that could exceed Cr1,000,000 (or MCr1), as well as serve time in prison.

Docking

Two spacecraft may dock if they are close together and neither ship attempts to resist the docking maneuver. Many airlock designs across charted space are compatible; for incompatible airlocks, ships extend flexible plastic docking tubes that adapt to the target airlock. Docking with another vessel is a Routine (+2) Pilot task taking 1–6 minutes. If one ship is drifting or unpowered, the difficulty rises to Difficult (–2).

Boarding

Hostile boarding actions are safest when the enemy ship is crippled, in which case it is a standard docking procedure. If the enemy ship is still moving, then the prospective boarders must match the target's velocity and dock with it (a Difficult (–2) Pilot task), or else just land on the hull and either make their way to an airlock or cut through from outside.

Landing

Any ship with a standard or streamlined hull may land on the surface. Unstreamlined ships suffer a –2 DM to any Pilot checks made in atmosphere while a ship with a Distributed hull suffers a –4 DM to any Pilot checks, and is likely to take severe structural damage if it lands. Landing at a starport is a Routine (+2) task for most ships taking 10–60 seconds.

Most ships have landing gear, allowing them to touch down ‘in the wild’, which requires an Average (+0), Difficult (–2) or even Very Difficult (–4) check, depending on local conditions. Non-distributed ships can also land on bodies of water without sinking. Failing a landing roll means that the ship has landed improperly or even crashed.

Ship Security

The primary goal of a starship's or vessel's security measures is to protect the safety of the ship and crew. Particularly on frontier worlds and lawless backwater planets, starships are at risk to a number of factors, including hijackers, piracy, sabotage, subversion and terrorism. Ship security exists on multiple levels to prevent this from happening. These can be grouped broadly into the categories of physical security and cybersecurity.

Physical Security Systems

Physical security systems for vessels are generally intended to deter potential intruders (e.g. warning signs); detect intrusions and monitor/record intruders (e.g. intruder alarms and internal monitoring); and trigger appropriate incident responses (e.g. by security personnel or the ship's crew in general). Numerous systems have proven useful.

Physical barriers such as airlocks act as the outermost layer of security. They serve to prevent, or at least delay, attacks, and also act as a psychological deterrent by making intrusions difficult. Even within the ship, bulkheads and panels can be locked to limit or slow access. The means of authorization for different locking systems is captured in the Restricted Access Security table. It should be noted that the ship's computer can open or close any non-mechanical lock remotely, as well as report on a door's status.

Ship security systems can detect intrusion detection through a variety of means. Cameras, accessible to any authorized personnel, monitor public areas. Internal sensors such as motion detectors in key traffic areas and life support detectors (for unexpected changes in oxygen levels) provide additional methods of detecting intrusion.

Table: Restricted Access Security

Type	TL	Means of Access	Override Skill	External Door	Internal Door
Biometrics	8	DNA test, palm print, retinal scan, voiceprint	Electronics	Formidable (–6)	Very Difficult (–4)
Electronic Lock	7	Keycard or combination	Electronics	Very Difficult (–4)	Difficult (–2)
Intelligent	9	Granted by ship's computer	Electronics	Formidable (–6)	Very Difficult (–4)
Mechanical Lock	4	Key or combination	Mechanics	Difficult (–2)	Average (+0)

Cybersecurity

The security of a ship's computer is only as good as the Security software that's been installed. All starships come with Security/0 installed, but a wise ship's owner will invest in more advanced security programs, whenever possible. Most vessels run Security/2 programs, at a minimum. The Cybersecurity Tasks table outlines the difficulties of certain tasks that might be attempted by hijackers and pirates. All tasks require the Computer skill.

Table: Cybersecurity Tasks

Task	Typical Difficulty
Access ship records	Average (+0)
Grant crew authorization to someone	Difficult (-2)
Override key systems	Formidable (-6)
Override security systems	Defined by Security software package, typically Very Difficult (-4)

Security Measures

Security measures on board a starship activate when an intrusion or emergency has been detected. These measures include internal alarms, artificial gravity control, tranq gas and the venting of atmosphere.

Internal Alarms: If an alarm is tripped (hull breach, fire, door being forced open, alarm button pressed) it will alert the crew. The location of the alarm will be shown on computer displays. The average passenger ship has several crew trained in combat; military ships will carry marines. Some vessels will even have security robots who respond automatically to alarms.

Artificial Gravity Control: It is possible to alter the artificial gravity on board. Reducing gravity to zero will limit actions to the level of a character's Zero-G skill. Gravity can also safely be increased up to 3G.

Tranq Gas: Some ships carry tranq gas canisters in the air vents, which can be released automatically. These flood a compartment with gas that forces an Endurance check each round, with a -1 DM per previous check. Any character who fails the Endurance check is knocked unconscious.

Venting Atmosphere: If a compartment is connected to an airlock, then the air can be vented from that area. Characters in that area must make a Strength check to hang on and will also begin to suffocate. Internal doors on a ship are airtight, so portions of the ship can be selectively vented, dependent on the ship's floor plan and the relative positions of airlocks.

Planetary Travel on Other Worlds

On-planet, and in civilized areas, regular services may be available for a few credits, allowing characters to ride to their destination aboard anything from a rickshaw to a maglev bullet train. In the course of their adventures, characters may ride aboard steam ships, dirigibles, submersibles, grav speeders or atop living mounts. Costs are fairly negligible for such travel. Assume a basic cost of 1D6X5 Credits per day of travel.

If the characters wish to use a vehicle of their own, this cost is not necessary. However, a suitable vehicle must be available.

Characters and the Law

In each of the situations listed in the Potential Law Enforcement Encounters table, roll 2D6 and add the listed modifiers. If the total is lower than the planet's Law Level, the characters are investigated or challenged by agents of planetary law enforcement.

Table: Potential Law Enforcement Encounters

Situation	DM	Response
First approach to a planet	+0	Check
Offworlders wandering the streets of a city (once per day)	+0	Check
Offworlders acting suspiciously	-1	Check
Bar fight	-1	Combat
Shots fired	-2	Combat
Breaking and entering	-2	Investigate
Firefight involving armored characters and military weapons	-4	Combat
Murder and carnage	-4	Investigate

Check means that the characters' travel documents and identities are checked, either by a police officer or guard, or electronically by querying the characters' comms. A successful Admin or Streetwise roll can allay suspicion, but if this check is failed, the planetary authorities move on to Investigate.

Investigate means that a detective or bureaucrat probes deeper into the characters' backgrounds. If the characters have a ship, it will be searched. They may be followed, or have their communications tapped. They may also be questioned closely.

Finally, Combat means that the police show up ready for a fight. Their response will generally be proportional to the threat posed by the player characters; if the characters are just making trouble in a bar, then most police forces will just use batons, tranq gas and other non-lethal weapons. On the other hand, if the characters are in Battle Dress and firing PGMPs at the palace of the planetary governor, then the police will show up with the best weapons and armor available at the planet's TL (or even a few levels higher).

Arrests and Sentencing

Characters arrested for a crime will face punishment, determined by rolling 2D6+DMs on the Sentencing table. For crimes involving smuggling banned goods, the DM is equal to the difference between the planet's Law Level and the banned goods in question. Other crimes have a set DM, per the Sentencing Modifiers by Crime table.

Table: Sentencing Modifiers by Crime

Crime	DM
Assault	Law Level –5
Destruction of Property	Law Level –3
False Identity	Law Level –2
Manslaughter	Law Level –1
Murder	Law Level +0

A character with the Advocate skill may attempt to reduce the severity of sentencing by making a check. If successful, reduce the Sentencing DM by the Effect of the check.

Table: Sentencing

Result	Sentence
0 or less	Dismissed or trivial punishment
1–2	Fine of 1D6x1,000 Credits
3–4	Fine of 2D6x5,000 Credits
5–6	Exile or a fine of 2D6x10,000 Credits
7–8	Imprisonment for 1D6 months or exile or fine of 2D6x20,000 Credits
9–10	Imprisonment for 1D6 years or exile
11–12	Imprisonment for 2D6 years or exile
13–14	Life imprisonment
15+	Death

A result of Exile means that the character must leave the planet immediately and never return. Fines for smuggling goods are per ton of goods seized – gun running can be an extremely risky proposition.

CHAPTER 7: TRADE AND COMMERCE

As outlined under **Starship Revenues** in **Chapter 6: Off-World Travel**, a vessel can easily haul cargo for a flat rate, without having to engage in speculative trading. However, for those merchants willing to take the risk, speculative trading can prove to be a very profitable enterprise. This chapter provides a simple speculative trade system for use in Cepheus Engine campaigns, for those interested in such pursuits.

Speculative Trade Checklist

Speculative trading follows a basic procedure. The following checklist outlines the various steps in the speculative trade procedure.

1. Find a supplier
2. Determine goods available
3. Determine purchase price
4. Take goods to new world or market
5. Find a buyer
6. Determine sales price

Find a Supplier

The first step in the process is simple: find a supplier with something to sell. Characters can search for multiple suppliers, but there is a –1 DM per previous attempt on a planet in a given month.

Finding a supplier: Broker, Education or Social Standing, 1D6 days, Average (+0).

Finding a black market supplier: (Illegal goods only) Streetwise, Education or Social Standing, 1D6 days, Average (+0).

Finding an online supplier: (Worlds with TL 8+ only) Computers, Education, 1D6 hours, Average (+0).

The size of the Starport provides a bonus to finding a supplier. Class A starports give a +6 DM, class B starports give a +4 DM and class C starports give a +2 DM.

Determine Goods Available

Goods are divided into two categories of goods – Common and Trade Goods. Common Goods can be purchased on any world. Trade Goods can usually only be found on a world with a matching trade code. The amount of each type of goods available is limited – the tons column on the Trade Goods table determines how many tons of a given type of goods is available for purchase.

A given supplier has all Common Goods available and 1D6 randomly determined goods. Roll D66 on the table to determine the goods available, ignoring results 61–65 unless dealing with a black market supplier. If you roll the same type of goods multiple times, then the supplier has extra amounts of those goods available.

Some goods are illegal, and can be purchased only through a black market supplier. A black market supplier has whatever illegal goods match his world's trade code, as well as any randomly rolled illegal goods. Other goods may be legal on some worlds, but not legal on others (such as personal weapons and armor, which might be restricted on a world with a high law level). The Referee should adjudicate such situations as they occur.

Table: Common Goods

Item	Cost (Cr)	Tons
Basic Consumable Goods	1,000	2D6x5
Basic Electronics	25,000	2D6x5
Basic Machine Parts	10,000	2D6x5
Basic Manufactured Goods	20,000	2D6x5
Basic Raw Materials	5,000	2D6x5
Basic Unrefined Ore	2,000	2D6x5

Table: Trade Goods

D66	Trade Goods	Base Price (Cr)	Tons	Purchase DMs	Sale DMs
11	Advanced Electronics	100,000	1D6x5	Ht +2, In +3	Ni +2, Po +1
12	Advanced Manufactured Goods	200,000	1D6x5	In +3, Ri +2	Ag +1, Ni +2
13	Agricultural Equipment	150,000	1D6	In +3, Ri +2	Ag +2, Ga +1
14	Animal Products	1,500	4D6x5	Ag +2, Ga +3	Hi +2, Ri +1
15	Collectibles	50,000	1D6	In +2, Ri +3	Hi +2, Ni +1
16	Computers & Computer Parts	150,000	2D6	Ht +3, In +2	Na +1, Ni +2
21	Crystals & Gems	20,000	1D6x5	Ni +3, Na +2	In +1, Ri +2
22	Cybernetic Parts	250,000	1D6x5	Ht +3, Ri +2	Na +1, Ni +2
23	Food Service Equipment	4,000	2D6	In +3, Na +2	Ag +1, Ni +2
24	Furniture	5,000	4D6	Ag +2, Ga +3	Hi +1, Ri +2
25	Gambling Devices & Equipment	4,000	1D6	Hi +2, Ri +3	Na +2, Ni +1
26	Grav Vehicles	160,000	1D6	Ht +3, Ri +2	Ni +2, Po +1
31	Grocery Products	6,000	1D6x5	Ag +3, Ga +2	Hi +1, Ri +2
32	Household Appliances	12,000	4D6	Hi +2, In +3	Na +1, Ni +2
33	Industrial Supplies	75,000	2D6	In +3, Ri +2	Na +1, Ni +2
34	Liquor & Other Intoxicants	15,000	1D6x5	Ag +3, Ga +2	In +1, Ri +2
35	Luxury Goods	150,000	1D6	Ag +2, Ga +3	In +1, Ri +2
36	Manufacturing Equipment	750,000	1D6x5	In +3, Ri +2	Na +1, Ni +2
41	Medical Equipment	50,000	1D6x5	Ht +2, Ri +3	Hi +1, In +2
42	Petrochemicals	10,000	2D6x5	Na +2, Ni +3	Ag +1, In +2
43	Pharmaceuticals	100,000	1D6	Ht +3, Wa +2	In +2, Ri +1
44	Polymers	7,000	4D6x5	In +2, Ri +3	Ni +2, Va +1
45	Precious Metals	50,000	1D6	As +3, Ic +2	In +1, Ri +2
46	Radioactives	1,000,000	1D6	As +2, Ni +3	In +2, Ht +1
51	Robots & Drones	500,000	1D6x5	Ht +3, In +2	Ni +1, Ri +2
52	Scientific Equipment	50,000	1D6x5	Ht +3, Ri +2	Hi +2, Ni +1
53	Survival Gear	4,000	2D6	Ga +3, Ri +2	Fl +2, Va +1
54	Textiles	3,000	3D6x5	Ag +3, Ni +2	Na +1, Ri +2
55	Uncommon Raw Materials	50,000	2D6x5	Ag +3, Ni +2	In +2, Na +1
56	Uncommon Unrefined Ores	20,000	2D6x5	As +2, Va +1	In +2, Na +1
61	Illicit Luxury Goods	150,000	1D6	Ag +2, Ga +3	In +4, Ri +6
62	Illicit Pharmaceuticals	100,000	1D6	Ht +3, Wa +2	In +6, Ri +4
63	Medical Research Material	50,000	1D6x5	Ht +2, Ri +3	In +6, Na +4
64	Military Equipment	150,000	2D6	Ht +3, In +2	Hi +6, Ni +4
65	Personal Weapons & Armor	30,000	2D6	In +3, Ri +2	Ni +6, Po +4
66	Unusual Cargo	*	*	*	*

***Note:** Unusual cargo covers unique or highly unusual items, such as alien artifacts, high tech prototypes, stolen artwork of antiquity, or unique lifeforms. Such items often form the seed for an adventure.

Determine Purchase Price

Determining the purchase price for speculative cargo is based on the results of a skill check. The results of this skill check represents the best possible offer the parties can reach under the current conditions.

Determining the purchase price: Broker, Intelligence or Social Standing, 1D6 kiloseconds, Average (+0).

The skill check is further modified by adding the largest Dice Modifier that applies from the Purchase DM column, subtracting the largest Dice Modifier that applies from the Sale DM column, and subtracting any Dice Modifiers from the supplier (such as their Broker skill). Some especially rich or powerful suppliers can demand high prices. In cases where multiple Purchase or Sale DMs apply, use only the largest ones from each column. The Referee should then consult the Purchase column of the Modified Price table, using the skill check result to determine the Purchase Price percentage. The final price of the speculative cargo is the Base Price multiplied by the Purchase Price percentage. The trader does not have to accept this price, but if he rejects the deal, then he cannot deal with that supplier again for at least one week. After that week, he may attempt a new skill check to determine the purchase price for those goods.

Table: Modified Price Table

Result	Purchase	Sale
2-	200%	40%
3	180%	50%
4	160%	60%
5	140%	70%
6	120%	80%
7	110%	90%
8	100%	100%
9	90%	110%
10	80%	120%
11	70%	140%
12	60%	160%
13	50%	180%
14	40%	200%
15	30%	300%
16+	20%	400%

Local Brokers

A speculative trader can hire a local broker to represent him in trade negotiations. This allows the merchant to use the broker's skill levels instead of their own, although that comes at a price in the form of a percentage of the final negotiated price, which must be paid even if the merchant decides not to sell his goods. The Local Broker table indicates the commission charged for a given skill level, as well as indicating what maximum skill levels are commonly available for a given class of starport.

Table: Local Brokers

Skill Level	Commission	Notes
1	5%	Max for Class D or E Starport
2	10%	Max for Class C Starport
3	15%	Max for Class B Starport
4	20%	Max for Class A Starport

Selling Goods

Selling goods works just like purchasing goods, with the following changes:

A character must find a buyer, instead of a supplier. The same rules apply.

When selling goods, add the largest Sale DMs for the world trade code and subtract the largest Purchase DMs.

If a character does not accept the price offered for his goods, he must find another buyer or wait a week, in which case he may attempt a new skill check to determine the selling price.

CHAPTER 8: SHIP DESIGN AND CONSTRUCTION

Space ships are the backbone of any starfaring campaign. This chapter provides rules for the design and construction of such vessels for use in Cepheus Engine campaigns. Any class A starport has a shipyard which can build any kind of ship, including a starship with Jump drives; any class B starport can build small craft and ships which do not have Jump drives.

Standard Designs vs. New Designs

An interstellar economy provides an excellent opportunity for the use of standardized and modular designs. Components can be crafted on different worlds, taking advantage of available resources, and then put together to create a final product. Shipyards take advantage of modular components and standardized designs to reduce costs in production, which leads to a 10% discount on vessels constructed using common designs, such as those described in **Chapter 9: Common Vessels**. The Referee may designate other ship designs as standard designs, as befits their universe. Fuel and weapon ammunition are not covered by the standard design discount. New and unique ship designs cannot take advantage of standardized and modular design. These ships must be designed by a naval architect, who creates detailed design plans based on a set of specifications provided by their client. Such plans take a month to create, and costs approximately 1% of the final cost of the vessel.

Ship Design Checklist

Space ship design follows a very methodical process in the Cepheus Engine rules.

1. Choose a Ship Hull
 - a. Determine hull configuration
 - b. Install armor (optional)
2. Choose maneuver drive (optional, but highly recommended)
3. Choose jump drive (optional)
4. Choose power plant
5. Determine fuel requirements
6. Determine bridge
7. Choose ship's computer
 - a. Choose computer software
8. Choose ship's electronics
9. Determine number of required crew
 - a. Choose staterooms and low berths
10. Determine additional features (optional)
11. Determine turrets, bays or screens (optional)
 - a. Determine weapons (optional)
12. Allocate remaining space to cargo
13. Calculate final cost and construction time
 - a. Apply standard design discount of 10% (optional)

A Note on System Redundancy

Ship systems take damage for a variety of reasons, becoming disabled or destroyed as damage accumulates. To counter the loss of vital ship systems, some ship designers install multiple versions of certain components. These redundant systems remain inactive until the original system is disabled, with the exception of ship weaponry. When all redundant systems have been disabled, any further damage begins to destroy them, beginning with the primary system.

Displacement Tons

Hulls and other ship components are designated by their displacement volume. Displacement volume is measured in the volume of space that is displaced by one metric ton of hydrogen, referred to in this design sequence as displacement tons or simply tons.

A metric ton of hydrogen measures approximately 13.5 cubic meters, which is rounded to 14 cubic meters for ease of calculations. When drawing floor plans or maps of ships, each square measuring 1.5 meters by 1.5 meters, to a height of 3m up from the floor, represents half a ton.

Ship Hull

The ship's hull is the shell in which all other components are placed. A ship's construction time is based on its hull size, as outlined on the Ship Hull table.

Table: Ship Hull by Displacement

Hull	Hull Code	Price (MCr)	Construction Time (weeks)
100 tons	1	2	36
200 tons	2	8	44
300 tons	3	12	52
400 tons	4	16	60
500 tons	5	32	68
600 tons	6	48	76
700 tons	7	64	84
800 tons	8	80	92
900 tons	9	90	100
1,000 tons	A	100	108
1,200 tons	C	120	124
1,400 tons	E	140	140
1,600 tons	G	160	156
1,800 tons	J	180	172
2,000 tons	L	200	188
3,000 tons	M	300	268
4,000 tons	N	400	348
5,000 tons	P	500	428

Ship Configuration

A ship may have any of three configurations – standard (a wedge, cone, sphere or cylinder), streamlined (a wing, disc or other lifting body allowing it to enter the atmosphere easily) or distributed (made up of several sections, and incapable of entering an atmosphere or maintaining its shape under gravity).

Standard: A standard-hull ship may still enter atmosphere but is very ungainly and ponderous, capable only of making a controlled glide to the surface. Getting it back into space requires an elaborate launch setup and considerable expense. A standard-hull ship may have scoops for gathering fuel from a gas giant but the process will be much more difficult and less efficient. Larger ships of this type will often carry a specialized sub-craft to perform the actual atmospheric skimming.

Streamlined: Streamlining a ship increases the cost of the hull by 10%. This streamlining includes fuel scoops which allow the skimming of unrefined fuel from gas giants or the gathering of water from open lakes or oceans. Streamlining may not be retrofitted; it must be included at the time of construction.

Distributed: A distributed ship reduces the cost of its hull by 10%. It is completely non-aerodynamic and if it enters an atmosphere or strong gravity it will fall to the surface of the planet. It cannot mount fuel scoops.

Table: Ship Configuration

Configuration	Hull Cost Modifier	Notes
Distributed	x0.9	Cannot mount fuel scoops. Atmospheric operations suffer -4 DM (failed checks inflict 2D6 damage).
Standard	x1.0	Atmospheric operations suffer a -2 DM.
Streamlined	x1.1	Includes fuel scoops.

Ship Armor

Armor is added in 5% increments of the ship's tonnage. An armored ship decreases radiation exposure from space phenomena by 400 rads. (This does not apply to meson attacks and nuclear missiles, which bypass the armor or breach the hull to deliver their radiation hits.)

Table: Ship Armor by Type

Armor Type	TL	Protection	Cost
Titanium Steel	7	2 per 5%, minimum 1 ton	5% of base hull
Crystaliron	10	4 per 5%, minimum 1 ton	20% of base hull
Bonded Superdense	14	6 per 5%, minimum 1 ton	50% of base hull

For example, a heavily armored warship might take Bonded Superdense armor twice. This would take up 10% of the hull's volume and cost 100% of the base cost of the hull, but give 12 points of armor.

Ship Armor Options

The following are options that can be added to a ship's armor.

Reflec (TL 10): Reflec coating on the hull increases the ship's armor against lasers by 3. Adding Reflec costs MCr0.1 per ton of hull and can only be added once.

Self-Sealing (TL 9): A self-sealing hull automatically repairs minor breaches such as micrometeoroid impacts, and prevents hull hits from leading to explosive decompression. It costs MCr0.01 per ton of hull.

Stealth (TL 11): A stealth coating absorbs radar and lidar beams, and also disguises heat emissions. This gives a -4 DM on any Comms rolls to detect or lock onto the ship. Adding Stealth costs MCr0.1 per ton of hull, and can only be added once.

Hull and Structure

Initial damage is applied to the Hull; once the Hull is breached, further damage goes to the Structure. When all Structure Points have been lost, the ship has been smashed to pieces. A ship has one Hull Point per 50 tons of displacement (rounded down) and one Structure Point per 50 tons of displacement (rounded up).

Ship Sections

Most vessels are divided into two primary sections.

The Engineering Section

The Engineering section contains the drives and power plant necessary for proper operation and movement.

The Main Compartment

The ship's main compartment contains all non-drive features of the ship, including the bridge, ship's computer, the staterooms, the low passage berths, the cargo hold and other items.

Ship Drives

A non-starship must have a maneuver drive (M-Drive) and a power plant (P-Plant). A starship must have a Jump drive (J-Drive) and a power plant; a maneuver drive may also be installed, but is not required.

Table: Drive Costs

Drive Code	J-Drive		M-Drive		P-Plant	
	Tons	MCr	Tons	MCr	Tons	MCr
A	10	10	2	4	4	8
B	15	20	3	8	7	16
C	20	30	5	12	10	24
D	25	40	7	16	13	32
E	30	50	9	20	16	40
F	35	60	11	24	19	48
G	40	70	13	28	22	56
H	45	80	15	32	25	64
J	50	90	17	36	28	72
K	55	100	19	40	31	80
L	60	110	21	44	34	88
M	65	120	23	48	37	96
N	70	130	25	52	40	104
P	75	140	27	56	43	112
Q	80	150	29	60	46	120
R	85	160	31	64	49	128
S	90	170	33	68	52	136
T	95	180	35	72	55	144
U	100	190	37	76	58	152
V	105	200	39	80	61	160
W	110	210	41	84	64	168
X	115	220	43	88	67	176
Y	120	230	45	92	70	182
Z	125	240	47	96	73	192

Table: Drive Performance by Hull Volume, Smaller Hulls

	100	200	300	400	500	600	700	800	900	1000
A	2	1	–	–	–	–	–	–	–	–
B	4	2	1	1	–	–	–	–	–	–
C	6	3	2	1	1	1	–	–	–	–
D	–	4	2	2	1	1	1	1	–	–
E	–	5	3	2	2	1	1	1	1	1
F	–	6	4	3	2	2	1	1	1	1
G	–	–	4	3	2	2	2	2	1	1
H	–	–	5	4	3	2	2	2	2	2
J	–	–	6	4	3	3	2	2	2	2
K	–	–	–	5	4	3	3	3	2	2
L	–	–	–	5	4	3	3	3	3	3
M	–	–	–	6	4	4	3	3	3	3

N	–	–	–	6	5	4	4	4	3	3
P	–	–	–	–	5	4	4	4	4	4
Q	–	–	–	–	6	5	4	4	4	4
R	–	–	–	–	6	5	5	5	4	4
S	–	–	–	–	6	5	5	5	5	5
T	–	–	–	–	–	6	5	5	5	5
U	–	–	–	–	–	6	6	5	5	5
V	–	–	–	–	–	6	6	6	5	5
W	–	–	–	–	–	–	6	6	6	5
X	–	–	–	–	–	–	6	6	6	6
Y	–	–	–	–	–	–	6	6	6	6
Z	–	–	–	–	–	–	6	6	6	6

Table: Drive Performance by Hull Volume, Larger Hulls

	1200	1400	1600	1800	2000	3000	4000	5000
A	–	–	–	–	–	–	–	–
B	–	–	–	–	–	–	–	–
C	–	–	–	–	–	–	–	–
D	–	–	–	–	–	–	–	–
E	–	–	–	–	–	–	–	–
F	1	–	–	–	–	–	–	–
G	1	1	–	–	–	–	–	–
H	1	1	1	–	–	–	–	–
J	2	1	1	1	–	–	–	–
K	2	2	1	1	1	–	–	–
L	2	2	2	1	1	–	–	–
M	3	2	2	2	1	–	–	–
N	3	3	2	2	2	–	–	–
P	3	3	3	2	2	–	–	–
Q	4	3	3	3	2	1	–	–
R	4	4	3	3	3	1	–	–
S	4	4	4	3	3	1	–	–
T	5	4	4	4	3	2	–	–
U	5	4	4	4	4	2	–	–
V	5	5	4	4	4	2	1	–
W	5	5	4	4	4	3	1	1
X	5	5	5	4	4	3	1	1
Y	5	5	5	4	4	3	2	1
Z	6	5	5	5	4	4	2	2

For maneuver drives, the potential is the Thrust number (Tn), which is the number of Gs acceleration available. For Jump drives, the potential is the Jump number (Jn), or Jump range in parsecs. The power plant rating (A-Z) must be at least equal to either the maneuver drive or Jump drive rating, whichever is higher.

Fuel

Fuel needed for a Jump depends on the size of the ship and the length of the Jump and is calculated as $0.1 \times \text{Hull tonnage} \times \text{Jump distance}$. A single Jump of that distance consumes that much fuel.

The amount of fuel required by the power plant depends on the tonnage of the power plant itself, and is calculated as one-third of the power plant tonnage per week, rounded down to the nearest ton. Space-faring vessels require a minimum of two weeks' worth of fuel for the power plant. Deep space vessels may store four, six or even eight weeks of power plant fuel. For your convenience, the Power Plant Fuel Requirements table provides calculated values for both the fuel per week and minimum fuel volume by Drive Code.

Table: Power Plant Fuel Requirements

Drive Code	P-Plant (tons)	Fuel/Wk (tons)	Min. Fuel Volume
A	4	1	2
B	7	2	4
C	10	3	6
D	13	4	8
E	16	5	10
F	19	6	12
G	22	7	14
H	25	8	16
J	28	9	18
K	31	10	20
L	34	11	22
M	37	12	24
N	40	13	26
P	43	14	28
Q	46	15	30
R	49	16	32
S	52	17	34
T	55	18	36
U	58	19	38
V	61	20	40
W	64	21	42
X	67	22	44
Y	70	23	46
Z	73	24	48

Bridge

The size of the bridge varies depending on the size of the ship. The cost for the ship's bridge is MCr0.5 per 100 tons of ship.

Table: Bridge Size

Ship Size	Bridge Size
200 tons or less	10 tons
300 tons – 1000 tons	20 tons
1,100 – 2000 tons	40 tons
More than 2,000 tons	60 tons

Ship Computer

The ship computer is identified by its model number; the computer table indicates details of price, capacity, and tech level available.

Table: Ship Computer Models

Computer	TL	Rating	Cost
Model 1	7	5	Cr30,000
Model 2	9	10	Cr160,000
Model 3	11	15	MCr2
Model 4	12	20	MCr5
Model 5	13	25	MCr10
Model 6	14	30	MCr20
Model 7	15	35	MCr30

Ship Computer Options

The following options are available for ship's computers.

Jump Control Specialization (bis): A computer's rating can be increased by 5 for the purposes of running Jump Control programs only. This increases the computer's cost by 50%.

Hardened Systems (fib): A computer and its connections can be hardened against attack by electromagnetic pulse weapons. A hardened system is immune to EMP, but costs 50% more.

Both options can be applied to the same computer by doubling its cost (+100%).

Ship Software

Ship computers run highly specialized software packages designed to support numerous functions, such as managing the Jump drive, evading incoming fire, controlling ship's weapons and executing automatic repairs. Ship's computers automatically provide the means for basic control of the vessel, as well as extensive library data on numerous topics and a basic level of security (Security/0).

Table: Ship Software

Program	TL	Rating	Cost (MCr)	Notes
Auto-Repair	10+	10 per repair attempt	5 per repair attempt	Computer may attempt one repair per turn, or give a DM+1 to an attempt; at TL 12, can purchase an additional repair attempt (or DM+1) for twice the Rating and Cost.
Evade	9+	5 + 5 per DM-1	1 per DM-1	Imposes DM-1 on incoming fire; every two TLs higher, can purchase an addition DM-1, to a maximum of DM-3 at TL 13.
Fire Control	9+	5 per weapon	2 per weapon	Ship's computer may fire one weapon; for each additional weapon, TL is increased by 1 (the ship can fire up to 2 weapons at TL 10, 3 at TL 11, and so on). The ship's computer may also sacrifice controlling a weapon to give a DM+1 from computer targeting on another attack, whether that weapon is controlled by the ship's computer or by an actual gunner. Maximum of five weapons may be controlled by this program.
Jump Control	9+	5 per Jn	0.1xJn	Governs Jump drives up to a given Jump number (Jn); TL is the same as the TL required for a given Jump number.
Jump Course Tape	9+	1 per Jn	0.001xJn	Provides jump plot from one specific world to a specific destination system. Price based on number of parsecs between worlds; TL is the same as the TL required for a given Jump number needed to cover that Jump.

Ship Electronics

A ship comes with a basic communications, sensor and emissions-control electronics suite, but more advanced systems can be installed. The Dice Modifier applies to jamming and counter-jamming attempts.

Table: Ship Electronics

System	TL	DM	Includes	Tons	Cost
Standard	8	-4	Radar, Lidar	Included in bridge	Included in bridge
Basic Civilian	9	-2	Radar, Lidar	1	Cr50,000
Basic Military	10	+0	Radar, Lidar, Jammers	2	MCr1
Advanced	11	+1	Radar, Lidar, Densitometer, Jammers	3	MCr2
Very Advanced	12	+2	Radar, Lidar, Densitometer, Jammers, Neural Activity Sensor	5	MCr4

Radar/Lidar detects physical objects. It can be active or passive. If a ship is using active sensors, it is easier to detect (+2 DM to Comms checks) but detects more about its surroundings.

Jammers can jam or counter-jam radio communications and sensor locks.

Densitometers can determine the internal structure and makeup of an object.

Neural Activity Sensor detects neural activity and intelligence.

Ship Crew

All vessels require a crew to operate and maintain the ship. Small independently-owned vessels tend to operate with a minimum of crew, while corporate and military vessels maintain a full complement.

Table: Ship Crew Requirements

Position	Minimum	Full Complement
Command	None	One commanding officer or Captain, one executive officer, three administrative personnel (for ships over 1,000 tons)
Pilot	One	Three (one per 8-hour shift)
Navigator	One (optional with computer software)	One
Engineer	One	One per 35 tons of drives and power plant
Sensors Operator	None	One
Medic	None	One per 120 passengers and crew
Steward	None	One per four high passengers or ten middle passengers (assumes Steward-1)
Turret Gunner	One per turret weapon	One per turret weapon
Bay Gunner	One per bay weapon	Two per bay weapon
Screen Operator	One per screen device	Four per screen device
Chief Security Officer	None	One (optional)
Flight Crew	None	One per smallcraft or vehicle carried in hangars or launch tubes, plus one support crew per three vehicles or vessels
Marine	None	On ships over 1,000 tons, may have up to 30 per 1,000 tons
Other	None	As needed (i.e. medical staff, scientists, surveyors, etc.)

Staterooms

Each stateroom is sufficient for one person, displaces 4 tons, and costs Cr500,000. No stateroom can contain more than two persons, such as for middle passengers, as it would strain the ship's life support equipment. The tonnage and cost of the staterooms includes the life support systems needed to keep the crew alive.

Low Passage Berths

One low passage berth carries one low passenger, costs Cr50,000, and displaces one-half ton.

Emergency low berths are also available; they will not carry passengers, but can be used for survival. Each costs Cr100,000 and displaces one ton. Each holds four persons.

Barracks

A barracks takes up 2 tons per marine, and costs MCr0.1 per marine. Barracks can only be used to accommodate troops intended for boarding or assault operations. Troops accommodated in barracks cannot be used to reduce the number of service crew embarked.

Additional Ship Components

The following are examples of additional ship components that might prove useful for certain ship designs.

Armory

Ships carrying a large number of marines or soldiers can benefit from an armory, a specialized weapons store. An armory can only be accessed by those with the correct codes (usually the ship's senior officers and security team) and contains a wide variety of weapons. In game terms, an armory has enough snub pistols for the crew, enough accelerator or gauss rifles for any marines, and a selection of other military equipment like grenades,

combat drug packs, combat armor and communications equipment. A general armory for a spacecraft costs MCr0.5 and takes up 2 tons of space.

Where military vessels are concerned, the number of armories built into the ship's design is based on crew size. One armory is installed for either every 50 crew members, or every 10 marines, in order to provide adequate storage for equipment, weapons and ammunition.

Briefing Room

A specialized briefing room is useful on mercenary cruisers and other adventuring ships, where teams can discuss plans or meet with clients privately. A briefing room gives a +1 DM to Tactics checks made when planning missions on board ship. Ships with command bridges and fighter squadrons require additional briefing rooms and facilities. Capital ships must therefore have one briefing room per ship section, and one briefing room for every 20 fighter or bomber crew.

Cargo Hold

The design plan must indicate cargo capacity. There is no cost but cargo carried may not exceed cargo capacity. Any space left over after all systems have been installed may be allocated to cargo space.

Detention Cells

Found primarily on military and government vessels, a detention cell is used to keep prisoners. A detention cell displaces 2 tons and costs MCr0.25.

Fuel Scoops

Fuel scoops allow an unstreamlined ship to gather unrefined fuel from a gas giant. Streamlined ships have fuel scoops built in. Adding scoops costs MCr1 and requires no tonnage.

Fuel Processors

Fuel processors convert unrefined fuel into refined fuel. One ton of fuel processors can convert 20 tons of unrefined hydrogen into refined fuel per day. A ton of fuel processing equipment costs Cr50,000.

Laboratory

Space allocated to laboratories can be used for research and experimentation. Each four tons of lab space allows for one scientist to perform research on board ship. The cost for research equipment varies depending on the type of research undertaken, but is generally around MCr1.0 per 4 tons.

Launch Tubes

Launching and recovering small craft from a larger vessel is usually an activity taking 30 minutes to launch or recovery one craft. Launch tubes allow small craft to be launched and recovered rapidly from a ship. The size of a launch tube is twenty-five times the tonnage of the largest craft that will be deployed in this manner, and they cost MCr0.5 per ton. With a launch tube, up to ten small craft can be launched per round. Multiple launch tubes can be installed.

Library

A library room contains computer files as well as lecterns, display screens, holotanks and even hard copies of books. A good library is useful for both research and passing time in jump space. Having a library on board a ship gives one extra week of training time for new skills per week spent in jump space. A library for a spacecraft costs MCr4 and takes up 4 tons of space.

Luxuries

Luxuries cost Cr100,000 per ton, and make life on board ship more pleasant. Each ton of luxuries counts as one level of the Steward skill for the purposes of carrying passengers, and therefore allows a ship to carry middle and high passage passengers without carrying a trained steward on board.

Ship's Locker

Every ship has a ship's locker. Typical equipment carried aboard will include protective clothing, vacc suits, weapons such as shotguns or pistols, ammunition, compasses and survival aids, and portable shelters. The contents of the locker are defined only when they need to be but always contains vacc suits and other useful items. The ship's locker is usually protected by a biometric lock keyed to the ship's officers.

Vault

A vault is a special armored chamber in the heart of a spacecraft, designed to survive attacks that would annihilate the rest of the ship. A vault has another four Hull and Structure points that only come into play when the ship housing the vault is destroyed. A vault can contain cargo, staterooms or any other internal components equivalent up to 6 tons. A vault requires 12 tons of space and costs MCr6.

Vehicle and Drone Hangar

The tonnage and cost outlined in the Hangar Cost and Tonnage for Vehicles and Drones table covers full-scale hangar space, which allows for repairs and maintenance of small craft when they are back on the ship. The hangar includes spare parts and specialized testing and repair equipment for the stored craft. It does not include the cost of the vehicles or drones. A custom hangar takes up tonnage equal to the tonnage of the vehicle to be stored, plus 30% and costs MCr0.2 per ton.

Air/Raft, ATV: These are vehicles, stored in or on the ship.

Escape Pods: This covers the installation of rescue bubbles and other escape pods for the entire crew.

Life Boat, Ship's Boat, Shuttle, Pinnace, Cutter: These are all small craft, hangered either in or on the ship's hull.

Mining Drones: Mining drones allow a ship to mine asteroids. Each set of mining drones takes up ten tons, and allows the ship to process 1D6x10 tons of asteroid per working day. The tonnage allocated includes ore handling machinery, allowing the ship to take on ore and transfer it to the cargo bay.

Probe Drones: Probe drones are for surveying planetary surfaces. Each ton of probe drones contains five drones. Probe drones can be dropped from orbit in disposable entry shells but must be recovered manually. Probe drones are also capable of surveying orbiting satellites, derelicts and other space debris. They can also be used as communications relays.

Repair Drones: Carrying repair drones allows a ship to make battlefield repairs with the AutoRepair software or when managed by a character with Mechanic or Engineer skills. Repair drones have the same statistics as repair robots only without an Intellect program. For more information on repair robots, see **Robots and Drones** in **Chapter 4: Equipment**.

Table: Hangar Cost and Tonnage for Vehicles and Drones

Vehicle or Drone	Tons	Installation Cost (MCr)
ATV	13	2.6
Air/Raft	5	1
Cutter	65	13
Escape Pods	0.5 per passenger	0.1 per passenger
Life Boat	26	5.2
Mining Drones	10	2
Pinnacle	52	10.4
Probe Drones (5)	1	0.2
Repair Drones	1% of ship's hull	0.2 per ton
Ship's Boat	39	7.8
Shuttle	122.5	24.5

Armaments

A ship has one hardpoint per 100 tons of ship and each weapon system takes up one hardpoint. A weapon system may include multiple weapons – for example, a triple turret contains three lasers, missile launchers, sandcasters or some combination of three weapons.

Turrets

One turret may be attached to each hardpoint on the ship. If a turret is installed, then one ton of space must be allocated to fire control systems:

Table: Turret Displacement and Cost

Weapon	TL	Tons	Cost (MCr)
Single Turret	7	1	0.2
Double Turret	8	1	0.5
Triple Turret	9	1	1
Pop-Up Turret	10	2	+1
Fixed Mounting	-	0	x 0.5

Single, **Double** and **Triple** turrets can hold one, two or three weapons.

Pop-Up is a quality that can be applied to any type of turret – the turret is concealed in a pod or recess on the hull, and is detectable only when deployed. A ship with all its weapons in pop-up turrets looks unarmed to a casual sensor scan.

Fixed Mounting weapons cannot move, are limited to firing in one direction (normally straight ahead), and are found mainly on fighters. A fixed mounting costs half as much as a turret of the same type, so a single fixed mounting costs MCr0.1, a double fixed mounting costs MCr0.25, and a triple fixed mounting costs MCr0.5.

Table: Turret Weapons

Weapon	TL	Optimum Range	Damage	Cost (MCr)	Notes
Missile Rack	6	Special	Depends on missile	0.75	
Pulse Laser	7	Short	2D6	0.5	Suffers DM-2 to attack
Sandcaster	7	Special	Special	0.25	
Particle Beam	8	Long	3D6 + radiation hit	4	
Beam Laser	9	Medium	1D6	1	

Missile racks launch self-propelled weapons designed to explode on impact.

Pulse lasers fire short, rapid bursts of intense energy. Pulse lasers are notoriously inaccurate and suffer a DM -2 on all attack rolls.

Sandcasters reduces the damage from a beam weapon by 1D6. Sandcasters require ammunition. Twenty sandcaster barrels take up one ton of space, can be manufactured at TL5, and cost Cr10,000.

Particle beams fire a high-energy beam of subatomic particles. The beam's impact disrupts the molecular structure of the target, causing a radiation crew hit in addition to normal damage.

Beam lasers fire a continuous stream of intense energy.

No launcher includes ammunition in its purchase cost. Missiles, torpedoes and so forth must be purchased separately.

Missiles

Missiles are weapons that are self-propelled or directed by remote control, carrying a conventional or nuclear explosive. They may be fired from missile racks mounted in turrets or from bay-mounted missile banks. Twelve missiles take up one ton of space. Missiles are capable of Thrust 10, but have a limited endurance of 60 minutes (roughly 4 turns) before running out of fuel. There are three common types of missiles: Standard, Smart and Nuclear.

Table: Missile Types

Missile Type	TL	Damage	Cost per Missile	Notes
Nuclear	6	2D6+ 1 radiation hit	Cr3,750	Radiation hit suffers a –DM equal to the ship's armor
Standard	6	1D6	Cr1,250	
Smart	8	1D6	Cr2,500	Attack roll is always 8+, and may attack every turn if they miss until they are destroyed, jammed or run out of fuel

Bays

Bay weapons are much larger than turrets, and take up 50 tons of space and one hard point, as well as one ton of space for fire control.

Table: Bay Weapons

Weapon	TL	Range	Damage	Cost (MCr)
Missile Bank	6	Special	Launches a flight of twelve missiles	12
Particle Beam	8	Long	6D6 + 1 radiation hit	20
Meson Gun	11	Long	5D6 + 1 radiation hit	50
Fusion Gun	12	Medium	5D6	8

Missile banks fire flights of twelve missiles at a time.

Particle beam bays fire a larger and more powerful beam of subatomic particles than particle beam turret weapons.

Meson weapons are unaffected by armor, as the blast only becomes harmful after it has already passed through the hull. Meson guns also inflict an automatic radiation hit on the crew of any target struck.

Fusing weapons fire a stream of hydrogen particles that are undergoing a fusion reaction.

Screens

Screens are defensive systems that protect against specific attacks.

Table: Screens

Screen	TL	Effect	Tons	Cost (MCr)
Meson Screen	12	Protects against meson weapon damage, reducing damage by 2D6. Meson screens reduce radiation damage from meson guns and meson flicker weapons. Radiation hits from these weapons suffer a –DM equal to twice the active number of screens.	50	60
Nuclear Damper	12	Reduces fusion gun damage and nuclear missile damage by 2D6, removes automatic radiation hit from nuclear missile attacks	50	50

Meson screens block attacks from meson weapons by preventing meson decay.

Nuclear dampers inhibit fusion reactions, reducing the damage from fusion weapons and nuclear missiles by 2D6 when affected.

Universal Ship Description Format

After a ship design has been created, it must be presented in a format that allows players to use the information within the game. The Cepheus Engine describes ship designs using a universal ship description format, which is essentially a paragraph of text laid out in the following manner. Examples can be found in **Chapter 9: Common Vessels**.

[Ship's Tech Level] [Ship Descriptive Name]

Using a [Ship Hull Displacement]-ton hull ([Hull Damage Value] Hull, [Structure Damage Value] Structure), the [Ship Descriptive Name] is [General Description of Ship's Function]. It mounts jump drive [Jump Drive Code], maneuver drive [Maneuver Drive Code], and power plant [Power Plant Code], giving a performance of Jump-[Jump Number] and [Thrust Number]-G acceleration. Fuel tankage of [Fuel Tonnage] tons supports the power plant for [Weeks of Power] and [Number of Jumps] jump-[Jump Number]. [Any additional fuel usage notes.] Adjacent to the bridge is a computer Model [Computer Number, followed by a slash and bis or fib options noted, if purchased]. The ship is equipped with [Sensors Type] sensors ([Sensors DM].) There are [Number of Staterooms] staterooms and [Number of Low Berths] low berths. The ship has [Number of Hardpoints] hardpoints and [Fire Control Tonnage] tons allocated for fire control. Installed on the hardpoints are [Describe number and type of turrets, and any weapon systems that have been installed, if any. Also note any ammunition carried for missiles and sandcasters.] This ship has [Number of Screens Installed] screens: [Describe number and type of screens]. There are [Number of Small Craft Hangers] small craft hangars, [Describe number and contents of each hangar]. Cargo capacity is [Cargo Tonnage] tons. The hull is [Hull Configuration], and is armored with [Armor Type] ([Armor Rating] points.) [Note any Ship's Armor options that have been installed.] Special features include [List additional components here, included fuel processors and fuel scoops]. The ship requires a crew of [Crew Total]: [List crew positions]. The ship can carry up to [Double the Number of Non-Crew Staterooms] additional passengers at double occupancy and [Number of Low Berths] low passengers. The ship costs MCr[Cost of Ship] (including discounts and fees) and takes [Construction Time] weeks to build.

Alternative Star Drives

In classic era science-fiction games such as the Cepheus Engine, the only form of faster-than-light movement is typically the Jump drive, which always takes one week to travel a number of parsecs equal to its Jump rating and consumes a vast amount of fuel. If the Referee wishes to model other science fiction settings with their own forms of "star drive", the classic Jump drive rules may not be entirely appropriate. The alternative drives below use all the same rules as the Jump drive (mass, fuel, power consumption, range) unless otherwise stated.

Some of these drives consume much less fuel or allow much faster travel than the Jump drive, so introducing these drives will vastly impact the carrying capacity of a starship, the profitability of trade, the speed of communication and so forth.

Warp Drive

The ship warps space around it, allowing it to move faster-than-light while staying in our universe. A warp drive does not have a maximum range – instead, the ship’s drive rating indicates the number of parsecs crossed per week of travel. Warp travel consumes fuel at twice the normal rate for the ship’s power plant rather than needing a single massive expenditure in the manner of a Jump drive.

Teleport Drive

The ship instantaneously jumps from one point to another. This works just like the standard Jump drive without the week-long wait in hyperspace. Instead, no time whatsoever elapses during the transition from one place to another. A teleport consumes no extra fuel but jumping is a strain on the ship’s systems and multiple successive jumps can damage the drive.

Hyperspace Drive

The portal drive functions by opening up a gateway into hyperspace, through which the ship can pass. When in hyperspace, the ship uses its conventional engines to travel, then opens up a second gateway back to the normal universe, effectively taking a short cut through a higher dimension. A hyperspace drive is limited by the size of the spacecraft that can pass through the portal – see the Hyperspace Portal Size table. A hyperspace drive consumes no extra fuel, but takes up twice as much space as a jump drive. While in hyperspace, the spacecraft moves at a rate of one parsec per day per maneuver drive rating.

Table: Hyperspace Portal Size

Rating	Size	Rating	Size
A	200	N	2800
B	400	P	3000
C	800	Q	3200
D	1000	R	3400
E	1200	S	3600
F	1400	T	3800
G	1600	U	4000
H	1800	V	4200
J	2000	W	4400
K	2200	X	4600
L	2400	Y	4800
M	2600	Z	5000

Alternative Power Plants

The Cepheus Engine system posits the development of highly efficient fusion power plants, but other settings may use different sources of power. Unless otherwise noted, these power plants use all the same rules as the standard fusion power plants.

Fission Plants

A fission plant requires radioactive elements as fuel. Fission drives only produce the same amount power as a fusion drive of the same type. However, they are twice the size and price of a fusion power plant. Fission plant

fuel costs Cr1,000,000 per ton. Fission plants use the same amount of fuel in a year that standard fusion power plants require for two weeks.

Antimatter Power Plants

Antimatter power plants work by annihilating small amounts of hydrogen and anti-hydrogen. No tonnage needs to be allocated to fuel, but the plant must be refueled once per month, at a cost of Cr5,000 per ton of drive.

Small Craft Design

Small craft design follows the rules for standard ship design, with the following changes.

Small Craft Ship Hull

Small craft use the Small Craft Ship Hull by Displacement table below. The cost of streamlining and distributed configurations are calculated as per standard ship design rules.

Table: Ship Hull by Displacement

Hull	Hull Code	Price (MCr)	Construction Time (weeks)
10 tons	s1	1.1	28
15 tons	s2	1.15	29
20 tons	s3	1.2	29
25 tons	s4	1.25	30
30 tons	s5	1.3	30
35 tons	s6	1.35	30
40 tons	s7	1.4	31
45 tons	s8	1.45	31
50 tons	s9	1.5	32
55 tons	sA	1.55	32
60 tons	sB	1.6	32
65 tons	sC	1.65	33
70 tons	sD	1.7	33
75 tons	sE	1.75	34
80 tons	sF	1.8	34
85 tons	sG	1.85	34
90 tons	sH	1.9	35
95 tons	sJ	1.95	35

Small Craft Armor

Small craft armor is purchased in the same manner as standard ship armor. However, small craft have a maximum armor value, based on type. Armor options may be purchased as per the standard ship design rules.

Table: Maximum Small Craft Armor by Type

Armor Type	Maximum Armor Value
Titanium Steel	TL or 9, whichever is less
Crystaliron	TL or 13, whichever is less
Bonded Superdense	TL

Small Craft Drives

A small craft must have a maneuver drive (M-Drive) and a power plant (P-Plant). The costs for each are captured in the Small Craft Drive Costs table. The performance of small craft drives are found in the Small Craft Drive Performance by Hull Volume table.

Table: Small Craft Drive Costs

Drive Code	M-Drive Tonnage	M-Cr	P-Plant Tonnage	M-Cr
sA	0.5	1	1.2	3
sB	1	2	1.5	3.5
sC	1.5	3	1.8	4
sD	2	3.5	2.1	4.5
sE	2.5	4	2.4	5
sF	3	6	2.7	5.5
sG	3.5	8	3	6
sH	4	9	3.3	6.5
sJ	4.5	10	3.6	7
sK	5	11	3.9	7.5
sL	6	12	4.5	8
sM	7	14	5.1	9
sN	8	16	5.7	10
sP	9	18	6.3	12
sQ	10	20	6.9	14
sR	11	22	7.5	16
sS	12	24	8.1	18
sT	13	26	8.7	20
sU	14	28	9.3	22
sV	15	30	9.9	24
sW	16	32	10.5	26

Table: Small Craft Drive Performance by Hull Volume

Drive Code	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
sA	2	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sB	4	2	2	1	1	1	1	--	--	--	--	--	--	--	--	--	--	--
sC	6	4	3	2	2	1	1	1	1	1	1	--	--	--	--	--	--	--
sD	--	5	4	3	2	2	2	1	1	1	1	1	1	1	1	--	--	--
sE	--	6	5	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1
sF	--	--	6	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1
sG	--	--	--	5	4	4	3	3	2	2	2	2	2	1	1	1	1	1
sH	--	--	--	6	5	4	4	3	3	2	2	2	2	2	2	1	1	1
sJ	--	--	--	--	6	5	4	4	3	3	3	2	2	2	2	2	2	1
sK	--	--	--	--	6	5	5	4	4	3	3	3	2	2	2	2	2	2
sL	--	--	--	--	--	6	6	5	4	4	4	3	3	3	3	2	2	2
sM	--	--	--	--	--	--	--	6	5	5	4	4	4	3	3	3	3	2
sN	--	--	--	--	--	--	--	--	6	5	5	4	4	4	4	3	3	3
sP	--	--	--	--	--	--	--	--	--	6	6	5	5	4	4	4	4	3
sQ	--	--	--	--	--	--	--	--	--	--	6	6	5	5	5	4	4	4
sR	--	--	--	--	--	--	--	--	--	--	--	6	6	5	5	5	4	4
sS	--	--	--	--	--	--	--	--	--	--	--	--	6	6	6	5	5	5
sT	--	--	--	--	--	--	--	--	--	--	--	--	--	6	6	6	5	5
sU	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6	6	5
sV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6	6
sW	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6

Small Craft Fuel

The fuel requirements for a small craft's power plant follow the standard ship design rules, except the values are rounded down to the nearest 0.1 of a ton, rather than the nearest ton. In addition, the minimum fuel volume for a small craft is one week rather than two weeks. For your convenience, the Small Craft Power Plant Fuel Requirements table provides calculated values for fuel per week by Drive Code.

Table: Small Craft Power Plant Fuel Requirements

Drive Code	P-Plant (tons)	Fuel/Wk (tons)
sA	1.2	0.4
sB	1.5	0.5
sC	1.8	0.6
sD	2.1	0.7
sE	2.4	0.8
sF	2.7	0.9
sG	3	1
sH	3.3	1.1
sJ	3.6	1.2
sK	3.9	1.3
sL	4.5	1.5
sM	5.1	1.7
sN	5.7	1.9
sP	6.3	2.1
sQ	6.9	2.3
sR	7.5	2.5
sS	8.1	2.7
sT	8.7	2.9
sU	9.3	3.1
sV	9.9	3.3
sW	10.5	3.5
sX	11.1	3.7
sY	11.7	3.9
sZ	12.3	4.1

Small Craft Cockpits and Control Cabins

Small craft do not have bridges. Instead, a cockpit or control cabin serves the same function. A cockpit is more cramped, but takes up less tonnage. The cost for a cabin or cockpit is the same – MCr 0.1 per 20 tons of ship. Additional cabin space costs MCr 0.05 per ton. Cockpits and control cabins come equipped with a basic communications, sensor and emissions-control electronics suite. More advanced systems can be installed per the standard ship design rules.

Table: Small Craft Cockpits and Control Cabins

Small Craft Size	Size (tons)	Crew
1-Man Cockpit	1.5	1 crew
2-Man Cockpit	3	2 crew
1-Man Control Cabin	3	1 crew
2-Man Control Cabin	6	2 crew, 1 passenger
More Cabin Space	1.5 tons per passenger	1 additional passenger

Airlock

Unlike larger vessels, a small craft does not have an airlock by default. Airlocks take up one ton each and cost MCr0.2. If a craft does not have an airlock, then the crew cannot leave the craft except when it is landed or in a pressurized landing bay without opening the ship up to vacuum.

Small Craft Crew

All small craft of 50 tons or under require a minimum crew of one to operate and maintain the ship. Small craft larger than 50 tons require a minimum crew of two.

Small Craft Armaments

A small craft has one hardpoint, despite being less than 100 tons. Small craft follow the standard ship design rules regarding armaments, with some exceptions.

Meson, particle beam and fusion bays cannot be fitted.

The armaments allowed to a small craft are restricted by its power plant type. It may only equip up to the number of lasers and particle weapons allowed by the vessel's power plant, as shown in the Maximum Energy Weapons by Power Plant table. The number of missile launchers or projectile weapons is not limited by the power plant letter.

Table: Maximum Energy Weapons by Power Plant

Drive Code	Maximum Number
sA–sF	0
sG–sK	1
sL–sR	2
sS–sZ	3

CHAPTER 9: COMMON VESSELS

This section describes some of the starships and other vessels that can be commonly encountered in Cepheus Engine campaigns. These are not the only types of vessels that exist, and creative Referees are encouraged to integrate ships of their own creation or from other sources as they see fit.

TL9 Asteroid Miner

Using a 200-ton hull (4 Hull, 4 Structure,) the Asteroid Miner is frequently used to exploit the abundant riches found in planetoid belts. It mounts jump drive A, maneuver drive A, and power plant A, giving a performance of Jump-1 and 1-G acceleration. Fuel tankage of 44 tons supports the power plant for four weeks and two Jump-1 jumps. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are three staterooms and five low berths. The ship has two hardpoints and two tons allocated to fire control. Cargo capacity is 84 tons. The hull has a standard configuration, and is armored with Titanium Steel (2 points.) Special features include three escape pods, three tons of fuel processors (processes 60 tons of unrefined fuel into refined fuel per day,) fuel scoops, a mining drone and a smelter. The ship requires a crew of three: one pilot, one navigator and one engineer. (If weapons are installed, this vessel will also require two gunners.) The ship can carry three additional passengers at double occupancy (one with gunners) and five low passengers. The ship costs MCr33.219 (including discounts and fees) and takes 44 weeks to build.

TL11 Corvette

Using a 300-ton hull (6 Hull, 6 Structure,) the Corvette is an example of a frigate commonly found in operation within an interstellar polity. It mounts jump drive C, maneuver drive J, and power plant J, giving a performance of Jump-2 and 6-G acceleration. Fuel tankage of 96 tons supports four weeks of power plant operation and one Jump-2 jump. Adjacent to the bridge is a computer Model 3/fib. The ship is equipped with Advanced sensors (DM+1.) There are nine staterooms and five emergency low berths. The ship has three hardpoints and three tons allocated to fire control. Installed on the hardpoints are two triple turrets armed with missiles and one triple turret armed with beam lasers. 120 smart missiles are carried as ammunition for the missile turrets. Cargo capacity is 25 tons. The hull is standard, armored with Crystaliron (8 points,) and possesses a stealth coating that absorbs radar and lidar beams, and also disguises heat emissions. Special features include an armory, four detention cells, five tons of fuel processors (processes 100 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 18: one commanding officer, one pilot, one navigator, two engineers, three gunners and ten marines. The ship can carry up to four additional passengers as prisoners in the detention cells. The ship costs MCr194.445 (including discounts and fees) and takes 52 weeks to build.

TL9 Courier

Using a 100-ton hull (2 Hull, 2 Structure,) the Courier is used to transfer critical information, vital cargo or essential personnel within an interstellar polity, or by anyone who needs fast yet affordable interstellar transportation. It mounts jump drive A, maneuver drive B, and power plant B, giving a performance of Jump-2 and 4-G acceleration. Fuel tankage of 28 tons supports the power plant and one Jump-2 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are four staterooms and one emergency low berth. The ship has one hardpoint and one ton allocated to fire control, but has no weapons installed. Cargo capacity is 16 tons. The hull is streamlined, and is armored with Titanium Steel (2 points.) Special features include TL11 Jump Control/2 software, two tons of fuel processors (processes 40 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of three: one pilot, one navigator and one engineer. (If weapons are installed, this vessel will also require one gunner.) The ship can carry five passengers at double occupancy (four with gunners) and four emergency low passengers. The ship costs MCr35.928 (including discounts and fees) and takes 36 weeks to build.

TL11 Destroyer

Using an 800-ton hull (16 Hull, 16 Structure,) the Destroyer serves primarily as an escort for cruisers and dreadnoughts and as a support ship in fleet actions. It mounts jump drive D, maneuver drive M, and power plant M, giving a performance of Jump-2 and 4-G acceleration. Fuel tankage of 368 tons supports four weeks of power plant operation and two Jump-2 jumps. Adjacent to the bridge is a computer Model 3/fib. The ship is equipped with Advanced sensors (DM+1.) There are twelve staterooms and six emergency low berths. The ship has eight hardpoints and eight tons allocated to fire control. Installed on the hardpoints are two triple turrets armed with missiles and six triple turrets armed with beam lasers. 360 smart missiles are carried as ammunition for the missile turrets. There are one small craft hangers carrying a ship's boat (also included in the ship's cost.) Cargo capacity is 50.5 tons. The hull is standard, armored with Crystaliron (11 points,) and possesses a stealth coating that absorbs radar and lidar beams, and also disguises heat emissions. Special features include one armory, 23 escape pods, nineteen tons of fuel processors (processes 380 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 23: one commanding officer, one pilot, one navigator, three engineers, eight gunners, one small craft pilot and ten marines. The ship cannot carry any additional passengers. The ship costs MCr422.775 (including discounts and fees) and takes 92 weeks to build.

TL14 Dreadnought

Using a 5000-ton hull (100 Hull, 100 Structure, divided into two sections of 50 Hull, 50 Structure each,) the Dreadnought represents the largest and most heavily-armed ship type within an interstellar polity. These ships are rarely deployed outside of wartime conditions. It mounts jump drive Z, maneuver drive Z and power plant Z, giving a performance of Jump-2 and 2-G acceleration. Fuel tankage of 1,096 tons supports four weeks of power plant operation and one Jump-2 jump. Adjacent to the bridge is a computer Model 6/fib. The ship is equipped with Very Advanced sensors (DM+2.) There are 101 staterooms, barracks for 60 troops, 223 low berths (for the Frozen Watch) and 56 emergency low berths. The ship has fifty hardpoints and fifty tons allocated to fire control. Installed on the hardpoints are ten fusion gun bays, five missile bays and 35 triple turrets armed with beam lasers. 3,600 smart missiles are carried as ammunition for the missile bays. In addition, this vessel has two screens: a meson screen and a nuclear damper. There are 22 small craft hangers, 20 holding fighters and two carrying cutters (all included in the ship's cost.) Cargo capacity is 412 tons. The hull is standard, armored with Bonded Superdense (14 points,) and possesses a stealth coating that absorbs radar and lidar beams, and also disguises heat emissions. Special features include six armories, 223 escape pods, 54 tons of fuel processors (processes 1,080 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 223: one commanding officer, one executive officer, one computer officer, two navigation officers, one medical officer, one communications officer, 23 flight officers, one engineering officer, seven gunnery officers, nineteen support staff, 22 flight mechanics, three engineers, fifteen service crew, 66 gunnery crew, 60 ship's troops. In addition, there are 112 individuals in low berths serving in the Frozen Watch as replacement personnel for casualties and battle losses; between battles, the Frozen Watch can be revived and used to restore lost crew. The ship cannot carry any additional passengers. The ship costs MCr2,768.145 (including discounts and fees) and takes 428 weeks to build.

TL9 Frontier Trader

Using a 300-ton hull (6 Hull, 6 Structure,) the Frontier Trader is generally encountered along an interstellar polity border, as well as in systems that are not along major trade routes. It mounts jump drive B, maneuver drive C, and power plant C, giving a performance of Jump-1 and 2-G acceleration. Fuel tankage of 42 tons supports the power plant for four weeks and one Jump-1 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are 25 staterooms and twelve low berths. The ship has three hardpoints and three tons allocated to fire control. Installed on the hardpoints are two triple turrets armed with pulse lasers and one triple turret armed with sandcasters. 100 canisters are carried as ammunition for the

sandcaster turrets. Cargo capacity is 75 tons. The hull has a standard configuration, and is armored with Titanium Steel (2 points.) Special features include three tons of fuel processors (processes 60 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of eight: one pilot, one navigator, one engineer, three gunners and two stewards. The ship can carry 21 high passengers or 42 middle passengers at double occupancy, and twelve low passengers. The ship costs MCr82.314 (including discounts and fees) and takes 13 weeks to build.

TL11 Heavy Cruiser

Using a 2000-ton hull (40 Hull, 40 Structure,) the Heavy Cruiser is a multi-purpose warship used for a variety of independent missions. This vessel is not commonly deployed during peacetime, except for occasional maneuvers. It mounts jump drive N, maneuver drive N, and power plant N, giving a performance of Jump-2 and 2-G acceleration. Fuel tankage of 452 tons supports four weeks of power plant operation and one Jump-2 jump. Adjacent to the bridge is a computer Model 3/fib. The ship is equipped with Advanced sensors (DM+1.) There are 42 staterooms and 20 emergency low berths. The ship has twenty hardpoints and twenty tons allocated to fire control. Installed on the hardpoints are four missile bays and sixteen triple turrets armed with pulse lasers. 2160 smart missiles are carried as ammunition for the missile bays. There are 14 small craft hangers, twelve holding fighters and two carrying cutters (all included in the ship's cost.) Cargo capacity is 152.5 tons. The hull is standard, armored with Crystaliron (11 points,) and possesses a stealth coating that absorbs radar and lidar beams, and also disguises heat emissions. Special features include three armories, 79 escape pods, 23 tons of fuel processors (processes 460 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 79: four commanding officers, one pilot, one navigator, nine engineers, twenty gunners, fifteen small craft pilots and thirty marines. The ship cannot carry any additional passengers. The ship costs MCr1,146.915 (including discounts and fees) and takes 47 weeks to build.

TL11 Light Cruiser

Using a 1000-ton hull (20 Hull, 20 Structure,) the Light Cruiser is a multi-purpose warship used for a wide variety of independent missions. The light cruiser has less firepower than a heavy cruiser, but is generally faster and more maneuverable. It mounts jump drive H, maneuver drive L, and power plant L, giving a performance of Jump-2 and 3-G acceleration. Fuel tankage of 344 tons supports four weeks of power plant operation and one Jump-2 jump. Adjacent to the bridge is a computer Model 3/fib. The ship is equipped with Advanced sensors (DM+1.) There are 23 staterooms and 11 emergency low berths. The ship has ten hardpoints and ten tons allocated to fire control. Installed on the hardpoints are one particle beam bay, three triple turrets armed with missiles and six triple turrets armed with beam lasers. 540 smart missiles are carried as ammunition for the missile turrets. There are five small craft hangers, four holding fighters and one carrying a ship's boat (all included in the ship's cost.) Cargo capacity is 53 tons. The hull is standard, armored with Crystaliron (11 points,) and possesses a stealth coating that absorbs radar and lidar beams, and also disguises heat emissions. Special features include two armories, 43 escape pods, eighteen tons of fuel processors (processes 360 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 43: two commanding officers, one pilot, one navigator, four engineers, ten gunners, five small craft pilots and twenty marines. The ship cannot carry any additional passengers. The ship costs MCr597.870 (including discounts and fees) and takes 27 weeks to build.

TL9 Merchant Freighter

Using a 400-ton hull (8 Hull, 8 Structure,) the Merchant Freighter is frequently used to haul cargo along major trade routes. It mounts jump drive B, maneuver drive B, and power plant B, giving a performance of Jump-1 and 1-G acceleration. Fuel tankage of 48 tons supports the power plant for four weeks and one Jump-1 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are

four staterooms and two emergency low berths. The ship has four hardpoints and four tons allocated to fire control, but has no weapons installed. Cargo capacity is 261 tons. The hull has a standard configuration, and is armored with Titanium Steel (2 points.) Special features include three tons of fuel processors (processes 60 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of three: one pilot, one navigator and one engineer. (If weapons are installed, this vessel will also require four gunners.) The ship can carry two high passengers or four middle passengers at double occupancy (none with gunners,) and eight emergency low passengers. The ship costs MCr59.814 (including discounts and fees) and takes 60 weeks to build.

TL9 Merchant Liner

Using a 300-ton hull (6 Hull, 6 Structure,) the Merchant Liner is a popular method of interstellar transport along major trade routes. It mounts jump drive B, maneuver drive B, and power plant B, giving a performance of Jump-1 and 1-G acceleration. Fuel tankage of 38 tons supports the power plant for four weeks and one Jump-1 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are 35 staterooms and 20 low berths. The ship has three hardpoints and three tons allocated to fire control, but has no weapons installed. Cargo capacity is 46 tons. The hull has a standard configuration, and is armored with Titanium Steel (2 points.) Special features include two tons of fuel processors (processes 40 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of seven: one pilot, one navigator, one engineer and four stewards. The ship can carry 31 high passengers or 62 middle passengers at double occupancy, and 20 low passengers. The ship costs MCr70.209 (including discounts and fees) and takes 52 weeks to build.

TL9 Merchant Trader

Using a 200-ton hull (4 Hull, 4 Structure,) the Merchant Trader is frequently encountered along well-established trade routes. It mounts jump drive A, maneuver drive A, and power plant A, giving a performance of Jump-1 and 1-G acceleration. Fuel tankage of 24 tons supports the power plant for four weeks and one Jump-1 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are ten staterooms and twenty low berths. The ship has two hardpoints and two tons allocated to fire control. Cargo capacity is 85 tons. The hull has a standard configuration, and is armored with Titanium Steel (2 points.) Special features include two tons of fuel processors (processes 40 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of three: one pilot, one navigator and one engineer. (If weapons are installed, this vessel will also require two gunners. Ships may also wish to carry a medic and a steward.) The ship can carry eight high passengers or 16 middle passengers at double occupancy (seven high or 14 middle passengers with gunners) and twenty low passengers. The ship costs MCr34.929 (including discounts and fees) and takes 44 weeks to build.

TL11 Patrol Frigate

Using a 300-ton hull (6 Hull, 6 Structure,) the Patrol Frigate performs routine star system patrols within an interstellar polity. It mounts jump drive C, maneuver drive F, and power plant F, giving a performance of Jump-2 and 4-G acceleration. Fuel tankage of 84 tons supports four weeks of power plant operation and one Jump-2 jump. Adjacent to the bridge is a computer Model 3/fib. The ship is equipped with Advanced sensors (DM+1.) There are ten staterooms and five emergency low berths. The ship has three hardpoints and three tons allocated to fire control. Installed on the hardpoints are two triple turrets armed with missiles and one triple turret armed with beam lasers. 120 smart missiles are carried as ammunition for the missile turrets. There are two small craft hangers, each holding a fighter (also included in the ship's cost.) Cargo capacity is 23 tons. The hull is standard, armored with Crystaliron (8 points,) and possesses a stealth coating that absorbs radar and lidar beams, and also disguises heat emissions. Special features include an armory, five tons of fuel processors (processes 100 tons of

unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 20: one commanding officer, one pilot, one navigator, two engineers, three gunners, two fighter pilots and ten marines. The ship cannot carry any additional passengers. The ship costs MCr180.675 (including discounts and fees) and takes 52 weeks to build.

TL9 Raider

Using a 600-ton hull (6 Hull, 6 Structure,) the Raider is frequently used by mercenary groups and pirates to perform raids on target systems. It mounts jump drive M, maneuver drive D, and power plant M, giving a performance of Jump-1 and 4-G acceleration. Fuel tankage of 108 tons supports four weeks of power plant operation and one Jump-1 jump. Adjacent to the bridge is a computer Model 2/fib. The ship is equipped with Basic Civilian sensors (DM-2.) There are twelve staterooms and six emergency low berths. The ship has three hardpoints and three tons allocated to fire control. Installed on the hardpoints are six triple turrets armed with beam lasers. There are three small craft hangers, two holding fighters and one holding a ship's boat (also included in the ship's cost.) Cargo capacity is 125 tons. The hull is standard, and armored with Titanium Steel (8 points.) Special features include an armory, four security containment cells (equivalent to half of a stateroom each,) six tons of fuel processors (processes 120 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 24: one commanding officer, one pilot, one navigator, two engineers, six gunners, two small craft pilots and ten marines. The ship can carry up to four additional passengers as prisoners in the security containment cells. The ship costs MCr310.851 (including discounts and fees) and takes 76 weeks to build.

TL9 Research Vessel

Using a 200-ton hull (4 Hull, 4 Structure,) the Research Vessel is popular with academic professors and independent researchers within an interstellar polity. Reasonably inexpensive, this vessel can operate on an annual budget of MCr3.25 (including maintenance, mortgage, life support, fuel costs and crew salaries.) It mounts jump drive A, maneuver drive A, and power plant A, giving a performance of Jump-1 and 1-G acceleration. Fuel tankage of 24 tons supports the power plant for four weeks and one Jump-1 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are six staterooms and three emergency low berths. The ship has two hardpoints and two tons allocated to fire control. There are two small craft hangers, each holding a life boat/launch (also included in the ship's cost.) Cargo capacity is 29 tons. The hull has a standard configuration, and is armored with Titanium Steel (2 points.) Special features include 15 probe drones, six laboratories, two tons of fuel processors (processes 40 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of nine: one pilot, one navigator, one engineer and six scientists. (If weapons are installed, this vessel will also require two gunners.) The ship can carry three passengers at double occupancy (one with gunners) and twelve emergency low passengers. The ship costs MCr73.809 (including discounts and fees) and takes 44 weeks to build.

TL11 Survey Vessel

Using a 300-ton hull (6 Hull, 6 Structure,) the Survey Vessel allows an interstellar polity to continually resurvey its territory to maintain navigation charts and beacons, and help patrol the borders and frontiers for potential problems such as enemy warships or pirate raiders. It mounts jump drive B, maneuver drive C, and power plant C, giving a performance of Jump-1 and 2-G acceleration. Fuel tankage of 72 tons supports the power plant for four weeks and two Jump-1 jumps. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are eight staterooms and four emergency low berths. The ship has three hardpoints and three tons allocated to fire control. Installed on the hardpoints are three triple turrets armed with beam lasers. There are two small craft hangers, each holding a life boat/launch (also included in the ship's cost.) Cargo capacity is 39 tons. The hull has a standard configuration, and is armored with Titanium Steel (2

points.) Special features include 20 probe drones, six laboratories, four tons of fuel processors (processes 80 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of fourteen: one commanding officer, one pilot, one navigator, one engineer, one medic, three gunners and six scientists. The ship can carry two passengers at double occupancy and sixteen emergency low passengers. The ship costs MCr120.969 (including discounts and fees) and takes 52 weeks to build.

TL9 System Defense Boat

Using a 400-ton hull (8 Hull, 8 Structure,) the System Defense Boat is a non-Jump-capable spaceship commonly used to defend the vital points of a star system. It mounts maneuver drive M and power plant M, giving a performance of 6-G acceleration. Fuel tankage of 48 tons supports the power plant for four weeks. Adjacent to the bridge is a computer Model 2/fib. The ship is equipped with Basic Civilian sensors (DM-2.) There are ten staterooms and five emergency low berths. The ship has four hardpoints and four tons allocated to fire control. Installed on the hardpoints are two triple turrets armed with missiles and two triple turrets armed with beam lasers. 360 smart missiles are carried as ammunition for the missile turrets. Cargo capacity is 109 tons. The hull has a streamlined configuration, and is armored with Titanium Steel (8 points.) Special features include an armory, three tons of fuel processors (processes 60 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of eighteen: one commanding officer, one pilot, two engineers, four gunners and ten marines. The ship cannot carry any additional passengers. The ship costs MCr171.574 (including discounts and fees) and takes 60 weeks to build.

TL9 System Monitor

Using a 1000-ton hull (20 Hull, 20 Structure,) the System Monitor is a non-Jump-capable warship used to defend strategic locations within a star system. The System Monitor has more firepower and defensive capabilities than a System Defense Boat, but is much more expensive. It mounts maneuver drive X and power plant X, giving a performance of 6-G acceleration. Fuel tankage of 88 tons supports four weeks of power plant operation. Adjacent to the bridge is a computer Model 2/fib. The ship is equipped with Basic Civilian sensors (DM-2,) in keeping with its TL9 design. There are 24 staterooms and 12 emergency low berths. The ship has ten hardpoints and ten tons allocated to fire control. Installed on the hardpoints are one particle beam bay, three triple turrets armed with missiles, three triple turrets armed with pulse lasers and three triple turrets armed with particle beams. 1080 smart missiles are carried as ammunition for the missile turrets. There are nine small craft hangers, eight holding fighters and one carrying a ship's boat (all included in the ship's cost.) Cargo capacity is 123.5 tons. The hull is of a standard configuration and is armored with Titanium Steel (9 points.) Special features include two armories, 45 escape pods, five tons of fuel processors (processes 100 tons of unrefined fuel into refined fuel per day) and fuel scoops. The ship requires a crew of 45: two commanding officers, one pilot, three engineers, ten gunners, nine small craft pilots and twenty marines. The ship cannot carry any additional passengers. The ship costs MCr610.461 (including discounts and fees) and takes 108 weeks to build.

TL9 Yacht

Using a 100-ton hull (2 Hull, 2 Structure,) the Yacht is the smallest civilian starship that is commonly encountered in an interstellar polity. Commonly used by nobles, dignitaries and other officials, this vessel provides luxurious transport for any celebrity and their entourage. It mounts jump drive A, maneuver drive A, and power plant A, giving a performance of Jump-2 and 2-G acceleration. Fuel tankage of 24 tons supports the power plant and one Jump-2 jump. Adjacent to the bridge is a computer Model 2. The ship is equipped with Basic Civilian sensors (DM-2.) There are six staterooms (two of which are combined into a luxurious suite), and three emergency low berths. The ship has one hardpoint and one ton allocated to fire control, but has no weapons installed. Cargo capacity is 12 tons. The hull is streamlined, and is armored with Titanium Steel (2 points.) Special features include TL11 Jump Control/2 software, two tons of fuel processors (processes 40 tons of unrefined fuel into refined fuel per day,) fuel scoops and two tons of luxuries (effectively replacing the need for a steward.) The ship requires a crew of three: one pilot, one navigator and one engineer. (If weapons are installed, this vessel will also require one gunner.) The ship can carry one noble and five passengers at double occupancy (four with gunners) and twelve emergency low passengers. (Filling the suite to its maximum capacity would add three more passengers.) The ship costs MCr26.388 (including discounts and fees) and takes 36 weeks to build.

Common Small Craft

The following are common small craft designs found in most Cepheus Engine universes.

TL 9 Cutter

Using a 50-ton hull (1 Hull, 1 Structure), the Cutter is designed to take a sealed 30-ton module from surface to orbit, allowing for a wide range of customized uses, depending on the contents of the module. It mounts maneuver drive sK and power plant sK, giving a performance of 4-G acceleration. Fuel tankage of 1.3 tons supports the power plant for one week. Adjacent to the bridge is a computer Model 1. The ship is equipped with Standard sensors (-4). There is a one-man control cabin and additional cabin space for one passenger. The ship has one hardpoint and one ton allocated for fire control. This small craft does not come with weapons pre-installed. Cargo capacity is 1.3 tons. The hull is Standard, and no additional armor has been installed. Special features include a 30-ton module berth, into which one of a variety of specialized modules can be installed (as captured in the Cutter Module Options table). This ship requires a crew of one: Pilot. The ship can carry one additional passenger in the control cabin. The ship costs MCr24.305 (including discounts and fees), not including module costs, and takes 32 weeks to build.

Table: Cutter Module Options

Module Type	Cost (MCr)	Notes
Cargo	1.5	Cargo (29 tons), 1 airlock
Commuter	2.5	Cabin (18 people), 1 airlock, 1 small fresher/kitchenette
Fuel	1.25	Fuel tankage (28.5 tons), Fuel processors (1.5 tons)
Laboratory	8	Laboratory (7 scientists), 2 airlocks
Low Berth Transport	4	58 low berths, 1 airlock
Luxury Suites	4.5	7 staterooms, 2 airlocks
Prison Transport	4.5	14 detention cells, 1 airlock
Vehicular Transport	6.75	Hangar (23 tons of vehicles), allows repairs/maintenance

TL 9 Fighter

Using a 10-ton hull (0 Hull, 1 Structure), the Fighter is a short-range combat vessel primarily used in system defense and large scale naval engagements. It mounts maneuver drive sC and power plant sL, giving a

performance of 6-G acceleration. Fuel tankage of 1.5 tons supports the power plant for one week. Adjacent to the bridge is a computer Model 1/fib. The ship is equipped with Standard sensors (-4). There is a one-man cockpit. The ship has one hardpoint and one ton allocated for fire control. Installed on the hardpoint is a fixed mount single turret armed with a pulse laser. This small craft has no cargo capacity. The hull is Streamlined, and no additional armor has been installed. This ship comes equipped with fuel scoops. This ship requires a crew of one: Pilot. The ship cannot carry any additional passengers. The ship costs MCr10.841 (including discounts and fees) and takes 28 weeks to build.

TL 9 Launch

Using a 20-ton hull (0 Hull, 1 Structure), the Launch is designed to provide basic transportation needs, and is sometimes used as a lifeboat in the event of emergencies in deep space. It mounts maneuver drive sA and power plant sA, giving a performance of 1-G acceleration. Fuel tankage of 0.4 tons supports the power plant for one week. Adjacent to the bridge is a computer Model 1. The ship is equipped with Standard sensors (-4). There is a two-man control cabin. The ship has one hardpoint and one ton allocated for fire control. This small craft does not come with weapons pre-installed. Cargo capacity is 10.9 tons. The hull is Standard, and no additional armor has been installed. There are no special features on this ship. This ship requires a crew of one: Pilot. The ship cannot carry any additional passengers. The ship costs MCr4.797 (including discounts and fees) and takes 29 weeks to build.

TL 9 Pinnacle

Using a 40-ton hull (0 Hull, 1 Structure), the Pinnacle primarily serves as cargo transport on an interplanetary scale. It mounts maneuver drive sK and power plant sL, giving a performance of 5-G acceleration. Fuel tankage of 1.5 tons supports the power plant for one week. Adjacent to the bridge is a computer Model 1. The ship is equipped with Standard sensors (-4). There is a one-man control cabin. The ship has one hardpoint and one ton allocated for fire control. This small craft does not come with weapons pre-installed. Cargo capacity is 25 tons. The hull is Standard, and no additional armor has been installed. There are no special features on this ship. This ship requires a crew of one: Pilot. The ship cannot carry any additional passengers. The ship costs MCr18.567 (including discounts and fees) and takes 31 weeks to build.

TL 9 Ship's Boat

Using a 30-ton hull (0 Hull, 1 Structure), the Ship's Boat is a general-purpose small craft designed to cover a range of tasks. It mounts maneuver drive sJ and power plant sJ, giving a performance of 6-G acceleration. Fuel tankage of 1.2 tons supports the power plant for one week. Adjacent to the bridge is a computer Model 1. The ship is equipped with Standard sensors (-4). There is a one-man control cabin. The ship has one hardpoint and one ton allocated for fire control. This small craft does not come with weapons pre-installed. Cargo capacity is 16.7 tons. The hull is Standard, and no additional armor has been installed. There are no special features on this ship. This ship requires a crew of one: Pilot. The ship cannot carry any additional passengers. The ship costs MCr16.677 (including discounts and fees) and takes 30 weeks to build.

TL 9 Shuttle

Using a 90-ton hull (1 Hull, 1 Structure), the Shuttle provides significantly more cargo transport capacity than the less expensive pinnacle, at the cost of slower performance. It mounts maneuver drive sN and power plant sN, giving a performance of 3-G acceleration. Fuel tankage of 1.9 tons supports the power plant for one week. Adjacent to the bridge is a computer Model 1. The ship is equipped with Standard sensors (-4). There is a two-man control cabin. The ship has one hardpoint and one ton allocated for fire control. This small craft does not come with weapons pre-installed. Cargo capacity is 67.4 tons. The hull is Standard, and no additional armor has been installed. There are no special features on this ship. This ship requires a crew of two: Two pilots. The ship

can carry one additional passenger in the control cabin. The ship costs MCr25.587 (including discounts and fees) and takes 35 weeks to build.

CHAPTER 10: SPACE COMBAT

Space combat is a staple in classic science fiction, and the Cepheus Engine has rules to cover it. This chapter details the basics for space combat. These rules for vehicle and starship combat presented here are designed to allow for more roleplaying and involvement of the characters. Movement and maneuvering are abstracted to allow for cinematic battles as vessels attempt to maneuver into a position of pursuit and advantage against their opponents, or frantically try to shake pursuit.

Range is similarly abstracted, needing only to note whether the range for all vessels involved for each round is Close, Short, Medium, Long, Very Long, or Extreme.

Space Combat Checklist

Like personal combat, space combat in the Cepheus Engine is cyclical. Everybody acts in turn in a regular cycle called a turn. Each turn in space combat lasts one kilosecond. Generally, space combat runs in the following way:

1. The Referee determines the range at which the encounter begins.
2. All crew members are assigned to a position on board their vessel.
3. The Referee determines which characters are aware of their opponents at the start of the battle. If some but not all vessels are aware of their opponents, the vessels that are aware of their opponents are considered to get an automatic 12 on their initiative roll, giving them an Initiative of 12 + Dexterity DM.
4. Any remaining vessels roll initiative. All vessels are now ready to begin their first turn of combat.
5. All vessels act in initiative order.
 - a. At the start of each combat turn, a Captain may declare that their crew is acting hastily.
 - b. The crew members of the vessel resolve their actions.
 - c. After every crew member has completed their actions, any damage is resolved if the vessel's weapon systems hit enemy ships.
6. When every vessel has had a turn, the combatant with the highest initiative total acts again, and Step 5 repeats until combat ends.

Range in Space Combat

If two vessels randomly encounter each other while travelling through the depths of space, far from any other objects or vessels, the encounter will begin at Very Long range. More often, ships engage near a planet, where the range is Short or Medium.

Table: Space Combat Range Bands

Range	Distance	Sensor Details Detected
Adjacent	<1 km	Individual sources of neural activity (Very Advanced sensors only)
Close	1 to 10 km	Individual ship systems, level of neural activity (Very Advanced sensors only)
Short	10 to 1250 km	Fine visual details, individual heat sources, internal structure (Advanced and Very Advanced sensors only), presence of neural activity (Very Advanced sensors only)
Medium	1250 to 10,000 km	Source of EM emissions, external structure (Advanced and Very Advanced sensors only)
Long	10,000 km to 25,000 km	Ship configuration and shape, thermal activity, external structure (Advanced and Very Advanced sensors only)
Very Long	25,000 km to 50,000 km	Ship's presence and level of activity, basic object silhouette
Distant	50,000 km+	

Table: Space Combat Attack Difficulties by Weapon Type

Weapon	Adjacent	Close	Short	Medium	Long	Very Long	Distant
Pulse Laser	Difficult	Difficult	Average	Difficult	Difficult	Very Difficult	--
Beam Laser	Difficult	Difficult	Difficult	Average	Difficult	Difficult	Difficult
Particle Beam	Very Difficult	Difficult	Difficult	Difficult	Average	Difficult	Difficult
Fusion Gun	Difficult	Difficult	Difficult	Average	Difficult	Difficult	Difficult
Meson Gun	Very Difficult	Very Difficult	Difficult	Difficult	Average	Difficult	Difficult
Sandcaster	Routine	Average	Difficult	--	--	--	--

Crew Positions

At the start of an engagement, all crew must be assigned to a position on board ship. There can be only one pilot, but other than that, any number of people can occupy the same position.

Table: Crew Positions

Position	Responsibility
Bay Gunner	Each bay weapon has its own gunner.
Captain	Commands the ship, and can use Leadership and Tactics skills.
Chief Security Officer	Commands marines, and can use Leadership and Tactics skills in abstract boarding actions.
Damage Control	A character assigned to free-floating damage control can repair any system.
Drive Engineer	An engineer can be assigned to each of the M-drive and the J-drive.
Marine	Prepares to repel boarders, or to board enemy ships.
Passenger	Passengers are all people aboard ship who are not assigned a position and are assumed to be waiting in staterooms.
Pilot	Flies the ship, responsible for changing course and for evasive maneuvers.
Sensors Operator	A character assigned to communications and sensors.
Turret Gunner	Each turret has its own gunner. A character must choose which turret he is manning at the start of the combat.

Automated Positions

The ship's computer can cover several positions if it is running the appropriate software:

- Fire Control programs can either act as **gunners** or aid existing gunners.

- A ship equipped with repair drones and Auto-Repair software acts as **damage control**.
- A ship running an Intellect program and Expert Pilot can be the **pilot**.
- A ship equipped with repair drones and running an Intellect program and Expert Engineer can be a **drive engineer**.

Initiative

Each ship in an engagement rolls 2D6 to determine their starting Initiative score. The ship with a greater Thrust score gains a +1 DM to its roll.

The Captain of each vessel (or each fleet, if more than one ship is involved on each side) may a Tactics check. The Effect is added to the Initiative of the vessel (or fleet).

The Space Combat Turn

Each turn in space combat lasts around one kilosecond (1,000 seconds) of game time. In a combat turn, vessels have individual Initiative. Actions are taken in descending order of Initiative. If two vessels have the same Initiative, the vessel with the highest Thrust goes first. If they are still tied, then vessels act simultaneously. When a vessel acts, the crew members of the vessel take all of their actions at once. Each crew member gets a minor action and a significant action.

Once everyone has acted a combat turn is over and a new turn begins. Initiative is not re-rolled but is dynamic, and may be adjusted up and down by actions taken during a turn.

Note on Personal Actions

As a space combat turn represents over 150 personal combat rounds, it stands to reason that crew members may engage in a lot of personal actions over the course of a single combat turn. Much of this is abstracted into the various space combat actions. Most personal actions have minimal impact on space combat. For crew members that do want to pursue a personal action during space combat, such as use a psionic ability, these actions count as minor actions on the space combat scale. This glosses over the remainder of the character's time during the combat turn, and highlights the primary acts that a character might want to pursue without taking away from the rest of the space combat.

Table: Space Combat Action Summary

Description	Type	Crew Member
Change Positions	Minor	Anyone
Personal Action	Minor	Anyone
Reload Weapons System	Significant	Anyone
Miscellaneous	Varies	Anyone
Coordinate Crew	Significant	Captain
Increase Initiative	Significant	Captain
Boarding Action	Significant	Chief Security Officer, Marine
Repair Damaged System	Significant	Damage Control
Fire Sand	Reaction	Gunner
Point Defense	Reaction	Gunner
Trigger Screens	Reaction	Gunner
Attack	Significant	Gunner
Calculate Jump Plot	Significant	Navigator
Range Check	Significant	Navigator
Adjust Speed	Minor	Pilot
Maintain Course	Minor	Pilot

Dodge Incoming Fire	Reaction	Pilot
Avoid Collision	Significant	Pilot
Break Pursuit	Significant	Pilot
Dock With Another Vessel	Significant	Pilot
Evasive Manuevers	Significant	Pilot
Line Up The Shot	Significant	Pilot
Pursuit	Significant	Pilot
Ram	Significant	Pilot
Electronic Warfare	Significant	Sensors Operator
Intercept Enemy Communications	Significant	Sensors Operator
Maintain Communications	Significant	Sensors Operator
Sensor Targeting	Significant	Sensors Operator

Minor Actions

As in personal combat, minor actions are actions intended to perform tasks that do not require significant focus and concentration. Each crew member can take up to three minor actions per turn, at the loss of a significant action.

Adjust Speed

The pilot may increase or decrease the vessel's speed up to an amount equal to its Thrust. This requires no skill check.

Change Positions

Crew members changes crew positions, and are now considered to be manning their new position rather than their previous one.

Maintain Course

The pilot keeps the vessel on its current course and heading, remaining at the current speed. This requires no skill check.

Personal Action

A crew member may pursue any personal action that generally takes less than a minute.

Miscellaneous

The Referee may permit a character to perform a skill check or other action as a minor action if the use of the skill does not require the character's full attention or complex physical actions.

Significant Actions

Significant actions are intended to do something within about 3 seconds. You can perform a single significant action per turn, or forego it to perform a total of three minor actions.

Take Minor Actions

A character can take two minor actions instead of a significant action.

Attack

A gunner may attack any target within the range of the weapon system they are manning. The gunner attacks by making a Turret Weapons or Bay Weapons skill check roll at a Difficulty determined by range, adding any Computer Targeting, Sensor Targeting, or other modifiers in effect this round for his vessel. The enemy ship may react by dodging, point defense or triggering screens (see Reactions). A gunner may fire any or all of the weapons in his turret or bay but each turret or bay may only fire once per round. If the attack is successful it will inflict damage. Damage is resolved after all attacks have been made in a vessel's turn. Missiles do not impact in the same round they are launched; their damage is resolved in the combat turn that they impact their target.

Avoid Collision

When a vessel is moving at Short or Close range through a debris field, traffic, an asteroid belt, a planetary ring, or similar situation where there is a reasonable chance of collision with another object, the pilot must make an Avoid Collision check each turn. A collision inflicts 1D6 damage for every point of the vessel's current speed.

Table: Collision Avoidance

Situation	Difficulty
Traffic (5 or more vessels within Short range), debris	Average (+0)
Asteroid field, light density	Difficult (-2)
Asteroid field, average density	Very Difficult (-4)
Asteroid field, heavy density	Formidable (-6)
Significant speed difference between ship and debris	DM -2

Boarding Action

If two ships are Adjacent or docked, then a boarding action can be attempted. If the ships are docked, then the attackers may cross over safely via airlocks. If the ships are merely adjacent, then the attackers must use thruster packs or small craft to cross over. While crossing, the attackers may be attacked with point defense weapons or by firing sand. Once across, boarding actions can be resolved using the personal combat rules or the abstract boarding rules.

Break Pursuit

If a vessel is being pursued (as per the Pursuit action) the pilot or driver may break the pursuit with a successful opposed Pilot skill check against his opponent. Once the pursuit has broken and the pursuing vessel loses all accumulated attack bonuses against that target.

Calculate Jump Plot

The navigator can hastily calculate a Jump Plot as a significant action in space combat. Normally an Easy (+4) Education-based Navigation skill check, hastening it to fit within one space combat turn imposes a DM-1 on the skill check.

Dock with Another Vessel

The pilot must make a successful Average(+0) Pilot check. If the other ship does not wish to be docked with then make opposed Pilot checks; the ship trying to dock suffers a -2 DM. When docked, boarding actions can take place.

Coordinate Crew

The Captain makes an Average(+0) Leadership skill check. The Captain gains a pool of points equal to the Effect of the skill check (minimum of 1), which he can distribute to individual crew members as DMs (granting a +1 DM per point) on skill or ability checks during the combat turn.

Electronic Warfare

A sensors operator may attempt to jam radio communications and sensor locks by making an opposed Intelligence-based Comms check against the sensors operator of the opposing vessel. Electronic warfare can be used to break sensor locks.

Alternatively, electronic warfare can be used to attack smart missiles that are targeting the ship. The sensors operator makes a Difficult (–2) Comms check and, if successful, a single attacking smart missile ceases attacking. The sensors operator may continue making checks to disable smart missiles until he fails one, with a cumulative –1 DM each time.

Evasive Manuevers

The pilot operates the vessel in an erratic manner in an attempt to avoid being hit by opposing weapons fire. The Pilot makes an Average(+0) Pilot skill. If successful, any attack rolls targeting the pilot's vessel suffer a DM-1 penalty, or DM-2 with an Exceptional Success.

Increase Initiative

The Captain of a vessel may make a Leadership check and increase the Initiative of his vessel by the Effect of the check. This increase only applies for the following turn.

Intercept Enemy Communications

The sensors operator may attempt to intercept enemy communications. This requires a Difficult(–2) Comms skill check. Encryption (if any) must also be broken. Knowledge of enemy intentions can be valuable to a Captain, if they know how to use it. The Captain may make an Easy (+4) Tactics check to gain an advantage from intercepted communications. If successful, the Captain gains knowledge of the enemy's dispositions or intentions. This translates to a one-time DM+4 bonus to any skill check affecting the enemy (e.g. a pilot's attempt to evade a sudden attack, or a gunner's precise shot just as the enemy vessel turns to present a better target.) Of course, the enemy must have communications for them to be intercepted.

Line Up the Shot

A pilot may attempt to aid his gunners by providing a stable firing platform along an optimum attack vector. The pilot makes a Pilot check to aid his gunners, granting a DM+1 on all attacks rolls this turn with a success, or a DM+2 with an Exceptional Success.

Maintain Communications

The sensors operator can establish and maintain communications between allied vessels with a Routine(+2) Comms skill check. If there is significant interference or a lot of communications going on (e.g. due to bad comm. discipline among a fleet), treat as Considerable Noise (DM-2). Deliberate comms jamming requires an opposed Comms skill check with the jammer. If reliable communications are not established, vessels cannot act in concert, and Tactics skill cannot be applied.

Pursuit

If a pilot makes a successful opposed Pilot skill check against another vessel within Short or Close range travelling at the same speed as the pilot's vessel, the successful pilot has placed his vessel in pursuit of his target maintaining the current range and matching the target ship move for move. Once a pursuit has been established, it must be maintained each turn to take advantage of the position. Maintaining a pursuit is a significant action that does not require a skill check. It is automatically maintained unless the target succeeds at the Break Pursuit action, manages to extend the range between the vessels to Medium or greater, or succeeds in outpacing the speed of the pursuing vessel by 7+ points. For each turn (after the first) that a vessel maintains

pursuit of another vessel, it gains a cumulative DM+1 to hit when attacking the vessel being pursued, up to a maximum of DM+4.

Ram

Ramming is a potentially suicidal maneuver in which a pilot intentionally crashes his vessel into the hull of another vessel. This action may only be attempted at Close range, and if the ramming vessel is moving faster than the target. To successfully ram another vessel requires an opposed Pilot skill check between both vessels. A collision inflicts 1D6 damage for every point of difference in speed between the two vessels.

Range Check

The Navigator makes an opposed Navigation skill check with another vessel. The vessel with the highest result may elect to increase, decrease, or maintain the range between the vessels for the round.

Reload Weapons System

A crew member (usually the gunner) may spend the round reloading one spent missile rack, one spent sandcaster or other individual weapon system.

Repair Damaged System

A character on damage control may attempt to repair a damaged system by making an Education-based Mechanics check. If the check is successful, determine how many hits are repaired:

Table: Damage Repair Results

Mechanics Check Effect	Hits Repaired
0	1
1–5	2
6+	3

A ship with repair drones and the Auto-Repair software also makes one or two repair checks on the vessel's turn (unless it is being used to assist other repair attempts). The standard Auto-Repair software makes the check with a +1 DM. These are battlefield repairs only and will break down as soon as the battle is over unless repaired properly.

Sensor Targeting

The sensors operator may attempt to spend the turn providing improved fire control and targeting data to the gunners, hopefully increasing their chances of hitting their targets. The sensors operator should make a Education-based Comms skill check against the target's Sensor Jamming rating, for each vessel that is to be targeted. If successful, all gunners on the vessel gain a DM+1 bonus to their attacks this turn, or a DM+2 on an Exceptional Success. When using missiles the initial attack gets this bonus – the individual missile to hit rolls do not benefit directly. Smart missiles are unaffected.

Miscellaneous

A character may make a skill check or do something else as a significant action when such an action requires the character's full attention, concentration, complicated physical actions or some combination thereof. Any skill check with a time interval of 1-6 minutes is simply considered a significant action during space combat.

Reactions

As in Personal Combat, reactions are actions taken immediately in response to the action of another. A ship may react to incoming attacks. The following situations allow reactions:

- Targeted by a beam attack
- Incoming missile
- Attempted boarding

The ship's Initiative determines how many times it may react in a round.

Table: Reactions By Initiative

Initiative	Reactions
0–4	1
5–8	2
9–12	3
13+	4

Dodge Incoming Fire

To dodge, the pilot must make a Pilot check. If successful, the attack suffers a –2 DM.

Fire Sand

Turrets equipped with sandcasters can fire sand at incoming beam attacks. Each reaction spent on firing sand allows the gunner to make a Turret Weapons roll. If successful the damage of each beam in the incoming attack is reduced by 1D6. Resolve each beam separately. Each firing of sand costs one canister of sand. Sand can also be directed against incoming boarding parties. If the sand attack is successful, each target in the boarding party takes 8D6 damage.

Point Defense

Turret lasers can be used to destroy incoming missiles. The missiles can only be destroyed in the moments before they strike the spacecraft as they are too small and fast-moving to effectively target at greater ranges. The gunner must make a Turret Weapons check against the missile. If successful, the missile is destroyed. A gunner may keep making Turret Weapons checks against missiles until he misses an attack; each attack suffers a cumulative –1 penalty. Attacks may be directed against different incoming missiles. Point defense can also be used to attack incoming boarders in the same way.

Trigger Screens

Screens can be activated as long as the commander or one of the gunners has the Screens skill at Level 0 and the ship has the required screen type (nuclear against nuclear missiles and fusion guns; meson against meson guns). Screens reduce the damage from the attack by 2D6+the operator's Screens skill. Nuclear dampers also remove the automatic radiation hit from nuclear missile attacks.

Other Actions

Other types of action can take place during space combat.

Free Actions

Some actions are so fast on the scale of space combat that they do not even qualify as a minor action. A character can perform as many of these free actions as he likes in a turn, although if he performs several the Referee may require him to spend a minor or even a significant action on his various tasks.

Extended Actions

Some skill checks will take longer than a single combat turn to complete. Make a Timing roll for the task and then work out how many six minute combat turns it will take to complete. A character engaging in an extended action cannot do anything else but can abandon their action at any time and return to the normal Initiative order. A character who is hit by an attack while undertaking an extended action must make an 8+ roll using the skill in question with a negative DM equal to the amount of damage the attack causes (after armor). Failure indicates that this turn's work does not count towards the completion of the task. Failure by six or more (an Exceptional Failure) ruins the task and the character must start again.

Delay

A vessel does not have to act when its turn comes up in the Initiative order. The Captain may decide to act at any later point during the turn, even interrupting another's actions to do so. When he acts, his Initiative is set to the count on which he acted. If the character has not acted by the end of the turn he may choose to act first in the next turn, effectively giving up his actions in the previous turn in exchange for an Initiative advantage. His new Initiative is set to one higher than that of the current first person in the order. When multiple characters are delaying and all wish to act first in the following turn, their Initiatives are all set to the same score and they act in order of Thrust as normal.

Special Considerations

The following are special considerations in space combat.

Abstract Boarding Rules

In circumstances when the Referee may wish to resolve a boarding action without resorting to the personal combat rules, the following alternative method is suggested. On each round of a boarding action, the attacking Chief Security Officer (or Captain, if the CSO is down or not appointed) makes an opposed Intelligence-based Tactics skill check against the Chief Security Officer (or Captain, if the CSO is down or not appointed) of the defenders. The results of each round depend on who wins and the degree of success achieved by the winner of the opposed check, as outlined in the Abstract Boarding Resolution table.

Table: Abstract Boarding Resolution

Degree	Attacker Wins	Defender Wins
Success	Defender loses reactions this round; Attacker gains DM+2 on next opposed Tactics roll for boarding actions; The ship suffers one Single Hit of internal damage.	Defender gains DM +2 on next opposed Tactics roll for boarding actions; The ship suffers one Single Hit of internal damage.
Exceptional Success	Attacker successfully boards ship (Defender crew may abandon ship, or are captured or killed at the discretion of the Attacker); Needs one turn to gain control of ship; Ship takes 2D6 damage of internal damage.	Attacker is driven back to their own ship or out into space (or captured or killed at the discretion of the Defender, if Attacker's forces are unable to retreat); If ships are still docked, Defender may elect to launch a boarding action against the former Attacker next turn.

Missiles

Unlike beam weapons, which travel at the speed of light and so hit the enemy vessel almost instantly, missile weapons take time to cross the gulf of space. Missiles travel at Thrust 10 towards their designated target and their position can either be tracked as additional craft in the battle or, for the sake of simplicity, they can be assumed to strike after a number of turns dependent on launch range, as shown in the Missile Launch Range table. Missiles cannot be used at Adjacent or Close range.

Table: Missile Launch Range

Range	Turns to Impact
Adjacent	-
Close	-
Short	1
Medium	1
Long	1
Very Long	2
Distant	2

When the missile is launched, the gunner must make a Turret Weapons or Bay Weapons skill check to determine the accuracy of the launch. The effect of the skill check determines the chance that the missile will strike its target when it hits. A target may react to incoming missiles by dodging or point defense. This reaction does not take place until the turn the missiles arrive at their destination, so any target response must wait until then.

Table: Missile To-Hit By Skill Check Effect

Turret Weapons/Bay Weapons check	Missile to-hit roll
Failed With Effect -6 or less	11+
Failed With Effect -1 to -5	10+
Succeeded With Effect 0	8+
Succeeded With Effect 1-5	7+
Succeeded With Effect 6+	6+

Smart Missiles

The missile to-hit roll for smart missiles is always 8+ and if they miss they make another attack every turn until they are destroyed with point defense, jammed with ECM, run out of fuel or otherwise dissuaded.

Planetary Maneuvers

Within close range of a planet, certain planetary maneuvers become possible.

Orbital Insertion: The pilot may attempt to insert the ship into orbit around a planet. In an orbital insertion fails, the ship fails to enter the proper orbit, and the orbit will steadily begin to decay drawing the ship towards the planet's atmosphere in an uncontrolled reentry (see Atmospheric Reentry below). This is a significant action requiring a Routine(+2) Pilot skill check.

Atmospheric Entry: The pilot may attempt to transition the ship out of orbit and into the atmosphere of a planet. This is a significant action with an Average (+0) Pilot skill check, with any applicable DMs from the Atmospheric Entry table. Exotic, Corrosive, or Insidious atmospheres should be treated as Standard unless specified otherwise.

Table: Atmospheric Entry

World Values	DM
World Size 9+	-2
World Size 4 or less	+2
World Atmosphere 1 or less	Auto Success
World Atmosphere 2-5, 14(E)	+2
World Atmosphere 8-9, 13(D)	-2

Special Weapon Rules

Several types of weapons have their own rules.

- **Meson Guns:** Meson guns ignore armor and always roll on the Internal Damage table. Furthermore, they also automatically inflict a radiation crew hit in addition to any other damage.
- **Fusion Guns:** Fusion guns inflict a radiation crew hit in addition to any other damage. The bonus radiation hit suffers a –DM equal to the ship's armor.
- **Particle Beams:** Particle beams inflict a radiation crew hit in addition to any other damage. The bonus radiation hit suffers a –DM equal to the ship's armor.
- **Nuclear Missiles:** Nuclear missile hits inflict a radiation crew hit in addition to their normal damage. The bonus radiation hit suffers a –DM equal to the ship's armor.
- **Sandcasters:** While the primary purpose of a sandcaster is to block incoming beam attacks, they can also be used as an attack. A sandcaster has a range of Close and inflicts 1 point of damage.

Damage

Systems can take a variable number of hits before being destroyed, depending on the system in question. A ship can endure one point of Hull damage per fifty tons, rounding down. A ship that runs out of Hull Damage will rapidly be incapacitated. A ship can endure one point of Structure damage per fifty tons, rounding down to a minimum of one. A ship that runs out of Structure breaks up and is completely destroyed.

The effects of damage are determined by subtracting the ship's armor from the damage rolled by the weapon, then consulting the Space Combat Damage table to determine the number of hits inflicted. Then roll on the Space Combat Hit Location table for each hit. Small craft use the Small craft column. Vessels of 100 tons or larger use the External Hit (Vessel) column until a ship has suffered enough damage to wipe out its Hull, and then uses the Internal Hit (Vessel) column. A double hit applies two hits to the same location. A triple hit applies three hits to the same location.

Table: Space Combat Damage

Damage	Effect
0 or less	No damage
1–4	Single Hit
5–8	Two Single Hits
9–12	Double Hit
12–16	Three Single Hits
16–20	Two Single Hits, Double Hit
21–24	Two Double Hits
24–28	Triple Hit
29–32	Triple Hit, Single Hit
33–36	Triple Hit, Double Hit
37–40	Triple Hit, Double Hit, Single Hit
41–44	Two Triple Hits
For every extra three points	+1 Single Hit
For every extra six points	+1 Double Hit

Table: Space Combat Hit Location

2D6	External Hit (Vessel)	Internal Hit (Vessel)	Small Craft
2	Hull	Structure	Hull
3	Sensors	Power Plant	Power Plant
4	M-Drive	J-Drive	Hold
5	Turret	Bay	Fuel
6	Hull	Structure	Hull
7	Armor	Crew	Armor
8	Hull	Structure	Hull
9	Fuel	Hold	Turret
10	M-Drive	J-Drive	M-Drive
11	Sensors	Power Plant	Crew
12	Hull	Bridge	Bridge

Hull

Reduce the ship's Hull by one. If a ship's Hull is 0, then apply the hits to the location in the same row of the Internal Damage column.

Structure

Reduce the ship's Structure by one. If a ship's Structure is reduced to 0, the ship is destroyed.

Armor

Reduce the ship's armor by one. If the ship's armor is already 0, then this counts as a Hull hit.

Turret

A random turret is hit.

First Hit: The turret's tracking mechanism is damaged. It can still be used, but all attacks suffer a –2 DM.

Second Hit: The turret and all weapons in it are disabled.

Third Hit: The turret and all weapons in it are destroyed.

Subsequent Hits: Count as Hull hits.

Bay

A random bay is hit.

First Hit: The bay's targeting mechanism is damaged. It can still be used, but all attacks suffer a –2 DM.

Second Hit: The bay weapon is disabled.

Third Hit: The bay weapon is destroyed.

Subsequent Hits: Count as Structure hits.

J-Drive

The Jump drive is hit.

First Hit: All attempts at Jump suffer a –2 DM to Engineering checks.

Second Hit: The jump drive is disabled.

Third Hit: The jump drive is destroyed.

Subsequent Hits: Count as Structure hits.

M-Drive

The maneuver drive is hit.

First Hit: Reduce the ship's thrust by one.

Second Hit: Reduce the ship's thrust by 50%.

Third Hit: The drive is disabled.

Subsequent Hits: Count as Hull hits.

Power Plant

The power plant is hit.

First Hit: Damaged.

Second Hit: The crew suffers a Crew Hit, rolling on the Radiation Damage column.

Third Hit: The Power Plant is destroyed and the ship is disabled.

Subsequent Hits: Count as Structure Hits.

Sensors

The sensors are hit.

First Hit: –2 DM to all Comms checks to use sensors.

Second Hit: Sensors are disabled preventing the ship from making Comms checks for using sensors and on making attacks on targets beyond Adjacent range.

Third Hit: Sensors are destroyed.

Subsequent Hits: Count as Hull hits.

Bridge

The bridge is hit.

First Hit: The crew suffers a Crew Hit, rolling on the Normal Damage column.

Second Hit: The bridge is disabled. Until the bridge is repaired, the ship cannot take any Pilot or Sensor actions, it cannot jump, and any attacks suffer a –2 DM.

Third Hit: The bridge is destroyed.

Subsequent Hits: Count as Structure Hits.

Fuel

The fuel is hit.

First Hit: Causes a minor fuel leak of 1D6 tons per hour.

Second Hit: Destroys 1D6x10% of stored fuel.

Third Hit: Destroys fuel tank.
Subsequent Hits: Count as Structure Hits.

Hold

The cargo hold is hit.

First Hit: Destroys 1D6x10% of stored cargo.

Second Hit: Destroys 1D6x10% of stored cargo.

Third Hit: Destroys cargo hold and everything in it.

Subsequent Hits: Count as Structure Hits.

Crew

Each hit on the crew indicates that radiation or flying debris has injured one or more crew. Roll 2D6 on the appropriate column on the Crew Damage table.

Table: Crew Damage

Roll	Normal Damage	Radiation Damage
4 or less	Lucky escape – no damage	Lucky escape – no radiation
5–8	One random crew member suffers 2D6 damage	One random crew member suffers 2D6x10 rads
9–10	One random crew member suffers 4D6 damage	One random crew member suffers 4D6x10 rads
11	All crew suffer 2D6 damage	All crew suffer 2D6x10 rads
12	All crew suffer 4D6 damage	All crew suffer 4D6x10 rads

Scaling Damage: Ship Weapons Against Personal-Scale Targets

Ship weapons suffer a DM -4 to hit a specific target on the personal combat scale. The Scaling Damage table covers the damage inflicted on the personal combat scale when ship weapons strike personal-scale targets.

Table: Scaling Damage

Ship Weapon	Personal Combat Damage
Beam Laser	1D6x50
Fusion Gun (bay)	5D6x50
Meson Gun (bay)	5D6x50, plus 4D6x10 rads
Nuclear Missile	2D6x50, plus 4D6x10 rads
Particle Beam (bay)	6D6x50, plus 4D6x10 rads
Particle Beam (turret)	3D6x50, plus 4D6x10 rads
Pulse Laser	2D6x50
Sandcaster	8D6
Smart Missile	1D6x50
Standard Missile	1D6x50

BOOK THREE: REFEREES

CHAPTER 11: ENVIRONMENTS AND HAZARDS

The following are common environmental hazards that can be encountered in a Cepheus Engine game.

Acid

Corrosive acids deal 1D6 damage per round of exposure, except in the case of total immersion (such as into a vat of acid), which deals 10D6 damage per round. An attack with acid, such as from a hurled vial or an animal's acidic spittle, counts as a round of exposure.

The fumes from most acids are poisonous. Those who come close enough to a large body of acid to dunk a creature in it must make an Average (+0) Endurance check or take 1D6 point of damage. All such characters must make a second Average (+0) Endurance check one minute later or take another 1D6 point of damage. Creatures that are immune to acid's caustic properties might still drown in it if they are totally immersed and need to breathe. For more details, see **Suffocation**.

Carrying Capacity

Strength determines how much weight characters can lift and how much any additional encumbrance slows them down. Characters carrying more than their Light Load suffer penalties.

Light Load: As a light load, a character can lift and carry up to twice their Strength characteristic score in kilograms without any penalties or difficulties. For example, an average character with a Strength score of 7 can carry up to 14 kilograms as a light load.

Medium Load: A medium load is considered to be twice a character's light load, or four times their Strength characteristic score in kilograms. Characters carrying a medium load suffer a DM-1 to all physically based checks, including skill checks. In addition, they move at 75% of their base speed. For example, an average character with a Strength score of 7 can carry up to 28 kilograms as a medium load. Such a character would suffer a DM-1 on all physical checks, and move at 4.5 meters, or 3 squares, per round.

Heavy Load: A heavy load is three times the character's light load, or six times their Strength characteristic score in kilograms. Characters can lift up to a heavy load overhead. Characters carrying a heavy load suffer a DM-2 to all physically based checks, including skill checks. In addition, they move at 75% of their base speed. For example, an average character with a Strength score of 7 can lift up to 42 kilograms as a heavy load. Such a character would suffer a DM-2 on all physical checks, and move at 4.5 meters, or 3 squares, per round.

Maximum Load: A character's maximum load is six times that of their light load, or twelve times their Strength score in kilograms. Characters can lift up to the maximum load off the ground, but can only stagger around with it. While overloaded in this way, characters cannot undertake any other actions, and can only move 1.5 meters, or 1 square, per round. For example, an average character with a Strength score of 7 can barely lift up to 94 kilograms as a maximum load. Such a character could perform no other actions while struggling with the load, except to move 1.5 meters per round.

Push/Drag: Characters can push or drag up to five times their heavy load weight, moving at half their normal speed. Favorable conditions (smooth ground, dragging a slick object) double these numbers, and bad circumstances (broken ground, pushing an object that snags) can reduce them to one-half or less.

Gravity and Carrying Capacity

The above assumes the character is operating at a standard 1.0 gravity. When operating under a different gravitational pull (or within an artificial gravity set to a non-standard value), simply divide a character's load weight by the gravitational pull to determine the new load weight value under those conditions.

Diseases

Diseases reduce a character's Characteristics, usually Endurance. The character must make an Endurance check with the listed DM to resist the effects of the disease. If the character fails the Endurance check then he takes

the listed damage and must make another Endurance check a few hours or days later, depending on the interval of the disease. Once an Endurance check has been passed, the character has fought off the disease.

Table: Sample Diseases

Disease	DM	Damage	Interval
Pneumonia	+0	1D6+4	1D6 weeks
Anthrax	-3	1D6+2	1D6 days
Regina Flu	+1	1D6-2	1D6 days
Biological Weapon	-6	1D6+8	1D6 hours

Extremes of Temperature

Unusually hot or cold worlds can cause damage unless the characters are suitably protected. Temperatures are in Celsius.

Table: Extreme Temperatures

Temperature	Damage	Example
Below -200°	3D6/round	Absolute Zero, Pluto
-200°	2D6/round	Liquid nitrogen, Neptune
-100°	1D6/round	Ceres
-50°	2D6/hour	Mars
-25°	1D6/hour	Arctic
0°	None	Water melting point
50°	1D6/hour	Very hot desert
100°	2D6/hour	Water boiling point
200°	1D6/round	Mercury
500°	2D6/round	Venus
Above 500°	3D6/round	Surface of the sun

Catching on Fire

Characters touching a fire source might find their clothes, hair, or equipment on fire. Those at risk of catching fire are allowed a Difficult (-2) Dexterity check to avoid this fate. If a character's clothes or hair catch fire, he takes 2D6 damage immediately. In each subsequent round, the burning character must make another Difficult (-2) Dexterity check. Failure means he takes another 2D6 damage that round. Success means the fire has gone out.

A character on fire may automatically extinguish the flames by jumping into enough water to douse himself, spraying himself down with a fire extinguisher, vent all atmosphere or otherwise smother the flames. If the character has no such means, rolling on the ground or smothering the fire with cloaks or the like permits the character a DM+2 on his next Dexterity check.

Falling and Gravity

A character who falls on a 1-gravity world suffers 1D6 damage per two meters fallen. High- or low-gravity worlds will increase or decrease the damage. Look up the size code for the world and the gravity level associated with it and multiply the falling damage by the gravity number.

Poisons

Poisons operate in the same way as diseases, but generally work much faster and often have a wider range of effects. Most poisons do not have an interval but apply their damage immediately.

Table: Sample Poisons

Poison	DM	Damage
Arsenic	-2	2D6
Tranq Gas	-1D6	Unconsciousness if Endurance check is failed
Neurotoxin	-4	1D6 Intelligence

Radiation Exposure

Radiation exposure is measured in rads. Once a character has absorbed a certain number of rads, he will suffer certain effects. One problem with radiation exposure is that while physical symptoms can be treated and may heal, the radiation never goes away. The character's rads must be tracked. Further exposure adds to what the character is already carrying around until a deadly level is reached. Accumulated rads can be removed using anti-radiation drugs. Characters exposed to a radiation weapon will receive a one-time dose of radiation.

Entering a radioactive area or being exposed to a leak or solar flare will cause exposure each round or hour. Every time a character experiences exposure to radiation, they must check to see if they've come down with radiation sickness, as outlined on the Radiation Effects table. The character must make an Endurance check at the listed DM, and if he fails, he takes the damage listed and must make another Endurance check after the listed interval has passed. This cycle continues until the character succeeds at an Endurance check.

At any Radiation Level below Mild, the character is treated as having a lower Endurance characteristic score. If a character should accumulate enough rads to move to a higher Radiation Level, the new Endurance characteristic score immediately goes into effect. On the other hand, if a character moves to a lower Radiation Level, such as through anti-radiation drugs, the character heals the difference between the former level and the current level over time, as if it were physical damage. If a character's Effective endurance falls below zero, the character goes unconscious and cannot recover until their Radiation Level drops enough to allow healing to take place.

Table: Common Radiation Exposure Sources

Situation	Instant (rads)	Extended (rads)
Irradiated area, low level	--	1D6/hour
Irradiated area, moderate level	--	2D6/hour
Irradiated area, high level	--	6D6/hour
Irradiated area, severe level	--	12D6/hour
Active exposure, low level	3D6	3D6x10/hour
Active exposure, moderate level	1D6x10	1D6x100/hour
Active exposure, high level	2D6x10	2D6x100/hour
Active exposure, severe level	4D6x10	3D6x100/hour

Table: Radiation Effects

Radiation Level	Rads	Effective Endurance	DM	Damage	Interval
Mild	<100	--	None	None	None
Low	100-199	Endurance-1	+1	1D6	1D6 weeks
Moderate	200-599	Endurance-3	+0	1D6+2	2D6 days
High	600-999	Endurance-6	-1	1D6+4	1D6 days
Severe	1000+	Endurance-10	-2	1D6+6	1D6 hours

Starvation and Dehydration

Characters might find themselves without food or water and with no means to obtain them. In normal climates, a character needs at least a gallon of fluids and about a pound of food per day to avoid starvation. In very hot climates, characters need two or three times as much water to avoid dehydration.

A character can go without water for a number of hours equal to 20 plus twice his Endurance score. After this time, the character must make a Routine (+2) Endurance check each hour (DM-1 for each previous check) or take 1D6 damage.

A character can go without food for 3 days, in growing discomfort. After this time, the character must make a Routine (+2) Endurance check each day (DM-1 for each previous check) or take 1D6 damage.

Damage from thirst or starvation cannot be recovered until the character gets food or water.

Suffocation

In an area where sufficient oxygen is not long available, such as on board a starship without life support, a character begins to suffocate, suffering 1D6 damage each minute. A character who is utterly without air (such as one who is being smothered or strangled, or who has been dumped out an airlock) suffers 1D6 damage each round instead.

Vacuum Exposure

Beings exposed to the airless cold of space are not immediately doomed. Contrary to popular belief, characters exposed to vacuum do not immediately freeze or explode, and their blood does not boil in their veins. While space is very cold, heat does not transfer away from a body that quickly. The real danger comes from suffocation and ionizing radiation.

On the third round of exposure to vacuum, a character must succeed on a Very Difficult (-4) Endurance check each round or suffer from aeroembolism ("the bends"). A character that fails the check experiences excruciating pain as small air bubbles form in its bloodstream; such a character is considered stunned and generally unable to move, and remains so until returned to normal atmospheric pressure. A character that fails the check with an Exceptional Failure (Effect -6 or lower) falls unconscious.

The real danger of vacuum comes from suffocation, though holding one's breath in vacuum damages the lungs. Treat anyone trapped in a hard vacuum as being utterly without air under the **Suffocation** rules.

Unfiltered radiation bombards any character trapped in the vacuum of space without protective gear. A character exposed to this ionizing radiation suffers from severe sunburn as well as the effects equivalent to a high level irradiated area. See **Radiation Exposure** for specific details.

Weather

Driving wind, rain, snowstorms and so forth give a -1 DM to ranged attacks from poor visibility and a -1 DM to ranged attacks from environmental interference. Sensors can be used to avoid the visibility penalty. Extremely high winds and torrential rain can inflict a negative Dice Modifier of -1 to -4 to all skill checks.

CHAPTER 12: WORLDS

The basic planetary characteristics are Size, Atmosphere, Hydrology, Population, Government, Law Level, Technology Level, Starport and Bases, and are generated using two-dice throws, with DMs applied based on other characteristics. These characteristics establish the basic identity of a world, and are referred to as the Universal World Profile (UWP). Additional information can be generated, and should be, to more fully describe a world.

The Universal World Profile (UWP)

The Cepheus Engine utilizes a concise one-line coding to encapsulate data on an individual world in a manner that, with a little practice, can be quickly and easily read. The specifics of the Universal World Profile can be found below:

WorldName 0000 A123456-7x Ni

R 123 Na

The Explanation

“WorldName” indicates the common name for the world that is being profiled.

“0000” provides the location of the world’s hex (column, then row) on the sector or subsector map.

“A123456-7” is the classic world profile. Each number or letter is a pseudo-hexadecimal code representing a specific value on the corresponding world data charts. In order, the profile defines the following elements: Starport, World Size, Atmosphere, Hydrographics, Population, Government, Law Level, followed by a hyphen and finally Technology Level.

“X” indicates where information about a world’s bases are noted. A space here indicates that the world has no bases worthy of note on an interstellar level.

“Ni” is used here to indicate where special remarks and trade codes are displayed as part of the world data profile.

“R” provides information about the world’s Travel Zone classification. A space indicates a world that is generally safe to visit. An “A” represents an Amber Zone, indicating a world that adventurers should approach with more caution than normal. An “R” indicates a Red Zone, a world where travel is prohibited for any of a number of reasons, from physical dangers to political secrecy.

“123” represents a brief synopsis of three pieces of data: a Population Multiplier for the main world, the number of Planetoid Belts in the system, and the number of Gas Giants in the system.

“Na” indicates the system’s interstellar allegiance. “Na” is used for non-aligned worlds.

Star Mapping

For Cepheus Engine universes, the presence of star systems is marked on hex maps, each hex representing one parsec. For each system, generate a Universal World Profile for the primary world of the system. The smallest astrogation map size, the subsector, measures 8 hexes wide by 10 hexes high. An intermediate map size, the quadrant, measures two subsectors by two subsectors, while the largest map size, the sector, measures two quadrants by two quadrants.

There is a basic one-half chance normally that a world (and its attendant stellar system) will be in a hex.

Systematically check each hex on the subsector map, throwing one die and marking the hex with a circle if the result is a 4, 5, or 6. This indicates that a world is present; otherwise, leave the hex blank. The Referee may elect to alter the normal chances of worlds, making them more frequent or less frequent to correspond to specific regions of the galaxy. A 50% density (no DM) is appropriate for the spiral arms of the galaxy. Apply a –2 DM for ‘rift sectors’, a –1 DM for sparse sectors and a +1 DM for densely populated sectors.

World Size

The Size characteristic for inhabitable worlds ranges from 0 to 10, and is determined by rolling 2D6–2.

Table: World Size

Digit	World Size	Surface Gravity (gs)
0	800 km (typically an asteroid)	Negligible
1	1,600 km	0.05
2	3,200 km	0.15
3	4,800 km	0.25
4	6,400 km	0.35
5	8,000 km	0.45
6	9,600 km	0.7
7	11,200 km	0.9
8	12,800 km	1.0
9	14,400 km	1.25
10 (A)	16,000 km	1.4

High and Low Gravity Worlds

Worlds where the gravity is 0.75 or less are low-gravity worlds. Common features include improbable-looking rock formations, thin and spindly life forms and flying as a common form of locomotion (assuming the atmosphere is thick enough to support flyers). Humans tend to find life on low-gravity worlds to be initially pleasant, but regular exercise regimes and medicinal supplements are required to prevent bone and muscle degradation. Those who spent too long on low-gravity worlds cannot tolerate higher gravities. Characters on low-gravity worlds suffer a –1 DM to all skill checks until they acclimatize, a process which takes 1D6 weeks. Characters with the Zero-G skill at level 0 or better acclimatize instantly.

High-gravity worlds have a gravity 1.25 times or more than of Earth. They tend to be extremely dense worlds; common features include wide rocky plains, squat, muscular creatures, and plant life that spreads out like lichen instead of growing up. Crawling, burrowing or swimming are the commonest forms of locomotion. Humans find high-gravity worlds unpleasant. Especially high-gravity worlds require the use of pressured or powered suits to support the human frame. Characters on high-gravity worlds suffer a –1 DM to all skill checks until they acclimatize, a process which takes 1D6 weeks.

Atmosphere

A planet's Atmosphere is generated by rolling 2D6–7 and adding the planet's Size. If a world's Size equals 0, then the world's Atmosphere equals 0. The Atmosphere code should never be higher than 15(F).

Table: Atmosphere

Digit	Atmosphere	Pressure	Survival Gear Required
0	None	0.00	Vacc Suit
1	Trace	0.001 to 0.09	Vacc Suit
2	Very Thin, Tainted	0.1 to 0.42	Respirator, Filter
3	Very Thin	0.1 to 0.42	Respirator
4	Thin, Tainted	0.43 to 0.7	Filter
5	Thin	0.43 to 0.7	
6	Standard	0.71–1.49	
7	Standard, Tainted	0.71–1.49	Filter
8	Dense	1.5 to 2.49	
9	Dense, Tainted	1.5 to 2.49	Filter
10 (A)	Exotic	Varies	Air Supply
11 (B)	Corrosive	Varies	Vacc Suit
12 (C)	Insidious	Varies	Vacc Suit
13 (D)	Dense, High	2.5+	
14 (E)	Thin, Low	0.5 or less	
15 (F)	Unusual	Varies	Varies

Atmosphere Types

Tainted: Tainted atmospheres contain some element that is harmful to humans, such as an unusually high proportion of carbon dioxide. A character who breathes a tainted atmosphere without a filter will suffer 1D6 damage every few minutes (or hours, depending on the level of taint).

Exotic: An exotic atmosphere is unbreathable by humans, but is not otherwise hazardous. A character needs an air supply to breath in an exotic atmosphere.

Corrosive: Corrosive atmospheres are highly dangerous. A character who breathes in a corrosive atmosphere will suffer 1D6 damage each round.

Insidious: An insidious atmosphere is like a corrosive one, but it is so corrosive that it attacks equipment as well. The chief danger in an insidious atmosphere is that the toxic gases will destroy the seals and filters on the character's protective gear. An insidious atmosphere worms its way past protection after 2D6 hours on average, although vigilant maintenance or advanced protective gear can prolong survival times.

Dense, High (D): These worlds have thick N₂/O₂ atmospheres, but their mean surface pressure is too high to support unprotected human life (high pressure nitrogen and oxygen are deadly to humans). However, pressure naturally decreases with increasing altitude, so if there are highlands at the right altitude the pressure may drop enough to support human life. Alternatively, there may not be any topography high enough for humans to inhabit, necessitating floating gravitic or dirigible habitats or sealed habitats on the surface.

Thin, Low (E): The opposite of the Dense, High atmosphere, these massive worlds have thin N₂/O₂ atmospheres that settle in the lowlands and depressions and are only breathable there – the pressure drops off so rapidly with altitude that the highest topographic points of the surface may be close to vacuum.

Unusual (F): An Unusual atmosphere is a catchall term for an atmosphere that behaves in a strange manner. Examples include ellipsoidal atmospheres, which are thin at the poles and dense at the equator; Panthalassic worlds composed of a rocky core surrounded by a water layer hundreds of kilometers thick; worlds wracked by storms so intense that the local air pressure changes from dense to thin depending on the current weather; and other planets with unusual and hazardous atmospheric conditions.

Hydrographics

Hydrographic percentage is obtained by rolling 2D6–7 and adding the world's Size, modified by the world's atmosphere or size as described in the Hydrographic DMs by Size and Atmosphere table.

Table: Hydrographic DMs by Size and Atmosphere

Condition	DM
Size 0 or 1	Hydrographics must be 0
Atmosphere 0, 1, A, B or C	–4
Atmosphere E	–2

A world's Hydrographics value should never exceed 10 (A), nor may it be lower than 0.

Table: Hydrographics

Digit	Hydrographic Percentage	Description
0	0%–5%	Desert world
1	6%–15%	Dry world
2	16%–25%	A few small seas.
3	26%–35%	Small seas and oceans.
4	36%–45%	Wet world
5	46%–55%	Large oceans
6	56%–65%	
7	66%–75%	Earth-like world
8	76%–85%	Water world
9	86%–95%	Only a few small islands and archipelagos.
10 (A)	96–100%	Almost entirely water.

World Population

A world's Population is generated by rolling 2D6–2, modified by the world's Size, Atmosphere and Hydrographics as described in the Population DMs table. A world's Population value should never exceed 10 (A). If a world has a population of 0, it is uninhabited and the world also has a Government, Law Level and Technology Level of 0.

Table: Population DMs

Condition	DM
Size is 2 or less	–1
Atmosphere is A or greater	–2
Atmosphere is 6	+3
Atmosphere is 5 or 8	+1
Hydrographics is 0 and Atmosphere less than 3	–2

Table: World Population

Digit	Population	Range	Comparison
0	None	0	
1	Few	10+	A tiny farmstead or a single family
2	Hundreds	100+	A village
3	Thousands	1,000+	
4	Tens of thousands	10,000+	Small town
5	Hundreds of thousands	100,000+	Average city
6	Millions	1,000,000+	
7	Tens of millions	10,000,000+	Large city
8	Hundreds of millions	100,000,000+	
9	Billions	1,000,000,000+	Present day Earth
10 (A)	Tens of billions	10,000,000,000+	

Population Modifier

Sometimes it is enough just to know that a world has hundreds of millions of people on it (Population 8). Other times, a Referee or player may want a more specific number. The Population Modifier is determined by rolling 2D6-2. If the Population is greater than 0, the minimum Population Modifier value is 1. If the Population code is 0, then the Population Modifier is also 0. The Population Modifier is multiplied by 10 raised to the power of the Population code to determine a more specific number of people living on the world. For example, if the Referee generates a Population Modifier of 4 for a world with a Population code of 8, then he knows that (4×10^8 , which is...) 400,000,000 people live on that world.

Primary Starport

Many worlds have starports, their presence being essential to interstellar trade and commerce. To determine the world's primary starport, roll 2D6-7 and add the world's Population value. Compare the result to the Primary Starport table to determine the starport class for the world. Each starport class offers different levels of service. The Starport Class Services table provides more specific details.

Table: Primary Starport

Roll	Starport Class
2 or less	X
3	E
4	E
5	D
6	D
7	C
8	C
9	B
10	B
11+	A

Table: Starport Class Services

Class	Descriptor	Best Fuel	Annual Maint.	Shipyard Capacity	Possible Bases
A	Excellent	Refined	Yes	Can construct starships and non-starships	Naval, Scout
B	Good	Refined	Yes	Can construct non-starships	Naval, Scout
C	Routine	Unrefined	No	Can perform reasonable repairs	Scout
D	Poor	Unrefined	No	None	Scout
E	Frontier	None	No	None	None
X	None	None	No	None	None

World Government

The Government characteristic is determined by rolling 2D6–7 and adding the world's Population. If a world's Population equals 0, then the world's Government equals 0. The Government code should never be higher than 15(F), nor lower than 0.

Table: World Government

Type	Government
0	None
1	Company/Corporation
2	Participating Democracy
3	Self-Perpetuating Oligarchy
4	Representative Democracy
5	Feudal Technocracy
6	Captive Government
7	Balkanization
8	Civil Service Bureaucracy
9	Impersonal Bureaucracy
10 (A)	Charismatic Dictator
11 (B)	Non-Charismatic Leader
12 (C)	Charismatic Oligarchy
13 (D)	Religious Dictatorship
14 (E)	Religious Autocracy
15 (F)	Totalitarian Oligarchy

Law Level

Law level is determined by rolling 2D6–7 and adding the Government characteristic. If the world's Government is 0, then the world's Law Level is also 0. Law Level should never be less than 0.

Table: Law Level

Digit	Descriptor	Not Allowed
0	No Law	No restrictions; candidate for Amber Zone status
1	Low Law	Poison gas, explosives, undetectable weapons, weapons or mass destruction
2	Low Law	Portable energy weapons (except ship-mounted weapons)
3	Low Law	Heavy weapons
4	Medium Law	Light assault weapons and submachine guns
5	Medium Law	Personal concealable weapons
6	Medium Law	All firearms except shotguns and stunners; carrying weapons discouraged
7	High Law	Shotguns

8	High Law	All bladed weapons, stunners
9	High Law	Any weapons outside one's residence; candidate for Amber Zone status
10(A)+	Extreme Law	Any weapons allowed at all; candidate for Amber Zone status

Technology Level

The Technology Level (also called "tech level" or TL) of the world is determined by rolling 1D6 and adding DMs per the Technology Level DMs by UWP Values table. A world's Technology Level may not be below 0.

Table: Technology Level DMs by UWP Values

Value	Starport	Size	Atmosphere	Hydrographics	Population	Government
0		+2	+1	+1		+1
1		+2	+1		+1	
2		+1	+1		+1	
3		+1	+1		+1	
4		+1			+1	
5					+1	+1
6						
7						+2
8						
9				+1	+1	
10 (A)	+6		+1	+2	+2	
11 (B)	+4		+1		+3	
12 (C)	+2		+1		+4	
13 (D)			+1			-2
14 (E)			+1			-2
15 (F)			+1			
X	-4					

Certain world conditions must meet a minimum Technology Level requirement. If the world possesses a lower technology level, then the Referee should increase the world's tech level to the required minimum.

Table: Technology Level Minimums

Conditions	Minimum TL
Hydrographics is 0 or 10(A), Population is at least 6	4
Atmosphere is 4, 7 or 9	5
Atmosphere is 3 or less, or 10(A)-12(C)	7
Atmosphere is 13(D) or 14(E), Hydrographics is 10(A)	7

Trade Codes

Trade codes are assigned based on a world's UWP values, as noted in the UWP Values for Trade Codes table.

Table: UWP Values for Trade Codes

Classification	Code	Size	Atmos.	Hydro	Pop.	Gov.	Law	TL
Agricultural	Ag		4–9	4–8	5–7			
Asteroid	As	0	0	0				
Barren	Ba				0	0	0	
Desert	De		2+	0				
Fluid Oceans	Fl		10+	1+				
Garden	Ga		5, 6, 8	4–9	4–8			
High Population	Hi				9+			
High Technology	Ht							12+
Ice-Capped	Ic		0–1	1+				
Industrial	In		0–2, 4, 7, 9		9+			
Low Population	Lo				1–3			
Low Technology	Lt							5–
Non-Agricultural	Na		0–3	0–3	6+			
Non-Industrial	Ni				4–6			
Poor	Po		2–5	0–3				
Rich	Ri		6, 8		6–8			
Water World	Wa			10				
Vacuum	Va		0					

Planetoid Belt Presence

Planetoid belts exist in many systems, and are mined by beltters for ice, ore and other interesting things. To determine the presence of planetoid belts in a given star system, throw 4+ on 2D6 for at least one planetoid belt to be present in the system. If planetoid belts are present, then the number of planetoid belts in the system is 1D6-3, minimum of 1. If the primary world of the system is Size 0, then there's at least one planetoid belt in the system automatically.

Gas Giant Presence

A star system may have one or more gas giant planets. The presence of a gas giant allows starships equipped with fuel scoops to refuel by skimming; this eliminates fuel cost for the vessel and increases profit. It also allows refueling at systems that do not have starports. Refueling in this fashion requires 1D6 hours per 40 tons of fuel. Gas giants are relatively common. For each system throw 5+ on 2D6 for at least one gas giant to be present in the system. If gas giants are present, then the number of gas giants in the system is 1D6-2, minimum of 1.

Bases

Stellar systems may have bases for military forces, the navy, the scouts, or for other arms of interstellar government. Bases can help determine political boundaries within a given region of space. An interstellar government will place bases along its borders to guard against aggression from rival states, or to control local systems. The presence of multiple bases within a few parsecs might indicate a contested border, or a mighty stronghold. While other bases may exist, the two primary bases are the Naval Base and the Scout Base.

Naval Base

A naval base is a supply depot, refueling station, repair yard or fortress of the Navy. Naval vessels can obtain refined fuel and supplies here. If a world possesses a Class-A or Class-B starport, throw 8+ on 2D6 to determine the presence of a naval base in the system.

Scout Base

A scout base or outpost offers refined fuel and supplies to scout ships. If a world does not possess a Class-E or Class-X starport, throw 7+ on 2D6 to determine the presence of a scout base in the system. This roll suffers a DM -1 if the world has a Class-C starport, a DM -2 for a Class-B starport and a DM -3 for a Class-A starport.

Pirate Base

A pirate base serves as a haven for interstellar pirates. If a world does not possess a Class-A starport or a naval base, throw 12+ on 2D6 to determine the presence of a pirate base in the system.

Base Codes

The presence of one or more bases is designated on the hex map with a base code in the upper-left of the world hex. The Base Codes table identifies which note-worthy bases, if any, are present.

Table: Base Codes

Code	Description
A	Naval Base and Scout Base/Outpost
G	Scout Base/Outpost and Pirate Base
N	Naval Base
P	Pirate Base
S	Scout Base/Outpost

Travel Zones

Most worlds are assumed to be civilized, or at least amenable to adventurers and other visitors. Some, however, are caught in the throes of war, plagued by disease, or simply not ready for interstellar visitors. Such worlds are classified by travel zones to denote such status. In most cases, the Referee should indicate travel zones based on the information available. Two such zone types exist: amber and red.

Amber Zone

An Amber world has been deemed dangerous, and travelers are warned to be on their guard. Amber worlds are often undergoing upheaval or revolution, or else are naturally hazardous environments. A world with an Atmosphere of 10+, a government of 0, 7 or 10, or a Law Level of 0 or 9+ should be considered for Amber status.

Red Zone

Red worlds are interdicted and travel to them is forbidden. Interdictions are enforced by the Navy. Red zones can indicate that the world is too dangerous to allow visitors. The Referee assigns Red worlds at his discretion.

Polities and World Allegiance

Worlds may be independent, or part of a larger polity that spans a system or more. Polities range from loose confederations of a few worlds with common trade or defense policies or cultural links, to vast star empires containing thousands of systems and trillions of citizens. Polity borders should be drawn on the map. Note that larger polities will usually have sub-domains, which should also be marked.

Communications Routes and Trade Routes

Within the subsector, governments will have established communications and trade routes connecting some (but not all) worlds. Messages between businesses, governments and people generally follow these routes.

Communications routes should be carefully drawn so as to avoid making all parts of the subsector accessible; a subsector should have some areas as backwaters for exploration and adventure. Communications routes are drawn as single lines connecting hexes on the subsector grid.

Trade routes link worlds that have strong commercial ties. Consult the Trade Route Worlds table— if any pair of worlds matching the two columns lay within four parsecs of each other, and there is a Jump–1 or Jump–2 route between them, then mark a trade route connecting those two worlds.

Table: Trade Route Worlds

First End Point	Second End Point
Industrial or High Tech	Asteroid, Desert, Ice Capped, Non-Industrial
High Population or Rich	Agricultural, Garden, Water World

CHAPTER 13: PLANETARY WILDERNESS ENCOUNTERS

Characters in the uncivilized areas on the planet's surface quickly find out that they are not alone. So long as a world can support life, animal encounters and other natural events are common, regardless of the current terrain. This chapter discusses various encounters that can occur in the wilderness on a planet's surface.

Animal Encounters

Animals in any ecological system interact with each other, forming food chains, obeying instincts, defending territory, and generally living out their lives. When people enter such an ecological system, they will encounter the animals of the system, prompting natural reactions, such as attack or flight.

Although the precise nature of animals may change, and they may prove quite alien to ordinary experience, most will conform to the broad classifications given below. A Referee may choose to establish his own ecological system on a specific world, ignoring the encounter system outlined here. This system, however, is intended to allow broad latitude in both animal types and attack/defense mechanisms, while remaining essentially logical and reasonable.

Animal Types: Nearly all animals may be classified into four basic categories: herbivore, omnivore, carnivore, and scavenger. Specific definitions for these terms are provided in a later section of these rules, and differ from the precise scientific definitions in current use. Within each category, a variety of animal types exist, based on specific feeding/hunting habits; examples of this concept are grazers, chasers, and pouncers.

Animals which are encountered may be further classified into various categories and types, and specific attack and defense mechanisms determined. The resulting description indicates the actions an animal will take without resorting to such confining labels as bear or tiger. While a Referee may well elect to use such names, this system also allows the players freedom to encounter truly alien beasts as well.

Animals and Characteristics

Animals have a similar range of characteristics to humans, but there are several differences:

Instinct: Instinct is the animal equivalent of Education. Animals apply their Instinct DM to tasks such as sensing prey or solving problems.

Pack: Pack is the animal equivalent of Social Standing. The higher a creature's Pack score, the larger the group that it is associated with, and the more standing the creature has in that group.

Planetary Themes

A world's ecology can be extremely diverse. However, the Referee may elect to implement specific themes on a planetary basis, to create consistency and flavor in presentation. Distinctive features help make each world stand out to the players as unique experiences. These could range from basic symmetry to reproductive methods (and the associated genders), from the number of limb pairs to the common sensory organs. The implementation of a planetary theme lies at the discretion of the Referee.

Step One: Choose a Terrain

Terrain has an impact on the type of animals one might encounter. Giant aquatic creatures are not found in forests, after all, nor are feathered flying creatures found flying at the bottom of the ocean. The first step in the rules for creating animals in the Cepheus Engine is to choose the creature's terrain, as terrain can have a significant impact on an animal's statistics.

The Terrain DM Chart details modifiers for animal subtypes and sizes. In addition, the result of 1D6 determines the basic movement for a given creature (A for Amphibious, F for Flight, S for Swimming, and W for Walking). Some movement codes have a number after them; these are an additional Size DM for the animal.

Table: Terrain DM Chart

Terrain	Subtype DM	Size DM	1	2	3	4	5	6
Clear	+3	-	W	W	W	W	W+2	F-6
Plain or Prairie	+4	-	W	W	W	W+2	W+4	F-6
Desert (hot or cold)	+3	-3	W	W	W	W	F-4	F-6
Hills, Foothills	-	-	W	W	W	W+2	F-4	F-6
Mountain	-	-	W	W	W	F-2	F-4	F-6
Forest	-4	-4	W	W	W	W	F-4	F-6
Woods	-2	-1	W	W	W	W	W	F-6
Jungle	-4	-3	W	W	W	W	W+2	F-6
Rainforest	-2	-2	W	W	W	W+2	W+4	F-6
Rough, Broken	-3	-3	W	W	W	W+2	F-4	F-6
Swamp, Marsh	-2	+4	S-6	A+2	W	W	F-4	F-6
Beach, Shore	+3	+2	S+1	A+2	W	W	F-4	F-6
Riverbank	+1	+1	S-4	A	W	W	W	F-6
Ocean shallows	+4	+1	S+4	S+2	S	S	F-4	F-6
Open ocean	+4	-4	S+6	S+4	S+2	S	F-4	F-6
Deep ocean	+4	+2	S+8	S+6	S+4	S+2	S	S-2

Step Two: Determine the Animal's Type and Subtype

The Referee should then determine the animal's type and subtype. If the Referee is building up an encounter table, the animal's type is obvious: the type necessary to fill in this entry on the encounter table. Otherwise, the Referee must choose an appropriate type: Carnivore, Herbivore, Omnivore or Scavenger. The Referee might also roll on the 1D6 Animal Encounter Table Template to randomly choose an animal type.

Once the animal type has been determined, the Referee rolls 2D6, and add in the terrain's Subtype DM. After that, the Referee consults the Subtype by Animal Type table under the column of the animal's type to determine the animal's subtype.

Table: Subtype by Animal Type

2D6	Herbivore	Omnivore	Carnivore	Scavenger
1 or less	Filter	Gatherer	Pouncer	Carrion-Eater
2	Filter	Eater	Siren	Reducer
3	Intermittent	Gatherer	Pouncer	Hijacker
4	Intermittent	Eater	Killer	Carrion-Eater
5	Intermittent	Gatherer	Trapper	Intimidator
6	Intermittent	Hunter	Pouncer	Reducer
7	Grazer	Hunter	Chaser	Carrion-Eater
8	Grazer	Hunter	Chaser	Reducer
9	Grazer	Gatherer	Chaser	Hijacker
10	Grazer	Eater	Killer	Intimidator
11	Grazer	Hunter	Chaser	Reducer
12	Grazer	Gatherer	Siren	Hijacker
13 or more	Grazer	Gatherer	Chaser	Intimidator

Step Three: Note Modifiers and Skills by Subtype

Terran creatures that exemplify these specific subtypes are noted in brackets after the name. The Referee should make note of the characteristic modifiers and skills that are noted after the description – the exact level of skills varies depending on the particular creature.

Carrion-Eater (vulture): Scavengers which wait for all other threats to disperse before beginning. Carrion-eaters have Recon. Instinct +2.

Chaser (wolf): Animals which kill their prey by attacking and exhausting it after a chase. Chasers have Athletics. Dexterity +4, Instinct +2, Pack +2.

Eater (army ant): Eaters will eat anything they encounter, including characters. Endurance +4. Pack +2.

Filter (earthworm): Herbivores which pass their environment through their bodies are termed filters. Unlike grazers, which move to food, filters move a flow of matter through themselves and filter out the food. Endurance +4.

Gatherer (raccoon, chimpanzee): Gatherers are herbivores that collect and store food. Gatherers have Recon. Pack +2.

Grazer (antelope): Grazers move from food source to food source, often in large packs. Their primary form of defense tends to be fleeing danger. Instinct +2, Pack +4.

Hijacker (lion): Scavengers which steal the kills of others through brute force or weight of numbers are hijackers. Strength +2, Pack +2.

Hunter (baboon): Opportunistic predators that stalk easy prey. Hunters have Survival. Instinct +2.

Intermittent (elephant): Herbivores that do not devote their entire time to searching for food. Intermittents have Pack +4.

Intimidator (coyote): Scavengers which establish their claim to food by frightening or intimidating other creatures.

Killer (shark): Carnivores that possess a raw killing instinct, attacking in a frenzied manner. Killers have Natural Weapons and either Strength or Dexterity +4, Instinct +4, Pack –2.

Pouncer (cat): Pouncers kill by stalking and ambushing their prey. Pouncers have Recon and Athletics. Dexterity +4, Instinct +4.

Reducer (vermin): Reducers are scavengers that act constantly on all available food, devouring even the remains left by other scavengers. Pack +4

Siren (venus fly-trap): Sirens create a lure to attract prey. Usually, this lure will be specific to the species the siren preys on, but some rare lures are universal. Pack –4.

Trapper (spider): An animal which allows its prey to enter a trap. Generally, any creature surprised by a trapper is caught in its trap. Pack –2.

Step Four: Determine Animal Size and Characteristics

For each creature, roll 2D6 for its Size and apply any Size DMs based on terrain and movement. The creature's Size determines its Weight, Strength, Dexterity and Endurance – for example, a roll of 7 means that the creature has a mass of 100kg, a Strength score of 3D6, a Dexterity score of 3D6 and an Endurance of 3D6.

Intelligence for most animals is 0 or 1. Roll 2D6+DMs for the animal's Instinct and Pack. To determine the number appearing value, consult the Number Appearing by Pack Characteristic Score table.

All animals have at least Athletics 0, Recon 0, and Survival 0, and most will have 1D6 ranks split among these skills, Natural Weapons, and any skills listed in their behavior.

Table: Animal Size

2D6	Weight (kg)	Strength	Dexterity	Endurance
1 or less	1	1	1D6	1
2	3	2	1D6	2
3	6	1D6	2D6	1D6
4	12	1D6	2D6	1D6
5	25	2D6	3D6	2D6
6	50	2D6	4D6	2D6
7	100	3D6	3D6	3D6
8	200	3D6	3D6	3D6
9	400	4D6	2D6	4D6
10	800	4D6	2D6	4D6
11	1,600	5D6	2D6	5D6
12	3,200	5D6	1D6	5D6
13	5,000	6D6	1D6	6D6
14	10,000	6D6	1D6	6D6
15	15,000	7D6	1D6	7D6
16	20,000	7D6	1D6	7D6
17	25,000	8D6	1D6	8D6
18	30,000	8D6	1D6	8D6
19	35,000	9D6	1D6	9D6
20+	40,000	9D6	1D6	9D6

Table: Number Appearing by Pack Characteristic Score

Pack	Number Appearing
0	1
1–2	1D3
3–5	1D6
6–8	2D6
9–11	3D6
12–14	4D6
15+	5D6

Step Five: Determine Animal's Weapons, Armor and Base Speed

Roll 2D6 separately for the animal's Weapons and Armor.

Weapons: When generating weapons, roll 2D6 and consult the Animal Weapons table. Add a +8 DM if the animal is a Carnivore, and a +4 if it is an Omnivore; subtract a –6 DM if the animal is a Herbivore. Scavengers automatically have Teeth in addition to any other weapons. If a number is present after the Weapons type, then add that number to the number of damage dice the creature rolls. Damage from attacks depends on the creature's Strength score, as shown in the Damage by Strength table.

Armor: When generating an animal's armor, roll 2D6-7, and add the animal's Size result (the die roll result that determined the animal's size, not the actual weight of the animal.) Add a +4 DM when rolling for armor if the animal is a Herbivore, and a +2 if it is a Scavenger; apply a –2 DM if the animal is a Carnivore. Also, Flyers suffer a –2 DM when determining armor. Consult the Animal Armor table for the animal's armor rating.

Base Speed: An animal's base speed is determined by generating a Speed Multiplier, as per the Animal Speed Multiplier by Subtype table, and multiplying that by 6, which is the average speed of a human in meters per

minor action. If an Animal Speed Multiplier value falls below the value found in the Minimum Speed column, round it up to the Minimum Speed value.

Table: Animal Weapons

2D6	Weapons
1 or less	Hooves
2	Hooves and Horns
3	Horns
4	Hooves and Teeth
5	Horns and Teeth
6	Thrasher
7	Claws
8	Teeth
9	Claws and Teeth
10	Claws +1
11	Stinger
12	Teeth +1
13	Claws +1 and Teeth +1
14	Claws +1 and Stinger +1
15	Claws +2
16	Teeth +2
17	Claws +2 and Teeth +2
18	Claws +2 and Stinger +2
19+	Projectile

Table: Animal Armor

2D6	Armor
1 or less	0
2	0
3	0
4	1
5	1
6	2
7	2
8	3
9	3
10	4
11	4
12	5
13	5
14	6
15	6
16	7
17+	7

Table: Damage by Strength

Strength	Damage
1–10	1D6
11–20	2D6
21–30	3D6
31–40	4D6
41–50	5D6
51–60	6D6
61–70	7D6
71–80	8D6
81–90	9D6
91+	10D6

Table: Animal Speed Multiplier by Subtype

Type	Speed Multiplier	Minimum Speed
Carnivore		
Chaser	1D6-2	2
Killer	1D6-3	1
Pouncer	1D6-4	1
Siren	1D6-4	0
Trapper	1D6-5	0
Herbivore		
Filter	1D6-5	0
Grazer	1D6-2	2
Intermittent	1D6-4	1
Omnivore		
Eater	1D6-3	1
Gatherer	1D6-3	1
Hunter	1D6-4	1
Scavenger		
Carrion-eater	1D6-3	1
Hijacker	1D6-4	1
Intimidator	1D6-4	1
Reducer	1D6-4	1

Universal Animal Format

The following format is used to represent animal's basic game statistics in the Cepheus Engine rules.

[Animal Name; optional]

[Size]kg [Subtype] ([Type]), [Terrain] [Locomotion], [Animal UPP, replacing Education with Instinct and Social Standing with Pack], #App: [Number Appearing]

[Animal Skill List, in alphabetical order, with skill levels listed after skill names]

[Animal weapons]; [Animal armor]; Speed: [Speed]m

[Animal Description; optional]

For example, this creature could represent a tough little flying alien pest that loves to shred things and eat them:

6kg Eater (Omnivore), Hill Flyer, 6A5168, #App: 2d6
Athletics-0, Melee(Natural Weapons)-1, Recon-1, Survival-2
Claws (2d6); Hide (1); Speed: 6m

Animals in Combat

Unless otherwise noted, animals operate just like characters in combat. The range category of an animal's weapons can be found in the Animal Weapon Ranges table.

Table: Animal Weapon Ranges

Weapon	Range
Claws	melee (extended reach)
Hooves	melee (extended reach)
Horns	melee (extended reach)
Projectile	ranged (thrown)
Stinger	melee (close quarters)
Teeth	melee (close quarters)
Thrasher	melee (close quarters)

Creating Encounter Tables

The system for creating animals in the Cepheus Engine rules can be used to generate creatures on the fly. However, the system works best when the Referee prepares an encounter table for each terrain likely to be encountered. This not only gives the Referee statistics for wilderness adventuring, but also provided a large amount of potential background data for expanding the world within the universe the Referee has created. To create an encounter table, first the Referee should select a table format. Although an encounter table can be in whatever format the Referee desires, the two formats most commonly used are represented in these rules as the 1D6 Animal Encounter Table Template and the 2D6 Animal Encounter Table Template. Note that the Templates only provide an animal's type (carnivore, herbivore, omnivore or scavenger), and in the case of the 2D6 table, event.

Each entry should be generated in turn. When an encounter table indicates that an event will occur, the Referee should create an event appropriate to the world and terrain. An event may be almost anything, including a natural disaster or seismic event, an interesting terrain feature or curiosity, unusual flora or weather. The Hills Terrain Encounter Table is an example of a completed encounter table.

1D6 Animal Encounter Table Template

1D6	Animal Type
1	Scavenger
2	Herbivore
3	Herbivore
4	Herbivore
5	Omnivore
6	Carnivore

2D6 Animal Encounter Table Template

2D6	Result
2	Scavenger
3	Omnivore
4	Scavenger
5	Omnivore
6	Herbivore
7	Herbivore
8	Herbivore
9	Carnivore
10	Event
11	Carnivore
12	Carnivore

Table: Hills Terrain Encounter Table

2d6	#App	Size	Subtype	Move	UPP	Weapons	Armor
2	2d6	100kg	Hijacker (S)	W 12m	9H91A7	Teeth (1d6)	Fur (2)
3	4d6	200kg	Gatherer (O)	W 6m	CC816D	Teeth (2d6)	Scales (3)
4	1d6	25kg	Intimidator (S)	W 6m	995174	Claws (1d6), teeth (1d6)	Hide (3)
5	3d6	100kg	Hunter (O)	W 6m	D94184	Stinger (2d6)	Hide (2)
6	3d6	25kg	Grazer (H)	W 12m	34A1DB	Hooves (1d6), horns (1d6)	Shell (2)
7	3d6	6kg	Intermittent (H)	F 6m	38217B	Horns (1d6)	Fur (1)
8	3d6	5,000kg	Grazer (H)	W 12m	N3M16B	Hooves (3d6), horns (3d6)	Shell (7)
9	4d6	400kg	Chaser (C)	W 12m	E8B1AE	Claws (3d6), stinger (3d6)	Fur (1)
10	Event: Cliff, standing 1d6x5 meters tall (Randomly determine if group is at top or bottom)						
11	2d6	800kg	Chaser (C)	W 12m	AAD1A6	Projectile (2d6)	Hide (2)
12	1d6	3,200kg	Killer (C)	W 12m	B7G18A	Teeth (3d6)	Fur (3)

Using the Encounter Tables

Each day an adventuring band may possibly have one or more encounters with some animal life forms. As a general rule, the Referee will check for an encounter once while the band is travelling and once while the band is halted (for rest, exercise, encampment, or whatever). There is a one-third chance (5+ on 1D6) that an animal encounter will occur in any of the specified terrain types. The Referee may choose to modify this frequency depending on planetary or local conditions.

In addition, specific encounters at specific locations are always possible. For example, the Referee may already have populated a location (perhaps a ruin) with specific animals. These are not subject to normal random encounter rules.

By their lifeless nature, vacuum worlds (and any other world without life) tend to have encounter tables comprised primarily of events. On an airless world, events could include silt pools that operate like quicksand, magnetic anomalies, solar flares, or possibly tracks left by previous explorers.

Animal Reactions in Encounters

When characters disturb an animal or otherwise draw attention to themselves while within its territory roll 2D6 and consult the Animal Reactions by Subtype table. If the result on the table is neither attack nor flee, then the animal stands still until provoked again, in which case roll again.

Table: Animal Reactions by Subtype

Type	Attack	Flee
Carnivore		
Chaser	If the chasers outnumber the characters, they attack.	5-
Killer	6+	3-
Pouncer	If the pouncer has surprise, it attacks.	If the pouncer is surprised, it flees.
Siren	If the siren has surprise, it attacks.	4-
Trapper	If the trapper has surprise, it attacks.	5-
Herbivore		
Filter	10+ if possible	5-
Grazer	8+	6-
Intermittent	10+	4-
Omnivore		
Eater	5+	4-
Gatherer	9+	7-
Hunter	If the hunter is bigger than at least one character, then it attacks on a 6+. Otherwise, it attacks on a 10+	5-
Scavenger		
Carrion-eater	11+	7-
Hijacker	7+	6-
Intimidator	8+	7-
Reducer	10+	7-

CHAPTER 14: SOCIAL ENCOUNTERS

In the Cepheus Engine, an encounter is defined as an unexpected or casual meeting with someone or something. A large part of the Referee's job is the administration of encounters. Through encounters, the Referee presents information, opportunities and conflicts for the players to interact with, which is the core of any gaming session. There are a number of different types of social encounters: routine, legal, patron, random, rumor and scenario. The Encounter Types Overview table offers suggestions on the frequency of various encounters, and the chance associated with the occurrence of such an encounter.

Encounter Tables: This chapter provides a number of encounter tables to serve as inspiration for the Referee. The Referee is encouraged to create tables more in line with their Cepheus Engine universe or with the specific adventure they are running.

Table: Encounter Types Overview

Encounter Type	Frequency	Chance
Routine	As needed	As needed
Scenario	As needed	As needed
Legal	Daily	Law Level or less on 2D6
Random	Daily	8+ on 2D6
Patron	Weekly	9+ on 2D6
Rumor	Weekly	7+ on 2D6

Routine Encounters

Routine encounters involve meeting normal people while doing normal activities, such as interviewing potential crew members in a starport diner or buying new ammunition from the clerk in a gun shop. Such scenes are rarely important in and of themselves. From a roleplaying perspective, routine encounters create a background of expected behavior that makes scenario encounters and random encounters stand out in comparison because of their unexpected content. Routine encounters help move characters logically from the time and place of one important scene to the next.

Scenario Encounters

Within the Cepheus Engine rules, an adventure is defined as a story for players to experience, comprised of a series of related scenes or encounters. These related encounters are called scenario encounters, because they serve to further the plot of the adventure toward its climax. The Referee creates scenario encounters as dictated by the story they will tell.

Random Encounters

Random encounters offer players a sense of variety in their gaming experience. These colorful encounters often include individuals pursuing goals that are unrelated to those of the adventurers themselves. From a roleplaying perspective, random encounters help create the illusion of a universe that exists outside of the adventurers' experiences, thus creating a sense of verisimilitude.

Random encounters can be determined by rolling a D66 on a table such as the Random Encounters table presented in these rules. Unique tables might be created for specific worlds or adventures. As with other social encounters, non-player character reactions may be determined randomly by the Referee or selected according to the nature of the situation.

Table: Random Encounters

D66	Encounter
11	Adventurers
12	Alien Starship Crew
13	Ambushing Brigands
14	Bandits
15	Beggars
16	Belters
21	Drunken Crew
22	Fugitives
23	Government Officials
24	Guards
25	Hunters and Guides
26	Law Enforcers on Patrol
31	Local Performers
32	Maintenance Robots
33	Merchants
34	Military Personnel on Leave
35	Noble with Retinue
36	Peasants
41	Political Dissident
42	Potential Patron
43	Public Demonstration
44	Religious Pilgrims
45	Reporters
46	Researchers
51	Riotous Mob
52	Security Troops
53	Servant Robots
54	Soldiers on Patrol
55	Street Vendors
56	Technicians
61	Thugs
62	Tourists
63	Traders
64	Vigilantes
65	Workers
66	Referee's Choice

Legal Encounters

Legal encounters involve interactions with local planetary law enforcement. Some worlds have stricter laws than others. This is represented by the world's Law Level value. The higher the Law Level, the more likely that offworld visitors will be harassed by local law enforcement. When the Referee determines that a legal encounter happens, a local police officer will stop the adventurers and require identification. Further complications are at the Referee's discretion.

Patron Encounters

A patron is a non-player character that gives financial or other support to a person, organization, cause, or activity. Referees often use patrons as a tool to attempt to engage player characters in adventures. Patron encounters represent the beginning of an open-ended adventure idea, aka the hook. The patron provides the mission that serves as the basis for an adventure, as well as the reward for successfully completing it. Adventurers frequently seek out patrons as a source of employment. Less frequently, a patron may seek out the adventurers, based on their reputation. The Referee may roll a D66 on the Patron Encounters table or create one independently. Unique Patron Encounter tables might be created for specific worlds or adventures.

Table: Patron Encounters

D66	Potential Patron
11	Agent
12	Athlete
13	Barbarian
14	Belter
15	Broker
16	Bureaucrat
21	Celebrity
22	Colonist
23	Con Artist
24	Corporate Executive
25	Courier
26	Diplomat
31	Drifter
32	Educator
33	Entertainer
34	Financier
35	Fugitive
36	Hijacker
41	Hunter
42	Marine
43	Mercenary
44	Merchant
45	Navy
46	Noble
51	Physician
52	Pirate
53	Politician
54	Rogue
55	Scientist
56	Scout
61	Smuggler
62	System Defense Officer
63	Technician
64	Terrorist
65	Tourist
66	Referee's Choice

Format for Patron Encounters

Some Referees prefer to “wing it,” and consider little more than a patron’s name and the mission at hand. However, for those seeking a more detailed way of creating reusable patron encounters, the Cepheus Engine rules offers a fairly comprehensive format for recording patron encounters. This format identifies five specific elements for a given patron. These are:

- The patron’s name and role. Names can be changed if the patron encounter is reused.
- The skills and resources required to complete the mission
- The suggested reward for the mission
- The mission as described to the characters
- What’s really going on. Several possible variants are presented – either pick or roll for which is the real situation. This is the key element that allows reusability.

Here is an example of a patron encounter captured in this format:

Bruce Ayala, Interplanetary Playboy

Required: Investigate, Streetwise; No special equipment required.

Reward: Cr500 a day, plus expenses; minimum of two weeks.

Players’ Information

Word on the street is that the famous holovid star and interplanetary playboy Bruce Ayala is cruising the local bar scene. That night, Bruce Ayala, along with his entourage of publicists and models, staggers into the same locale as the party and buys a round for every offworlder. Over the course of the evening, he continually hounds the party for details of their exploits, always comparing their adventures to roles he's portrayed. Late into the evening, Ayala corners one of the party members and offers the crew a job, if it can be handled with discretion. He provides contact information, and arranges a meeting to discuss terms, if they are interested.

Referee’s Information

When Bruce Ayala achieved system-wide fame as a holovid star, he admits that it went right to his head, and it cost him the love of a wonderful young woman by the name of Martha McKernan. He's kept tabs on Martha over the years through private investigators and the like, one of whom has reported that she's gone missing a few days ago. Ayala wants to hire the party to discretely investigate Martha's disappearance, locate the young woman and rescue her from whatever situation she might be in. He's concerned that his current media distributor, Penultimate Productions, have pulled something, as he has been secretly planning to sign a new contract with a competitor, System Media Studios. That represents a great loss for Penultimate Productions, and Ayala feels that they are not above coercion to insure the holovid star continues to bring them money. In all of the options presented below, further development is left to the discretion of the Referee.

1. All is as it appears. Bruce Ayala is correct; Penultimate Productions has discovered their star's clandestine plans. Slowly moving away from the verge of bankruptcy, the media distributor owes their recovery to Bruce Ayala's success in the box office. Worried that the star's departure could cost them everything, the executive producers have hired thugs to kidnap Martha McKernan and use her to force him to extend his current contract.
2. Sadly, Bruce Ayala is incorrect. His own agent, Cornelius Brass, has a gambling problem, a huge gambling problem. He's fallen in so much debt to the local crime syndicate that they've started threatening his life and the lives of his family, and the man has become desperate. Brass has arranged for the kidnapping of Martha McKernan, hoping to ransom her to enough Credits to pay off his debt and tuck away a tidy bankroll so he can continue his gambling habit.

3. Bruce Ayala has been less than truthful. He's been stalking the innocent Martha McKernan for years, using his fame and fortune to attempt to force her into marrying him. In an act of desperation, Martha has gone on the run, trying to make her way out of the star system undetected in an effort to find safety from Ayala's overwhelming attentions.
4. System Media Studios has kidnapped Martha McKernan as a form of leverage to use on Bruce Ayala in the event he changes his mind and backs out of the secret negotiations. They believe he is unaware of her disappearance, and only intend to reveal her status as a prisoner should he start entertaining the thought of extending his current contract with Penultimate Productions.
5. Martha McKernan has watched Bruce Ayala's meteoric rise to success with envy and jealousy. She feels scorned by the holovid star, and every image of Bruce Ayala with some starlet has pushed her further into the depths of hatred and loathing. Martha has arranged her own "kidnapping", so that she can demand a costly ransom from Bruce. Any extended contact with Martha will reveal that she is not completely sane, and will likely go to extreme lengths to harm and humiliate Bruce Ayala.
6. Martha McKernan is actually on vacation, hiking deep in a wilderness preserve to get away from civilization for a few weeks. Edmund Sang, a private investigator employed by Bruce Ayala, has reported her missing simply to get more money from Mr. Ayala to "locate" her. When the party shows up and begins investigating, he realizes that he might get caught and so desperately attempts to redirect them, to avoid having his deception discovered. Sang's efforts to create a false trail points to the local crime syndicate, who do not take kindly to the party investigating their illicit activities looking for a girl they've never heard of.

Rumors

Rumors are best thought of as encounters with information rather than with people or events. Rumors often fill one of two different roles: they plant the seed for a potential new adventure, or they provide background information that makes the universe seem larger than just the character's experiences. Rumors can take many forms, including, but not limited to, graffiti on the walls, newspaper or online articles, overheard conversations, secret notes, and televised broadcasts.

Because rumors are encounters with information, the player character has no patron should they decide to pursue the rumor itself. If the matter doesn't pan out, the player character has no one to blame but himself. However, given the promise of potential reward, enterprising characters are likely to attempt to exploit the information they've uncovered.

Random encounters are often determined by rolling a D66 on a table such as the Random Rumor Content table presented in these rules. As with other encounter types, unique tables might be created for specific worlds or adventures.

Table: Random Rumor Content

D66	Encounter
11	Background information
12	Background information
13	Broad background information
14	Broad background information
15	Broad background information
16	Completely false information
21	General location data
22	General location data
23	General location data
24	Helpful data
25	Important fact

26	Information leading to trap
31	Library data reference
32	Library data reference (general information)
33	Library data reference (general information)
34	Major fact
35	Major fact
36	Minor fact
41	Minor fact
42	Misleading background data
43	Misleading background data
44	Misleading background information
45	Misleading background information
46	Misleading background information
51	Misleading clue
52	Obvious clue
53	Partial (potentially misleading) fact
54	Reliable recommendation to action
55	Specific background data
56	Specific background data
61	Specific location data
62	Specific location data
63	Terminology
64	Veiled clue
65	Veiled clue
66	Referee's Choice

Influencing Attitudes

The Referee determines the starting attitude of any character the characters encounter during the game. The characters can then try to influence the character's attitude using Social Standing and various interaction skills, such as Liaison and Carousing. The Attitude Descriptions table describes the effects of character attitudes.

Table: Attitude Descriptions

Attitude	Means	Possible Actions
Hostile	Will take risks to oppose you	Attack, interfere, berate, flee
Unfriendly	Wishes you ill	Mislead, gossip, avoid, watch suspiciously, insult
Indifferent	Doesn't care either way	Socially acceptable interaction
Friendly	Wishes you well	Chat, advise, offer limited help, advocate
Helpful	Will take risks to aid you	Protect, back up, heal, aid, support

Characters can attempt to improve another's attitude, using a Difficult (-2) Social Standing-based check using the appropriate skill, usually Liaison. With a success, the character's attitude is improved by one step; with an exceptional success, the attitude improves by two steps. Note that a particularly bad influence check can actually make a character's attitude worse. On an exceptional failure, the character's attitude shifts one step more Hostile. In general, a character can attempt to influence another character only once in any given scene. Players get to choose their characters' attitudes, and so interaction skills cannot force a player-character to behave in a specific way. Typically, the only way a player character can be forced into a particular behavior is through the use of psionics or some other external force.

CHAPTER 15: STARSHIP ENCOUNTERS

Space is amazingly vast, and starships are incredibly small in comparison. Aside from points where people tend to congregate, such as within 100 diameters of inhabited planets or potential refueling locations, the chances of encountering another vessel is small enough to essentially occur only at the Referee's discretion. Random encounters with intelligent beings in such areas are extremely unlikely, and player-characters would be correct in assuming that such an encounter was not a random occurrence. Referees are encouraged to simply use the Astrogation Encounter Type table for random encounters under such conditions, simply to avoid violating the players' suspension of disbelief by providing generally non-starship encounters.

However, within those regions of interplanetary space where people congregate, there's always a chance for a space encounter. As a general rule of thumb, the Referee should check for space encounters when entering or leaving such a region. Roll 1D6; on a 6, a space encounter occurs. Referees may determine the type of space encounter based on the events occurring within the game, or they may randomly determine the type of encounter by rolling 2D6 and consulting the Space Encounters table. Each entry on the Space Encounters table is supported by a sub-table; the Referee can roll 1D6 and consult the sub-table for a more specific example of a random encounter if needed.

Like any random encounter system, if a result doesn't make sense for the current location in the game, then feel free to ignore it and roll again, or better yet, choose a result that does make sense.

Encounter Range

If two vessels randomly encounter each other while travelling in the depths of interplanetary space, the encounter will begin at Very Long range. More often, ships engage near a planet at Medium range. If the characters do not succeed in a Comms check (as modified by any stealth efforts made by the other vessel), then the encounter begins at one range category closer (Long instead of Very Long, or Short instead of Medium). Most civilian vessels, as well as military vessels that are not currently engaged in maneuvers, have transponders that operate as an "Identification Friend or Foe" (IFF) system to differentiate friendly from enemy spacecraft on sensors. When these are active, other vessels gain a DM+4 on detection efforts. (It is generally against interstellar law to operate a civilian vessel without such a transponder, but some ship crews have been known to disconnect their transponders when engaging in illicit activities.)

Some encounters, such as the starship encounter types, ignore the general rules for range, and instead occur at a range determined by the Referee.

Space Encounter Descriptions

Most of the entries on the space encounter tables are self-explanatory. However, some encounters have special rules that require further explanation.

Comet: Dust and particles from the comet interfere with some sensors, imposing a DM-2 on Comms skill checks while in the comet's tail. An unusual object or vessel may be found at the heart of a comet, but such occurrences are very rare and reaching such sites imposes a risk of impact with space debris.

Debris from collision or attack, Lost equipment or garbage, and Micrometeorite storm: The vessel is in danger of being impacted by small objects with great force. The vessel suffers 1D6 damage for every point of the vessel's Thrust rating, unless the pilot succeeds in a Pilot skill check to avoid the debris.

Interplanetary dust cloud: Dust clouds interfere with some sensors, imposing a -2 on Comms skill checks while in the cloud. The Referee may impose a second space encounter within the cloud, or simply impose a risk of impact with space debris.

Jettisoned cargo pod: For some reason, another vessel has jettisoned its cargo into space, generally to protect the safety of its crew from physical threats or legal actions. The contents of the pod can be determined randomly as per the trade goods rules in **Chapter 7: Trade and Commerce**, and often come with complications related to who dropped it and why.

Solar flares: Solar flares release tremendous amounts of electromagnetic energy (including harmful ultraviolet rays and X-rays), as well as highly charged protons and electrons. Being caught in a solar flare receives 1D6x100 rads every hour until the flares pass. See **Chapter 11: Environments and Hazards** for details on handling Radiation Exposure.

Table: Starship Encounters

2D6	Encounter Type
2	Alien Vessel
3	Derelict
4	Space Habitat
5	Astrogation
6	Space Junk
7	Merchant Vessel
8	Personal Vessel
9	Hostile Vessel
10	Military Vessel
11	Spacecraft
12	Referee's Choice

Table: Alien Vessel Encounter Type

1D6	Encounter Type
1	Alien courier
2	Alien frontier trader
3	Alien merchant freighter
4	Alien military vessel
5	Alien raider
6	Alien research vessel

Table: Astrogation Encounter Type

1D6	Encounter Type
1	Asteroid (inhabited)
2	Asteroid (uninhabited)
3	Comet
4	Interplanetary dust cloud
5	Micrometeorite storm
6	Solar flares

Table: Derelict Encounter Type

1D6	Encounter Type
1	Escape pod or life boat
2	Merchant vessel
3	Military vessel
4	Personal vessel
5	Research vessel
6	Space habitat

Table: Hostile Vessel Encounter Type

1D6	Encounter Type
1	Captured merchant vessel
2	Captured military vessel
3	Enemy military vessel
4	Raider
5	Ship in distress (false)
6	Ship in distress (true)

Table: Merchant Vessel Encounter Type

1D6	Encounter Type
1	Frontier trader
2	Frontier trader
3	Merchant freighter
4	Merchant liner
5	Merchant trader
6	Merchant trader

Table: Military Vessel Encounter Type

1D6	Encounter Type
1	Corvette
2	Destroyer
3	Patrol frigate
4	System defense boat
5	System monitor
6	Warship (1: Dreadnought; 2-3: Heavy cruiser; 4-6: Light cruiser)

Table: Personal Vessel Encounter Type

1D6	Encounter Type
1	Asteroid miner
2	Courier
3	Research vessel
4	Survey vessel
5	Unusual ship
6	Yacht

Table: Spacecraft Encounter Type

1D6	Encounter Type
1	Cutter
2	Launch or life boat
3	Fighter
4	Pinnace
5	Ship's boat
6	Shuttle

Table: Space Habitat Encounter Type

1D6	Encounter Type
1	Medical facility
2	Military facility
3	Orbital factory
4	Orbital habitat
5	Refueling station or spaceport
6	Research facility

Table: Space Junk Encounter Type

1D6	Encounter Type
1	Astrogational buoy or beacon
2	Communications satellite
3	Debris from collision or attack
4	Defense satellite
5	Jettisoned cargo pod
6	Lost or abandoned equipment or garbage

CHAPTER 16: REFEREEING THE GAME

The Referee is the person who takes responsibility for running a Cepheus Engine game. The Referee creates the adventure, runs the players through it, takes on the roles of the various characters the characters meet, and handles any questions about the rules. While running the game is a big responsibility, it's not as hard as it might seem, and providing a fun and entertaining game for your friends can be quite rewarding.

The rules of Cepheus Engine provide a comprehensive outline for the basic activities confronting any character in the universe you are creating. These rules are necessarily brief and admittedly omit many possible activities. After all, a roleplaying game cannot ever attempt to provide adequate rules that govern the entire universe. In the hands of players and a Referee, however, the Cepheus Engine rules are the start of dynamic adventures that can range across the universe.

This chapter is about helping you as the Referee run your games. The advice found within this chapter is completely optional; feel free to use it or ignore it as you like.

Rule Zero

Remember that it is just a game. The most important thing in it is to have fun, both for you and your players, and everything else is secondary to that. So if a rule, a plot, or even realism and consistency get in the way of your fun or that of your players, it is your right and duty as the Referee to change it. As a Referee, you, not the rulebooks, are the final arbiter in your game. This is a serious responsibility, but also a great freedom: the freedom to create and run an entertaining game that suits your needs and the needs of your group. If you and your players are enjoying yourself, you are doing things right, even if you are ignoring or modifying the rules and even if your game is not necessarily realistic or even self-consistent.

With that in mind, the most important rule of the game, dubbed Rule Zero in the Cepheus Engine rules, is that the Referee always has the right to modify the rules. As a Referee, your rules modifications can be as simple and improvised as “um, grab some dice, roll them, and tell me the number” or involve extremely complex home-brew charts that dictate the smallest of details. This is your game, after all.

Gaming Style

Every gamer tends to enjoy a specific gaming style. Some people are consummate “Role-Players”, gaining a lot of pleasure from character development and interaction. Others are intense “Combat Monkeys”, finding that an action-packed cinematic frenzy of laser bolts and hand grenades meets their gaming needs. Some players are “Puzzle Solvers”, finding the mental challenges of riddles, logic problems, puzzles and mystery adventures to be the perfect balm. Most of us are a mix of all of the above, in differing proportions and varying levels of interest and intensity.

As a Referee, it is recommended that you bear in mind that all styles of play are valid. If everyone is an action fan, combat-heavy games work well. Roleplaying the group’s interactions with shopkeepers can be entertaining, as well. For some, delivering long angst-ridden poetry in-game can be fulfilling. Intraparty conflict might be a good thing, with the right group of gamers. Even violating the advice found in these rules is perfectly okay, so long as the entire gaming group is having fun. Remember Rule Zero!

Be aware of what you and your players want. If you want something different from your players, something is going to have to change. Logically, it should be the group in the minority, which in this case would be you as the Referee. Similarly, if a single player wants a different style of play, if it can't be easily integrated, don't force the issue. Sometimes players or Referees don't fit a particular gaming group's style. It does not make anyone wrong; things just did not work out or come together for that particular game.

Improvisation

One of the keys to successfully running a Cepheus Engine session boils down to your ability to improvise when circumstances so dictate. You can certainly plan everything out for your session, to the degree with which you are comfortable. However, at some point in time, whether intentionally or accidentally, you are going to have to improvise a scenario that you did not plan in advance. Maybe the mercenary rolled poorly in that last combat, dying during the previous encounter, and the corporate executive that hired the adventurers only made the deal with him. Perhaps the party decides to pursue another adventure, which you had not yet prepared, half-way through the current one, based on a clue they found in the second encounter of the evening. Whatever the reason, you should be prepared as a Referee to improvise as needed to keep the session moving.

A common misconception exists that improvisation during a game and preparation for a game are two opposed approaches. To the contrary, the more efficiently you prepare for the game, the easier it will be for you to improvise and “wing it” during actual play. The key to efficient preparation is not deciding ahead what the characters will do (leave that to the players), but rather creating material which would both allow the players to do exciting things and which will allow you to easily set up challenges, encounters, NPCs, locations and plots that will fit the flow of the game. This might sound like a lot of work at first but is actually much simpler, the key here is to create flexible material which will fit different plot lines, different locations and different uses with ease.

In today’s world, spare time and inspiration tends to come at unexpected and irregular times. Carry a small notebook with you. Whenever an idea for whatever part of your game strikes your mind, jot it down in the notebook. Later on, when you happen to have a little more spare time, look these ideas and develop the ones you like a little bit more. Organize a binder at home (or a directory on your computer), with different partitions (or electronic files) for NPCs, locations, creatures, locations and plot hooks. Each item (NPC, location etc) you develop shouldn't be long, a few sentences per item will work in most cases (remember that most stats for a character or creature will fit in a small paragraph, if not a single sentence.) Keep these well-organized and these could be used whenever you need them in-game or in a short-term preparation for the game. The same goes for location maps you happen to doodle during work, while riding public transit or while attending boring classes or lectures, nothing of this kind should go to waste.

Most of the adventure elements you prepare, even locations or NPCs intended to be used in a specific plot line, should be designed in such a way that it will be easy to 'recycle' these elements for use in different circumstances in the event you don't use that element in the intended plot or location. Players have a tendency to miss the stuff you've labored hard to create, so be prepared to make a few changes to all the unused bits and pieces of previous adventures to use in the next ones.

Improvisational Preparation

It is definitely possible to prepare in advance for improvisation. It is suggested that Referees consider preparing the following for their adventure or campaign:

A list of random names for NPCs, locations and vessels can serve any Referee well. Take them from any source you like, your imagination, baby-name sites, even phone books, but it always helps to have a quick source of names for the people and places you have to create on the fly rather than just calling them “this guy” or “that tower”. That way, when the characters ask a random citizen for their name, you can easily choose one from your list, provide it to the group and then cross it off. Having the ability to name a character or place quickly helps establish a strong sense of depth and internal consistency within your setting.

Many Referees also find it helpful to keep **a small collection of generic locations and encounters** on hand, in case the party decides to go in an unexpected direction. It is perfectly okay to use adventures or modules that you find online or in the products you own. If you can create a few easy-to-place encounters beforehand, this could also prove to be very useful. Your goal here is simply to have activities for the characters to do through the rest of the given gaming session. You can always recoup and plot a better strategy for this new direction the players have taken between sessions. These little scenarios just give you a delaying tactic that lets you entertain your players at the same time.

A collection of stat blocks for stock NPCs, perhaps expanding on the small collection found later in this guide, can provide you with potential allies, contacts, rivals, enemies, bystanders and potentially even ready-made player-characters should the need arise over the course of the gaming session.

Creating a **reference sheet** of the player-characters' important combat statistics can help you evaluate the impact of an encounter or challenge when you have to improvise a scenario on the fly.

A notebook or electronic document for **session notes** can help you capture the details you've created for your campaign or adventure, either on the fly or through early preparation. With this, you are more likely to provide a consistent and vibrant gaming experience.

Recycling Game Material

As preparation time is limited for most Referees, you may find it of good benefit to maximize your effective use of material and rules while minimizing the time devoted to creating new non-player characters, vessels, adventures or locations from scratch. The nature of the Cepheus Engine is of great help here, as the rules are relatively simple and abstract; a major part of each animal, location, vessel or character is nothing but narrative, and narrative is easy to change. This is called "reskinning". By changing the narrative, the stat block for a veteran mercenary might be reused as an alien hunter with little or no modifications to the game mechanics.

A good example is the use of location floor plans. If, for example, you've downloaded or bought detailed floor plans for a particular location (or a product including these floor plans) or perhaps you've found them online, you can utilize them in more than one way. If the floor plans originally detailed the hidden base of some human space pirates, you can still easily modify them to be used for an alien fortress, for the remnants of a research facility devastated by a natural disaster, or even for a private mansion for an eccentric corporate executive. The map can remain the same, or largely the same, but the description can change the perception of the players.

Running the Game

The first rule of the Cepheus Engine system is to have fun. A good Referee will make a reasonable effort to create a gaming experience that is fun for everyone. The following guidelines might help with that.

Assigning Difficulties

At the core of every Cepheus Engine adventure lies a sequence of tasks that the character must accomplish in order to succeed. The Referee is in charge of assigning the difficulty of these tasks, and then interpreting the outcome. The default is Average (+0). Make a task easier if you want a particular task to be accomplished, but not be everyone. This will highlight characters with skill levels in an easy way. If you want to make a task challenging, but still feel comfortable with giving the players a good chance of success, set the Difficulty to Difficult (-2). Reserve Very Difficult (-4) and Formidable (-6) for very special circumstances, such as attempting the near impossible. As the Referee, you may not want to say "No" except in the most extreme circumstances, but assigning a Difficulty of Formidable (-6) is almost as good, and can create some interesting story developments and a sense of excited accomplishment should the character succeed.

Modifying the Roll or the Difficulty

There are two ways of making a task easier or harder: modify the character's die roll or modify the task's Difficulty. Generally speaking, circumstances affecting a character's performance, like having just the right tools for the job or being forced to improvise, apply a modifier to the die roll. Circumstances making the task easier or harder to accomplish, like a favorable or unfavorable environment or a particularly demanding task, modify the Difficulty. If a condition applies to the character -- like knowledge, health, equipment, preparedness, and such -- it's usually a die modifier. It doesn't have to be too fine a line, since modifying the die roll or the Difficulty amounts to the same thing in the end: the task being easier or harder to accomplish.

Circumstance Modifiers

Some circumstances make a check easier or harder, resulting in a bonus or penalty that is added to the check result. The Referee can alter the odds of success in two ways:

- If a character has help, such as good tools, competent aids or other beneficial circumstances, he receives a +1 bonus to his skill check.
- If a character is hampered, such as having defective tools, incompetent assistance or other negative circumstances, he receives a -1 penalty to his skill check.

Automatic Successes

Sometimes it is just easier to assume the character automatically succeeds at a skill check. If the character has an applicable skill, and the results of the skill check do not impact the progress of the story, endanger the character, and the actual success or failure is not interesting, just assume the character succeeds and move on. Remember, the Cepheus Engine rules suggest that the Referee should only call for checks:

- When the characters are in danger.
- When the task is especially difficult or hazardous.
- When the characters are under the pressure of time.
- When success or failure is especially important or interesting.

Using Opposed Checks

Opposed checks are a great way to create tension between two individuals. Suddenly, the players can target their attention on an NPC, and that helps with immersion into the game. Should two or more characters seek to do the same thing at the same time, or to resist one another's actions, use an opposed check. The highest check result wins.

That's not in the Rules

Sometimes in the course of play, things come up that are not covered in the rules. When this happens, the Referee is responsible for these handling situations, making fair evaluations of what the characters do and deciding what happens as a result. As the Referee, you will need to quickly improvise a solution. The easiest way to do so is to simply decide if the suggested action is fun or not, and if it is fun, let it happen, then throw in a complication that adds to the enjoyment of the scene. Some Referees prefer a more mechanical approach. Identify a skill the covers the basic nature of the request, set a Difficulty of Average (+0) or Difficult (-2), and let them try. If nothing comes to mind immediately, ask the player to tell you what skill they would use to accomplish this task. If no skill appears to work, then choose the best characteristic, and have the player roll a characteristic check. However you decide to resolve it, the key here is to quickly address the request and keep the game moving forward.

Solo Play as Referee Prep Work

Many of the Cepheus Engines rule subsystems can be leveraged for solo play. For Referees, this can turn building a universe of their own into a game in and of itself. What follows is a list of suggested activities that can prove to be fun in and of themselves, as well as help Referees create new material for their personal adventures and campaigns. In addition, solo play can help Referees learn the rules and become more proficient for when they run games before a group of players.

Solo play is not limited to Referees. Players can also learn a lot about and enjoy aspects of the Cepheus Engine rules through solo play in those times when a Referee or gaming group is not currently available.

Character Creation

A Referee always needs non-player characters. Use the information in **Chapter 1: Character Creation** to generate new characters. These characters can easily become future patrons, random encounters, enemies, allies or simply background characters for a Cepheus Engine universe.

Personal Combat

Take some characters and use the rules from **Chapter 5: Personal Combat** to practice the combat system. Recreate scenes from science fiction or action movies using the characters, to get a feel for how the rules of combat work in various scenarios.

Starship Construction

Construct some starships and other vessels using the rules in **Chapter 8: Ship Design and Construction**. Build on various scales, to get an idea of how the different elements of starship construction work together. You can even use the information under Starship Revenues in **Chapter 6: Off-World Travel** to determine if your ships would be economically viable without outside assistance.

Space Combat

Take some vessels and pit them against one another using the space combat rules found in **Chapter 10: Space Combat**. Once again, feel free to recreate scenes from science fiction movies using the vessels, to get a feel for how the rules of space combat work in various scenarios.

Subsector Creation

Using the rules found in **Chapter 12: Worlds**, create a subsector and identify the systems within it. Generate and record the UWP's for every system. After the worlds have been created, look over the subsector for possible communication and trade routes. If you are inspired, create some background information on the most interesting worlds.

Animal Encounter Creation

Choose a world from a list of UWP's, and expand on it. Create some maps of the planet's surface, and the build encounter tables for each terrain type on the map, using the rules found in **Chapter 13: Planetary Wilderness Encounters**. If you are so inclined, you can then pit some characters against the different animals you've created using the personal combat, so see how they might fare against player characters in the future.

Practice Trade and Commerce

Grab a 200-ton TL9 Merchant Trader and use the **Chapter 7: Trade and Commerce** rules to explore the economic environment of a generated subsector. Use the rules for passengers, freight and even speculative trading to get a feel for them. By tracking the revenue and expenses for the ship, it could give you an idea of where traders will focus their attentions within the subsector. If this is being played as a solo game, keep going until either the ship is paid for or the ship goes bankrupt. This is a good way to validate trade routes, and identify "stepping stone" worlds between strong markets in a subsector.

Patron Encounter Creation

The seed of most adventures within a Cepheus Engine universe are captured in patron encounters. Using the details of a subsector's list of UWP's, create and record some patron encounters using the format found under **Patron Encounters** in **Chapter 14: Social Encounters**. Think about science fiction and action-based movies, television shows and literature, and use those to inspire some of the patron encounters you create.

CHAPTER 17: ADVENTURES

Players in a Cepheus Engine universe are adventurers, plain and simple. They will seek out experiences and exploits, reveling in the thrill and excitement that comes from the pursuit of their goals. Cepheus Engine adventures encompass the potential for adventure that can be found in classic era science fiction. The opportunities are virtually limitless, restricted only by the circumstances of the scenario and the capabilities of the characters. The Referee generates and adjudicates encounters that make up the building blocks of these adventures. As the characters move from one adventure to the next, the stories create a campaign, set against a universe of the Referee's creation. Therein lays the core of a great roleplaying game experience.

Conflict

Stories are about conflict. Conflict doesn't have to be violent, but without a struggle of some kind, there is no story, and without a story, there is no true sense of adventure. The key to a great adventure is conflict. As a Referee, you should make sure you have conflict, and that the player characters are directly involved in that conflict. If there isn't any conflict, you lose the impetus for action. If the player characters aren't directly involved, they are just watching a story, which sounds more like a movie or a play than a roleplaying game. Conflict doesn't have to be physical combat. It could just as easily be political or corporate intrigue, achieving a specific goal before the protagonist can either get there first or stop the characters from succeeding, handling courtly issues of a noble or legal nature, negotiating a diplomatic resolution to a larger conflict, and much more.

The Plot

The plot of the adventure is essentially the synopsis of the events that will transpire over the course of the adventure. You should be able to sum up the plot of your adventure in one sentence. Knowing your plot before you begin creating the adventure provides focus and direction, and creates context for the scenes you will create for your adventure.

If you have problems in coming up with a plot for your adventure, you might look into Polti's "The Thirty-Six Dramatic Situations." It's an extensive list of basic plots that you can use as the basis for your own stories and adventures.

The EPIC Adventure System

The Epic Adventure System provides a way to design and organize adventures, that incorporates enough flexibility that the player characters have the 'freedom to roam' without causing the Referee nightmares. An Epic Adventure is broken down into 6 parts:

- Cast of Characters
- Background
- Minor Scenes
- Plot Keys
- Chapters
- Adventure Checklist

The Cast of Characters

The Cast of Characters describes the major characters encountered in the course of the adventure.

The Background

The Background section provides the Referee with the background information necessary to properly run the adventure, and lays the groundwork for introducing this adventure to the players.

Minor Scenes

Minor Scenes (usually just referred to as 'Scenes') or just Scenes, are encounters or events that involve the player characters in some form. Many are directly related to the adventure, and may provide clues, equipment, or other information and materials needed to eventually complete the adventure. Others are merely to provide diversion and amusement. Scenes, unless noted in their descriptions, do not need to be played in any particular order, and may be sprung upon the player characters when the Referee deems appropriate.

Plot Keys

Plot Keys (or simply 'Keys') make up the heart of the storyline for the adventure. They contain vital pieces to the plot that must be played for the adventure to make any sense to the players in the end. You may play any number of Scenes before and after each Plot Keys, but all of the Plot Keys should eventually be completed in their proper order.

Chapters

A Chapter (or 'Act') is made up of one or more Plot Keys, and probably one or more Scenes. They outline the plot to the Referee, and provide tips and information for playing the Scenes and Plot Keys that are contained in the Chapter. In order to complete a Chapter, each Plot Key within must be completed. Each Chapter must be completed, and played in order to successfully run the adventure.

Because of the 'cinematic' nature of an EPIC adventure, it is easy for the Referee to allow the player characters to temporarily deviate from the current adventure storyline to follow a false lead or pursue another short adventure that has interested them. When the player characters are ready to return to this adventure plot line, simply pick up with the next Scene.

Adventure Checklist

The Adventure Checklist provides the Referees with a recommended guideline of the order in which various Scenes and Plot Keys in this adventure should be presented to the players. As the characters complete each Scene or Plot Key, the Referee simply checks it off the list. When every Plot Key in a Chapter has been played, that Chapter has been completed and the Referee may begin the first Scene in the next Chapter.

You will note that not every Minor Scene is included in the Checklist. This allows Referees who would like to use the Checklist, but would like to change things a little bit to swap out scenes, or include their own custom scenes. If you feel comfortable in letting your characters stray from the order of the Checklist, you may determine the 'cinematic' order of the scenes as you see fit, or use a weekly events chart like the Example Weekly Event table to determine the course of events.

This example weekly events chart has been created for an adventure in which the characters spend several weeks in the outback searching for lost ruins in the hope of finding historical artifacts.

Table: Example Weekly Event

2D6	Weekly Event
2-8	Play a Minor Scene/Find a Ruin
9-11	Starport Run. The Professor has an errand requiring the characters to go to the local starport for the week.
12	Plot Key

Explanation of Example Weekly Event entries:

Play a Minor Scene: Select one of the Minor Scenes and run the scene as directed.

Starport Run: This is an excuse and opportunity to bring in sideline encounters, patrons and scenarios unrelated to this adventure.

Play a Plot Key: Plot Keys should be plays in the correct order for the adventure to make sense to the players. If you change the order of the Plot Keys, you should be sure to adjust the other scenes to ensure that the adventure flows properly and makes sense.

Adventures in Five Acts

Many satisfying adventures have been inspired by the five-act structure of literary and dramatic creations. Made famous by Gustav Freytag's analysis of Shakespearean plays, the five-act structure lends itself well to basic adventures with only minor modifications.

At its core, the five-act structure for adventures depends on five major scenes or Plot Keys: the Story Hook and Challenge, the Escalation, the Complication, the Climax and finally the Reward. Even though this structure is based on five Plot Keys, you can easily add or subtract as many minor scenes as the adventure you're creating calls for. Don't be afraid to deviate from this pattern as you become more comfortable with adventure creation.

The Story Hook

The key to the opening scene of any adventure is action. The story hook Plot Key should therefore be an action scene, involving either combat or some form of physical challenge. This draws the characters into the main conflict of the adventure's plot, and introduces the party to agents of the main antagonist. As this scene is wrapping up, you can either provide clues to the direction of the next Plot Key, or introduce a minor scene that ultimately points the party in the direction of the final climax of the adventure.

The Escalation

Now that you've met the needs of your more action-oriented players, you should create a series of roleplaying scenes or puzzle challenges that further escalate the plot, leading ultimately to a Plot Key that helps the players form a plan of attack for reaching the climax of the adventure. This allows non-combat characters an opportunity to shine. Investigation and information gathering make for excellent scenes in this regard. In addition, it provides the full roleplaying experience to the players, emphasizing why the group is playing a roleplaying game instead of a board game.

The Complication

Nothing is ever as straight-forward as it seems. The third major Plot Key introduces a complication to the party in fulfilling the needs of the plot. This Plot Key often requires the characters to expend resources, forcing them to decide on whether to spend their resources on this particular challenge or the big climactic challenge that is coming up next. In addition, this scene often introduces a plot twist or restriction that makes the resolution of this challenge and/or the climax that much harder.

The Climax

This Plot Key is the final showdown, the final fight with the primary antagonist of this story and his minions. This scene is most often a big fight or confrontation, but under the right circumstances, it could be a social or mental challenge instead. This is the big scene where everyone should have a chance to shine. It is suggested that this scene require a challenge more complex than "kill everyone", even if it's as simple as "kill everyone without any collateral damage to property or other persons". If the climax is a combat scene, the site for the climax should also include at least two different terrain features, to provide for some interesting situations that make such scenes memorable. While you don't want to overdo yourself, you also want to make this scene feel more exciting or important than the other scenes in the adventure.

The Reward

This scene is the dénouement, where the plot is wrapped up and the characters receive their reward for their victory, or experience the consequences of their failure, on those occasions where things didn't necessarily work out. Often in Cepheus Engine adventures, the reward is monetary. However, characters might instead earn titles, receive ship shares, gain political support, earn some form of social advantage, recover lost or hidden information, or even learn a campaign secret that could change the face of the world forever. Sometimes, there's a final plot twist here, such as a secret guardian guarding the reward or a false reward serving as a distraction from the true reward of the adventure. If you have ideas for a future scenario you'd like to offer the players, you can even drop the first hints of things to come in the reward scene, giving the characters motivation to pursue the clues that may well lead to their next daring adventure.

Other Suggestions

When creating your own adventures, keep things dense and concise. You will find that players have a knack for complicating things all by themselves, so don't feel a need to include a lot of false leads and irrelevant details. You can always improvise the addition of extra scenes as the need arises, but it is hard to work around a large number of required scenes if the adventurers suddenly take the adventure in a totally different direction.

The Three-Dimensional Campaign

Unless you're running a "one-shot" adventure, put in the effort to keep your setting, plot and adventure three-dimensional. That is, even if your campaign has a very strong overarching plot, not everything has to be tied in it directly. For example, if your campaign revolves around a massive struggle between two interstellar polities, there should be some NPCs, sub-plots, protagonists and even organizations that don't work directly (if at all) for any side of the overarching conflict. Not every protagonist in your game has to serve the enemy government, and not all good guys have to get along together very well.

The reason for this, besides realism, is that both you and your players will eventually want to take a break from the main plot and do something else, especially during a long campaign. Sometimes you'll want, say, to steal a high-tech prototype, and that research facility belongs to a third interstellar government that remains outside the overarching conflict; sometimes you'll just want to explore an old, forgotten ruin uncovered in the wilderness of a backwater planet, a place unrelated to the main plot. Besides, making two factions work together against a common enemy despite hating each other with a passion could be a cool adventure, and so could be playing one opposing faction against another without getting caught.

The Rule of Three

As a general rule of a thumb when creating background elements involved in conflicts, such as organizations, factions, political figures, etc., you will best be served by creating three of them. For example, when you're designing a power struggle in an interstellar government, you should probably have three factions. The typical war can be created with three opposing sides, even if one of them is simply a large band of pirates with goals at odds with the two "official" sides. Creating three elements vying for the same goal creates a greater degree of dynamic complexity, allowing for adventures that explore the different relationships between the three elements without reducing the conflict to a simple "black-and-white", two-dimensional confrontation. Three sides give you plenty of opportunity to explore shifting alliances, subversive practices, negotiations, alternate paths to personal success and greater variety in your scenarios.

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