PART I:

HISTORICAL + TECHNICAL BRIEFING

A QUESTION OF ORIGINS

The debate over our past on this world reaches back through the entire documented history of civilization, a period covering over 1300 years. The harsh conditions across this world, Kharak, [A1] fueled the myths of other places and times where we did not have to spend so much of our strength on simple survival. While the issue of our distant past was primarily a religious matter [A2], it wasn't until the dawning of the Time of Reason [A3] that advances in the biological and chemical sciences revealed a disturbing lack of commonality between our biochemical makeup and that of most Kharakid life. Ironically, it was the birth of the Daiamid Movement, with its many scientific breakthroughs, that created a philosophical environment where the oldest myths and the newest theories could be wedded into what we now have accepted as the XenoGenesis Theory. Except for a small variety of bacteria and a single species of small forager, our helix proteins are completely different from all other forms of life on Kharak. We are left with no other choice but to seriously consider the theory that we are aliens to this world. Of course, this answer only leads to more questions.

Fig 1.1:
The desert planet Kharak as seen from space.

KHARAKID ENVIRONMENT

A1

Kharak is an old planet (6.7 billion years) that is nearing the end of its geological activity. Most major terrain features have been weathered down, and vast deserts cover most of the world except for the polar regions. These are shielded from the encroaching sands by the three northern seas and the great Majiirian Ocean in the south. Temperatures along the equator can approach the boiling point of water, and the only life forms larger than microbes survive by burrowing deep under the sands and along subsurface water channels or by hibernating during the hottest months. The polar regions are almost optimal for our people, but the limited arable land and scarce resources have prevented our population from growing beyond 300 million.

HERESY WARS

CIRCA 520

A2

Early history on Kharak is marked by conflicts between various clans based on territorial considerations and religious dogma. This came to a head in 520 when the two largest clans in the north, the Siiddim and Gaalsien, went to war over the issue of what had caused the gods to place us on such a world. The Siiddim believed we once were a great race living in paradise but had been punished by the gods for our hubris and cast down to this world. The Gaalsien believed this idea to be heretical arrogance in light of their belief that we had been created to suffer from the beginning and Kharak was all we could hope for. The conflict eventually spread to the southern zone as well. Even more obscure points of theology provided the rationalization for a series of wars, large and small, that lasted almost 300 years and created clan feuds that would not be put to rest until the discovery of the Guidestone.

TOR

CIRCA 810

A3

The Heresy Wars left our people on the brink of extinction, with precious resources and infrastructure destroyed during three centuries of religious conflict. In 810, with all factions exhausted and falling from internal anarchy, a small clan, from the settlement at Tiir, emerged from hiding. This obscure northern clan was the first to develop chemical explosives and was thus unmatched in clan warfare. It also preached a worldview based on science and logic and offered protection to anyone who wished to live in such a world. A few decisive battles showed that none of the theological clans could hope to defeat the Naabel and within 20 years Tiir was the new capital and the Time of Reason had begun.

MISSION SILUMIIN RIOTS

CIRCA 1024

A4

Space exploration was not greeted favorably by the entire population. Large factions from some of the poorer clans believed technology and industrial output was being wasted on this effort. They thought it would be put to better use trying to alter Kharak or at least discover ways to support more people and hold back the encroaching deserts. As final preparations for the first orbital flight were being made, an obscure theologian named Per Doine provided the unifying force for these factions by resurrecting the old myth that tragedy would befall our people should we offend the gods with another act of arrogance. This religious revival spread throughout both polar territories and it culminated with an attempt by a frenzied mob to tear down the Silumiin launch vehicle on the eve of its liftoff. This disaster was averted only by the wisdom of the High Technocrats who stood on the launch base defense turrets, preventing them from firing on the crowd, and preached reason to the crowd for the entire 14 hours required for launch. Per Doine slipped through the cordon and prayed for salvation beneath the rocket's main engines until they ignited, vaporizing him. He died a martyr for the cause.

Fig 1.2:
Peering toward the heart of our own spiral galaxy. The dark horizontal band is a vast bank of interstellar dust that obscures the more distant bright core region approximately 35,000 light years away.

THE XENOGENESIS QUESTION AND EARLY SPACEFLIGHT MISSIONS

It was becoming more obvious that we, as a species, were relatively new to Kharak. However, this theory alone did not bring peace to our world. The mechanism used and reason for our arrival was still being hotly debated and was even cause for a theological revival on the eve of our first orbital flights. [A4] The age of orbital exploration revealed the first clues that we were not indigenous to Kharak. Once we had progressed to piloted flights, reports of unusual pieces of metallic debris in high orbit soon led to dedicated retrieval missions, with surprising results. While nothing larger than a handspan could be found, samples were brought down from orbit and soft landed in the High Desert. Initial analysis made it obvious these were pieces of advanced manufactured and machined structures. Detailed atomic analysis revealed trace elements and isotope combinations unknown on Kharak or, as it was eventually discovered, anywhere else in the stellar system.

This was yet another piece to the puzzle of our origins, but it did not truly confirm anything except that some kind of alien device or ship had once orbited our world. Though not decisive, the discovery of this

tiny debris belt spurred great leaps in metallurgy and manufacturing simply by showing that exotic, high tensile composite materials could exist. This in turn led to advances in propulsion, first with limited fissioning of unstable heavy elements and then with more viable hydrogen fusion power plants, as effective shielding systems became lighter and smaller. The combination of these technologies spurred our fledgling space program even further and our first steps became leaps. We were poised on the threshold of space, looking outward for answers, when a twist of fate turned our eyes back to the surface of our adopted world.

THE DISCOVERY OF KHAR-TOBA

In 1106 a powerful radar satellite was launched in the hopes of detecting larger debris belts elsewhere in our star-system. A malfunction in its maneuvering jets caused the satellite to turn toward Kharak and scan the surface. Leykab Jaraci, a technician on the project, noticed a strong return where there should have been none. A quick analysis showed the powerful radar had penetrated the equatorial desert sand to a depth of 75 meters and there was strong evidence of an ancient city centered around a large metallic structure.

By 1110 enough science Ministers had been convinced, by repeated radar scans, to allocate resources to an expedition into the Great Desert. Despite encountering conditions that would daunt personnel in modern enviro suits, these first brave excavators managed to uncover what came to be known as the First City, Khar-Toba. [A5] While this discovery was the stuff of archaeologists' dreams, even greater secrets revealed themselves when the central metallic structure was discovered to be the skeletal chassis of an advanced vessel. Though virtually nothing of relevant substance remained except a vast array of structural beams, the real treasure lay in a shielded chamber deep below the surface. While tracing the ancient maze of power cables during the first triad of 1112, engineers opened a shielded chamber containing the remains of the ancient ship's power plant. Painstakingly transported to the modern polar capital of Tiir, this ancient device was back-engineered to provide another generation of breakthroughs in power and material sciences. But what catapulted our technology 500 years forward was the analysis of a module attached to the power plant. This device was nothing less than a solid state hyperspace induction module. In a decade of analysis, we were ready to take our first steps into the galaxy, but it was not until 1135 that it was revealed just how far we had to go.

The discovery of the power plant and hyperspace module was considered the gem of ancient Khar-Toba, and with them safely in research labs in the temperate poles, the old city was left in the hands of a few dedicated archaeologists. They struggled to do their work under some of the harshest conditions on Kharak. Led by a young woman named Mevath Sagald, they gave our entire civilization an answer and a goal as she pieced together the location of the mythical Observatory Temple of Khar-Toba. Accidents left her to excavate the site nearly single-handedly, but when she opened the inner chamber she recognized immediately the full import of what she found etched on a single piece of black stone.

KHAR-TOBA ANALYSIS

A5

KHAR-TOBA APPEARS TO BE THE FIRST CITY BUILT BY OUR ANCESTORS AFTER SURVIVING PLANETFALL ON KHARAK. ANALYSIS OF THE ANCIENT INFRASTRUCTURE SEEMS TO INDICATE THIS ANCIENT VESSEL SUFFERED IRREPARABLE DAMAGE AND WAS UNABLE TO MOVE ITS CREW TO A MORE TEMPERATE POLAR CLIMATE. THUS THE CITY SPREADS RADIALLY AROUND THE WRECK AND MUCH OF IT IS UNDERGROUND WHERE WE BELIEVE OUR ANCESTORS WENT SEEKING RELIEF FROM THE HIGH DESERT TEMPERATURES AND REGULAR SANDSTORMS. MANY OF THE STRUCTURES CLOSEST TO THE HULL ARE MADE UP OF PATCHED SECTIONS OF HULL PLATE. AS THE CITY GREW OUTWARD, MORE RUDIMENTARY STRUCTURES WERE CARVED FROM THE LOCAL SANDSTONE BY HAND. THE MASSIVE FUSION CORE HAD BEEN MOVED FROM THE SHIP TO THE UNDERGROUND CHAMBER WHERE IT WAS FOUND IN ORDER TO FEED POWER TO THE ORIGINAL CITY, WHICH PROBABLY FELL SOON AFTER THE SHIP'S PLANT FAILED FOR THE LAST TIME.

THE GUIDESTONE

Archaeologist Sagald had found something that was as unremarkable to the casual eye as it was monumental to the future of our people. When she studied this stone further, she discovered it once had been an ornately carved artifact that was nearly destroyed by intense heat. Whatever message it originally was intended to convey had long since been erased. Some distant ancestor had cast it through time as a message for generations to come. Etched into the upper surface is a simple diagram of our galaxy, and a single gouged line leading from a point on the rim to one deep in the galactic center. Adjacent to a spot easily identifiable with Kharak's actual position is a single string of numbers that give a three-dimensional vector. And at the other end of the line is a single word; ancient but common to all clan dialects:

Hiigara . . . Home.

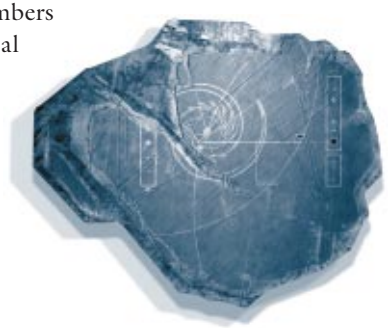


FIG 1.3:

The Guidestone.

Found in the ruins of Khar-Toba, it has been dated at more than 3,000 years old. Precise galactic features and the indisputable coordinates of Kharak were etched into its dark surface. In a small area near the region representing the galactic core, a single ancient word is clearly visible: "Home".

The effect this simple artifact, now known as the Guidestone, had on our culture was unprecedented. Our materials scientists confirmed the age of the artifact at approximately 3,000 years and are confident they can match the Guidestone to its system of origin should we come across it. After a long history of struggle, strife and inter-clan warfare, the confirmation that Kharak was never our true home has inspired an era of co-operation like none ever known. [A6]

For the past 250 years there have been no significant conflicts or bloodshed. We have dedicated our entire industrial and scientific resources toward a single, common goal:

Returning to Hiigara, our Homeworld.

THE MOTHERSHIP

In the first triad of 1159, a final plan was accepted for the vessel that would follow the path indicated by the Guidestone. What had delayed the project for so long was simply that no one, neither astronomers nor religious leaders, could say for certain what had brought us to Kharak, and so none could say what an expedition would encounter. It was finally decided to build a vessel capable of doing everything, including establishing a new colony deep coreward. Known simply as the Mothership, this vessel would be part carrier, part survey ship, part factory complex and, most importantly, the temporary home for millions of our people frozen in cryogenic sleep. It would have to be able to deal with the great unknown reaches of the galaxy, and whatever discoveries or threats they might contain. It would be the greatest construction project in our history. Ministers from every clan abandoned their cloistered, competitive policies and pooled every resource to develop stratagems and designs, and then allocated them to the various industrial hubs throughout the polar zones.

GLOBAL PLEBISCITE of 1155

A6

HAD ARCHAEOLOGIST SAGALD BROUGHT THE GUIDESTONE BACK TO HER OWN CLAN STRONGHOLD, KHARAK MIGHT HAVE ONCE AGAIN DESCENDED INTO PARTISAN STRUGGLES OVER POSSESSION OF THE ARTIFACT AND WHO WOULD BE THE FIRST TO EXPLOIT ITS SECRETS. INSTEAD, SHE REALIZED WHAT SHE HAD FOUND WAS FAR MORE IMPORTANT THAN LOYALTIES TO FAMILY OR CLAN. IT WAS A STARTLED GATHERING OF HIGH MINISTERS THAT FOUND THEIR DEBATE DISRUPTED BY A SAND-COVERED YOUNG WOMAN CARRYING AN ANCIENT STONE. BY NIGHTFALL OF THE FOLLOWING DAY, SOME OF THE GREATEST MINDS IN THE DAIAMID HAD EXAMINED THE GUIDESTONE AND CONFIRMED NOT ONLY ITS VALIDITY BUT ALSO ITS IMPLICATIONS. WITH THIS KNOWLEDGE IN HAND, THE HIGH MINISTERS RETURNED TO THEIR CLANS TO BRING THE WORD THAT WE WERE NOT INDIGENOUS TO THIS PLANET. FROM THE MOST POWERFUL CROSS-TERRITORIAL AND INDUSTRIAL CLANS TO THE SMALLEST AGRICULTURAL VILLAGES, THE DECISION WAS UNANIMOUS: THE ENTIRE INDUSTRIAL AND SCIENTIFIC MIGHT OF ALL KHARAK WOULD BE PUT TO THE TASK OF FOLLOWING THE PATH LAID BY THE GUIDESTONE. FOR THE FIRST TIME SINCE WE CAME TO THIS WORLD, WE WERE ONE CLAN.

In the meantime, clans that had been trailing the cutting edge in technology and production turned all their efforts toward agricultural work, feeding those who were occupied by the construction effort.

CONSTRUCTION CHALLENGES

The planned Mothership was so massive it took 20 years simply to build up the infrastructure required for the construction project. Asteroids from the debris belt were pulled into a parking orbit around Kharak. There, manned cutter ships used high-energy lasers to break the planetoids into manageable sections that could be towed into the great maw of the Phased Disassembler Array. The PDA used a series of fusion torches to reduce the planetoid chunks into their component elements. Robotic Materials plants then combined those elements into whatever alloys and composites were required for the grand task at hand. Many of the lessons learned there were refined and implemented into the next generation of resource-gathering ships that would serve the Mothership herself.

The next step was to construct the orbiting Scaffold where the Mothership would be built. This framework took 10 years to complete, and is the single largest structure ever built. New disciplines in macro-engineering had to be created and put into practice just to complete this construction yard. The Scaffold measures 25.6 kilometers long and is stationed in middle orbit around our world. Easily visible from the planet's surface, it is the only moon Kharak has ever known and has been a natural fixture in the night sky for almost four generations. Only the eldest of our people can remember a time when the skies were dark and there was no glittering lattice work to remind our people of their destiny.

During the next 25 years, the Mothership slowly took form inside the Scaffold, building up in layers from the center sections outward, until the final layer of ceramic armor was laid just last year. For the last eight decades, more than 10,000 technicians along with another 25,000 robots have worked on this ship

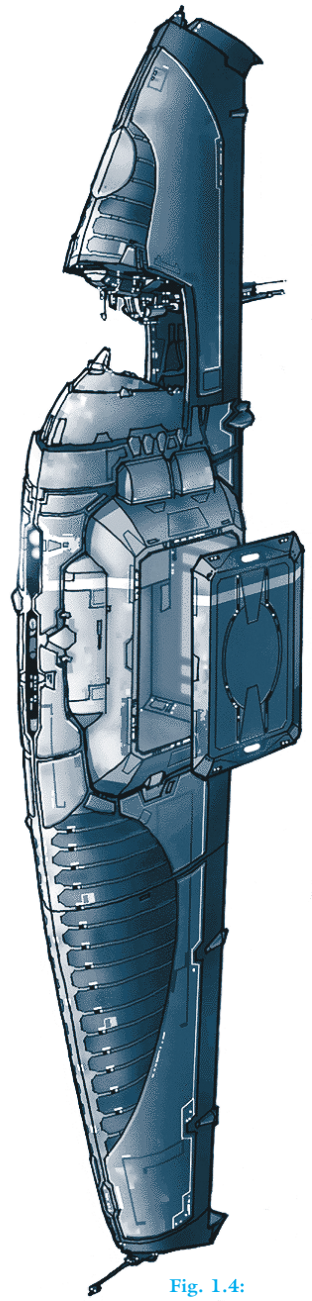


Fig. 1.4:
An early Mothership design. The Mothership will serve as the base of all operations for the trans-galactic voyage.

continuously. Many of the fusion torches and materials plants that broke down and processed the planetoids early in the construction program were cannibalized and incorporated into the Mothership itself. During the course of this massive project, 2,357 personnel gave their lives for the future of our people, and their names are engraved on the central hyper drive core of the Mothership. They

Fig. 1.5:

Four generations have witnessed the Scaffold silently orbit the moonless Kharak. In this view, supply and service vehicles can be seen adjacent to the main assembly.

will never be forgotten, and their brave spirits will precede this vessel into the gulf of hyperspace.

MOTHERSHIP
SECTIONS AND SYSTEMS

In such a huge vessel dedicated to so many tasks, it is necessary to devote entire areas towards fulfilling each part of the ship's mandate.

Fleet Foundry:
The Mothership is designed to be a mobile construction yard on par with the original orbital facilities which created the mega-vessel. The automated manufacturing bay is capable of high-speed production of vessels from tiny Scouts to larger ships that are yet to be designed. Various parallel production bays allow for dozens of larger components to be cast and assembled at the same time, thus radically reducing the time needed to build larger vessels. Ship components are based on many of the modular technologies being used across various hull designs, which saves time and allows for faster simultaneous construction. The foundry floor is capable of using multiple construction tracks to simultaneously build a fleet of Scouts, assemble a squadron of Corvettes, and create enough ordinance for both sets of new ships. A large hanger provides docking sleeves for a huge array of vessels to be serviced and the same sleeves can be used as berths should the Mothership need to enter hyperspace with a large fleet of auxiliary ships.

None of this would be possible without the immense quantity of raw materials brought in by the Resource Collector vessels. Built around the model of the original cutting ships, which were used to break down raw materials for the initial construction of the Scaffold and the Mothership, the Resource Collectors are designed to reduce and acquire a variety of space material, ranging from solid planetoids to gas nebulae. The Collectors then return to the Mothership and transfer the contents of their holds for processing through a Phased Disassembler Array. While this PDA is smaller and quite a bit more efficient than the orbital array used to supply the Scaffold, it works on the identical principal of arrayed fusion torches. It will reduce any material to its componential elements, allowing a Magneto-Hydrodynamic Shunt Field to sort the vaporized elements according to atomic weight and carry them to the storage shells. The massive honeycomb of storage shells, (almost three cubic kilometers of storage space) lies just under the surface of 65 percent of the Mothership's hull. This allows for quick access and venting in the event of a jam or storage cell rupture and provides a final layer of armor.

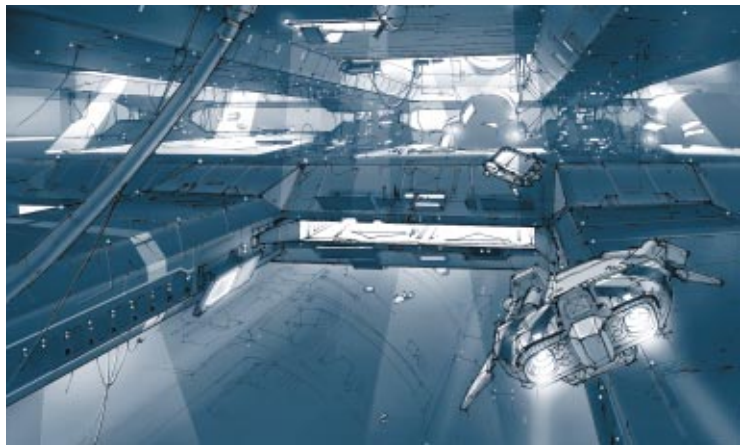


Fig. 1.6:

Inside the Mothership's main Construction Hangar. It is the single largest enclosed volume ever built and will support shipbuilding on every scale possible. In this view, the vast Main Hangar is visible looming beneath a factory slab in the assembly area. Strike Craft docking sleeves are housed within these huge sub-decks. Service vehicles populate all sections of the Hangar in great numbers. Highly versatile, they perform countless vital operations from simple maintenance tasks to complex assembly.

Navigation:
The Mothership has two modes of travel. The first is based on conventional fusion drive technology and consists of a series of large fusion reactors designed to vent high-energy plasma through an opening in a shaped magnetic bottle. Maneuvering jets are fed plasma from the main exhaust through a series of conduits, and this allows a portion of the main thrust to be diverted to maneuvering.

The Mothership's secondary drive is less understood, but it is the system that makes this voyage possible. Toward the lower aft portion of the ship lies the large shielded area containing the Hyperspace Module [A7]. This is a direct copy of the one found under the sands of Khar-Toba, but expanded twelve-fold to accommodate a vessel of the Mothership's mass. Even though the effect has been tested extensively through ships fitted with test modules of various sizes, our control and understanding of the effect is somewhat limited. This has resulted in a need for massive energy to induce the wavefront, prohibiting its use on any vessel too small to carry at least three industrial fusion plants.

There is another drawback to our limited understanding of hyperspace. We can only induce a linear tunnel effect of massive proportions, with relatively crude control of distance. The module is projected to have a range of 2,500 light years for a single waveform event, and in order to trigger the drive we must charge the module with all the energy required for such a stunning distance. Should we wish to travel a more appropriate and cautious distance, we must crudely halt the wave effect by discharging the module's energy and dropping back into normal space-time [A8].

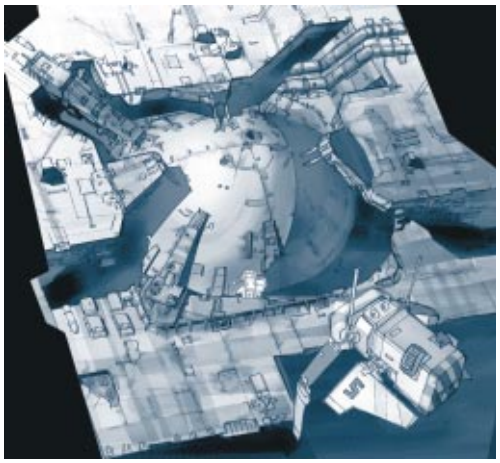


Fig. 1.8:
The Hyperspace Module under construction in orbit. Although the core of the device is entirely solid state, the power and control systems embedded within it are the most complex devices ever built. Only the upper part of a hemisphere can still be seen bulging above the surrounding construction.

HYPERSPACE PHYSICS A7

THE SOLID-STATE HYPERSPACE MODULE IS A QUANTUM OSCILLATION DEVICE CAPABLE OF GENERATING A WAVEFORM THROUGHOUT ANY SURROUNDING STRUCTURE. IT DOES THIS IN ORDER TO INDUCE AN EFFECT KNOWN AS QUANTUM TUNNELING. BECAUSE THE DEVICE WAS REVERSE ENGINEERED, THE EXACT WORKINGS OF THE MODULE ARE STILL VERY UNCERTAIN. ALL OUR SCIENTISTS KNOW ABOUT THE EFFECTS OF HYPERSPACE TRANSPORT HAS BEEN DERIVED FROM LIMITED EMPIRICAL DATA - THEORETICAL DATA IS ALMOST TOTALLY NONEXISTENT.

THE RISKS INVOLVED IN EMPLOYING A TECHNOLOGY WE KNOW SO LITTLE ABOUT ON SUCH A VITAL MISSION COULD NOT BE AVOIDED. THE RAW MATERIALS NEEDED TO BUILD THE HYPERSPACE MODULE ARE EXTREMELY RARE ON KHARAK; ONLY A FEW PROTOTYPE DRIVES WERE BUILT PRIOR TO THE MOTHERSHIP MODULE BECAUSE OF THIS MATERIAL SHORTAGE.

FURTHER HYPERDRIVE LIMITATIONS A8

ANOTHER PROBLEM WITH OUR CURRENT UNDERSTANDING OF HYPERSPACE IS THAT WE CAN ONLY TAKE LIMITED GRAVIMETRIC READINGS OF THE NORMAL SPACE THROUGH WHICH WE ARE TUNNELING. THIS MEANS WE CAN DETECT A MASS THAT DISAGREES WITH OUR NAVIGATIONAL DATA, BUT SHOULD WE WISH TO KNOW ANYTHING ABOUT THE ANOMALY WE MUST INTERRUPT THE HYPERSPACE MODULE. GRAVITY WELLS ALSO HAVE A DESTABILIZING EFFECT ON HYPERSPACE TRAVEL. TEST SHIP LOSSES HAVE TAUGHT US THAT A HYPER DRIVE MUST BE SHUT DOWN FAR OUTSIDE ANY STAR SYSTEM'S GRAVITATIONAL CURVE.

The Hyperdrive Module is programmed for three priority interrupts. The Achieved Target interrupt is based on our own astronavigation technology, which takes a "sighting" in normal space and discharges the module once the time vs. distance hyperspace algorithms state we are roughly near our programmed coordinates. The Anomaly Interrupt occurs when a gravimetric anomaly is detected by ship's sensors and the vessel is automatically returned to normal space to either gather resources or, in the case the disturbance is actually another vessel, investigate further. Finally, the Safety Interrupt occurs when ship's control computers sense any irregularities in either the waveform effect or the Mothership's hull integrity. All three interrupts empower the navigation computer to automatically drop the ship into normal space.

Fleet Command:
As the project neared completion and the full size and complexity of the Mothership became clear, System Coherency specialists encountered a problem that seemed to defy solution. In even the most basic function simulations, there was so much data to be analyzed and so many responses per second required, the projected bridge crew grew into the hundreds. As new command staff were added to the simulation, the hierarchy became completely unmanageable. It became apparent that in any sort of crisis, the Mothership would quickly suffer from communications paralysis.

Computational experts tried, but no simulated intellect system they devised could be trusted completely, and the whole project was at the verge of collapse when a young neuronics expert stepped forward with a desperate plan. At the time, Karan Sjet was working on

experimental biological circuits that would mimic brain functions. When she heard that an information bottleneck was facing the systems of the Mothership, she realized her research could be put to another purpose.

Neuroscientist Sjet suggested using an existing brain -- her own -- to bridge the gap between living nerve branches and the Mothership's data shunt [A9].

As Fleet Command, she is capable of handling hundreds of alerts and updates per second, while analyzing what tasks can be handled automatically and which situations need to be brought to the attention of the crew. Should the ship come under fire, she will instantly analyze systems across the entire length of the ship and monitor all response activities. Fleet Command observes the status of all vessels and updates their positions. Research reports are also processed through her central core, along with information on construction projects.

Fleet Intelligence:
It is the job of Fleet Intelligence to analyze incoming data from probes, observation equipment and sensors. Centered just below the main bridge is a large spherical chamber containing work/com stations, with data shunts centered around a full holographic projection pit. When the Mothership is under way, this pit will be manned permanently by shift teams composed of the best scientists, diplomats, linguists and tactical officers, all specially selected for their knowledge and adaptability. Fleet Intelligence has access to not only the Mothership's sensor arrays, but to the Fleet Archives as well. Whatever the Mothership should encounter in deep space, Fleet Intelligence will interpret the data and give as accurate an analysis as the situation permits, offering tentative conclusions and tactical recommendations.

KARAN SJET SOLUTION

A9

THE DRAWBACK WAS THAT HER RESEARCH WAS STILL DECADES AWAY FROM EVEN A BASIC NEURONIC INTERFACE, AND THE ONLY WAY TO PATCH SOMEONE INTO THE DATA SYSTEM OF THE MOTHERSHIP WAS TO LAY A NERVE TRUNK OPEN AND ATTACH THE SHUNT DIRECTLY WITH A BIO-CIRCUIT INTERFACE. IN ORDER TO SERVE AS A LIVING COMMAND CORE TO THE MOTHERSHIP, ONE OF OUR PEOPLE WOULD HAVE TO VOLUNTEER TO BE SURGICALLY ALTERED SO THAT MOST OF THE NERVE TRUNKS SERVING LIMBS AND SENSES WOULD BE PATCHED INTO SHIP SYSTEMS INSTEAD. THE SUBJECT WOULD THEN HAVE TO BE EMBEDDED PERMANENTLY IN THE BRIDGE OF THE SHIP. KARAN SJET REFUSED TO ALLOW HER TECHNOLOGY TO BE USED ON ANYONE ELSE. SHE IS NOW THE MIND OF THE MOTHERSHIP AND THE VOICE OF FLEET COMMAND.

Cryogenics:
The major stumbling block for the plans to start a new colony was life support. The resources needed to keep 600,000 people alive for years in deep space are simply impossible to store and transport; the Mothership would have to be so huge no number of fusion plants could move it. To solve the problems of a long spaceflight, our life-scientists turned to cryogenic suspension [A10]. With the technology tested and perfected, engineers began filling the cryonic hold with the 600,000 Cryonic Pods that would be required for the voyage.

Volunteers have chosen to surrender as much as 12 years of their lives before the voyage even starts in order to be processed for cold sleep. First, they are prepared and placed in their Cryonic Pods, where they are slow frozen over a period of two weeks. The pods are then stored in holding areas deep under the surface of Kharak until 100 are ready to be placed on a Rack Module and boosted into space together aboard the Heavy Lifter Units. These Rack Modules are then loaded into large Cryo-Trays. A single tray provides power and stable containment for a thousand Rack Modules-- 100,000 individuals in all.

Fig. 1.7:
Inside the cryogenics hold. The pods are widely spaced apart in the buffer solution. Due to the narrow temperature tolerances of the cryo-pod systems, a large bath of buffer fluid is necessary to maintain even temperature in the hold. In the event of a total power failure in the hold and spontaneous malfunction of all auxiliary fusion pylons, this system will still support its frozen occupants for six months if the insulated walls of the hold are not breached.

CRYONIC STUDIES

A10

BIOTECHS STUDIED NUMEROUS DESERT-DWELLING ANIMALS THAT GO INTO A FORM OF SUSPENDED ANIMATION DEEP UNDER THE SANDS DURING THE HOTTEST TIMES OF HIGH SUMMER. THE BIOLOGICAL MECHANISM THAT KHARAKID LIFEFORMS USE TO DEPLETE THEIR CELLS OF WATER, TO AVOID VAPORIZATION EXPANSION DURING THE HIGH TEMPERATURE EXPOSURE, WAS RECREATED ARTIFICIALLY IN ORDER TO SOLVE A SIMILAR BUT OPPOSITE PROBLEM: THE DESTRUCTION OF CELLS DUE TO ICE EXPANSION DURING CRYOGENIC FREEZE. EARLY EXPERIMENTS WITH ADAPTIVE CRYOGENIC TECHNOLOGY WERE SUCCESSFUL, AND IN 1185, REI MAGANN WAS PLACED INTO A CRYOGENIC POD AND PLACED ABOARD A SMALL PROBE VESSEL SET TO CIRCUMNAVIGATE THE KHARAK SYSTEM IN A CROSS ELLIPTIC PATH. THIS JOURNEY TOOK SIX MONTHS TO COMPLETE, AND IT WAS PLANNED THAT PILOT MAGANN WOULD NOT AWAKEN NOR CONSUME LIFE-SUPPORT ELEMENTS DURING THE ENTIRE VOYAGE. THE TEST WAS SUCCESSFUL, AND THE ONLY SIDE EFFECT WAS A BOOK OF POETRY PILOT MAGANN WROTE AFTERWARD TO DESCRIBE THE LONG VIVID DREAM THAT HE EXPERIENCED WHILE IN CRYOGENIC FUGUE.

The six cargo trays will be loaded into the Mothership once the hyperspace drives have been successfully tested. Until then, they will wait in a stable orbit near the Scaffold.

The vast hall aboard the Mothership containing our people is in the most protected and armored area of the vessel. The cryonic vault stretches for three kilometers and is nearly one kilometer in length. All that is required for life support is a constant supply of power to the freezing units. A deviation of even a single degree can be fatal to the occupants if it occurs outside the intricate revivification procedure. In light of this, even though the 600,000 pods draw their power from the main reactor core, some auxiliary fusion pylons are set into the vault walls, each one capable of handling the power demands of the vault by itself. Boarding and cryogenic placement have occurred on schedule for the past decade.

AUXILIARY VESSEL TECHNOLOGIES

Due to the unprecedented concentration of research and development required for the construction of the Mothership, our strike craft technologies and capabilities are in relative infancy. Compensation for this shortcoming will be made at every opportunity, with more volatile experiments taking place aboard auxiliary Research Ships which will be constructed during the course of the voyage. Our present capabilities in auxiliary ship systems are detailed here, as well as some projected systems on which our scientists are nearing breakthrough as the Mothership prepares for launch. Presently, the largest auxiliary vessel we are capable of constructing is the Resource Collector, with combat vessels restricted to the single seat Scout.

Maneuvering:
All small vessels are based on the same ducted fusion torch drive that moves the Mothership through normal space, but on a much smaller scale. Fighter and Corvette drives are so small they must carry onboard reactive mass to be passed through the fusion torch and ejected as relativistic plasma. This limits their range greatly. Larger, self-sustaining power plants will enable the construction of a new Capital Ship class, provided the necessary chassis and drive research is successfully completed.

Fig. 1.9:
An early Scout prototype during trials over the desert proving grounds.

Vector-altering maneuvers are achieved by ducting small amounts of the main drive plasma through various ports scattered across the hull of smaller ships. Since the mass directly affects the inertia of ships in space, small fighters are capable of extreme maneuvers from the ducting of small amounts of plasma. These craft are capable of intricate attack and defense maneuvers. It is likely that with increases in ship size agility will drop considerably and the proposed Capital Ship class will probably be restricted to slower movement.

Weaponry:
We have no idea if there are any military dangers lurking between us and the Galactic Core, but the Mothership is carrying our most advanced weapons technology to cope with any possible threats. Our space weapons technology is based on two principles of directing catastrophic levels of energy at a target. The first and best-known is the kinetic weapon. Projectile guns have been an art in and of themselves for nearly a thousand years now.

In space, the principles remain the same but the implications are far deadlier. The lack of atmospheric friction allows for high speed projectiles to be fired by magnetic acceleration. Space-based cannons use cylinders of heavy elements covered in a superconductive shell and fired from a fairly simple magnetic accelerator known as a mass driver. Speeds of almost 10,000 meters per second are possible, and there are plans for larger ship's guns that could fire much larger projectiles. Currently, fighters carry small rapid-fire mass drivers in a multiple rotating barrel configuration.

Another weapon discipline, born in our exploration of space, is based on the focused direction of high-energy particles. Ion Beam weapons, as they have come to be known, are based on the principle of firing streams of positive ions from a particle accelerator. These weapons are capable of delivering incredible levels of energy to a small area. Unfortunately, the prohibitive energy cost of creating large beams at long range means that our available power plant technologies are inadequate for fielding these systems. In fact, beam weapons may be so massive that entire ships have to be built around them.

The ranges and velocities of space combat have made missile technology completely inadequate for the task of delivering explosive

payloads. While there are no foreseeable plans for missile-based weaponry, a recent projection analysis has revealed the possibility of a quantum leap in missile speed and intelligence, which would make them viable weapons again.

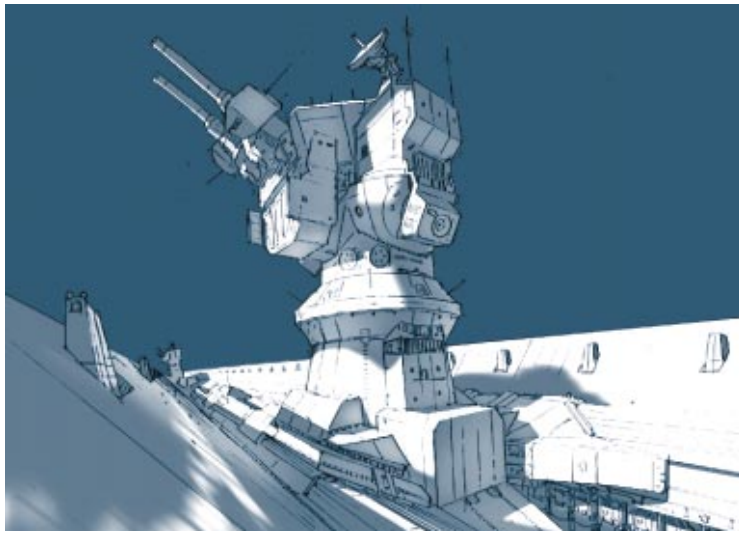


Fig 1.11:
Early mass-drives were cumbersome, inefficient and unreliable. Designers continued to refine super-ballistics until compact and powerful weapons were available for the Mothership and its accompanying vessels.

Armor and Defensive systems:
Survival in space through the preservation of pressurized crew areas is the highest priority of ship designers. Whether considering theoretical enemy action or disastrous encounters with natural phenomena, ship hulls are designed to survive, with multiple layers of redundancy to compensate for a variety of effects. Presently, combat vessels are equipped with an initial ablative layer designed to vaporize instantly at the point of contact with either kinetic or beam weapons. The high-speed cloud of vapor serves to either deflect the rest of an armor piercing round or cause interference with a particle beam and dissipate its power. Beneath this ablative layer is a thin, power absorbing layer. Finally, the last layer protecting a ship is a thick crystal polymer composite, interwoven with advanced ceramics. This armor is the strongest material we have yet developed, but it is capable of flexing under extreme impacts. Cockpits are double layered with this kinetic armor.

Fig. 1.10:
Frigate Class ships will be heavily armored. The darker composite sub-skin can be seen beneath the ceramic surface armor.

Short of the fantasy of an all-powerful energy shield, this combined kinetic/beam defense gives our ships the greatest chance of surviving damage while maintaining a manageable mass-to-thrust ratio.

MISSION PRIORITIES

The mission facing the crew of the Mothership is profound. It is nothing less than the quest for the origins of an entire people. Our mission is now irrevocable. It has become clear during the past 120 years of driven industrial and technological expansion that Kharak can no longer sustain us. While always harsh and unforgiving, our technological development has stripped the planet of what few vital resources it contained, and the narrow bands of temperate climate at the poles are slowly shrinking. In order to survive as a people, we must leave Kharak.

THE GUIDESTONE IN RELATION TO GALACTIC STRUCTURES

While the Guidestone map is crude, it does allow us to make certain assumptions and correlate them with our knowledge of galactic cartography.

Galactic Co-ordinates:
Kharak is situated on the outer edge of our Spiral galaxy along a secondary arm populated mainly by stars in the early to middle stages of the main sequence. While our galaxy's core is obscured by dark interstellar dust clouds, our position allows for clear study of neighboring galaxies. From these studies we can infer the structure of our own. From what we can observe, our galaxy is a standard spiral type A, with a pair of stellar arms radiating out in a curved fashion from a central hub. This galactic core is the home to an ultra-massive black hole.

The Guidestone map seems to indicate that the Homeworld lies in the resource-rich inner galactic sphere, where the star systems are older and closer together. If there are other species of sentient star-faring life out in the greater galactic neighborhood, our odds of encountering them will climb as we approach the central hub. This should be taken into strategic account.

Guidestone Origins:
The map gives a crude indication that we seek a star system on the edge of the galactic hub, but the inner sphere is so massive and dense that we must look to the makeup of the stone itself for clues now to narrow our search to realistic proportions.

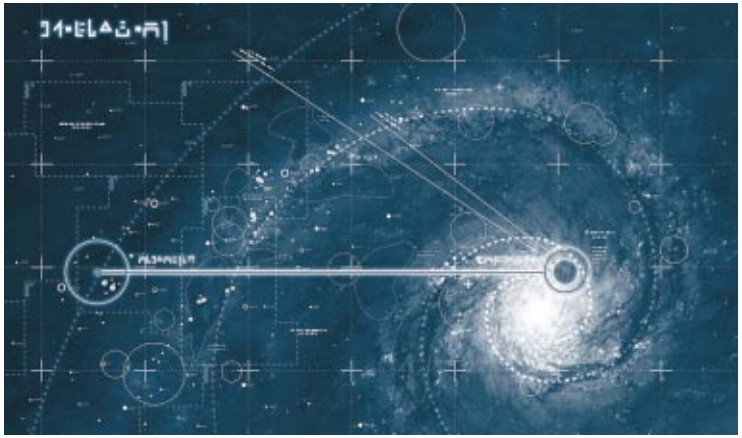


Fig. 1.12:
Kharak's position in the outer spiral arm of the galaxy can be seen encircled at left in this celestial navigation chart.

The horizontal line indicates the projected heading of the Mothership as it moves towards the galactic core.

The black stone bears the unmistakable characteristics of vacuum formation. Most theorists think this indicates it may be an artifact of a moon instead of a planet. Analysis of its atomic structure suggests it is a rock formed by slow accumulation of layers. Some of these layers are composed of high-energy isotopes, which could only have been created by the bombardment of extremely high-energy photons. These are produced only in the most violent of galactic phenomena. In observing other galaxies, we have noted periodic flarings of high-energy particles generated when the central galactic black hole swallows a particularly massive star. If we apply this knowledge to our own galaxy, we can calculate the rough distance of the Homeworld system from the galactic core based on isotope density per layer in the Guidestone. This calculation, combined with the map itself and the vector provided, should narrow the search to less than 350 star systems once we arrive in the general area indicated.

COMMAND PRIORITIES

The Command staff will be responsible for the priority functions of the Mothership and her auxiliaries. Local commanders will handle the execution of said orders and Command will assign formation, destination and targeting priority to a squadron. Individual pilots will determine attack and evasion maneuvers independently. Strike Craft will notify Command of fuel-critical situations but will not refuel at their own discretion unless ordered.

Given the possibility of encountering space-faring races, the Mothership will carry a diplomatic cadre prepared to deploy automatically in any peaceful first-contact situation. They will report their findings and opinions to Fleet Intelligence, who will in turn make their recommendation. Command staff may have to make the choice between war and peace.

Command also will be required to order the construction of new auxiliary vessels and monitor resource levels aboard the Mothership, assigning resource collectors to priority targets if necessary. The automated systems in the Fleet Foundry will attempt to devote equal amounts of resources to whatever production assignments are queued up but will halt construction across the board should resources be depleted. Command may cancel projects in order to concentrate resources or wait for re-supply since the Foundry automatically restarts when raw materials are made available.

Although scientists will be in control of their own departments and research vessels, it is Command that will designate overall research goals for each team as well as an overall research strategy. Command will also be able to link multiple research teams together in order to concentrate resources on a single goal, theoretically reducing the time required to make a breakthrough and integrate the technology into our infrastructure.

Decades of effort and the entire economic and industrial output of our planet have been dedicated to this mission. Mounting this fleet has stripped our planet of essential materials and drained our energy reserves. Those of us who remain behind will suffer many hardships, but as long as our people have a fighting chance of returning home, our sacrifices will not have been in vain.

Good luck.

CLAN HISTORIES

THE KHARAKID SOCIAL SYSTEM

Society on Kharak is organized along loose family associations, many of which now include hundreds of thousands of members. An extended family grouping is called a kiith (plural: kiithid), and most archaeologists agree it is a social artifact that dates back before our arrival on Kharak itself. Interpretation of ancient legends and translations of texts found in the ruins of Khar-Toba suggest that our ancestors' journey to this world was arduous enough to break down all social structures except the most basic family bonds. When the power plant at Khar-Toba failed, refugees in all probability fled in small groups of friends and relatives. Harsh conditions and the passage of hundreds of years hardened what was originally a practical system, taking care of your own loved ones first, into a ritualized system of alliances and loyalties we have come to know as the kiith system.

A kiith has a loose hierarchy based on one's social position within the family. Originally this was based primarily on seniority, but as technology has changed the face of life on Kharak, the kiithid too have changed, and now family ranking is based more on wealth or personal influence than age. Organization within the kiith is recursive in nature and models that of a core family unit. Where a single family has a primary leader, a secondary and then a group of dependents, the next level of kiith organization is based on the same system -- there is a primary family who makes policy decisions, a secondary family which hears disputes and makes recommendations, and a number of families of lesser power that have sworn allegiance to the primary. The primary family within a kiith is called the kiith-sa.

This structure is not static by any means and, while it is not a trivial matter, families are free to change their primary allegiances as they see fit. A family's position within the kiith rises and falls with how many swear allegiance to them. Although it is much rarer, from time to time a family will move from one kiith to another or even feel the need to become their own full kiith.

In ancient times, a kiith-sa could direct all within the kiith to war, demand families dedicate time and finances to special projects, or even move the Kiith to another region. In modern times, the kiith-sa is a political and financial leader only in that it acts on the wishes of the entire kiith as established by referendums. The kiith-sa from all over Kharak meet in the Great Daiamid located in the capital of Tiir, to debate global policy and resolve legal conflicts between kiiths.

Traditionally, kiithid concentrate their power in one or two disciplines and gather families under their banner by being the best place to find advancement in a particular field. For example, Kiith Sjet has been associated with the sciences on Kharak for over a thousand years and is known to have the most advanced computer labs in the world. Bonded couples interested in the field often apply to a Sjet family associated with such labs. Alliances between kiith are also based on mutual interests, and they often lead to closer ties or complete reorganizations. During the last century, when the manufacturing families of Kiith Hraal realized that the future was in orbital systems, they first tried to influence Sa Hraal to begin investing in aerospace technologies. When this gambit failed, the entire manufacturing branch of Kiith Hraal broke away and joined with a relatively small kiith that specialized in space technologies. The new kiith, LiirHra, has gone on to take the lead in the design and construction of the Mothership.

In the modern era, the kiithid have slowly transferred their power to the individual, but it should be noted that it is still a powerful means of social identity. Kharakid society pursues a single goal today, and our new sense of racial destiny has reminded us that we are all families of one grand kiith. Unfortunately for the unity of our people, tradition dies hard, and it takes little stress for any Kharaki to think of family first and Kharak second.

KIITH GAALSIEN

Of all the kiithid, none has lost more throughout the centuries than Kiith Gaalsien. The Gaalsien line is ancient and some of the oldest documents on Kharad bear their sigil. While there is some debate about their specific origin in the collapse of Khar-Toba, it is clear that by the time civilization once again rose on Kharak, the Gaalsieni were already a spiritual and political force to be reckoned with.

Historically, while minor cults have come and gone, the majority of Kharaki have always believed in the Great Maker Sajuuk, whose Hand Shapes What Is. The majority of religious sects differ not over whether Sajuuk exists, but in what His nature may be, and His reasons for bringing us to Kharak. The majority view until the Time of Reason was some variation on the theme of punishment; the logic being that no just God would leave His people on such an inhospitable world if they had not done something to earn this fate. Many vital survival tactics,

such as conservation of resources and not risking the future of the kiith on untried methods, were reinforced by dogma in ancient Kharak - undesirable acts were always described in terms of punishable arrogance. These beliefs helped keep our people alive during the great trek from the central deserts, but once in the temperature polar regions, the same beliefs held back useful innovations that the more hospitable environment made possible. Generally, how wrathful one believed Sajuuk to be tended to dictate how wary one was of cultural and technological advances.

Of the three major religious kiithid, Gaalsien, Ferriil, and Somtaaw, it was Gaalsien that preached the strongest message of punishment. The dogma of righteous suffering and humility held that Sajuuk had cast our people down to Kharak from some celestial paradise to pay for our arrogance. Gaalsien theologians preached that to deviate from the most accepted and ritualized survival methods was to actually extend the period of time before our people would be lifted back up to heaven. In the early days, this strict dogma paid off and allowed Kiith Gaalsien to survive and prosper during various ecological disasters during the period between 75-250. Once this turbulent time passed and people penetrated further into the temperate polar region, more innovative kiithid regained their power and Gaalsien power began to fade somewhat. Many archaeologists believe that Kiith Gaalsien deliberately started the Heresy Wars as an attempt to bring all the lesser kiithid back under its power during the resulting chaos.

Fortunately for the technically inclined among us, it was Kiith Naabal which emerged victorious from the Heresy Wars, and the dogma of penance and repression begin to fade from the hearts and minds of Kharaki. Despite this, the Gaalsien, power shattered forever after nearly 300 years of war, became even more extreme in their religious beliefs -- as if to compensate for the rest of the sinful planet. By the time the Time of Reason was at its height in 710, the Gaalsien were down to less than 30 vassal families, and only the great desert temple city of Saju-ka remained under its power. Perhaps it was the sense that history had passed them by, or simply a desire to commit an act of sacrifice strong enough to regain the favor of Sajuuk Himself, but in the year 717, the kiith-sa of the Gaalsien performed an act that has lived in infamy ever since.

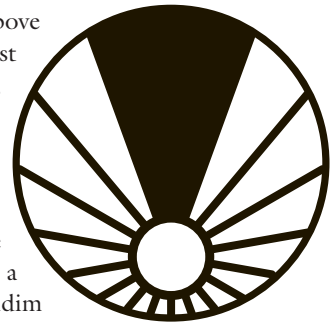
At the time, Saju-ka was the artistic gem of Kharak. In its great temples and halls were most of the great works commissioned in the name of the God Sajuuk, and in its libraries were the collected works of our people, gathered before His eyes so that He could see them and judge us worthy. Though Saju-ka had been built in the first hospitable valley found in the north, time had allowed the deserts to crawl ever northward themselves, and by the 700s, sand would have completely swallowed Saju-ka if not for the complex series of wind baffles, dikes and sand paths designed by the great Engineer Gar Naabal. One night, during the height of the spring winds, Saju-ka was lost to our people. In a single act of divine madness, Miirpat Gaalsien-Sa ordered his people to blow up the entire system that held back the sand. The light from the hundreds of explosions was still visible when the hungry sands began pouring down the streets of Saju-ka. Within two days the city was completely buried, and thousands died in the mass evacuation.

The whole of Kiith Gaalsien was convicted in absentia by the Daiamid in Tiir and deemed an outlaw kiith, but this punishment had very little effect on the Gaalsien, as they slipped away into the wastes during that terrible night, abandoning the progress they saw as a decadence that would eventually bring down the wrath of God.

Since then, Kiith Gaalsien has wandered the great central deserts, surviving by the skills and rituals they held so dear. Occasionally they will make themselves known by raiding scientific communities or stations in the wastes and leaving massive theological documents proclaiming how close we are to the end. Military expeditions to track them down once and for all have always failed, and a certain mythology has grown up around them -- as if there is a nagging suspicion in the minds of modern Khiraki that the only way Kiith Gaalsien could have survived is if they really did have the grace of Sajuuk. Some say that they have even found His lost city under the sands, and Saju-ka once again echoes with mumbled prayers, and offerings made in the darkness.

Certain acts of sabotage during the construction of the Mothership seemed to be Gaalsien-inspired, and it's likely that even today there are families secretly aligned with the ancient religious kiith.

KIITH PAKTU



Prior to the year 462, Kiith Paktu was a minor farming kiith, living on the slopes above the Salt Sea. On the year their most famous leader, Majiir Paktu, was born, the long rift between the religious leaders of Kiith Siid and Kiith Gaalsi, which were then the most powerful kiithid of the north, finally became an unbridgeable divide. In 462, the famous Siidim Council announced a new Dogma - - the traditional Siidim

cosmology, which once held that all kiithid on Kharak were exiled from a heavenly paradise, was abandoned. The truth, according to the proclamation of 462, was that only the Siidim were of divine origin - - all other kiiths were native to Kharak, and therefore inferior, their blood tainted by corrupting sand.

In accordance with the new Dogma, many cruel pogroms were passed against non-Siidim kiiths -- the people known as "Gritiidim," or "sand people." By far the harshest of these measures was the Clean Water Act, which forbade non-Siidim kiithid from living at the headwaters of a river or stream, lest they foul the water which Siidim downstream would have to drink. Hundreds of families were displaced by Siidim temple men, turned out of their ancestral homes and made to march downstream, carrying as much of their former lives with them as they could. In 488, Kiith Paktu joined the ranks of the dispossessed.

At the same time, the temples of the neighboring Kiith Gaalsi had become obsessed with sins of pride and by the redemption of Kharak through suffering. The Siidim made obvious targets for the sermons of Gaalsi holy men: for every Siidim sin of pride, they said, a more brutal and excruciating expiation was demanded by the gods of Kharak. Lesser kiiths of the north, already suffering under the weight of Siidim oppression, often were willing to join their holdings to the Gaalsi rather than see them taken by the Siidim; many welcomed Gaalsien soldiers and temple men into their holdfasts, only to find themselves held at swordpoint and made to watch as their "sinful" books and belongings were burned to appease the gods. Heavy tributes of both food and fodder were demanded by Gaalsien armies, and appalling sacrifices were sometimes demanded by Gaalsien priests, who saw no reason why the pure of heart should suffer alone.

Clashes between Siidim and Gaalsien holdings intensified over time, and even remote kiithid were forced to choose sides; both great kiithid were too powerful for any smaller kiith to challenge on its own. Caught between the proverbial rock and a hard place, the Gritiidim were finally ready to try the unthinkable: crossing the Great Banded Desert to the south, looking for new land.

By this time Majiir Paktu had become head of the Paktu kiith-sa. Although the First Migration may not have been entirely his idea, it's certain that the fate of all the people of Kiith Paktu was in his hands. It is difficult for us to imagine today what he must have felt as his people built the first great sailers at the edge of the desert. Although many Kharakii believed there might be arable land at the southern pole, no one had ever attempted to cross the Great Banded and returned to tell

the tale. The only confirmation of a land south of the desert came from mad Mannanii travelers, rambling about endless seas and "grasses that touched the sky."

The Migration offered slim hope at best, so slim that no Kharakian dared to risk it until there was no other hope at all.

The rest, as they say, is history. Nearly 50 kiithid set out from the plain at Albegiido in 490 and sailed into the Great Banded Desert, sweeping over the burning sands on the winds of the seasonal storm, the Chak m'Hot. By the time the men, women and children of the First Migration reached the shore of the Hunon Mountains, only 17 families were left, and all of them had lost weaker members on the journey. Still more died as they struggled over the Hunon; without anyone to guide them to the easiest pass, they lost many to poisonous water, rockfalls, thirst and lizard-bite.

As the story goes, many of the Firsters fell into despair among the burning red canyons of the Hunon and did not want to go on. Depite whether he had been the leader from the beginning of the Migration, Majiir Paktu was definitely the leader on that day. He stood at the head of the column and pleaded with the people to continue. "I can smell the sea," he said. "It's only a little farther."

The people did not believe him, and more than a few turned to start the hard trek back to their sand-sailers, still docked at the desert shore. But as legend has it, at that moment a bird appeared in the cloudless sky above them -- a sea-spirit, circling against the hot sun.

The kiithid of the First Migration followed the sea-spirit and Majiir Paktu through the mountains, and when they stood on the last red hilltop, they were looking down at the rolling breakers of a great grey sea. Straight away, that expanse of water was named the Majiirian Sea, after the man who brought them there.

The people of the First Migration settled on the shores of the Majiirian, and were presumed dead by many in the North for the almost two years it took to build up their homes and holdings. In the spring of the third year, however, Majiir Paktu and a group of picked volunteers attempted another crossing of the Great Banded Desert to take back word of the new land to the North, where so many still lived in a nightmare of war and oppression.

Majiir Paktu did not survive the return, but seven of his followers did. These seven Paktu kiithsmen passed through the northlands on foot,

taking word of the new land with them everywhere they went. Once that word spread, there was no stopping it. Dozens of families built sandsailers on the famous plain of Albegiido every year, trying to escape the Heresy Wars and the madness of their Siidim and Gaalsi masters.

Alas, Siidim and Gaalsi were not quite finished with the people who escaped their tyranny. Although they ignored the Migrations for many years, both Siidim and Gaalsi lost many hectares of holdings to the war. By 650 it occurred to both of the great northern kiithid that many of those who fled to the south were still considered their vassal clans and by treaty still owed them lands and tribute.

There were at least three major attempts to assault the southern lands from 652-700. The last of these was the most successful; the army of Liam Gaalsi actually arrived at the pass of the Hunon mountains almost intact in the spring of 698, ready to subdue the unruly kiithid of the southlands and their kiith-sa.

On that day, Kim Paktu, the grandson of Majiir Paktu and leader of the Paktu kiith-sa, arrayed an army of 30,000 swords on the shore of the Majiirian. Every one of them wore the colors of Kiith Paktu, and every standard bearer carried its flag.

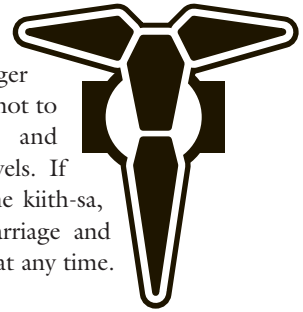
"These are my people," Kim Paktu said. "And this land is ours. You have no vassals here."

Badly outnumbered and facing a fresh and well-supplied army, Liam Gaalsi nonetheless led his troops into battle. Very few of the Gaalsi who followed him that day escaped with their lives. Although they killed hundreds of Paktu, the southern kiith-sa eventually prevailed, and no such crusade ever was attempted again.

To this day, the Paktu are still the kiith-sa of all southern kiithid, even those that are not closely related to them by blood. The flag of the Paktu is white, the color of the sandsails which carried its people across the Banded Desert, emblazoned with a sun stained red by the blood of those who died in search of -- or in defense of -- freedom. Silhouetted against that sun is the shape of the sea-spirit, an eternal symbol of hope and faith.

Paktu believe fiercely in independence and despise priests and dictators. Its people are optimistic, innovative, and venturesome -- when things are darkest, someone will almost always repeat the kiith's motto: "I can smell the sea."

THE KIITH SOBAN,
"THE KIITH OF SPIRIT"



In Kharakid society, the majority of citizens are secure in their kiith ties. Within the immediate family and within the larger circle of more distant blood relationships, not to mention our professional associations and alliances, most of us are bound at many levels. If we should ever have a falling-out with one kiith-sa, we belong to many other kiithid by marriage and inclination and could change our alliances at any time.

This was not always the case. Prior to the emergence of the southern federation and the Naabel intervention, very few Kharakians had ties outside their own kiith, and if they did, they were ties of dominance and submission- one kiith was made vassal to another and owed tribute to its masters, in return for which it was given the protection of the larger kiith's army and the benefit of trade with the larger kiith's holdings.

In all of this, however, there was no provision made for those who were without kiith. Unthinkable as this state may seem to us today, it can still bring a shudder to the modern Kharakian to consider the fate of a kiithless man or woman during those times. Banishment from the kiith was effectively a death sentence at any time prior to the year 416, when Kiith Soban was born.

The origins of Kiith Soban, the "Grey Brotherhood," are somewhat hazy. It appears that two vassal kiithid, which held lands along the second sea, were invaded by the temple men of a strong neighboring kiith. The vassals fought back furiously, defending their homes with desperate strength, and succeeded in killing a few of the raiding kiith. In revenge, the invaders punished the survivors brutally, although they had already surrendered. Many of the basic taboos of Kharakian society were violated; all the children of the farmers were murdered as well as the leader, man or woman, of every family. Those that remained were driven from their holdings, and fled across the Sparkling Desert to carry the news of these atrocities to their kiith-sa.

The leader of this group was Soban, later known as Soban the Red. When he knelt before his sa, he recounted the horrors that the neighboring kiith had committed against his people and demanded vengeance. He offered to personally lead the army that would ravage the invaders and teach them the error of their ways, and waited for the men

and women of his kiith-sa to join him in a rush across the Sparkling Desert.

Unfortunately, this support was never to come. Soban's kiith-sa, afraid of the possible repercussion or perhaps simply realizing the kiith was not strong enough to prevail against a larger and stronger kiith, refused to attack the reavers. Instead, members of the smaller kiith became vassals to the larger, joining their blood to the blood of the murderers.

When he heard of this, Soban tore the colors of his kiith from his body in shame. His followers did the same, and in doing so they abandoned their kiith completely -- an unheard-of gesture at the time, especially coming as it did from landless men and women. According to legend, Soban then declared the word "kiith" was meaningless when any kiith-sa could turn a deaf ear to the blood of children crying from the ground. He vowed that he would never belong to any false kiith again -- the only kiith which deserved the word was the kiith of spirit, the brotherhood of like mind and shared ambitions.

All the followers of Soban took a new color: a deep and vivid red, the color of blood flowing from the heart. Although they could not have been many, their first act as a kiith was a successful attack on the holdings which had once been their homes. When they left their old farms behind, not a blade of grass was left green nor one stone standing on top of another -- everything was razed and every invader killed in ways that gave Kiith Soban a bloody reputation for years to come.

Kiith Soban became a martial kiith from then on, and as years passed, a peculiar set of rituals developed among them. Although many other warrior kiithid existed at the time, those kiithid were standard in their aims and organization; they were martial to the extent that they desired the property and possessions of their weaker neighbors. Only the Soban were completely landless and existed purely as mercenaries.

The Sobanii mercenary is a curious feature of Kharakian history. For centuries, Sobanii took part in every military conflict on the planet, and their skills as soldiers and commanders were highly prized. When the services of any given Soban were bought, he or she would dress in the colors of the new kiith and fight in the service of that kiith, regardless of personal risk or cost. When the term of service was over -- down to the hour and minute -- Soban mercenaries would put down their arms, remove their adopted colors, and return to their own kiith. If the end came during the middle of a battle or a thousand miles from home, they would still go; contracts for their services could not be renewed on the scene, and only through their kiith-sa.

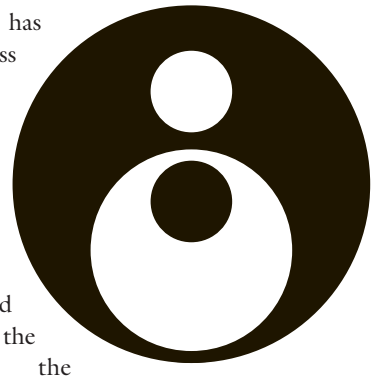
To this day, the Sobanii are completely devoid of standard family groupings. No "marriage," as such, is permitted among their ranks; and although male and female Sobanii are permitted to form whatever alliances they might want, there is no such thing as a Sobanii child. Children born to the Soban are left as foundlings with other kiiths or their parents are made to leave Kiith Soban to raise them.

Despite the fact there has not been a major war on Kharak for 200 years, the skills of Kiith Soban are still valuable, and they never lack for money and influence. Sobanii are often preferred when influential kiithid like the Naabel need intelligence officers or security officers, and virtually all modern-day admirals and generals are trained at Soban-run military academies, which are now open to the public -- one can pay for the training and discipline that was once available only to life-long Sobanii.

A current of true Sobanism still exists in our society and always will as long as some men and women continue to reject the status quo. Some Kharaki still join Kiith Soban of their own free will, renouncing all other kiith ties and associations; others are forced to join when driven from other kiiths for violating their taboos. Before "taking the red," as it is called, a prospective Sobanii must repeat the ritual which Soban performed centuries ago; all other kiith colors must be forcibly ripped from the body, a powerful gesture of negation. To some it represents the ultimate rebellion, to some the only salvation, but Kiith Soban imposes the same discipline and solidarity on them all -- for which Kharakian society may well thank them.

KIITH SJET

Kiith Sjet is something of an oddity among the power structures of the kiithid. While they are an ancient and respected kiith whose expertise has been courted by kiithid-sa across Kharak, they have never parlayed this influence into any real political power. Kiith Sjet is, in fact, one of the only kiith to have a validated claim to direct kiith descent from the ancient first city of Khar-Toba. Translations of the words and calculations found on the wall of the Temple-Observatory where the Guidestone was found make several mentions of



a group of astronomical philosophers with the family name of Sjet. Even the Sjet sigil, a series of embedded circles representing the celestial spheres, can be found etched in the temple doors. It is now an accepted fact that Kiith Sjet once was responsible for the preservation of the Guidestone and constructed the Temple-Observatory to protect it and scan the heavens. And therein lies the true power of Kiith Sjet -- its undying desire to question, observe, predict and record.

In ancient times they were the first to plot the path of the planets in the Kharakid system and derive a calendar from them. They were the first to discover the 13-year progressive cycle of sandstorms that tear around the equator of this world and predict where the rains that follow the end of every cycle would fall. Most of the impartial histories of the Heresy Wars and the resulting reformation were penned by Sjet scribes, who recorded it along with their observations of top-soil destruction and the slow crawl of the sands northward.

During periods of upheaval, Kiith Sjet have always been too valuable as allies and advisors to be turned into vassals. Any kiith who killed or attempted to interrogate a Sjet was shunned by the Science philosophers for a period no shorter than 100 years, and in order to keep their knowledge from being corrupted, any kiith who wished to become Sjet swore an oath directly to the Sjet-Sa and had to serve faithfully for two generations before being instructed in the sacred wisdoms. The closest thing to a scandal that has ever shaken the Sjet Kiith occurred during the Time of Reason, when it came to light that during the Heresy Wars certain Sjet vassals had actually lived under a secret secondary oath to Kiith Naabal. These secret Naabali used their positions of Sjet immunity to move through the various warring factions and carry out missions of retrieval and intelligence-gathering. When this truth was revealed, the sense of outrage was strong, but Fliir Sjet-Sa realized the extremity of the situation may have justified the betrayal. Even though she was able to bring enough of her kiith over to this line of reasoning to avoid sanctions or exile for the families involved, there is still a lingering thread of mistrust between some Sjetti and Kiith Naabal to this very day, and the debate over the use of Science as Power is still a passionate one.

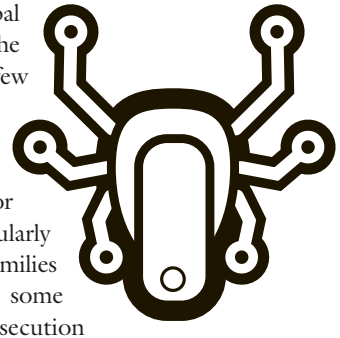
As the Time of Reason progressed, Kiith Sjet expanded their studies and moved away from the tradition of celestial mechanics and mathematics. Various families began to delve into the nature and origin of life on Kharak. Within a century, Kriil Sjet presented a paper to the Daiamid in Tiir presenting the scientific evidence that we bore little biological similarity to the vast majority of Kharakid life. This scientific proof of the religious tenet of Exile shook Kharakid society but established once and for all that Kiith Sjet served the truth, however disturbing that might be.

With the advent of the Mothership project, Kiith Sjet finally found a goal wherein pure science could be applied without the danger of corruption. This belief was strong enough for Sjet to overcome its distrust of Kiith Nabaal and join their theories to Naabali applied sciences. Sjet supercomputers have worked out the theoretical quantum waveforms of the hyper drive module. Sjet bio labs help perfect the cryogenic process which will allow us to colonize the stars. And it was a Sjet who came to the conclusion that the Mothership could never function without a radical redesign of the command core.

Karan Sjet, the only daughter of Huur Sjet-Sa and in direct line for the leadership of all Kiith Sjet, was a neuroscientist in charge of the research division that was designing the command and control systems in the Mothership. Many other researchers would have balked at having to tell an entire world that its dream was impossible, but Karan was true to the spirit of her Kiith, and broke not only the news to the Daiamid, but also suggested a terrifying solution. Again, as a Sjet, she rejected fear in the face of the truth and demanded that her own system, using a living being as the command core for the Mothership, be applied to herself.

As our people are on the brink of a new voyage of discovery, it is only fitting that a Sjet is at the frontier, helping us satisfy our desire to know the truth and face down the terrors of the unknown, no matter what the cost.

KIITH NAABAL



Not much is known about Kiith Naabal prior to their dramatic emergence at the end of the Heresy Wars. There are a few scattered mentions of them in the records of the major kiithid of the first epoch, but the name Naabal arises only in terms of tradesmen or heretics. Kiith Gaalsien were particularly vehement in the persecution of families under the Naabal flag, and there is some evidence that it was Gaalsien persecution which drove Naabal to their hidden valley refuge, blasted into the edge of Kharak's tiny northern ice cap. Based on the fact that the Naabal crest, a Kharaki silhouetted against a background of tiny circles and stripes, loosely resembles symbols found etched into panels on the wreck at Khar-Toba, some archaeologists have put forth the theory that the

Naabal are actually direct descendants from some sort of engineering core that ran the ship that brought us here. While the theory is convenient in terms of linking the unknown past with the present age of exploration, the evidence is just too circumstantial for most scholars to give it much weight.

Kiith Naabal itself seems uninterested in clearing up the distant past, and the hard facts only begin to appear in the years directly before the Naabal intervention, when the kiith moved to end the Heresy Wars and establish the Daiamid. In those three centuries of chaos, Kiith Nabaal had almost completely cut off contact with the rest of Kharak. Traders or refugees who accidentally stumbled into the valley were welcomed with open arms and given a place to make their lives anew. There is no record of any rejecting this offer, so we are not quite sure what the alternative might have been…. Small parties, always made up of families with direct fealty to the kiith-sa, were sent out occasionally to bring back texts that were in danger of destruction, usually because the cities that held them were being constantly sacked. Sometimes these parties would even spirit away scholars imprisoned for heresy. It wasn't until Ifriit Naabal-Sa came to head the secretive Kiith that a less isolated philosophy began to take hold. Ifriit realized the wars were dangerously close to destroying the last of the infrastructure that kept the bulk of the Kharaki people alive. Fields were being burned, dams demolished and sand traps torn down simply to deprive the enemy of valuable resources. Under such an onslaught, the days of civilization on Kharak were numbered.

Though declared pacifists, much of the knowledge discovered and hoarded by Kiith Naabal had direct military application and so, when Ifriit Naabal-Sa finally proposed intervention to his people, it took only a few years for a military force to be assembled. The Naabal had been keeping the secrets of explosives, steam and refining for more than a hundred years, and when they rose, they swept out of their hidden city of Tiir like the gleaming servants of Jaakul himself. Steam-powered vehicles towed cannons to bring down the walls of despotic kiith, while handfuls of soldiers carrying repeater rifles and wearing hardened armor moved to route marauding armies 20 times their size. Ifriit Naabal-Sa spoke at every holding, village and city his army liberated, and offered those people all the fruits of Naabal science and technology if they would but lay down their arms and end the pointless destruction. Unlike the major powers in the Heresy Wars, Naabal-Sa did not demand renunciation of former kiith ties; all he asked for was an ending. The lesser kiithid, brutalized by nearly 300 years of war, gratefully accepted his terms, and soon the Naabal army had grown fifty-fold with kiithid whose only desire was to end the Heresy Wars any way they could.

And in three short years they had done it. Ifriit Naabal-Sa's last act before stepping down as Sa was to establish the Daiamid in Tiir as a place where all kiith, powerful and weak, could gather to resolves disputes and set policy for all of Kharak.

In the decades to follow, Naabal rebuilt the damaged infrastructure of Kharak and improved upon it with their no-longer-secret construction and metallurgical techniques. Any minor kiithid were accepted into Naabal if they simply wanted to learn new crafts and trades. These same kiithid were then allowed to go their own way if they chose, and many of the major industrial kiith of the modern world began under Naabal's wing. By the Time of Reason 200 years later, Kiith Naabal had replaced the perilous sand-sail routes to the south with rail mounted steam cars, and had given Kiith Paktu-Sa of the southern polar region a permanent presence in the Daiamid.

Kiith Naabal seemed content to fade slowly into history for many years, but the discovery of Khar-Toba seemed to change all that. From that point on, Naabal formed permanent alliances with both the Sjet and Saban kiith, and began to influence first the excavation of Khar-Toba and then the exploitation of technologies discovered there. Again, the Naabal-Sa have been careful to spread the wealth and knowledge, but remaqin adamant about driving forward with the Mothership project and returning to our ancient Homeworld.

While the Mothership has neared completion over the past five years, Kiith Naabal has once again begun retreating behind the scenes both politically and industrially. Financial analysts have noted heavy Naabal investment in off-Kharak facilities, especially in the asteroid belt, and in proposed research facilities on the moons of the Gas Giant Haarsuk. Others have noted the slightly higher ratio of Naabal kiithlings among the cold-sleep volunteers waiting to be loaded onto the Mothership at the conclusion of her trials. Most analysts agree this is another sign of Kiith Nabaal's desire to be part of whatever future our people will find among the stars.

THE KIITH MANAAN

Perhaps the strangest of all Kharakid kiithid is the Manaan, or "the Travelers". Although the blood bonds between Manaani are not strong -- they range greatly in physical appearance and kiith traditions -- they are nevertheless all considered one family, especially by outsiders,

who for centuries viewed these nomads as a dire threat to decency and morals, to unprotected holdings, and to the virtue of young men and women from good families.

The antipathy toward Manaani is simple enough to explain. During a time when the majority of Kharakians were hard-working farmers, clinging to life with teeth and fingernails, the Manaani maintained a traditional nomadic existence. They traveled from place to place, stopping at watering places to rest; if the water was surrounded by a hold, the Manaani expected hospitality. Although they were rarely hostile toward farmers and city dwellers, they resisted any attempts to settle or civilize their kiith. Driven by a hunger for new experiences and a restlessness few other Kharakians could understand, the Manaani could never stay in one place for long—they simply picked up stakes and moved on into the wastes again, leaving the security (and the hard work) of house and hold behind them.

The earliest historical mention of "Manaani wanderers" comes from the year 340, when holdings along the shore of the White Desert complained that their farms had been raided by the Travelers. According to the report they sent to their kiith-sa, the White Desert holders had recently closed their gates to a wandering kiith, refusing them permission to make camp by the waterside. Although the Manaani went away peacefully at the time, they returned by night and came over the wall "by the hundreds", overwhelming the resistance of the surprised holders. In the end, the Manaani were accused of stealing nearly a ton of food and many hundred man-weights of water --which was, coincidentally, just a bit more than the tribute which was owed by the White Desert holders to their kiith-sa that year.

The tale of the White Desert holders was dubious for many reasons, although it was widely believed by landed Kharakii at the time and for many centuries to follow. The report that Manaani came over the wall of a sand-dike "by the hundreds" is absurd, given the fact that traditional Manaani never traveled in groups larger than an extended family and in such a group, there would have been a dozen able-bodied men at most. To find Manaani "by the hundreds," one would have had to seek them out at a Gathering, their yearly meeting on the sands of Ferin Sha ("The Dancing Ground"). Not only was Ferin Sha nearly 200 miles from the White Desert, but focus at such a Gathering would be celebration and drinking, not killing and looting. Fighting of any kind was forbidden at Ferin Sha -- to profane sacred ground with spilled blood was the greatest Manaani taboo.

Is this to say there was no basis for Kiith Manaan's early reputation as thieves? Unfortunately, no. If the majority of Manaani were innocent of raiding, there were still some who undoubtedly traveled in greater strength and might have been capable of carrying off a few water barrels. The majority of travelers were probably guilty of a little judicious pilfering from time to time, even if it was only picking a pocket or picking fruit in the night. The real question is not whether the Manaani were really thieves, but why, if they were widely believed to be thieves, would the majority of holdings open their gates to Manaani visitors? An answer of one word will suffice: entertainment.

The Manaani were always traders, but prior to the Great Migration they could never compete with the legitimate trade routes among the northern holdings -- at least when it came to transporting mundane cargoes. In order to survive, a kiith of travelers needed to bring their would-be hosts something they could not get cheaper or more routinely somewhere else. In some cases, Manaani would carry rare drugs or medicines that could be found only in remote places, or traffic in taboo items, but since their caravans were often searched before being allowed to enter a holding, the Manaani would more often carry a less tangible but even more valuable freight: music, laughter, and spectacle, a break from the hard and unending work of a desert farmer's life. For many years, Kiith Manaan survived by their wits and their ability to amuse hold-born Kharaki. Singers and poets, magicians, dancers, actors and con men -- there was nothing to the rumor that Manaani could perform dark magic, but they could certainly make your purse and your 15-year-old daughter disappear.

After the Great Migration began, life changed drastically for the Manaani. Although they played no important role in the First Crossing, a small kiith of travelers accompanied the Paktu in the sandsailers that left Albegiido in 490. Most of them returned to the north in 497, bringing their three-masted ships with them. The Manaani took to the new technology in droves and made many improvements to the original design.

During the beginning of the Heresy Wars, Manaani still living in the north suffered badly under the rule of Siidim and Gaalsi; their free-wheeling and joyous attitude was anathema to both of the great kiith, and one of the few points of doctrine that both parties could agree on was that Manaani were abominations before the eyes of Sajuuk. The last celebration at Ferin Sha was held in 513; during which an army of Siddim attacked the Dancing Ground and slaughtered the celebrants wholesale.

After the massacre at Ferin Sha, the majority of Kiith Manaan survivors took to the sail and the sword. Manaani raiders, once largely a myth, became a grim and terrible reality to Siddim holdings that bordered on the desert. No one was safe from the pirate sailers, and the sight of a mast on the horizon was an occasion of panic and terror. Within a hundred years, however, the Manaani exhausted their appetite for bloodshed and began to use their ships for more profitable ventures. When the great mother of their kiith-sa, Jora Manaan, declared the war on the Siidim at an end in 656, the Manaani built a new Dancing Ground in the Paktu-held south and turned their fleet completely to trade.

The questing spirit of the Manaani is not dead even today. Kiith Manaan still controls enormous wealth, and of all the Kharakid kiithid it is the most likely to produce a diplomat or a statesman. Manaani also are common in the ranks of Scout pilots and are always eager to volunteer when it's time to fly an experimental craft. Being the first to see anything new and different is a hunger that still burns deep in their blood.

EXCERPTS FROM FLEET TACTICAL DEBATE 7.12.1302

(Fleet Admiral Paktu and Admiral Riif-Sa)

(Topic: Fleet Composition)

Adm. Riif-Sa:
If one looks at the combat data available, the answer to the question we are discussing here today becomes obvious. Both Strike and Defensive fleets must be composed mainly of Capital Ships, with Fighters serving only as escorts and deep harassment forces. Only Capital Ships have the firepower and range to do significant damage to an enemy force.

F. Adm Paktu:
While my colleague has a valid point, I believe his tactical doctrines are based on ideal situations instead of the actual pressure situations a fleet will find itself under. We all would like to command fleets of nothing but the best and biggest, but the reality is that time and resources in combat often do not allow the creation and maintenance of a large force of Capital Ships. And we needn't even bother to analyze the true costs of losing a single large vessel when compared to the attrition a fighter squadron can suffer while still being maintained at combat readiness. No, as much as I find the thought of commanding multiple destroyers attractive, I have to favor the opposite fleet strategy; that of large groups of massed Strike Craft anchored by a handful of Capital Ships.

Adm. Riif-Sa:
Oh, no you don't, Chiisur, I have seen you undermine by generalization since we were just gnats learning to sail sand skimmers at the training crèche. I am not talking about vague plans and mythical battles! I am talking about precise deployment plans, with each Capital Ship escorted by six Interceptors or three multi-gun Corvettes. Once each Capital Ship has its Strike Craft escort, they should be organized into attack divisions based on class and combined arms theory. Frigate divisions should consist of two or three Ion Cannon ships in a tight V formation, with an Assault Frigate positioned below and another in a higher slot. This creates a fighting wedge with significant firepower, while creating a deadly sphere of anti-fighter fire provided by the Assault frigate turrets and the strike craft surround each frigate. No attacking force of Strike Craft could survive their first pass against such a squadron intact, while the forward firepower could punch through any opposing Capital Ships easily. When using Super-Capital Ship types like Destroyers or Cruisers, formational doctrine places these admittedly expensive and invaluable vessels in the core any given formation, surrounded by an escort of four to eight multi-gun Corvettes to provide point defense fire. The key to this kind of formation is that enemy commanders are usually driven to order attacks against the heaviest enemy vessel threatening them, and this means the super-heavy ship at the core of this formation serves double duty, both as the heart of the division's firepower and as a lure to bring lesser enemy craft into the deadly crossfire of the division's massed turrets.

F. Adm. Paktu:
Once again I do not doubt the power of these fantastic collections of Capital Ships, but my point of cost versus benefits still stands. Are you aware of the number of Interceptors one can build for the cost of a single Assault Frigate? Now granted, each one packs only a tiny amount of the Frigate's firepower and certainly cannot survive more than one or two hits from a heavy gun, but I ask you: Exactly how much damage can 75 interceptors do in the time it takes to kill just one of them?

In my tactical deployment plan, Fighter wings work in massed formations and attack in waves, each with a specific purpose. The advantage of my system is flexibility and speed, a decided improvement over Admiral Riif-Sa's deployment strategies, which trade these attributes for extreme concentrations of firepower.

In my strike fleet, an attack group is made up of three distinct Fighter waves. The first wave to attack is a group of 20 to 30 scouts in X-formation, ordered to fly in Evasive mode. Their job is to pull the enemy Heavy Fighter screen into a series of long, drawn-out dogfights and

attract as much defensive fire as possible. The extremely high speed and maneuverability of the Scout will result in most of the enemy turret fire missing its mark. Approximately 10 seconds later, four wings of Interceptors consisting of eight to sixteen fighters each enter the battle and attack any obvious enemy fighter groups which are already busy hunting the scouts. Corvettes should be the other priority target for the Interceptor wing. And finally, with all of the enemy fleet assets tied up in tracking small fast targets, the plasma bombers wings, in V-formations five to eight ships and ordered to attack aggressively, should vector in on all Capital Ships positioned on the outer edge of the enemy fleet.

Backing up this attack should be two Support Frigates, guarded by five to ten multi-gun Corvettes. The attacking Strike Craft should be ordered to retreat to the support ships for repairs at the 60 to 70 percent damage level in order to not waste personnel. This tactic has the added bonus of luring enemy Fighters toward the support group, where the point defense fire from the Corvettes can cut them to pieces. The mopping up force should consist of one or two Ion Cannon Frigates, escorted by flights of Heavy Corvettes, and should concentrate fire on the heaviest of the remaining enemy Capital Ships.

Adm. Riif-Sa:
Fah! My deployment plans are idealistic? You would need the multi-tasking skills of a whip-crawler to orchestrate that battle. Your fighter groups would be cut to pieces while you were still directing in more attackers. It is unworkable! My deployment system depends more on local commanders to make the correct targeting decisions without constant choreography from Fleet Command.

F Adm. Paktu:
If my esteemed colleague is saying that he no longer has the skills and stamina to command such an attack, that is understandable, given his years, but ...

Adm. Riif-Sa:
Too old? Your Kiith Matron!!

.....

(Tactical Debate temporarily adjourned for consultation purposes.)

PART 2:

GAMEPLAY GUIDE

TABLE OF CONTENTS

1 INSTALLATION

Insert the CD-ROM into your CD-ROM drive. The Homeworld. Installation program will automatically start up. Follow the on-screen instructions to specify the various installation options. When the installation is complete, it will have created a shortcut in your Start Menu that you can use to run Homeworld.

2 TRAINING

screen shot

2.1 Starting the Training

It's strongly recommended you pass the Homeworld training section before starting a singleplayer or multiplayer game. It's easy to do and it will teach you all the essential controls of the game.

To start the training, leftclick on the <TRAINING> button in the Main Menu, then leftclick on <BEGIN TRAINING>.

2.2 Saving a Lesson

Your progress will be saved automatically at the beginning of each lesson. You can therefore quit the tutorial at any time and restart it where you left off.

2.3 Loading a Lesson

To load a lesson from the Main Menu, leftclick on the <TRAINING> button, then on the <LOAD LESSON> button. Select the saved lesson from the list, then leftclick on the <LOAD LESSON> button.

3 GAME CONTROLS

3.1 CAMERA CONTROLS

COMMAND	ACTION
ROTATING	

Hold down the right mouse button and drag the mouse.

COMMAND	ACTION
ZOOMING	

Hold down the left and right mouse buttons and drag the mouse forward or backward.

OR: If you are using a mouse with a wheel, this can be used to zoom as well.

COMMAND	ACTION
FOCUSING	 OR F

Select a ship and press the middle mouse button or the [F] key.

NOTE: Issuing the focus command a second time will make the camera zoom in as far as possible.

COMMAND	ACTION
ALT FOCUSING	

To focus on a ship without selecting it, hold down the [ALT] key and leftclick on it.

COMMAND	ACTION
CANCEL FOCUS	C

Press the [C] Key.
If you wish to go back to a focus you have cancelled, press the [V] key.

COMMAND	ACTION
FLEET VIEW	F1

Press the [F1] key.
This focuses on all of your ships in the viewable area.

COMMAND	ACTION
MOTHERSHIP VIEW	HOME

Press the [HOME] key or press [ALT]+[F] keys.

3.2 SHIP SELECTION

COMMAND	ACTION
SELECTING	

Place mouse pointer over desired ship and click the left mouse button to select it. NOTE: If you leftclick on a group of ships in formation, they all will be selected.

COMMAND	ACTION
DRAG SELECTING	

Hold down the left mouse button and drag a box around the desired ships.

COMMAND	ACTION
SELECTING EVERYTHING	E

Press [E] or [CTRL]+[A] to select all of your ships presently on the screen.

COMMAND	ACTION
DE-SELECTING	 OR ESC

Leftclick on empty space or press the [ESC] key.

COMMAND	ACTION
SHIFT SELECTING	SHIFT + 

To add ships to the selection, hold down [SHIFT] and click the left mouse button on the desired ship(s). It's also possible to hold down [SHIFT] and then drag-select the desired ship(s).

COMMAND	ACTION
HOTKEY GROUPING	CTRL + #

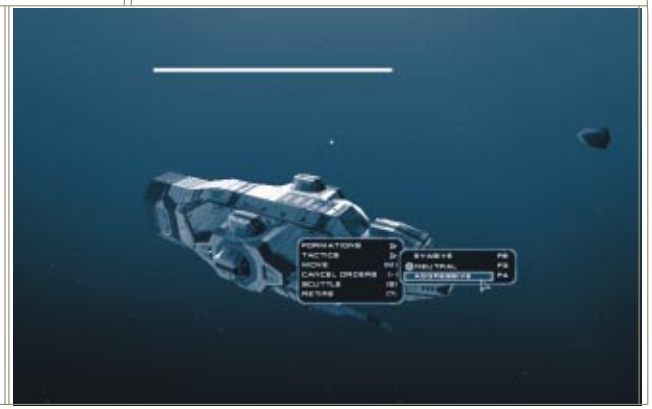
Select the ships you wish to assign a hotkey to and then press [CTRL] + a number key (from 0-9). You may then select that group at anytime, regardless of where you are, simply by pressing its hotkey number. Pressing it again will focus the camera on the ship(s) in that hotkey group.

COMMAND
ADDING SHIPS TO A HOTKEY GROUP

Select the hotkey group with its number key and then add the ship or ships to the group as above. Once this is done, reassign the entire group to the hotkey number with the [CTRL]+[0-9] command.

3.3 THE RIGHTCLICK MENU

At any point during the game, you can get a detailed list of command options specific to a ship or group of ships by rightclicking on one of them while it is selected. This will bring up a menu of command options tailored to that vessel. For instance, rightclicking on a Resource Collector will bring up a menu with the <HARVEST> command on it, while the same rightclick on a group of Fighters will bring up formation options.



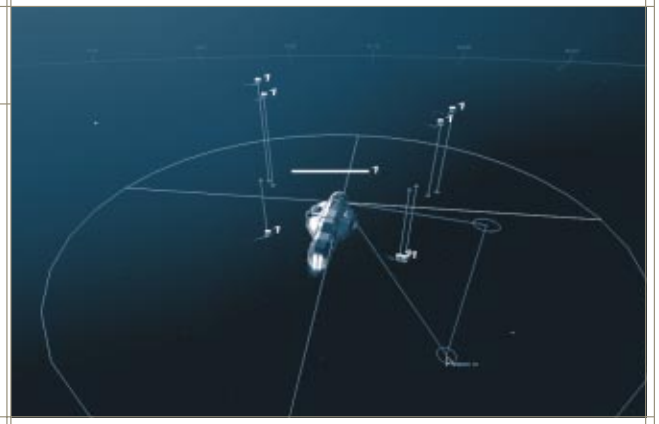
3.4 MOVEMENT

COMMAND	ACTION
HORIZONTAL MOVEMENT	M

Select a ship or group of ships and then press the [M] key. This will bring up the movement disk. Simply move the mouse pointer to where you wish to go and click the left mouse button to issue the move order.

COMMAND	ACTION
3D MOVEMENT	SHIFT

With the movement disk up, hold down [SHIFT] and drag the mouse to add elevation to your destination. As before, clicking the left mouse button will issue the move order.
NOTE: To cancel vertical movement and return to the movement disk to horizontal mode, press [CTRL]+[SHIFT].



COMMAND

LONG-DISTANCE MOVEMENT

Call up the Sensors Manager using the taskbar or by pressing [SPACE]. Then use the [M] key to bring up the movement disk. You can now move over much longer distances.

3.5 COMBAT

COMMAND	CURSOR ICON
ATTACKING	

Move the mouse pointer over an enemy ship and click the left mouse button.

COMMAND	CURSOR ICON	ACTION
GROUP ATTACKING		CTRL

Hold down [CTRL] and drag a box around the targets with the left mouse button.

COMMAND	CURSOR ICON	ACTION
FORCE ATTACK		CTRL + SHIFT

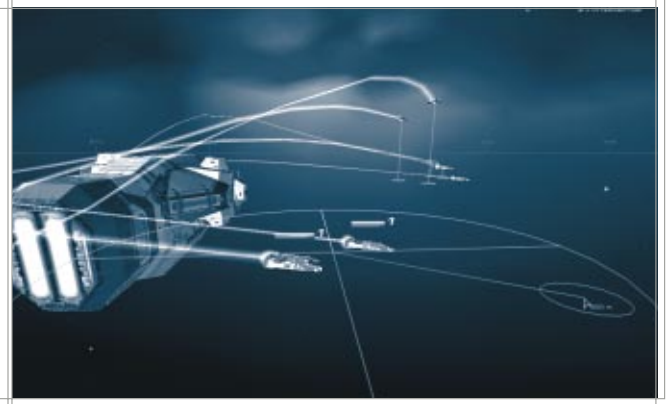
Hold down [CTRL]+[SHIFT] and leftclick on the target. To force an attack on a group of targets, hold down the same keys and drag a box around the targets with the left mouse button.

NOTE: Force attacking can be used to attack asteroids and dust clouds as well as your own ships if necessary.

COMMAND

MOVING WHILE ATTACKING

Capital Ships have a special ability to move while keeping their weapons bearing on an enemy ship. To do this, give the Capital Ship its attack order and then give it a movement order. The movement disk will be yellow to signify this mode. When moving in this mode, the line to the destination point will be blue if the destination is still in range of the target or red if the destination is out of range.



MANAGER SCREENS

There are several important full-screen interfaces in Homeworld. All can be accessed via the taskbar, or by pressing the appropriate hotkey:

SENSORS MANAGER	SPACE	BUILD MANAGER	B
RESEARCH MANAGER	R	LAUNCH MANAGER	L

3.6 FORMATIONS AND TACTICS

COMMAND	ACTION
SETTING FORMATIONS	TAB

To set a formation, select the desired ships and bring up the rightclick menu. From the <FORMATION> section, you can choose one of seven formations.

OR: Formations also can be cycled through by pressing the [TAB] key. [SHIFT]+[TAB] will cycle the formations backward.

OR: Formations can be accessed directly via the F-keys:

F5	Delta	F9	Wall
F6	Broad	F10	Sphere
F7	X	F11	Custom
F8	Claw		

COMMAND	ACTION
CUSTOM FORMATION	F11

Custom formation lets you create your own formations. To create a custom formation, move your ships into the desired position, select them all, then select <CUSTOM> from the rightclick menu or press [F11].

COMMAND

MILITARY PARADE FORMATION

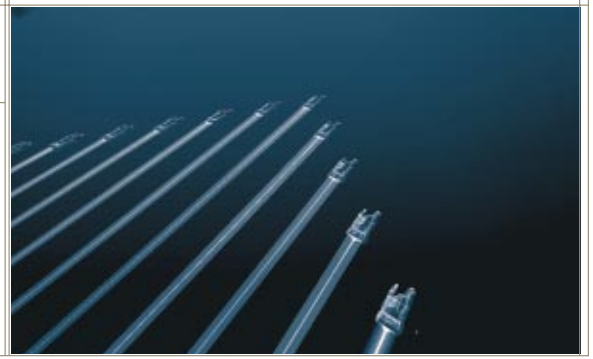
When you build ships, they come out of your Mothership or Carrier and go into Military Parade formation with that ship. If at any time you want to put ships back into Military Parade formation, select them and the Mothership, then press [TAB] or any of the formation function keys [F5] - [F11].

FORMATION DESCRIPTIONS

FORMATION

DELTA F5

The standard flat triangle formation is an excellent way of organizing groups of Strike Craft into effective squadrons, but it lacks the flexibility and firepower concentration available to the more three-dimensional formations.

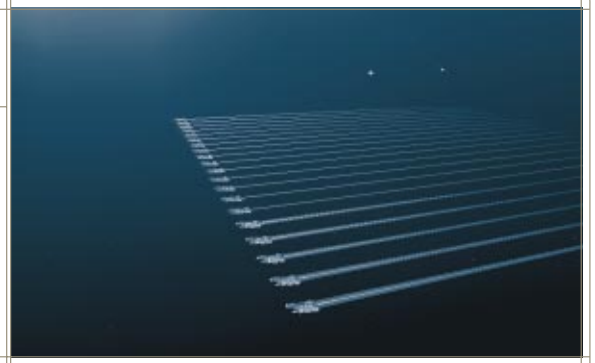


FORMATION DESCRIPTIONS

FORMATION

BROAD F6

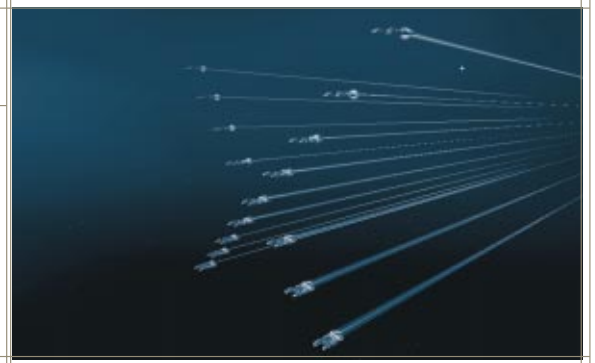
This flattened line is not effective for Strike Craft as it disperses their firepower. It is more useful for squadrons of Capital Ships, where unit quick identification and selection are as important as firepower. It is useful formation to approach in if you are planning to break ships off to strike at specific targets once the battle is joined.



FORMATION

X F7

The flying X formation is an excellent Strike Craft formation, concentrating a large number of vessels into a relatively small three-dimensional space. Its only drawback is that the dense formation makes individual ships vulnerable to slow turret fire they might otherwise have avoided if they were dispersed.



FORMATION

CLAW F8

Like its natural namesake, this formation is deadly when striking out at an individual target. The claw is a superb formation for Strike Craft when they are targeting a Capital Ship. The four curving lines of Fighters make concentrating firepower and envelopment deadly efficient. The only drawback is identifying and selecting single ships inside this complex formation.

FORMATION DESCRIPTIONS

FORMATION

WALL

F9

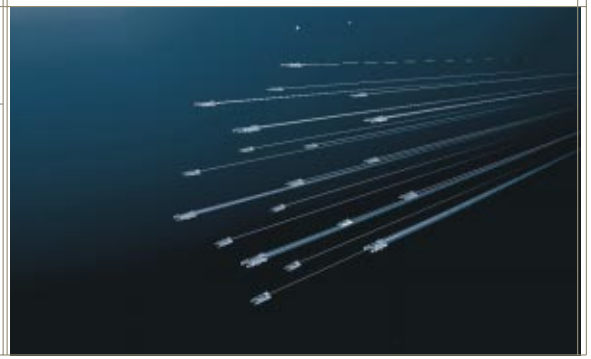
Most effective for Capital Ships, the wall formation allows larger vessels to concentrate firepower without dangerously crowding each other. The wall is not a subtle formation but does give large groups of big ships an effective attack mode.

FORMATION

SPHERE

F10

This is the deadliest of all formations in terms of continuous firepower. Ships in this formation lose their ability to perform complex flight maneuvers but gain the ability to constantly fire at targets from every angle. This is also an effective guarding formation as it puts the vessel to be protected in the center of the sphere.



3.6 FORMATIONS AND TACTICS (CONT'D)

COMMAND

SETTING TACTICS

To change the tactics setting, select the desired ships and bring up the rightclick menu. From the <TACTICS> section you can choose one of three settings: Evasive, Neutral or Aggressive.

The tactics setting can be increased using the] key and decreased using the [key.

OR: Tactics can be accessed directly via the F-keys:

F2	Evasive
F3	Neutral
F4	Aggressive

TACTIC DESCRIPTIONS

TACTIC

EVASIVE

F2

Evasive tactics are best used when resources are tight and each ship is vital. Your ships won't hit as hard, but they are more likely to come home. Ships set to Evasive will boost power to engines in order to increase speed and maneuverability. This will come at the cost of lowered power to weapons and a slight increase in fuel consumption for Strike Craft (Fighters and Corvettes). When attacking, Fighter groups also will break up into flight pairs, where one ship will take point and the other will serve as wingman and take measures to remove threats that lock onto the lead vessel.

TACTIC DESCRIPTIONS

TACTIC

NEUTRAL

F3

This is the normal stance for ships. Strike Craft set to neutral will perform evasive maneuvers while attacking enemy ships. If no orders are issued and enemies are nearby, ships in neutral will fire from their current position, but will not engage in full combat.

TACTIC

AGGRESSIVE

F4

Ships in Aggressive mode are out for blood and will attempt to destroy the enemy even at the cost of their own lives. Use this tactical stance if resources are not a factor or if you need to hurt your opponent as hard and as quickly as possible. Strike Craft in this mode shunt power from the engines into the weapons grid, so speed and agility are reduced but firepower is increased. Ships in Aggressive tactics will not perform any kind of evasive maneuvers and also will attack nearby enemies without being issued orders. Resource Collectors in Aggressive tactics will continue to harvest even if under attack.

3.7 OTHER COMMANDS

COMMAND

HARVESTING

ACTION: H

CURSOR ICON

Select a Resource Collector, move the mouse pointer over any resource and click the left mouse button.

OR: Bring up the rightclick menu and select the <HARVEST> command. This will cause the Resource Collector to begin harvesting the nearest resource.

OR: Press the [H] key. This will also make the Resource Collector find the nearest resource.

COMMAND

DOCKING

ACTION

CURSOR ICON

Select the desired ship(s) and then doubleclick on the vessel you wish to dock with (it must have docking capabilities).

OR: bring up the rightclick menu and select the <DOCK> command. This will cause the selected ship(s) to dock with the nearest capable vessel.

OR: Press the [D] key. This will instruct your ships to dock with the nearest capable vessel.

COMMAND

SUPPORTING

ACTION: Z

CURSOR ICON

Select the support ship, then hold down the [Z] key and leftclick on the Fighters or Corvettes to service.

COMMAND

GUARDING

ACTION: CTRL + ALT

CURSOR ICON

Hold down both [CTRL] + [ALT] and then leftclick on the ship you wish to guard.

OR: Hold down the [G] key and click the left mouse button on the ship you wish to guard.

COMMAND

SPECIAL? OPERATIONS

ACTION: Z

CURSOR ICON

If a ship has a special function, you can activate it by pressing the [Z] key. If the special function has to be performed on another vessel, hold down the [Z] key and then click the left mouse button while the cursor is over the target vessel.

SHIP	SPECIAL OPERATION	SHIP	SPECIAL OPERATION
Scout	Speed Burst	Missile Destroyer	Missile Volley Attack
Cloaked Fighter	Cloaking	Carrier	Can repair & refuel Strike Craft
Heavy Corvette	Charged Burst Attack	Resource Collector	Can refuel Strike Craft
Salvage Corvette	Captures enemy ships	Resource Controller	Can refuel Strike Craft
Minelayer Corvette	Creates minefields	Cloak Generator	Cloaking
Support Frigate	Can repair & refuel Strike Craft	GravWell Generator	Captures Strike Craft
Drone Frigate	Drone launching/retraction	Defense Field Frigate	Defense Field (always on)

3.8 MISCELLANEOUS COMMANDS

COMMAND	ACTION
CANCEL ORDERS	~

Select the desired ship(s), bring up the rightclick menu and select the <CANCEL ORDERS> command.

OR: Select the desired ship(s) and press the [~] key.

COMMAND	CURSOR ICON
SALVAGE	

Select a Salvage Corvette, then leftclick on the ship to be salvaged.

OR: Hold down the [Z] key and leftclick on the ship to be salvaged.

OR: Hold down [Z] and drag a box around the target with the left mouse button.

COMMAND	ACTION
RETIRE	I

Bring up the rightclick menu and select the Retire command. Ships given the Retire order will return to the nearest Mothership or Carrier and be scrapped. A percentage of the construction cost (in RUs) will be recovered.

OR: Press the [I] key once you have selected the ship(s) you wish to retire.

COMMAND	ACTION
KAMIKAZE	K

After giving a ship normal attack orders press the [K] key. Only Strike Craft can kamikaze.

COMMAND	ACTION
HYPERSPACE JUMP	J

This multiplayer-only command allows Capital Ships to perform hyperspace jumps. Just select the ships you wish to hyperspace, bring up the rightclick menu and select the <HYPERSPACE> command. The Sensors Manager and movement disk will be brought up automatically. Leftclick to set the hyperspace destination. The cost of the hyperspace jump will be displayed near your cursor. If this cost turns red, you don't have enough Resource Units to make the jump.

COMMAND	ACTION
TACTICAL OVERLAY	CAPS LOCK

Press the [CAPS LOCK] key.

COMMAND	ACTION
PAUSE	P

Press the [P] key at any time during gameplay to pause the game.

NOTE: The camera is still fully active (including focusing) while the game is paused, but no game commands can be issued.

COMMAND	ACTION
SCUTTLE	S

Bring up the rightclick menu and select the Scuttle command.

OR: Press the [S] key once you have selected the ship(s) you wish to self-destruct.

NOTE: You must issue the scuttle command twice to confirm this unusual order.

3.9 MULTIPLAYER CONTROLS

A small number of commands are active only during multiplayer battles. These are used to interact with other players:

COMMAND	
SENDING A CHAT MESSAGE	T

Press [T] and then type in your message. Press [RETURN] when done.

COMMAND
SENDING A PRIVATE CHAT MESSAGE

Press [T] and then type [/<playername>] to specify who to send it to. After typing a few letters, the computer will automatically finish the name for you.

COMMAND
FORMING ALLIANCES

Turn on the Tactical Overlay [CAPS LOCK] and then click the right mouse button on the name of the player you wish to ally with.

Select <FORM ALLIANCE> from the menu that appears.

COMMAND
BREAKING ALLIANCES

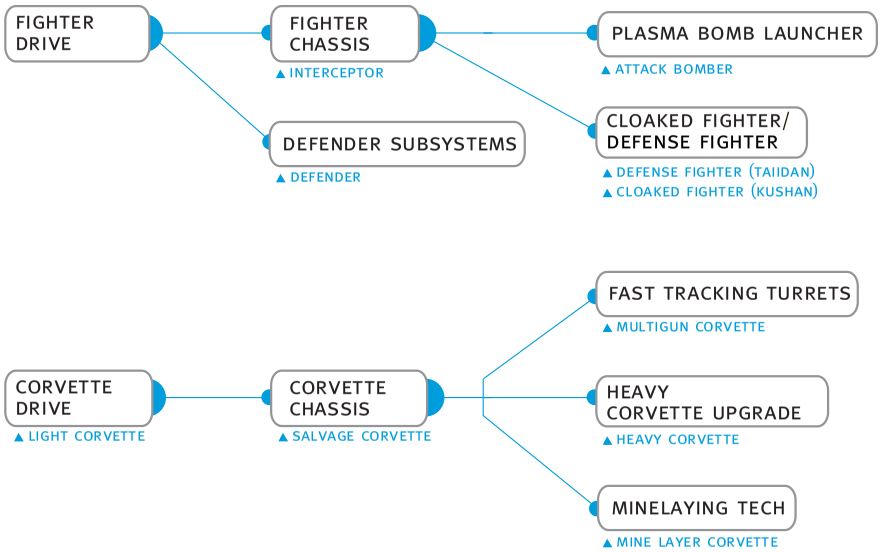
Turn on the Tactical Overlay, rightclick on the player's name you wish to end your alliance with and choose <BREAK ALLIANCE> from the menu.

COMMAND
TRANSFERRING RUs

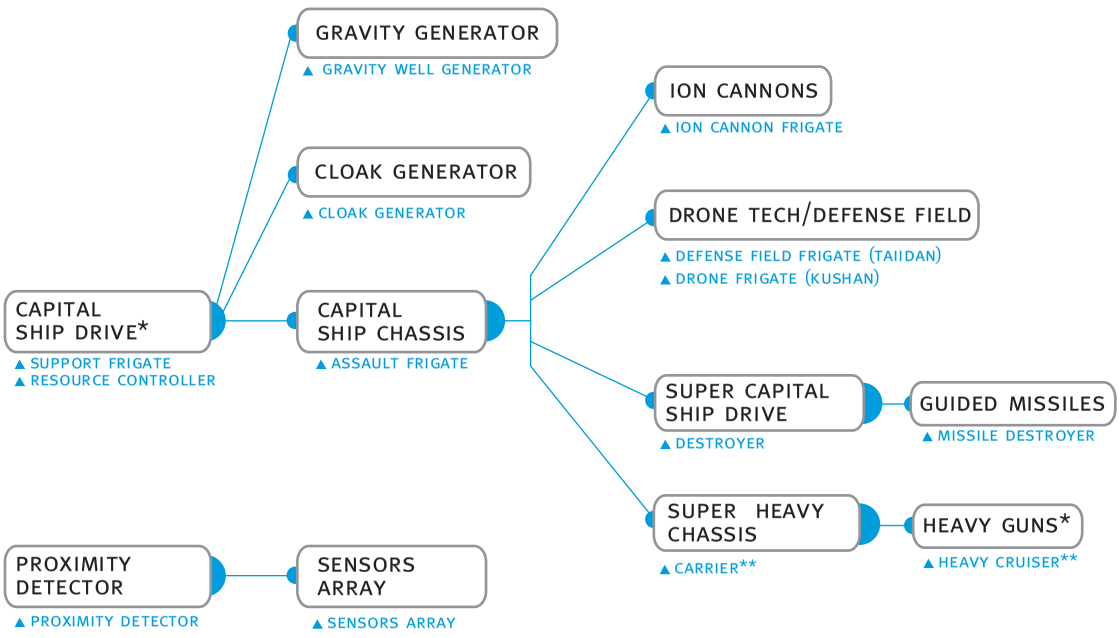
Turn on the Tactical Overlay, rightclick on the player you wish to send Resource Units and choose <TRANSFER RESOURCES> from the menu. After this is done a prompt will appear at the top of the screen. Type in the number of RUs to transfer and press [ENTER].

3.10 TECHNOLOGY TREE
MULTIPLAYER

Homeworld uses a research tree system in which basic technologies can lead to more advanced breakthroughs. Most ships require at least one or more technologies in order to be built. The following section will describe each technology to be found in Homeworld, as well as listing the discoveries required to reach that branch and the new technologies it might suggest.



TECHNOLOGY TREE LEGEND	
ICON	DESCRIPTION
TECHNOLOGY	Technology
▲	Ships Produced
■	Technology Description



* ALSO REQUIRES ION CANNON
** ALSO REQUIRES SUPER CAPITAL SHIP DRIVE

TECHNOLOGY TREE LEGEND	
ICON	DESCRIPTION
TECHNOLOGY	Technology
▲	Ship Produced
■	Technology Description

4 MANAGERS AND OVERLAYS

4.1 INTERFACE OVERLAYS

screen shot

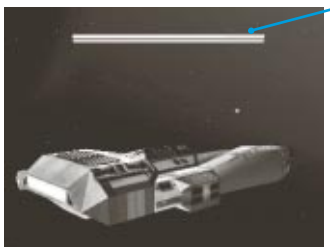
The gameplay screen has numerous overlays that convey information to the player about ships in text and graphic form.

Taskbar:
When the mouse pointer touches the bottom of the screen, the taskbar will appear. It contains a set of buttons for the Managers, a display for the current health of your Mothership, your current amount of Resource Units, and a Fleet Intelligence box that will display mission objectives in single player games. This taskbar can be toggled to be permanently visible from the gameplay options menu.

Cursor Text:
When the cursor is on top of a ship, its type will be displayed on the bottom left-hand corner of the screen.

Tactical Overlay:
If you turn on the tactical overlay with the [CAPS LOCK] key, a series of graphic symbols will be overlaid on units that are too distant from your camera view to make out clearly. A symbol legend will appear in the upper left hand corner of the screen. In multiplayer mode, a list of players will also be displayed. Alliance and resource transfer options can be accessed by right clicking on any of the names on the list.

Info Overlay:
On the top right-hand corner of the screen is a list of currently selected ships and the number of each type if you have selected a group of ships. You can leftclick on a ship type from that list in order to select one group of vessels from a group of many different types.



Ship Selection Overlay:
When you select a ship, a green health bar overlay will appear above the ship indicating how much damage the vessel has incurred. The bar will shorten as the ship is damaged and will change from green to yellow to red as conditions worsen. Strike Craft (Fighters and Corvettes) require fuel, so they also have a blue fuel bar overlay when they are selected. The length of this bar indicates how much fuel the Strike Craft has left. Certain ships use a brown bar in addition to the green health bar. For the Resource Collector, this indicates how much of its resource capacity is used. For the Cloak Generator and Gravity Well Generator, this indicates how much energy is left to maintain the cloaking or gravity field.

4.2 MANAGER SCREENS

Many of the more complex tasks, like ship building and research, have their own special screens to help you manage them more effectively and keep track of the strategic considerations of battle. They can be accessed at any time or place during combat by hitting the appropriate command key, and you can return to tactical view by hitting the [ESC] key.

4.2.1 BUILD MANAGER

screen shot

To access the build manager, do one of the following:

(a) Doubleclick on the Mothership or Carrier from which you wish to build.

(b) Select the ship you wish to build.

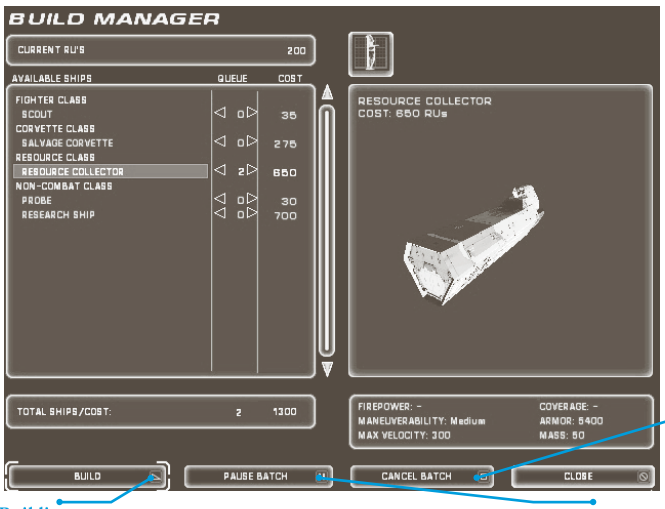
(c) Bring up the rightclick menu and then select the <build> command.

(d) Bring up the taskbar at the bottom of the screen and leftclick on the build button.

(e) Press the [B] key.

The build manager allows you to build ships and set up the construction queue in order to build many units at once.

The build manager gives basic details of each type of ship presently available for construction as well as your current number of resource units.



Building:
All the ships your current tech levels allow you to build are listed in the left side panel. Leftclick on the desired vessel with the left mouse button and its image and basic performance details will appear in the right side window. Leftclick again to add units to the production queue. When you are done adding unit, leftclick on the <BUILD> button.

Pausing a Build:
To pause a build, leftclick on its progress bar and then leftclick on the <PAUSE BATCH> button. When you are ready for the project to resume, simply re-select the ship type and then leftclick on the <PAUSE BATCH> button again. Construction will resume exactly where it left off.

Build Progress:
At this point, two colored bars will appear above the listing for the ship type you have just ordered built. The top line shows how close to completion a single vessel is, while the lower bar shows how close to completion the entire build order is. If you only ordered one vessel built, these two bars will move along together.

Canceling a Build
To cancel a build, leftclick on the type of ship being built and then leftclick on the <CANCEL BATCH> button. The RUs used in construction will be reclaimed.

4.2.2 RESEARCH MANAGER

screen shot

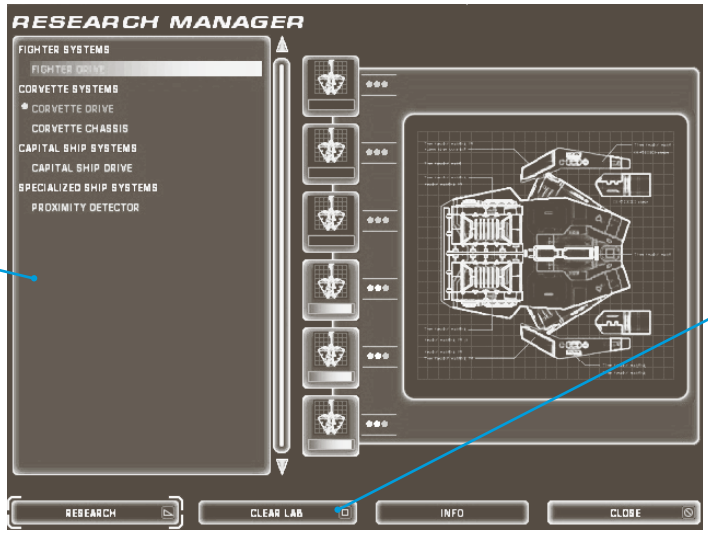
In order to access the research manager, do one of the following:

(a) Doubleclick on your Research Ship.

(b) Select the Research Ship, bring up the rightclick menu, and select the <RESEARCH> command.

(c) Bring up the taskbar at the bottom of the screen and leftclick on the research button.

(d) Press the [R] key.



Technology List:
This panel contains a list of technologies you can currently research. When a technology has been selected, a brief description of it and a graphic appear in the right-hand side panel. Technologies that have already been successfully researched will appear on the list with a green dot beside them.

Researching a Technology:
Doubleclick on the technology you wish to research.

NOTE: If you want to use multiple lab ships, select them first, then doubleclick on the technology.

OR: Leftclick on the <RESEARCH> button.

Canceling Research:
Select the technology currently being researched from the left panel list and leftclick on the <CLEAR LAB> button foundalong the bottom of the manager. You can also halt research in a particular lab ship by selecting it from the icon strip along the upper right side of the manager and then leftclicking on the <CLEAR LAB> button. When a project is canceled, all accumulated research in it is lost.

4.2.3 SENSORS MANAGER

screen shot

In order to access the sensors manager, do one of the following:

(a) Bring up the taskbar at the bottom of the screen and leftclick on the sensor button.

(b) Press the [SPACEBAR]

The sensors manager gives you a general view of the entire battlespace, and a detailed view of the space surrounding any of your vessels. Detailed areas exist within the blue spheres, and represent where your scanners are giving accurate information on what lies in the region. The black areas represent space outside of your scanning range, and so they are without detail.

Note: The normal camera commands of rotate and zoom are still fully functional in the sensors manager.

Looking:
Leftclick on any ships in the blue area to leave the Sensors Manager and go to that location.

OR: Drag a small box around the ships you wishto go to using the left mouse button.

Panning:
A 2-D disk has been provided to give a frame of reference for direction and distance. Use the crosshair in the middle of it to get a better look at different parts of the battlespace. Leftclick on the <PAN> button. While holding the button, drag the mouse around. When you've centered the crosshair on the area you want to look at, release the mouse button, and the normal camera controls are active again.

Using The Tactical Overlay:
Leftclick on the <TACTICAL OVERLAY> button along the bottom edge of the manager. With this button activated, the Tactical Overlay symbols from the normal gameplay screen will appear for Resource Collectors and Capital Ships.

SENSORS MANAGER LEGEND:

ITEM:	INDICATES:
GREEN DOTS	YOUR SHIPS
FLASHING GREEN DOTS	SELECTED SHIPS
RED DOTS	ENEMY SHIPS
YELLOW DOTS	ALLIES
BROWN DOTS	ASTEROIDS
FUZZY BROWN DOTS	DUST CLOUDS
RED 'PINGS'	SHOW WHERE BATTLES ARE TAKING PLACE AND WHERE PROXIMITY DETECTORS HAVE FOUND ENEMY SHIPS
GREEN 'PINGS'	SHOW WHERE NEWLY-BUILT SHIPS ARE LOCATED
YELLOW 'PINGS'	SHOW WHERE ANOMALIES ARE LOCATED (SINGLE PLAYER ONLY)

Moving Ships:
Press the [M] key or leftclick on the <MOVE> button, and then issue movement commands as you would from the normal gameplay screen. This is very useful for moving ships across long distances.

Hyperspace:
This command allows Capital ships to perform hyperspace jumps. With some Capital ships selected, click on this button to bring up the movement disk. Leftclick to set the destination you wish to hyperspace to. The cost of the hyperspace jump will be displayed near your cursor. If this cost turns red, you don't have enough Resource Units to make the jump.

4.2.4 LAUNCH MANAGER
screen shot

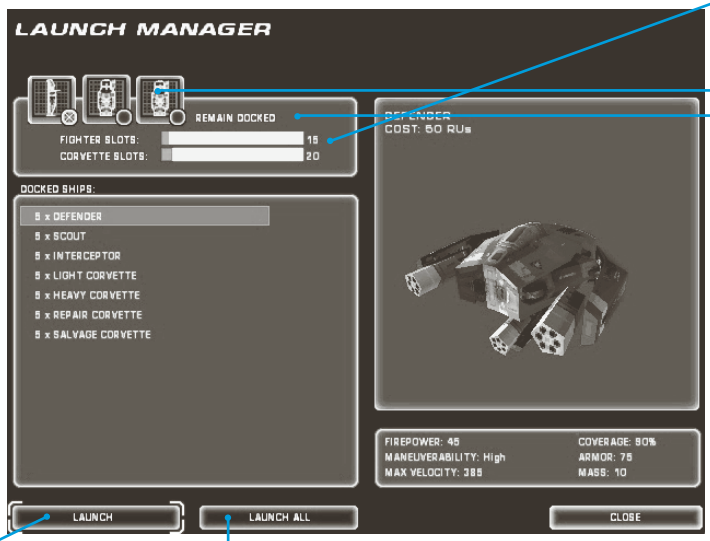
To Access the Launch Manager:

(a) Select the ship you wish to launch from, bring up the rightclick menu and select the <LAUNCH> command.

(b) Bring up the taskbar at the bottom of the screen and leftclick on the sensor button.

(c) Press the [L] key.

The launch manager allows you to check which ships are currently docked and set automatic launch parameters. The list of docked ships is in the left panel with a visual display of a selected ship type visible in the right-hand panel. The icons in a row above the right panel represent your Mothership and any Carriers you may have.



Docking Capacity:
These two colored bars graphically represent the remaining capacity of the ship in green. The actual numbers of Fighters and Corvettes docked are given to the left of their respective bars.

Selecting the Launch Vessel:
If you have built any Carriers, their icons will appear here. To see which ships are docked in one these vessels, leftclick on its icon from this list.

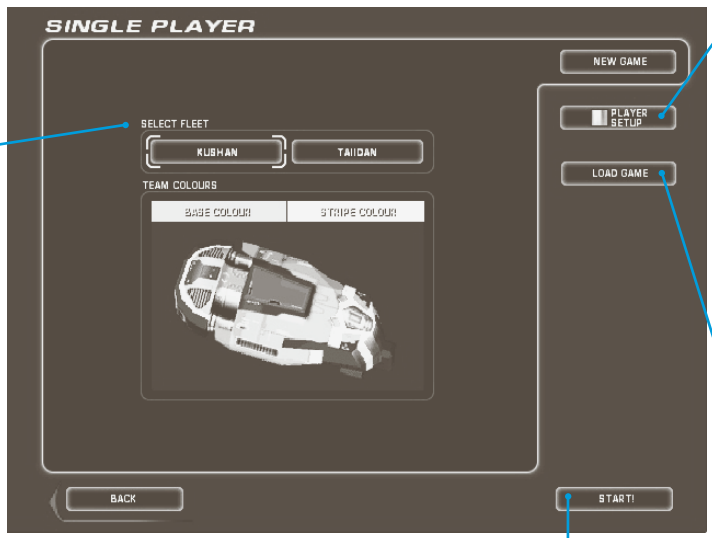
Remain Docked:
Leftclick on this checkbox to keep Strike Craft inside a Mothership or Carrier when they dock.

Launching Ships:
Leftclick on the type of ship you wish to launch and then leftclick on the <LAUNCH> button along the bottom of the screen. If you want to select multiple ship types for simultaneous launch, hold down the [CTRL] key or the [SHIFT] key while you select ship types.

Launching Everything:
To launch all ships held in the bay leftclick on the <LAUNCH ALL> button.

5 SINGLE PLAYER
screen shot

5.1 Starting a Game
In order to start a new single player game, leftclick on the <SINGLE PLAYER> button in the Main Menu.



Choosing Your Fleet:
Leftclick on the <KUSHAN> or <TAIIDAN> button to choose which fleet to play. A sample ship appears in the window in order to show the currently selected color scheme.

Player Setup :
This screen lets you set the base and stripe colors of your ships. To change your base color, leftclick on the <BASE COLOR> button. A small white circle will appear inside the large rainbow box. Click and drag the circle around the rainbow box until you have achieved a shade you are satisfied with. To change the stripe color, simply leftclick on the <STRIPE COLOR> button and repeat the process of dragging the white circle to choose a stripe color. You can also drag the slider, located to the right of the rainbow box, up and down to adjust the brightness of the color.

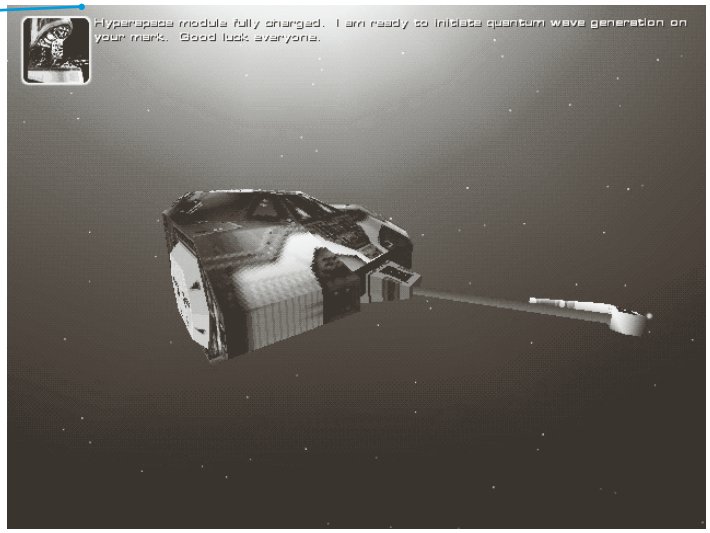
Loading a Saved Game:
Leftclick on the <LOAD GAME> button. A screen will appear with a list of saved games. Homeworl dautomatically saves your campaign at the beginning of every new level. These auto-saved games will appear along with the ones you have saved yourself. To load one, leftclick on it and then leftclick on the <LOAD!> button.

Starting The Game:
When you are happy with your choice of fleet and ship color, leftclick on the <START!> game button to begin the Single Player campaign.

Save a Game:
At anytime during gameplay, hit the [ESC] key and then choose <SAVE GAME> from the menu. When the Save Game screen comes up, leftclick in the narrow box below the save game list and type in a name for the saved game. Then leftclick on the <SAVE> button.

5.2 CHARACTERS
screen shot

The two characters you will hear from most often in Homeworld are Fleet Command and Fleet Intelligence. Anytime a character speaks, subtitles will appear at the top of the screen next to the icon.

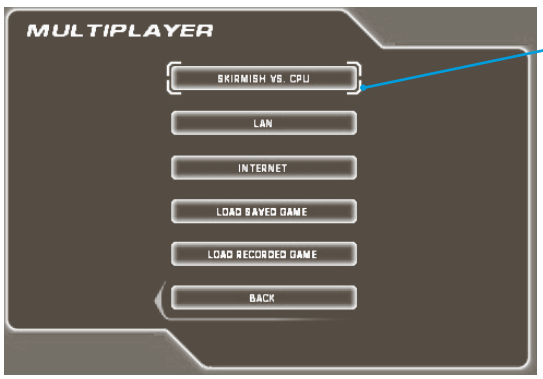


5.3 MISSION OBJECTIVES
screen shot

Mission objectives in the single player game are displayed on the right side of the taskbar. You can leftclick on an objective to replay the speech event that describes it. Primary objectives must be completed for the mission to end, but secondary objectives are optional.

6 MULTIPLAYER
screen shot

Homeworld can be played against human and computer opponents through a variety of different modes. While there are three different ways to engage in a multiplayer game of Homeworld, they all use the same system for creating the actual game and setting up the gameplay options and rules.



6.1 Skirmish vs. CPU
This option is for playing multiplayer games against computer players. After a game is created with the desired gameplay options (see "Setting Multiplayer Game Options"), leftclick on the <START> button to begin the action.

6.2 LAN
screen shot

To play Homeworld on a Local Area Network, choose <LAN> from the multiplayer menu.

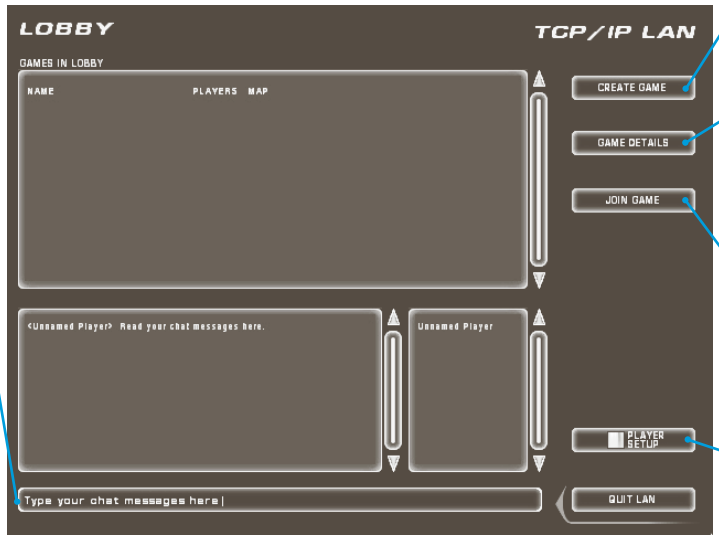
IPX LAN:
Homeworld will auto-detect if you have IPX and/or TCP/IP LAN and choose the appropriate protocal, so normally you will never have to touch this setting. If you have both IPX and TCP/IP installed, Homeworld defaults to IPX. Users who want more control and both protocals installed can select the IPX button for IPX, and the TCP/IP button for TCP/IP.

6.2.1 Play Lan Game
On this screen, leftclick on the name field and type in the name you wish to be known by on the multiplayer battlefield. Hit <ENTER> when you are finished typing. Leftclick on the <PLAYER SETUP> if you need to change your race or ship colors from previous multiplayer sessions. Once you are satisfied, leftclick on the <GO!> button.

People who want to play together on a LAN must be using the same protocal.

6.2.2 THE LOBBY
screen shot

The lobby is where you go to see who else is on the LAN, chat, organize your own game, or see what games are still accepting players. The names of the players currently in the lobby are in the bottom right panel, and any chat messages are printed in the bottom left panel.



Chatting:
If you wish to send messages to the other players in the lobby, just leftclick here and type your message. If you wish to whisper a private message to just one player, type /<playername> and the rest of your message.

Creating Your Own Game:
Leftclick on the Create Game button. This takes you to the game setup screen.

Game Details:
The list of games available in the lobby is displayed in the large upper display panel. To see which options are being used in a game, leftclick on the game you are interested in and then leftclick on this button.

Joining a Game:
Leftclick on the game you wish to join on the main list and then leftclick on this button.

Player Setup:
If you wish to change your fleet or ship colors at any time, leftclick on this button.

6.2.3 SETUP GAME
screen shot

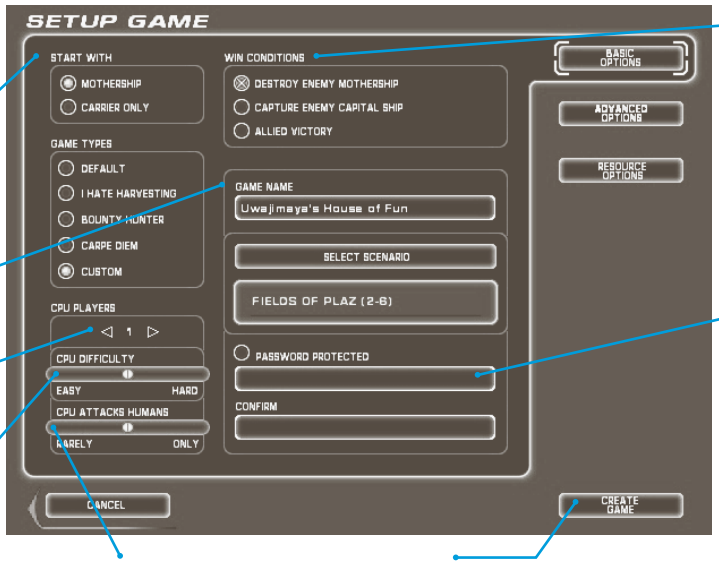
Setup Game:
The setup game screen is where you set the name of your game and the number of CPU players, as well as all the gameplay options available.

Start With:
This setting lets you decide whether to start the game with a Mothership or a Carrier.

Naming Your Game:
Click on this panel and type in a name for your game.

Number of CPU Players:
Leftclick on the arrows to increase or decrease the number of computer players you want in the game.

CPU Difficulty:
This slider lets you set the difficulty of the computer-controlled opponents.



CPU Attacks Humans:
This sliders lets you set how likely the CPU player will attack human opponents.

Create Game:
The rest of the game options are explained below in the "setting multiplayer game options" section. When you are satisfied with your choices, leftclick on the <CREATE GAME> button.

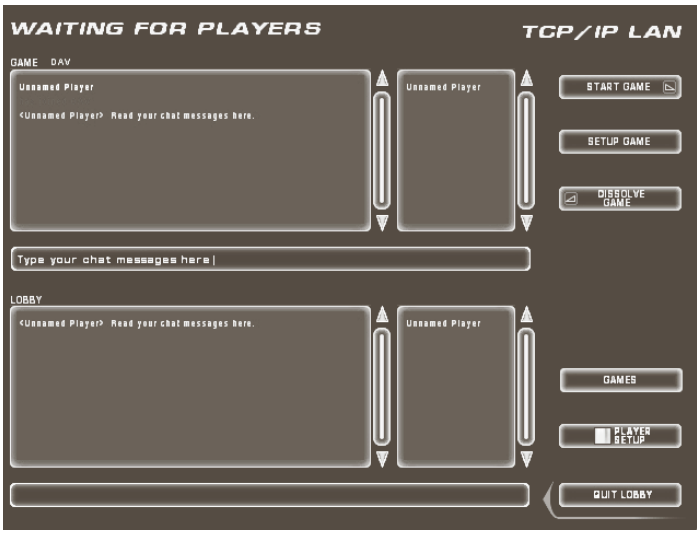
Win Conditions:
These checkboxes let you set the various win conditions for the game. Destroy enemy Mothership means the enemy's Mothership must be destroyed and capture enemy capital ship means you can also win by capturing an enemy capital ship. Allied victory means that players who are allied can win the game together by defeating their enemies.

Password on the Game:
If you want to restrict access to your game, leftclick on the <password protected> checkbox. Leftclick on the narrow panel directly below and type in the password you wish to use. Confirm your password by re-entering it in the panel below. In order for other players to join the game you created, you will have to tell them the password.

6.2.4 WAITING FOR PLAYERS

screen shot

After you create the game, you are returned to the lobby to wait for players to join your game. When you are ready to start, you can leftclick on the <START GAME> button. If you wish to change some of the game options, click on the <SETUP GAME> button and this will take you back to the game options screen. If you no longer wish to host a game, leftclick on the <DISSOLVE GAME> button.



6.3 INTERNET

Homeworld can be played over the Internet only on the World Opponent Network, a free gaming site. If you do not already have an account, you must create one before playing Homeworld.

6.3.1 LOGIN

screen shot

From this screen you can log onto WON, change your colors or fleet, change your password, or create a new account.

Launch WON!:
To connect to the World Opponent Network, leftclick on this button and you will find yourself in the Homeworld lobby on WON. Setting up and playing a game on WON is identical to playing on a LAN except WON has multiple rooms instead of just one lobby.

Firewall Settings:
If you are behind a firewall, you should select the <Behind Firewall> button. If you know you're not behind a firewall you should check the <Not Behind Firewall> button. If you are unsure or don't know what a firewall is, choose Auto-detect, which is the default.

Technical note: When you create a game, if one or more players are behind a firewall, WON will create a dedicated server for the game instead of using the default peer-to-peer connection. Slow modem users *who host games* may want to choose the <Behind Firewall> option (even if they are not behind a firewall) so WON always uses a dedicated server, which will require less bandwidth on their modem.

Remember, if you are unsure what you firewall status is, just select auto-detect.

Player Setup:
Leftclick on this button if you wish to change your fleet or ship colors.

Change Password:
If you wish to change your WON password, leftclick on this button.

Create New Account:
If you do not have a WON account, leftclick on this button, then type in the following information:

Name
Leftclick on this panel and type in the name you wish to use for your WON account.

Password
Leftclick on this panel and enter the password you wish to use.

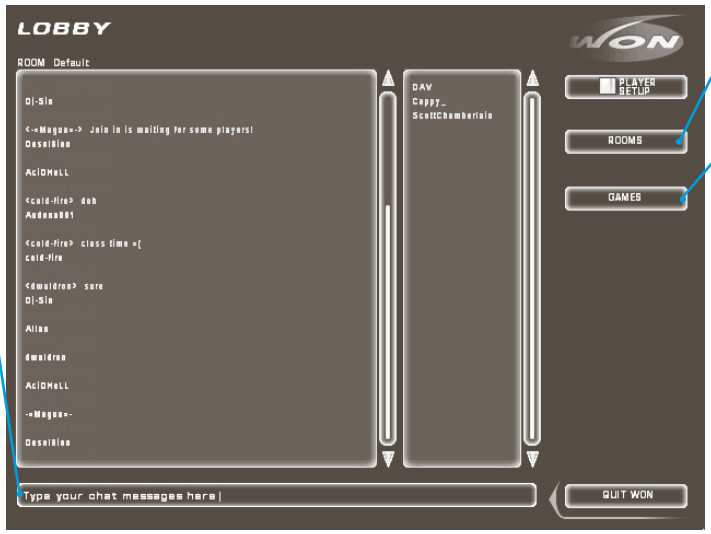
Confirm Password
Leftclick on this panel and enter your password again to make sure you have typed it in correctly in the previous panel.

New Account
Leftclick on this button to create a new account. If you chose an account name already in use you will have to repeat this process using a different account name.

6.3.2 WON LOBBY

screen shot

WON is organized into rooms. Players can leave and enter rooms and create or join games in the current room. Players in the current room are listed in the panel on the right, and chat messages are listed in the panel on the left. The names of the players in the lobby are in the bottom right panel and any chat messages are printed in the bottom left panel.



Changing Rooms:
room or create a room of your own, leftclick on this button.

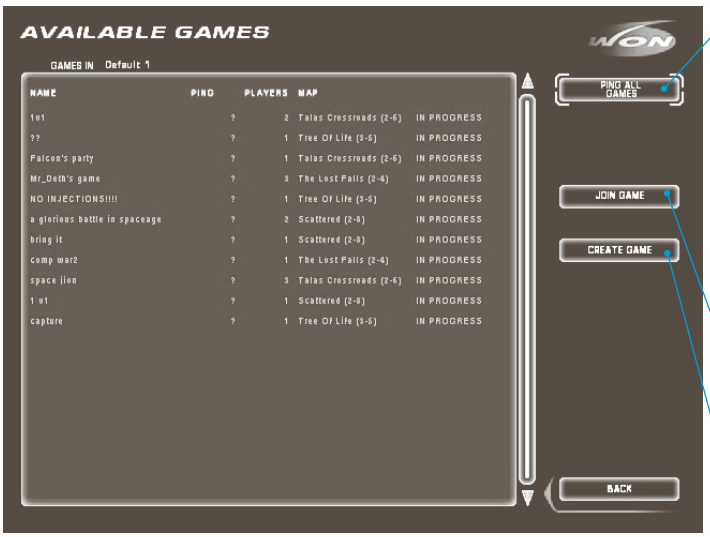
Joining Games:
If you want to join a game in this room or create one yourself, leftclick on this button.

Chatting:
If you wish to send messages to the other players in the lobby, leftclick here and type your message. If you wish to whisper a private message to just one player, type <playername> and then the rest of your message.

6.3.3 AVAILABLE GAMES

screen shot

From this screen you can see a list of games in the room displayed in the large panel. You can join any of these games, view the options for each of them, update their ping times, or create your own game.



Updating Ping Times:
Leftclick on this button to update the ping times of all the games in the list. The lower the ping time, the faster your connection to the game will be.

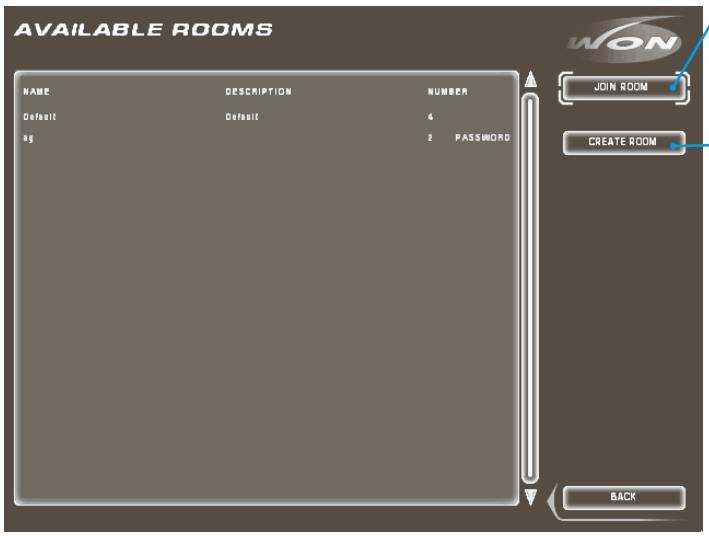
Joining a Game:
Leftclick on the game you wish to join on the main list, then leftclick on this button.

Creating a Game:
Leftclick on this button to create a game in the current room. See “setting multiplayer game options” for more information on creating the game.

6.3.4 AVAILABLE ROOMS

screen shot

From this screen you can see a list of the rooms on WON in the large panel. You can join one of these rooms or create your own.



Joining a Room:
To join a room, first leftclick on its name in the list, then leftclick on the <JOIN ROOM> button.

Creating a Room:
To create a room, leftclick on the <CREATE ROOM> button and fill in the necessary information.

6.4 SET UP GAME MULTIPLAYER

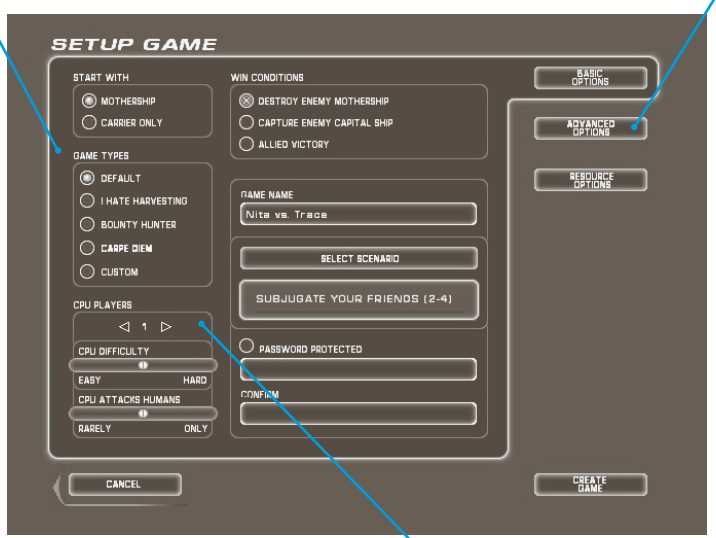
screen shot

Game Type:
Homeworld comes with several pre-defined setups for different styles of multiplayer gaming. Selecting one of these game types changes a variety of options on all of the options screens.

I Hate Harvesting:
No harvesting of resources is required in this game type. RU injections are turned on with a lump sum injection as well.

Bounty Hunter:
Bounties are turned on in this game type, meaning each enemy ship you kill brings in a bounty - - in RUs. Players with larger fleets have higher bounty ratings, making them more attractive targets.

Carpe Diem:
"Seize the day." This game type requires you to capture an enemy ship to win the game.



Basic Options:

Select Map:
This allows you to select in which location the multiplayer battle will take place. The number listed after the map name shows how many players that map supports.

CPU players:
This sets how many computer players will be present in a game.

Start With:
This option lets you decide if everyone starts the battle witha Mothership or only a Carrier.

Advanced Options:

Win Conditions:
This sets whether the game is won by destroying everyone's Mothership or by capturing an enemy Capital Ship.

Disable Research:
This option turns off the research model in the game and allows all players full access to all technologies from the beginning of the game.

Disable Crates:
If you toggle this off, no bonus crates will appear during the course of the game.

Disable Unit Capping:
This allows an unlimited number of vessels to be produced in the game. This can seriously slow down the game, even on the best of home computers.

Disable Fuel Burn:
If keeping track of fuel for Strike Craft (Fighters and Corvettes) is getting to be too much of a problem, turn off fuel consumption with this selection.

Allied Victory:
Checking this box will ensure that players who are allied can win a game together when they defeat players not in their alliance.

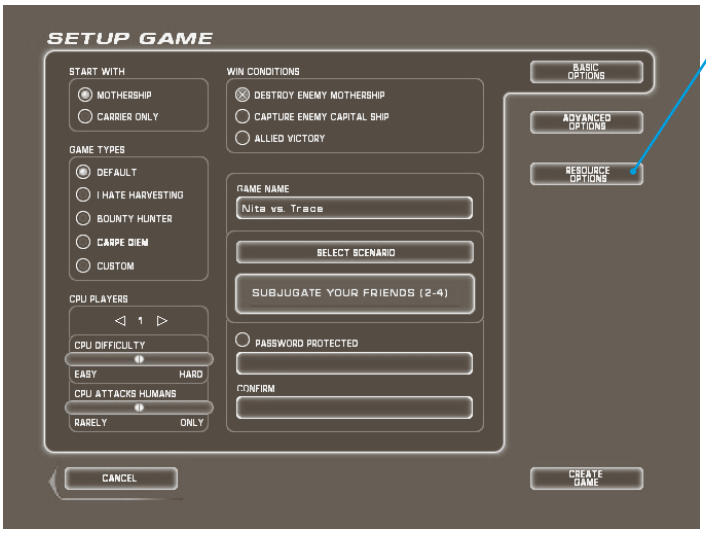
Bounties:
With this option toggled on, you get a bounty in RUs for every enemy unit you destroy. Larger units bring greater rewards.

6.4 SET UP GAME MULTIPLAYER
screen shot

6.5 Saving a Multiplayer Game: While playing the game, hit the [ESC] key and then choose 'save game' from the options list. This option functions the same as it does in Single-Player mode.

6.6 Loading a Multiplayer Game: From the multiplayer menu, leftclick on the <LOAD SAVED GAME> button to bring up a list of saved multiplayer games. Left click on a game in the list and then leftclick on the <LOAD GAME> button to load it.

6.7 Recording a Multiplayer Game: Homeworld allows you to record any multiplayer game and watch it later, from any angle. When you wish to start recording a game, hit the [ESC] key and leftclick on the <RECORD> button. Follow the same process that you would if you were saving a game. You may load a recording at any time by leftclicking on <LOAD RECORDED GAME> from the multiplayer menu. Once loaded, you can focus onany ship in the world from the Sensors Manager, not just your own.



Player Options:

Selecting a Fleet:
Here you can choose to play either Kushan or Taiidan in the game you are creating.

Choosing Ship Colors:
This screen lets you set the base and stripe colors of your ships. To change your base color, leftclick on the <BASE COLOR> button. A small white circle will appear inside the large rainbow box. Click and drag the circle around the rainbow box until you have achieved a shade you are satisfied with. To change the stripe color, leftclick on the <STRIPE COLOR> button and repeat the same process of dragging the white circle to choose a stripe color. You can also drag the slider, located to the right of the rainbow box, up and down to adjust the brightness of the color.

Resources Options:

Disable Harvesting:
This toggles resource collection on or off. With it off, you will have to toggle on some other supply of RUs or your game will run out of resources fairly quickly.

Starting Resources:
This sets the level of resources with which each side begins the scenario.

Resource Injections:
This section must be toggled on by leftclicking on the checkbox. You can then set how often players will receive a chunk of RUs, and how large that chunk is.

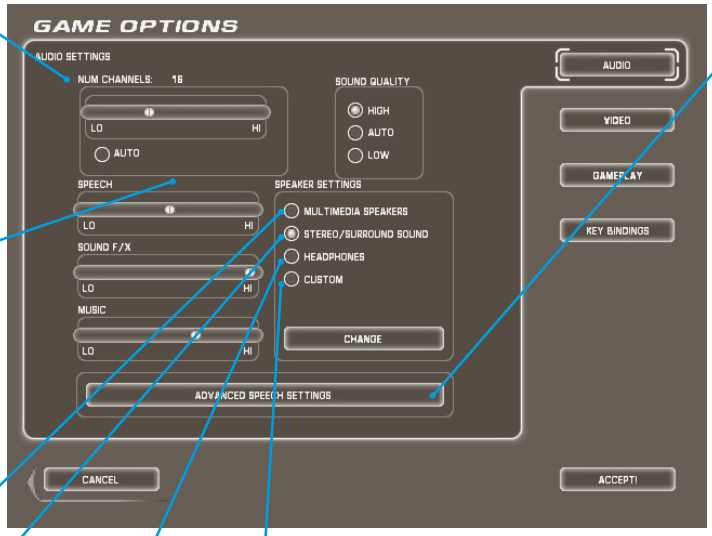
One Lump Sum:
If you toggle this option, you will receive only one lump sum of resources a certain amount of time after the game begins. Both the amount and timing of this precious gift can be set.

7 OPTIONS

The options menu can be accessed either from the opening menu or by hitting [ESC] at any time during a game. It gives you access to a number of gameplay and display options.

7.1 AUDIO OPTIONS

screen shot



Num Channels:
This is the number of sound effects that the game will mix at one time. A high number of channels will give a more immersive experience but may adversely affect the frame rate of the game. Selecting auto allows the audio engine to turn off channels when the frame rate starts to get low, it will automatically increase the number of channels as the frame rate increases.

Volume Settings:
This section, consisting of three slider bars, allows you to set the volume levels for the game's speech, sound effects and music independently. Left-click, hold on the level indicator and drag the mouse left or right to increase or decrease the volume of these features.

Multimedia Speakers:
This setting equalizes the audio engine for optimal performance with the average multimedia speaker system.

Stereo/Surround Sound:
This setting equalizes the audio engine for optimal performance with high end multimedia speakers or a home stereo.

Headphones:
This setting equalizes the audio engine for optimal performance with average headphones.

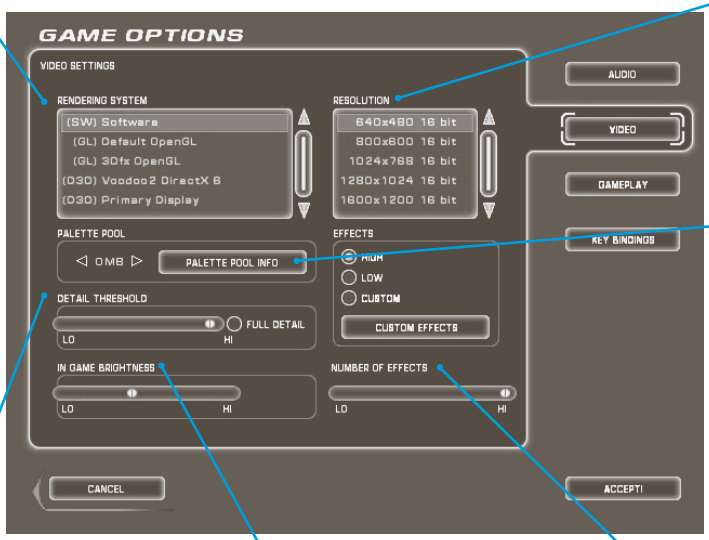
Custom:
By pressing the change button, you can tune the optimal equalization settings for your speakers or headphones.

Sound Quality:
High quality is the recommended setting. Selecting low quality will help increase the frame rate of the game. Selecting auto allows the audio engine to drop to low quality when the frame rate starts to get low, it will automatically go back to high quality when the frame rate increases.
NOTE:
While playing a multiplayer game, you may change the music track you are listening to by pressing the [<] to select the previous track or the [>] key to select the next track.

Advanced Speech Settings Menu:
Access this sub-menu by left-clicking on the <ADVANCED SPEECH SETTINGS> button. Leftclick on the <ACCEPT> button when the options are set to your preference.
Vocal Settings:
This section allows you to pick which speech sounds are heard during the course of your game. Leftclick on the check boxes to turn these sounds on or off. Command voices are the responses to your commands given during the game. Status reports are the voices that update you on new sensor reports, battles, and other goings-on in the game. Random chatter describes the voices of your various pilots and gunners as they perform their tasks, gloat over victories or yell for assistance. Random chatter is not vital to your situational awareness but adds greatly to the immersive quality of the game.
Voice Selection:
This section allows you to turn off any or all of the three voices used in the game. Leftclick on the <HEAR> button to sample the voices.

7.2 VIDEO OPTIONS

screen shot



Rendering System:
All systems that can run Homeworld will be able to run it in software. However, many users will ave some form of hardware accelerator card that allows them to use Direct3D or OpenGL acceleration. This listbox lists the supported redndering systems that Homeworld has detected on your system. The items listed in this window may include Software, Default OpenGL, 3dFX OpenGL and Direct3D Primary display. If you do not have a hardware accelerator for OpenGL, you will still have an option for Default OpenGL. Please note that this will be much slower than the Software option.

Level of Detail Threshold:
This slider bar controls the level of geometric complexity in rendered images. Sliding the bar to the left reduces the number of polygons in a single frame and results in chunkier looking ships. Adjust to achieve a balance between game performance and visual fidelity.

In Game Brightness:
This Option affects how brightly the ships are rendered in the game. It does not affect the user interface screens or the backgrounds. You may want to turn this up to improve the brightness or contrast of the game depending on your machine.

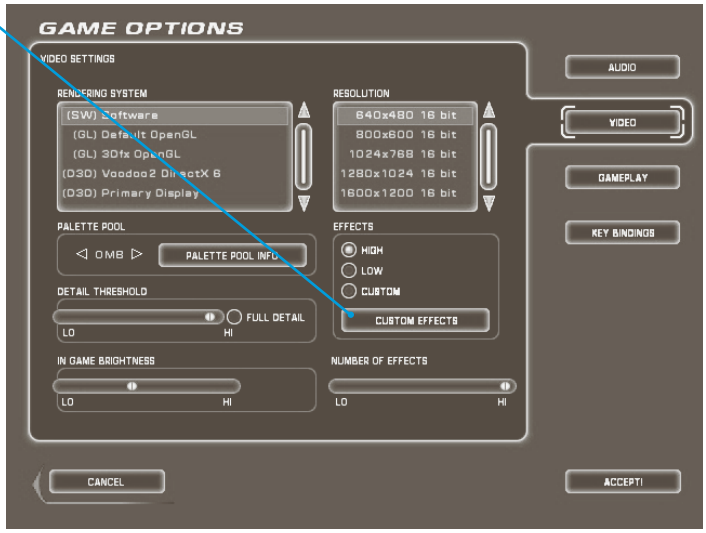
Number of Effects:
This slider affects how many effects are drawn in the game. Turning it up will result in a richer, more detailed game experience with more special effects but will also make it slower. To improve frame rate, you may want to turn this option down.

Resolution:
This panel displays the screen resolutions available for the rendering system you have chosen. Lower resolutions will speed up graphics at the cost of image smoothness and detail. Leftclick on the resolution setting you wish to use.

Palette Pool:
Certain video cards do not support paletted textures and require additional RAM to store temporary copies of the converted textures.
This control allows you to adjust how much memory is reserved for the texture pool. Increasing the size of the pool will decrease the amount of graphical slowdown that occurs when downloading textures to your video card.
The control will be disabled if your hardware does not require this extra step.

7.2 VIDEO OPTIONS

screen shot



Custom Effects :
This sub-menu lets you choose which advanced graphic effects will be activated in your game. Each has its own cost in terms of performance, and its own benefits in terms of visual effects. A particular effect can be turned on or off by left clicking on the checkbox at the left of the feature name.

Surfacing Filtering:
Selecting this option will make textures appear smoother and less chunky. Surface filtering is not available when using the software renderingsystem.

Background Images:
This determines whether the galactic backdrop is displayed instead of the blackness of space. Users with slower machines, or those using the software rendering system, may want to turn this option off to speed up gameplay.

Stipple Alpha:
Selecting this option will cause the software rendering system to display transparency effects with a screen-door appearance, which results in higher graphic performance at the expense of visual quality.

Blob Alpha:
Selecting this option will cause the circles in the Sensors Manager to be displayed with afaded fringe. Owners of slower computers may want to disable this option to speed up the display when in the Sensors Manager.

Instant SM Transition:
Selecting this option causes the transition from the main game screen to the Sensors Manager to be immediate instead of smooth and fluid. Users with slower machines may want to enable the instant transition to improve response.

Bullet Effects:
turning this option off will cause all bullets to be drawn with a simple bullet effect. This can improve the frame rate on slower machines during big battles, but will not look as good. See also "Number of Effects" in the video options screen.

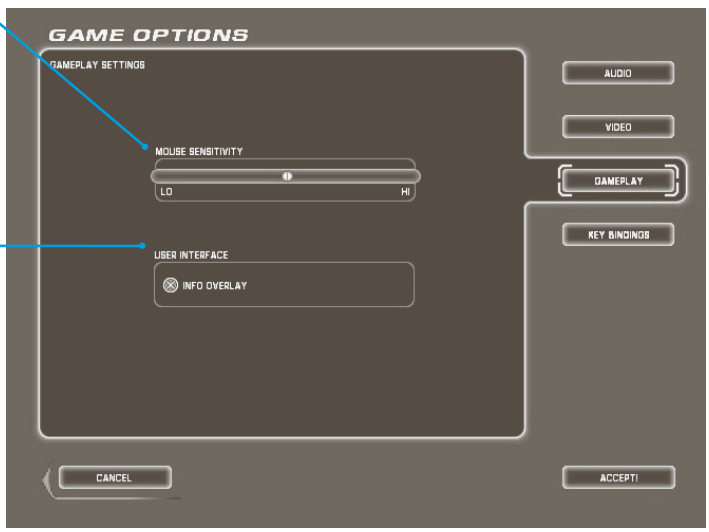
Hit Effects:
Turning this option off will disable bullet hit effects. These effects are played whenever bullets hit ships or other game objects. Owners of slower computers or without any hardware acceleration may want to diable this option to speed up the game during big battles. See also "Number of Effects" in the video options screen.

Damage Effects:
When ships get damaged, they may spark, smoke or emit flames. While this is an important gameplay element, rendering of these effects can cause a slow framerate on slower machines or machines without hardware acceleration. Owners of these slower machines may want to disable these effects. See also "Number of Effects" in the video options screen.

Muzzle Flash Effects:
Turning this option off will disable effects that get played when ships fire bullets. Disabling this option may speed up the game on slower machines during big battles, but will not look as good. See also the "Number of Effects" in the video options screen

7.3 GAMEPLAY OPTIONS

screen shot

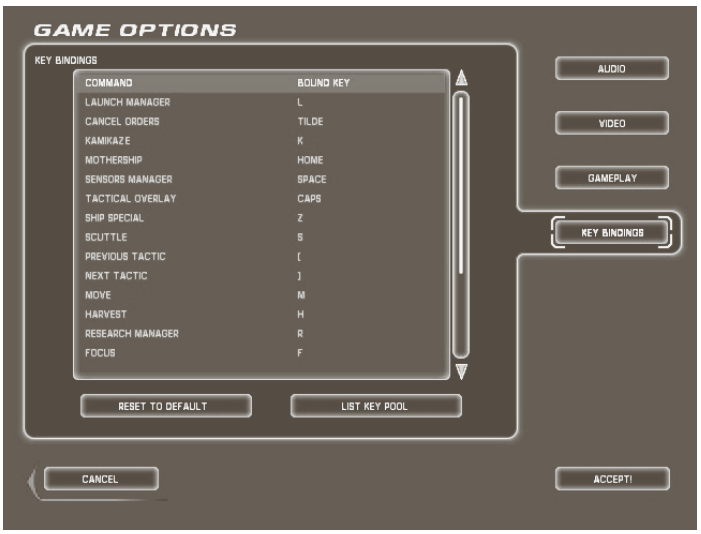


Mouse Sensitivity:
This slider bar controls how much mouse motion it takes to move the cursor on the screen. Leftclick and drag the indicator to the left to make your cursor move more slowly and to the right to make it respond to mouse movement more quickly.

Info Overlay:
With this toggled on, every time you select a ship or group of ships, their type and numberwill appear in the upper right corner of the screen.

7.4 KEY BINDINGS
screen shot

This menu allows you to change which gameplay commands are activated by which keystroke. To change a command key, doubleclick on the command you wish to change and press the new key you wish to trigger the command. Should you wish to erase all the changes you have made and return the command keys to their original assignments, leftclick on the <RESET TO DEFAULTS> button.



8 SHIP DATA

8.1 Ship Categories

Ships in Homeworld are divided into several broad categories based on tonnage. Initially, no combat vessel larger than a Corvette is available, but through research all classes become available. Those classes are as follows:

Strike Craft:

This small ship class includes both Fighter and Corvette hulls. While highly maneuverable (Fighters are the only vessel class capable of performing special combat flight maneuvers), Strike Craft are unable to carry enough reactor mass to generate a self-sustaining drive torch, and so they must be refueled. This limits their range from the Mothership, unless a Support Frigate is provided to carry fuel for them. Strike Craft also are too small to carry the hyper drive module and cannot enter hyperspace by themselves.

Capital Ships:

This class represents the first generation of large crew vessels and includes the Frigate and Destroyer classes of warships along with the larger support vessels like the Cloak Generator, Resource Collector and Grav Well Generator. Capital Ships are the hard backbone of any attack fleet, and what they lack in speed and maneuverability is made up for in firepower and armor. Capital Ships have a limited self-repair capability.

Super Capital Ships:

These huge warships represent vast investments of resources, time and technology, and are as valuable as they are powerful. Second only to the massive Mothership in size and capability, these vessels are dreadnoughts of cutting edge-technology. They carry their own hyper drive modules and some even have onboard manufacturing arrays in order to replace ordinance or construct smaller vessels. While extremely powerful and able to absorb large amounts of damage, they are still vulnerable to masses of small ships and should never be deployed without a flotilla of smaller warships.

8.2 Ship Stats and Descriptions

SOME DEFINITIONS:	
Mass:	The mass of the ship in tons
Firepower:	The amount of damage the ship can inflict (relative weighting)
Armor:	The amount of damage the ship's armored hull can withstand
Coverage:	The percentage of a sphere the ship can cover with its guns
Maneuverability:	How maneuverable and agile the ship is
Max. Velocity:	The ship's top speed

DESIGNATION

SCOUT

DESCRIPTION

True to its name, the Scout is a fast, cheap ship that is useful for scouting out enemy locations.

Because of its high maneuverability, the Scout is excellent for creating diversions and light harassment while avoiding enemy fire.

KUSHAN

TAIIDAN

MASS:	40 TONS	MANEUVERABILITY:	VERY HIGH
FIREPOWER:	10	MAX. VELOCITY:	1000M/S
ARMOR:	110	SPECIAL FUNCTION:	SPEED BURST
COVERAGE:	8%		(PRESS [Z] TO ACTIVATE)

REQUIRED TECHNOLOGY: none

DESIGNATION

INTERCEPTOR

DESCRIPTION

While less maneuverable than the Scout, the Interceptor easily compensates with its much heavier weaponry. The Interceptor is a good Fighter killer and stacks up favorably against Capital Ships when used in greater numbers.

KUSHAN

TAIIDAN

MASS:	60 TONS	MANEUVERABILITY:	HIGH
FIREPOWER:	18	MAX. VELOCITY:	875 M/S
ARMOR:	160	SPECIAL FUNCTION:	NONE
COVERAGE:	10%		

REQUIRED TECHNOLOGY: Fighter Drive, Heavy Fighter Chassis

DESIGNATION

DEFENDER

DESCRIPTION

Although its slow speed keeps the Defender from being a primary attack force, its gimbaled guns and high power rotational thrusters allow it the greatest coverage of all Fighters.

KUSHAN

TAIIDAN

MASS:	60 TONS	MANEUVERABILITY:	HIGH
FIREPOWER:	30	MAX. VELOCITY:	385 M/S
ARMOR:	280	SPECIAL FUNCTION:	NONE
COVERAGE:	90%		

REQUIRED TECHNOLOGY: Fighter Drive, Heavy Fighter Chassis, Fire Control

DESIGNATION

CLOAKED FIGHTER

DESCRIPTION

With cloaking sails active, the Cloaked Fighter is the stealthiest ship around. Highly useful for simple surveillance, the Cloaked Fighter is also a good attack craft. It must, however, de-cloak to fire, making it vulnerable for a short period of time.

KUSHAN

TAIIDAN

(KUSHAN ONLY)

MASS:	40 TONS	MANEUVERABILITY:	HIGH
FIREPOWER:	10	MAX. VELOCITY:	775 M/S
ARMOR:	150	SPECIAL FUNCTION:	CLOAKING (DOUBLECLICK OR:
COVERAGE:	10%		PRESS [Z] TO ACTIVATE)

REQUIRED TECHNOLOGY: FIGHTER DRIVE, HEAVY FIGHTER CHASSIS, CLOAKED FIGHTER

DESIGNATION

ATTACK BOMBER

DESCRIPTION

A technological advance created plasma bomb technology small enough to fit in a Fighter-sized craft. The Attack Bomber was born. While its slow-moving plasma bombs can be outrun by Fighters, they make short work of Frigates and other Capital Ships.

KUSHAN

TAIIDAN

MASS:	90 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	45	MAX. VELOCITY:	700 M/S
ARMOR:	300	SPECIAL FUNCTION:	NONE
COVERAGE:	5%		

REQUIRED TECHNOLOGY: FIGHTER DRIVE, HEAVY FIGHTER CHASSIS, PLASMA BOMB LAUNCHER

DESIGNATION

DEFENSE FIGHTER

DESCRIPTION

The Defense Fighter has no attack weaponry to speak of; instead, it fires beams from its emitter dome to shoot down oncoming enemy fire. This makes the Defense Fighter an excellent mobile protective force, especially when used with other Fighter craft.

KUSHAN

(TAIIDAN ONLY)

TAIIDAN

MASS:	75 TONS	MANEUVERABILITY:	HIGH
FIREPOWER:	-	MAX. VELOCITY:	875 M/S
ARMOR:	300	SPECIAL FUNCTION:	NONE
COVERAGE:	80%		

REQUIRED TECHNOLOGY: FIGHTER DRIVE, HEAVY FIGHTER CHASSIS, DEFENSE FIGHTER

DESIGNATION

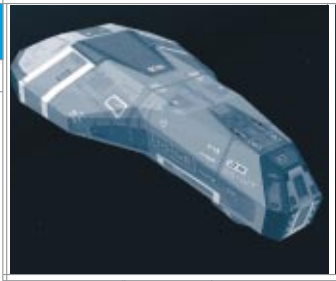
LIGHT CORVETTE

DESCRIPTION

Its heavy-duty engine, chassis, and armor make the Light Corvette significantly slower than any of the Fighter-class ships.

Its salvation comes in a powerful turreted gun which is fast enough to hit Fighters flying at full speed.

KUSHAN



TAIIDAN

MASS:	400 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	100	MAX. VELOCITY:	575 M/S
ARMOR:	900	SPECIAL FUNCTION:	NONE
COVERAGE:	40%		

REQUIRED TECHNOLOGY: CORVETTE DRIVE, CORVETTE CHASSIS

DESIGNATION

HEAVY CORVETTE

DESCRIPTION

More armored than its light cousin, the Heavy Corvette adds a second high powered turret to an already powerful craft. Its turrets allow the Heavy Corvette to track two Fighters at once and also make it a moderate threat to Capital Ships.

KUSHAN

TAIIDAN

MASS:	750 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	200	MAX. VELOCITY:	350
ARMOR:	1700	SPECIAL FUNCTION:	CHARGED BURST ATTACK
COVERAGE:	50%		(HOLD [Z] + LEFTCLICK ON THE TARGET TO ACTIVATE)

REQUIRED TECHNOLOGY: CORVETTE DRIVE, CORVETTE CHASSIS, HEAVY CORVETTE UPGRADE

DESIGNATION

REPAIR CORVETTE

DESCRIPTION

The Repair Corvette is capable of repairing and refueling Fighters "in the field." While equipped with only a small gun, the Repair Corvette has heavy armor to protect itself and the craft it's repairing. Timely support from a Repair Corvette can be quite useful in a long battle.

KUSHAN

TAIIDAN

MASS:	750 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	65	MAX. VELOCITY:	500 M/S
ARMOR:	1200	SPECIAL FUNCTION:	CAN REPAIR + REFUEL STRIKE
COVERAGE:	10%		CRAFT, REPAIR CAPITAL SHIPS. (HOLD [Z] + LEFTCLICK

REQUIRED TECHNOLOGY: NONE ON THE SHIP(S) TO SERVICE)

DESIGNATION

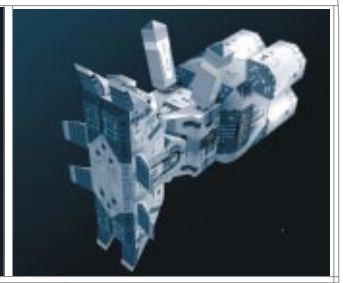
SALVAGE CORVETTE

DESCRIPTION

This beefy Corvette was once used exclusively for towing junk and salvaging derelicts. After being adapted for combat, the Salvage Corvette gained the ability to capture enemy ships that are heavily damaged. Once captured, these ships are towed back to a Carrier or the Mothership for refitting.

KUSHAN

TAIIDAN



MASS:	1200	MANEUVERABILITY:	MEDIUM
FIREPOWER:	NA	MAX. VELOCITY:	425 M/S
ARMOR:	1200	SPECIAL FUNCTION:	CAPTURE OF ENEMY SHIPS
COVERAGE:	-		(LEFTCLICK ON ENEMY SHIPS TO ACTIVATE)

REQUIRED TECHNOLOGY: CORVETTE DRIVE, CORVETTE CHASSIS

DESIGNATION

MULTI-GUN CORVETTE

DESCRIPTION

Following advances in turrets and auto-targeting, the Multi-Gun Corvette was conceived. It sports a full six articulating turrets. This allows it to track numerous fast-moving targets at once, making it especially deadly against large groups of Fighters.

KUSHAN

TAIIDAN

MASS:	750 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	180	MAX. VELOCITY:	695 M/S
ARMOR:	1400	SPECIAL FUNCTION:	NONE
COVERAGE:	78%		

REQUIRED TECHNOLOGY: CORVETTE DRIVE, CORVETTE CHASSIS, FAST TRACKING TURRETS

DESIGNATION

MINELAYER CORVETTE

DESCRIPTION

While the Minelayer has normal attack capability (dropping mines that float slowly toward their target), it can also perform a force mine drop, where a wall of mines are laid at the current location. Running into a minefield with a fleet of Capital Ships is sure to ruin anyone's day.

KUSHAN

TAIIDAN

MASS:	900 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	300	MAX. VELOCITY:	425 M/S
ARMOR:	800	SPECIAL FUNCTION:	CREATION OF MINEFIELDS
COVERAGE:	-		(DOUBLECLICK OR: PRESS [Z] TO ACTIVATE)

REQUIRED TECHNOLOGY: CORVETTE DRIVE, CORVETTE CHASSIS, MINELAYING TECH

DESIGNATION

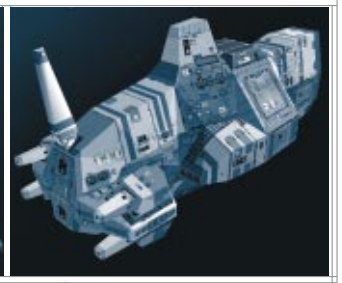
ASSAULT FRIGATE

DESCRIPTION

The Assault Frigate is the most general purpose combat ship of the capital ships. It has four large turrets, which afford it excellent coverage, as well as two fixed plasma bomb launchers. While its turrets are too slow to track fast-moving Fighters, they can take out the slower Corvettes with ease.

KUSHAN

TAIIDAN



MASS:	45,000	MANEUVERABILITY:	LOW
FIREPOWER:	2400	MAX. VELOCITY:	325 M/S
ARMOR:	16000	SPECIAL FUNCTION:	NONE
COVERAGE:	75%		

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE, CAPITAL SHIP CHASSIS

DESIGNATION

ION CANNON FRIGATE

DESCRIPTION

When ion beam power was harnessed, the scale necessary to produce a severely damaging beam meant that an entire Frigate could hold only one cannon. The acceleration ladder alone runs the entire length of the ship. What results is a devastatingly powerful, focused ion beam.

KUSHAN

TAIIDAN

MASS:	57,000	MANEUVERABILITY:	LOW
FIREPOWER:	4000	MAX. VELOCITY:	300 M/S
ARMOR:	15000	SPECIAL FUNCTION:	NONE
COVERAGE:	2%		

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE, CAPITAL SHIP CHASSIS, ION CANNONS

DESIGNATION

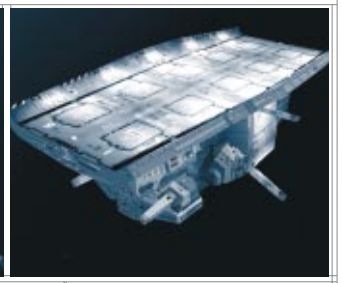
SUPPORT FRIGATE

DESCRIPTION

Giving support to Strike Craft in combat is the Support Frigate's main role. It has ten Fighter docking pads and four Corvette docking arms for repairing and refueling. Although it is well armored, the Support Frigate has only one large turret for defense and is best not left alone.

KUSHAN

TAIIDAN



MASS:	45,000	MANEUVERABILITY:	LOW
FIREPOWER:	760	MAX. VELOCITY:	450M/S
ARMOR:	12000	SPECIAL FUNCTION:	CAN REPAIR + REFUEL STRIKE
COVERAGE:	15%		CRAFT (HOLD [Z] + LEFTCLICK ON SHIP(S) TO SERVICE

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE

DESIGNATION

DRONE FRIGATE

DESCRIPTION

The Drone Frigate is essentially a holding and control system for the 24 drones it houses. These highly maneuverable drones each contain a powerful gun and, when launched, form a sphere around the Drone Frigate, giving it superb protection against Fighters.

KUSHAN

TAIIDAN

(KUSHAN ONLY)

MASS:	60,000	MANEUVERABILITY:	LOW
FIREPOWER:	4900	MAX. VELOCITY:	325 M/S
ARMOR:	16000	SPECIAL FUNCTION:	DRONE LAUNCHING/RETRACTION:
COVERAGE:	100%		(DOUBLECLICK OR: PRESS [Z] TO ACTIVATE)

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE, CAPITAL SHIP CHASSIS, DRONE TECHNOLOGY

DESIGNATION

DEFENSE FIELD FRIGATE

DESCRIPTION

Like the Defense Fighter, the Defense Field Frigate has no attack capability. It can, however, deflect almost 100 percent of all oncoming enemy fire, with the exception of ion beams, mines, and missiles.

KUSHAN

(TAIIDAN ONLY)

TAIIDAN

MASS:	53,000	MANEUVERABILITY:	LOW
FIREPOWER:	-	MAX. VELOCITY:	325 M/S
ARMOR:	17600	SPECIAL FUNCTION:	DEFENSE FIELD (ALWAYS ACTIVE)
COVERAGE:	100%		

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE, CAPITAL SHIP CHASSIS, DEFENSE FIELD

DESIGNATION

MISSILE DESTROYER

DESCRIPTION

Although its total firepower is significantly less than that of a regular Destroyer, the guided missiles it launches make the Missile Destroyer a formidable foe to Strike Craft and Capital ships alike. For supply, the Missile Destroyer has a full missile manufacturing center in its belly.

KUSHAN		TAIIDAN	
MASS:	200,000	MANEUVERABILITY:	LOW
FIREPOWER:	8500	MAX. VELOCITY:	295 M/S
ARMOR:	42000	SPECIAL FUNCTION:	MISSILE VOLLEY ATTACK
COVERAGE:	-		(HOLD [Z] AND LEFTCLICK ON THE TARGET TO ACTIVATE)

REQUIRED TECHNOLOGY: SUPER CAPITAL SHIP DRIVE, GUIDED MISSILES

DESIGNATION

CARRIER

DESCRIPTION

A veritable feat of engineering, the Carrier incorporates an entire construction center, capable of building up to Frigate-class ships. In addition, a huge docking array provides space for up to 50 Fighters and 25 Corvettes. Its rapid fire deck guns give it adequate defense.

KUSHAN		TAIIDAN	
MASS:	600,000	MANEUVERABILITY:	VERY LOW
FIREPOWER:	4100	MAX. VELOCITY:	300 M/S
ARMOR:	72000	SPECIAL FUNCTION:	CAN REPAIR AND REFUEL STRIKE
COVERAGE:	60%		CRAFT. (HOLD [Z] AND LEFTCLICK ON

REQUIRED TECHNOLOGY: SUPER CAPITAL SHIP DRIVE, SUPER HEAVY CHASSIS THE SHIP(S) TO SERVICE)

DESIGNATION

HEAVY CRUISER

DESCRIPTION

The goliath of Capital Ships, this bruiser carries four twin-mounted ion cannons and six heavy turrets, each almost half the size of an entire Frigate. When a Heavy Cruiser shows up on the scene, things get really quiet really fast.

KUSHAN		TAIIDAN	
MASS:	800,000	MANEUVERABILITY:	VERY LOW
FIREPOWER:	19,000	MAX. VELOCITY:	190 M/S
ARMOR:	70000	SPECIAL FUNCTION:	NONE
COVERAGE:	80%		

REQUIRED TECHNOLOGY: SUPER CAPITAL SHIP DRIVE, SUPER HEAVY CHASSIS, HEAVY GUNS, ION CANON

DESIGNATION

DESTROYER

DESCRIPTION

When it comes to taking down other Capital Ships, the Destroyer is a first choice. It has twin ion cannons and two modified large turrets. With maneuverability almost equal to a Frigate, the Destroyer is able to move around well in combat and react quickly to changes in the battle.

KUSHAN		TAIIDAN	
MASS:	185,000	MANEUVERABILITY:	LOW
FIREPOWER:	10500	MAX. VELOCITY:	315 M/S
ARMOR:	44000	SPECIAL FUNCTION:	NONE
COVERAGE:	35%		

REQUIRED TECHNOLOGY: SUPER CAPITAL SHIP DRIVE, ION CANON

DESIGNATION

MOTHERSHIP

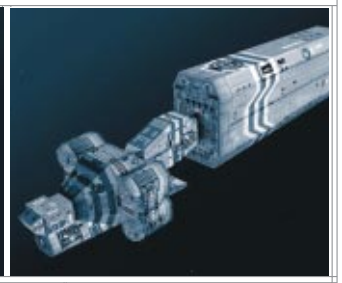
DESCRIPTION

The massive mothership contains three main sections: navigation, the fleet foundry, and cryogenics.

Navigation analyzes local sensor data, the foundry provides complete construction capability, and cryogenics maintains the 500,000 colonists aboard.

KUSHAN		TAIIDAN	
MASS:	5,000,000	MANEUVERABILITY:	-
FIREPOWER:	7500	MAX. VELOCITY:	50M/S
ARMOR:	160000	SPECIAL FUNCTION:	-
COVERAGE:	60%		

REQUIRED TECHNOLOGY: -

DESIGNATION	KUSHAN	TAIIDAN
RESOURCE COLLECTOR		

DESCRIPTION

Using a modified Phased Disassembler Array, the Resource Collector extracts at a molecular level the base elements in any resource. It then converts these elements into Resource Units, the generic term for base levels of material necessary for construction.

MASS:	40,000	MANEUVERABILITY:	MEDIUM
FIREPOWER:	-	MAX. VELOCITY:	300 M/S
ARMOR:	10800	SPECIAL FUNCTION:	CAN REFUEL STRIKE CRAFT.
COVERAGE:	-		(HOLD [Z] AND LEFTCLICK ON THE SHIP(S) TO SERVICE)

REQUIRED TECHNOLOGY: NONE

DESIGNATION	KUSHAN	TAIIDAN
RESOURCE CONTROLLER		

DESCRIPTION

The Resource Controller provides remote drop-off capability to the Resource Collector, minimizing time spent in transit. Additionally, it supports refueling of six Fighters and two Corvettes at once via its docking pads.

MASS:	79,000	MANEUVERABILITY:	LOW
FIREPOWER:	-	MAX. VELOCITY:	300 M/S
ARMOR:	13600	SPECIAL FUNCTION:	CAN REFUEL STRIKE CRAFT.
COVERAGE:	-		(HOLD [Z] AND LEFTCLICK ON THE SHIP(S) TO SERVICE)

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE

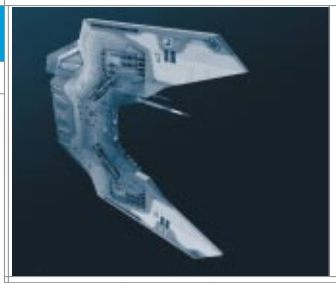
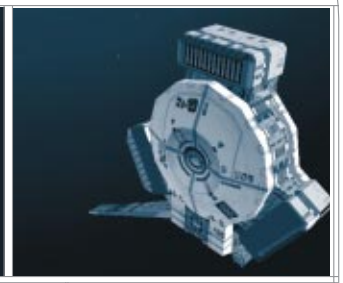
DESIGNATION	KUSHAN	TAIIDAN
PROBE		

DESCRIPTION

The Probe is outfitted with a one-time use engine which provides a huge power output for a short period of time. This results in very fast travel, but once in place the probe can't be moved again.

MASS:	40 TONS	MANEUVERABILITY:	MEDIUM
FIREPOWER:	-	MAX. VELOCITY:	4000 M/S
ARMOR:	800	SPECIAL FUNCTION:	NONE
COVERAGE:	-		

REQUIRED TECHNOLOGY: NONE

DESIGNATION	KUSHAN	TAIIDAN
CLOAK GENERATOR		

DESCRIPTION

The Cloak Generator creates a cloaking field large enough to contain up to two Frigates. Any ship inside the field is completely invisible except when firing. The generator can operate only for a fixed amount of time before recharging must occur.

MASS:	22,000	MANEUVERABILITY:	LOW
FIREPOWER:	-	MAX. VELOCITY:	325 M/S
ARMOR:	6000	SPECIAL FUNCTION:	CLOAKING (DOUBLECLICK OR:
COVERAGE:	-		PRESS [Z] TO ACTIVATE)

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE, CLOAK GENERATOR

DESIGNATION	KUSHAN	TAIIDAN
GRAV WELL GENERATOR		

DESCRIPTION

The Gravity Well Generator creates a strong field around it which stops all Strike Craft in place. Gravity Well technology is less understood than cloaking and, as a result, the Grav Well's unstable field must be shut down after a certain amount of time and never restarted.

MASS:	65,000	MANEUVERABILITY:	LOW
FIREPOWER:	-	MAX. VELOCITY:	325
ARMOR:	8000	SPECIAL FUNCTION:	CAPTURES STRIKE CRAFT IN ITS
COVERAGE:	-		FIELD (DOUBLECLICK OR: PRESS [Z] TO ACTIVATE)

REQUIRED TECHNOLOGY: CAPITAL SHIP DRIVE, GRAVITY GENERATOR

DESIGNATION	KUSHAN	TAIIDAN
PROXIMITY SENSOR		

DESCRIPTION

A remote sensor pack with an engine strapped onto it pretty much sums up the Proximity Sensor's. Beyond normal watch-dogging, its ability to detect cloaked vessels can make the lowly Proximity Sensor a handy ship to have around.

MASS:	40 TONS	MANEUVERABILITY:	VERY HIGH
FIREPOWER:	-	MAX. VELOCITY:	1000 M/S
ARMOR:	800	SPECIAL FUNCTION:	NONE
COVERAGE:	-		

REQUIRED TECHNOLOGY: PROXIMITY DETECTOR

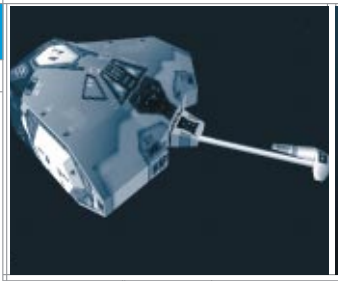
DESIGNATION	KUSHAN	TAIIDAN
SENSORS ARRAY		

DESCRIPTION

Expanding the sensor ability of the Mothership with its larger-scale design, the Sensors Array provides full data on the local environment, letting you see the position and number of all enemy ships, as well as resource pockets.

MASS:	2900	MANEUVERABILITY:	LOW
FIREPOWER:	-	MAX. VELOCITY:	280M/S
ARMOR:	6000	SPECIAL FUNCTION:	NONE
COVERAGE:	-		

REQUIRED TECHNOLOGY: PROXIMITY DETECTOR, SENSOR ARRAY

DESIGNATION	KUSHAN	TAIIDAN
RESEARCH SHIP		

DESCRIPTION

Each Research Ship is a fully-functioning science facility that develops new technologies for the fleet. Newly-built Research Ships will link up with existing ones, increasing the aggregate armor of the facility.

MASS:	11,000	MANEUVERABILITY:	LOW
FIREPOWER:	-	MAX. VELOCITY:	280 M/S
ARMOR:	4500	SPECIAL FUNCTION:	NONE
COVERAGE:	-		

REQUIRED TECHNOLOGY: NONE

DESIGNATION

9.1 CAPITAL SHIP CHASSIS

The new heavy drives require a whole new hull technology based on heavily reinforced alloy skeletons that can bear the stress of multi-level decking and heavy weapon mounts. The groundwork has been laid to design the ship's spine to incorporate theoretically very heavy beam weapons. This breakthrough can be adapted to several special purpose designs as well as the creation of Frigate class warships. Scientists believe this chassis could lead to even more massive ship designs.

REQUIRED TECH:	Capital Ship Drive
LEADS TO:	Capital Ship Production, Ion Cannons, Super Capital Ship Drive, Super Heavy Chassis,
	Gravity Generator, Cloak Generator
NEEDED FOR:	Frigate, Ion Cannon Frigate, Drone Frigate, Defense Field Frigate.

DESIGNATION

9.2 CAPITAL SHIP DRIVE

The advances in Strike Craft drives soon made it obvious that the next step in ship engineering should be drives large enough to achieve self-sustaining fusion torches while accelerating high mass vessels to combat speeds. The capital ship drive finally allows for vessels that do not require refueling.

REQUIRED TECH:	none
LEADS TO:	Capital Ship Chassis
NEEDED FOR:	Frigate, Ion Cannon Frigate, Drone Frigate, Defense Field Frigate, Support Frigate,
	Gravwell Generator, Cloak Generator, Resource Controller

DESIGNATION

9.3 SUPER-HEAVY CHASSIS

In an inspiration of design not seen since the Mothership was built, engineers have worked out the plans for the biggest and deadliest starships that can possibly be built by our manufacturing centers. The Heavy Cruiser and Carrier hulls based on this chassis require vast resources but should be considered the final words in offensive firepower and durability.

REQUIRED TECH:	Capital Ship Chassis
LEADS TO:	nothing
NEEDED FOR:	Carrier, Heavy Cruiser

DESIGNATION

9.4 CLOAKED FIGHTER (KUSHAN ONLY)

While researching electromagnetic ram-scoops, a Kushan scientist stumbled across a process by which intense fields could wrap photons around an object and render it invisible. Because the ratio between the size of the field and the mass of the generator kept the effect minimal, it was considered nothing more than a scientific curiosity. This was until a research team discovered that a generator large enough to emit electromagnetic fields just strong enough to render a Fighter invisible could be mounted on a Fighter chassis.

REQUIRED TECH:	Fighter Chassis
LEADS TO:	nothing
NEEDED FOR:	Cloaked Fighter

DESIGNATION

9.5 CLOAK GENERATOR

Scientists have taken an entire Frigate hull and dedicated it to housing the electromagnetic field emitters needed to generate the strong light-warping field. The invisibility effect is an impressive one but requires every erg of power not going into propulsion and life support.

REQUIRED TECH:	Capital Ship Chassis
LEADS TO:	nothing
NEEDED FOR:	Cloak generator

DESIGNATION

9.6 CORVETTE CHASSIS

With an improved engine, engineers were quickly able to expand their initial large utility hulls into a full-fledged combat chassis. This new generation of Strike Craft had large crew areas with multiple control stations which would open the door for heavy, multi-role Strike Craft with full turret capability and superior composite armor plating.

REQUIRED TECH:	Corvette Drive
LEADS TO:	Heavy Corvette Upgrade, Fast Tracking Turrets, Minelaying Tech, Corvette Production
NEEDED FOR:	Light Corvette, Salvage Corvette, Multi-Gun Corvette, Heavy Corvette, Minelayer
	Corvette

DESIGNATION

9.7 CORVETTE DRIVE

This improvement to the Fighter drive trades mass for power. While far too big to wrap a Fighter around, this new drive is perfect for the Corvette class of ships. The higher power output allows for heavier weapon systems and powered turrets. Unfortunately, despite a higher degree of fusion efficiency, these drives still require reaction mass to be injected into the fusion torch and must be refueled regularly.

REQUIRED TECH:	NOTHING
LEADS TO:	CORVETTE CHASSIS
NEEDED FOR:	LIGHT CORVETTE, SALVAGE CORVETTE, MULTI-GUN CORVETTE, HEAVY CORVETTE, MINELAYER CORVETTE

DESIGNATION

9.8 SUPER-CAPITAL SHIP DRIVE

The key to this giant drive system is to pulse and shape the torches of multiple fusion engines into one coherent thrust factor strong and stable enough to accelerate a huge mass without tearing the structure apart with oscillation instabilities. The super-capital class of drive systems is derived from mating the efficiency of the standard Capital Ship drive with power plants in the same league with the ones that power the Mothership herself. Not only does this drive system allow for the largest designs of warships but the incredible power output also makes possible new weapon systems.

REQUIRED TECH:	CAPITAL SHIP CHASSIS
LEADS TO:	HEAVY GUNS, GUIDED MISSILES
NEEDED FOR:	DESTROYER, MISSILE DESTROYER, CARRIER, HEAVY CRUISER

DESIGNATION

9.9 DEFENSE FIGHTER (TAIIDAN ONLY)

Exploiting the Fighter frame even further, Taiidan scientists were able to produce a design capable of supporting the large Dome Array mounting which makes the Defense Laser possible.

REQUIRED TECH:	FIGHTER CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	DEFENSE FIGHTER

DESIGNATION

9.10 DEFENSE FIELD (TAIIDAN ONLY)

The defense field is actually an extremely low frequency EM transmitter - 'mass wave' being the common name for extremely low frequency, high amplitude EM radiation. To broadcast waves with enough energy to block a cannon round, but at a low enough frequency to match that of the round's mass wave required extensive research and testing by Taiidan scientists. The system that was devised is so bulky that it could only be fitted on a Frigate chassis. It is never built into larger ships because of interference with other ship's systems. Special modification needed to be made to the drive systems of the Frigate chassis to make it possible to bear the distinctive white drum of the transmitting antenna.

REQUIRED TECH:	CAPITAL SHIP CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	FIELD FRIGATE

DESIGNATION

9.11 DRONE TECHNOLOGY (KUSHAN)

Scientists working on remote-controlled Fighters have joined forces with turret engineers to produce a small, free turret system that is basically a gun with a small station-keeping engine attached to it. While a single drone barely packs enough firepower to threaten a Scout, in larger numbers they can combine to create a storm of withering fire.

REQUIRED TECH:	CAPITAL SHIP CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	DRONE FRIGATE

DESIGNATION

9.12 FAST-TRACKING TURRETS

In an attempt to further increase fleet defense against high speed Fighter attacks, breakthroughs were made in both computerized tracking systems and high-speed magnetic couplings. Engineers combined these into a new series of fast-tracking turrets that can be mounted in multiple configurations on hulls as small as Corvettes. This ability to track multiple targets and engage them with separate turrets has allowed the creation of small gunships that can serve effectively in the anti-Fighter role.

REQUIRED TECH:	CORVETTE CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	MULTI-GUN CORVETTE

DESIGNATION

9.13 FIGHTER DRIVE

The first requirement for more powerful Strike Craft is a better engine. Fighter Drive technology allows us to modify the plasma ducting and reaction efficiency of our smallest reactors and create a whole new generation of high-performance Strike Craft that can carry heavier armor and payloads.

REQUIRED TECH:	NONE
LEADS TO:	FIGHTER CHASSIS
NEEDED FOR:	INTERCEPTOR, DEFENDER, CLOAKED FIGHTER, DEFENSE FIGHTER, ATTACK BOMBER

DESIGNATION

9.14 SENSOR ARRAY

Scientists from the Proximity Detector project went further into the study of discrete field effects and devised a localized sensor web that can increase resolution of passive scanning by a thousand-fold. This web can be imbedded in a specialized hull and is used to completely augment a command vessel's scanning and receiving capabilities, resulting in a full tactical view of the entire quadrant of space.

REQUIRED TECH:	PROXIMITY DETECTOR
LEADS TO:	NOTHING
NEEDED FOR:	SENSORS ARRAY

DESIGNATION

9.15 DEFENDER SUB-SYSTEMS

With the need for better space superiority systems, engineers have developed a whole new generation of targeting computer and sensor suites and combined them into specialized Fire Control systems. These new control systems can be adhered to gimbals mounted weapons to enable them to track and fire upon small, fast Strike Craft.

REQUIRED TECH:	FIGHTER CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	DEFENDER

DESIGNATION

9.16 GRAVITY GENERATOR

When the attempt to create a gravitational lensing system went awry, researchers found themselves with a runaway gravimetric distortion field and no way to escape -- their shuttle craft were pinned in the same intensified gravity field that was threatening to crush them. Luckily, a passing Assault Frigate was able to target the lab ships' engines and cut off power to the field generator. A decidedly refined version of this accidental effect became the Gravity Generator, which is capable of holding all Strike Craft within the gravimetric field until they are destroyed or the generator burns out.

REQUIRED TECH:	CAPITAL SHIP CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	GRAVWELL GENERATOR

DESIGNATION

9.17 GUIDED MISSILES

Missile technology has been available since the dawning days of space exploration but it has always been irrelevant as a weapon system because of its slow speed of any kind of non-fusion engine and the lack of a warhead that could effectively harm an armored starship. The plasma bomb solved the latter problem but it wasn't until the development of the Super Capital Ships, that a platform existed to house and power missiles that were large enough to carry the reaction mass needed to pursue a combat vessel. Using a variant of the stored plasma warhead, the guided missile actually draws superheated plasma into its internal magnetic containment field. When launched this field is then shaped and vented to simulate a traditional chemical rocket exhaust in order to give the missile high speed and maneuverability necessary to engage a fusion powered vessel.

REQUIRED TECH:	SUPER CAPITAL SHIP DRIVE
LEADS TO:	NOTHING
NEEDED FOR:	MISSILE DESTROYER

DESIGNATION

9.18 HEAVY CORVETTE UPGRADE

This breakthrough represents the pinnacle of Corvette class design and technology. The achievement here is beefing up the structural strength of the Corvette hull with advanced composites and EM field couplers so it can handle the stress of carrying a second heavy turret. Advancements in ablative armor techniques are the final part of an upgrade package that creates the most powerful Strike Craft in existence.

REQUIRED TECH:	CORVETTE CHASSIS
LEADS TO:	NOTHING
NEEDED FOR:	HEAVY CORVETTE

DESIGNATION

9.19 FIGHTER CHASSIS

Once the full capabilities of the new Fighter drives are documented, scientists quickly will begin designing new frames that translate this power into better armor, longer range and heavier loadouts. The Fighter chassis is the blueprint for a new generation of heavy Fighters and Interceptors.

REQUIRED TECH:	Fighter Drive
LEADS TO:	Fighter production, Defender Sub-Systems, Plasma Bomb Launcher, Cloaked Fighter, Defense Fighter
NEEDED FOR:	Interceptor, Defender, Cloaked Fighter, Defense Fighter, Attack Bomber

DESIGNATION

9.20 HEAVY GUNS

The final advancement in ship power plants opened the door for truly massive bore mass drivers and the turrets needed to support them. Mounted only on Super Capital Ships, these new turrets are nearly the size of Frigates and pack enough power to cripple or destroy a smaller vessel in a single hit. These Heavy Gun systems are so massive that the magnetic couplings have to draw power directly from the main drive in order to rotate the weapon mount inside the turret housing.

REQUIRED TECH:	Super Capital Ship Drive
LEADS TO:	nothing
NEEDED FOR:	Heavy Cruiser

DESIGNATION

9.21 ION CANNONS

High-powered beam weapons are a tactician's dream and an engineer's nightmare. The size-to-power ratios were completely unworkable until the development of the Capital Ship chassis, which provided the room to employ a truly deadly directed beam of charged ions. The cannon draws power directly from the Capital Ship's main drive to supply not only the superheated hydrogen ions but also the tens of meters of super-conducting magnetic coil that focus and accelerate the beam. The Frigate chassis is just large enough to mount an ion cannon in a spinal arrangement.

REQUIRED TECH:	Capital Ship Chassis
LEADS TO:	nothing
NEEDED FOR:	Ion Cannon Frigate, Destroyer, Heavy Cruiser

DESIGNATION

9.22 MINELAYING TECH

When scientists tried applying plasma bomb launcher technology to the larger Corvette hulls, they accessed a more powerful fusion drive that allowed them to experiment with the size of the plasma bomb containment field and new deployment methods. The development of super-dense plasma injectors made it possible to create a mine dispenser that would fit inside a Corvette hull and still be able to produce dozens of small plasma warheads designed to detonate on near contact with enemy hulls. With this technology, it's possible to create minefields around the Mothership at a moment's notice.

REQUIRED TECH:	Corvette Chassis
LEADS TO:	nothing
NEEDED FOR:	Minelayer Corvette

DESIGNATION

9.23 PLASMA BOMB LAUNCHER

One of the benefits of a larger Fighter frame is the ability to modify a Strike Craft to carry powerful directed energy payloads. The plasma bomb system draws high-energy plasma from the Fighter's fusion torch drive and vents it into a small magnetic containment sphere mounted aboard a direct fire missile. The plasma venting occurs in the split second between the pilot firing the bomb and the bomb actually leaving its cradle. Upon impact with the target, the bomb's containment sphere ruptures and releases the near-fusion plasma in a single massive burst. While the missile is unable to accurately target fast-moving Strike Craft, it can be devastating to slower-moving Capital Ships. This ornate and powerful weapon system leaves a Strike Craft without any room to mount other weapons.

REQUIRED TECH:	Fighter Chassis
LEADS TO:	nothing
NEEDED FOR:	Attack Bomber

DESIGNATION

9.24 PROXIMITY DETECTOR

Long range scanning has always been difficult since most active sensors can be easily fooled or fed false data. To compensate for this, scientists have designed small passive sensor packages fitted to modified missile engines. These sensor packages can be ordered to take up position anywhere within communication range and then direct beam back real time information about their local area of space.

REQUIRED TECH:	none
LEADS TO:	Sensor Array
NEEDED FOR:	Proximity Sensor

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CREDITS

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