X4: Foundations Manual

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Wiki Manual contents

Visit the wider X4 Wiki (English) for further info, such as game stats, player guides and game update history.

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Ships And The Playership

Ships

With a ship in hand the player is free to explore the universe and make a name for themselves. Ships can accelerate, brake turn, tilt and strafe with the speeds based on the type of ship and equipment used. When viewed from the cockpit the ship vitals, weapon systems and targeting markers can be seen.

Ship IDs

Ships have unique IDs displayed on their hulls and within menus. The generation of IDs is completely random.

The Playership HUD

Example HUD view:
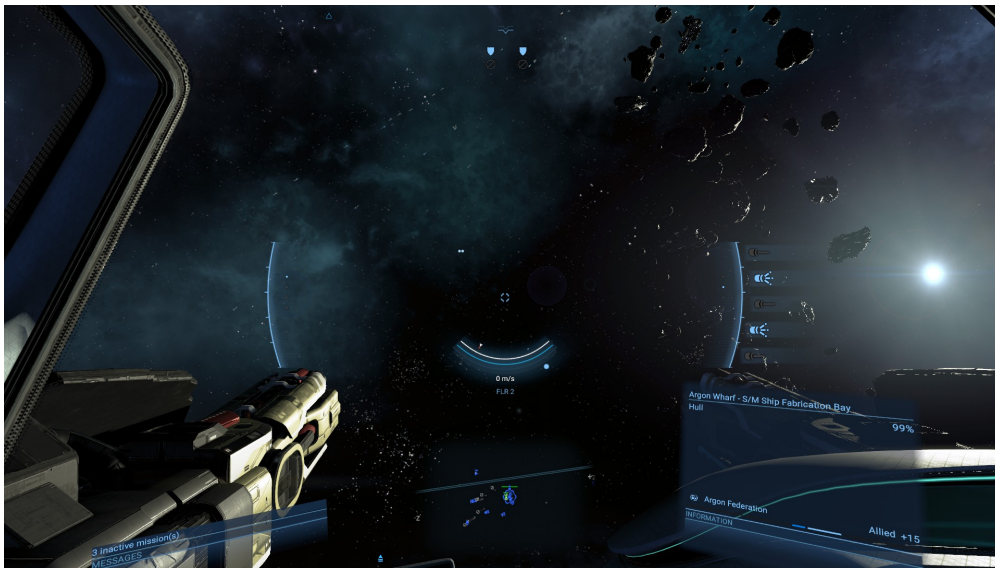
Ship status

Below the central reticle, three curved bars are located:

- Top = speed
- Middle = hull strength
- Bottom = shield strength

Warning and SETA icons

In the centre of the HUD icons may appear for the following (see diagram below):

- SETA ownership

- SETA activity
- Under attack
- Incoming missile(s)

A blue dot will be visible if SETA is owned

0 m/s

FLR 1

A blue ring will spin around the dot if SETA is active

0 m/s

FLR 1

A red ring will spin here if launchers are being locked on to the playership

291 m/s

FLR 1

A red dot appears when there are incomming missiles

292 m/s

FLR 1

Situational awareness

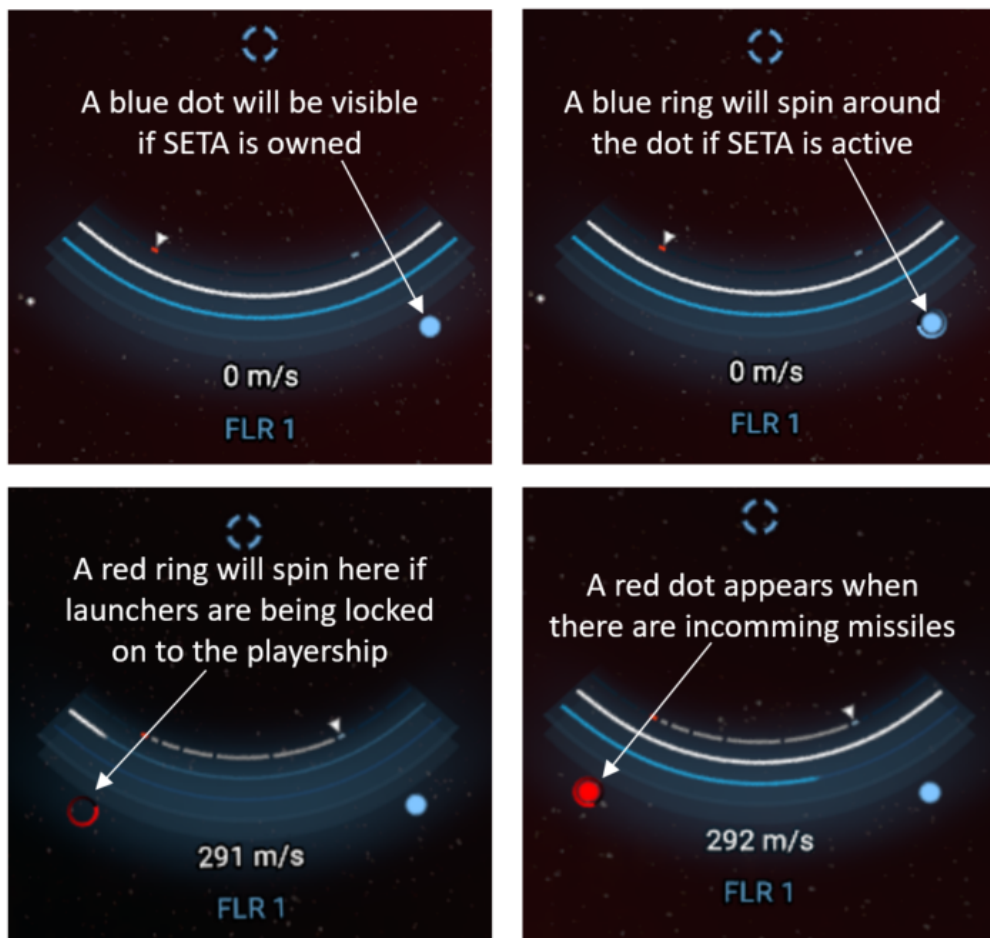Three monitors provide info along the bottom of the screen:

- Left = Message ticker (e.g. mission progress, guidance info, recent credit and standings changes)
- Middle = Radar (shows local features and allows their selection to make them the playership target)
- Right = Target monitor (display for target info and video comms with NPCs)

Weapon controls

- The position in space that main weapons currently aim at is denoted by one white dot each (see two dots in image below, up-left from central reticle)
- Turrets controls for Medium ships have quick-access icons in the top-middle (Turret controls for all ships are described on the Combat And Weapons page)

Weapon groups

To the right and left of the central reticle are the primary and secondary weapon groups, respectively (setup via the Ship interactions menu located via the chevron icon in the top-centre of the screen).

Long Range Scanning

- **A playership "Ship Mode"** (see below for how to operate it)
    - Detected objects are marked on the map with "?" icons
    - Nebulae are highlighted with a blue/cyan glow
- **Versions:**
    - Mk1 pings found objects and creates a ? at their location on the map
    - Mk2 has increased scan resolution, colour-coding identified small objects:
        - Blue ring   = wrecks and uncommon lockboxes

- Yellow ring   = explosive asteroids and rare lock boxes
- Purple ring   = anomalies and data vaults
- Grey/white ring = Other

- **Target size-based performance:**
  - <u>Large objects</u> (stations and gates) are detected if they are:
    - Within 200 km
    - On the same horizontal plane as the playership cockpit (360°)
    - Within 45° above and below the horizon
  - <u>Small object</u> (e.g. lockboxes and anomalies) are detected if they are:
    - Within 50 km
    - On the same horizontal plane as the playership cockpit (within 60° left or right)
    - Within 45° above and below the horizon

Ship Modes

The player ship can activate four different modes to aid in exploration and espionage. Modes can be activated/stopped directly via the hotkey or the Ship Interactions Menu. Other player owned ships and NPC ships will automatically activate Travel Mode when travelling long distances.

- **Travel (Shift+1)**
  - After a short delay the ship will accelerate to a higher speed enabling long distances of space to be rapidly traversed. While in Travel Mode steering is impaired. Loss of shielding will disable travel mode preventing it from being used to escape combat. Using Boost directly after coming out of Travel Mode can be used for a short burst of extremely high speed.
- **Scan (Shift+2)**
  - Colour-codes the modules and equipment of stations and ships (& asteroids & their modules) when close enough.
  - Getting really close to a station module passively obtain information about it.
  - Similarly, getting close to a ship, right-clicking, and initiating an active scan will reveal info about the ship too (this can be done while **paused**, if in combat).
  - The amount of information gained being proportional to the type of scanner equipped (Basic Scanner < Police Scanner < Spacesuit Scanner < upgraded Spacesuit Scanner).
  - Audio Signals and Data Leaks are highlighted with red and able to be scanned passively.
- **Long Range Scan (Shift+3)**
  - Enables the ship to charge a pulse to scan for objects in space near the playership.
  - The longer the pulse is charged for the further it travels, however charging for too long will cause the pulse to abort.
  - When objects are detected by the pulse, they emit a "ping" sound like submarine sonar and a circular ring temporarily shows their location on the HUD.
- **SETA (Shift+4)**
  - Singularity Engine Time Accelerator - Accelerates the passage of time for everything relative to the player ship by 6-times.
  - Makes long journeys seem shorter, but applies to the whole X-verse, including NPCs. Think of it a 'sleep time': the game (ie NPC trading/battle/war etc) advances at its normal rate while you're asleep, whether you're aware of external changes or not.

Types Of Ship

There are currently over 60 different types of ship in X4: Foundations and with the exception of drones and Xenon ships all can be flown by the player. Ships are classed into four size categories determining where and how many can dock at a docking module or ship hanger. Ships are also classified into specific roles determining the weapon and software options available.

- **Sizes**
  - S
    - Small ships are cheap and fast but fragile with only S weapon options making them useful for dangerous tasks like exploring unknown territory or for swarming larger ships (includes, scouts, fighters, traders and miners).
  - M
    - Medium ships are the most common ship type covering a diverse range of economic (mining and trading) and military roles (Corvettes and Frigates).
  - L
    - Large ships are expensive and have limited docking options, but are considerably more effective than their smaller counterparts at mining, trading and combat (Destroyers).
  - XL
    - Extra Large ships have limited combat options but cover specialised roles (station construction, Carriers and Fleet Auxiliaries).
- **Roles**
  - Combat
    - Ships built to engage other ships and stations in combat to either destroy or capture them. Fight ships range from small agile Scout craft to large and heavily armed Destroyers. In general, as fight ships progress in size (Scout->Interceptor->Fighter->Corvette->Frigate->Destroyer->Carrier), there is an increase in shielding, fire power and cargo bay size but at the cost of being slower and more expensive to manufacture. Frigates, Destroyers and Carriers, especially, specialise in transporting wings of smaller ships at high speeds to where they are needed.
  - Trading
    - Ships with large cargo bays for shifting wares around the universe for profit, manufacture, construction work and to keep front lines supplied. Traders come in may sizes balancing speed with cargo space and armaments. Small Courier ships

are fast, medium sized Transporter ships offer a good mix of mobility and cargo space while large Freighter ships are good for carrying wares in bulk.
- Mining
  - Miner ships are capable of efficiently harvesting Solid and Liquid resources from asteroids and nebulae
- Construction
  - Large and lightly armed Builder ships able to construct stations
- Other
  - Other ships include the player Space Suit, autonomous Drone craft used by larger ships and stations and NPC mass traffic Police Vehicle ships that scan for illegal cargo which are lightly armed.

Ship Repairs

Ship hulls, and surface elements on Large and Extra Large Ships, can become damaged and need repairs.

Methods of repair:

1. Manually, slowly with the Spacesuit Repair Laser
2. Quickly at a Wharf, Shipyard or Equipment Dock in exchange for credits
3. Automatically (Medium, Large and Extra Large only):
   - The Captain's skills influence the max % that can be repaired too
   - Higher numbers of Service Personnel increase repair rate
   - Service Personnel with higher skills increase repair rate
   - Repair Drones noticeably speed up repair rate

Piloting And Travel

- Piloting
- Boosting
- Travel Mode
- Mixed Mode
- Actions that are difficult when attempted while steering the ship
- Autopilot
- Flight Assist OFF mode
- Docking
- Going For A Spacewalk
- Highways
- Superhighways, Orbital Accelerators, Jump Gates And Anomalies
- Navigational Hazards And Minefields

Piloting

Ships have 4 ways to travel around within a system or sector (also known as a Hex):

- **Standard**, which has good agility for dog fighting and docking
- **Boosting**, which drains shields into engines to provide a rapid speed increase
- **Travel Mode**, which has modest acceleration and lowers agility but offers sustained very high speeds
- **Mixed Mode**, which is a manual way to use the booster to reach high Travel Mode speeds quickly

Spacesuits may be equipped with a modest form of a booster.

Boosting

Ships can boost giving them a temporary burst of speed enabling them to escape the enemy firing range or to manoeuvre into blind spots. While boosting, the shields of the ship are drained meaning that persistent use can leave the ship vulnerable to hull damage. It is not possible to use weapons while boosting but on the other hand, it is very difficult for other ships to knock down the shields a boosting ship enough to prevent it boosting.

Travel Mode

Travel Mode is the most efficient way to move between distant objects within the Hex of a system or sector. The choice of Engines determines the charge time and maximum speed of Travel Mode. **Travel Drives** have the highest Travel Mode top speed and acceleration but need to charge for 3 seconds before those strengths can be utilised. **Combat Drives** on the other hand have lower Travel Mode top speeds and acceleration but do not need to charge-up before starting. **All-Round Drives** offer a compromise between the two extremes.

Whilst moving in Travel Mode, the ship will steer like a brick if used by medium or larger sized ships but it is possible to reach speeds of several thousand m/s. It comes with a vulnerability though as receiving weapon fire overloads the drive, allowing ships to be interdicted and/or prevented from activating Travel Mode for 5 seconds (see **Mixed Mode** for ways to counter those situations). As it is possible to still shoot while moving in Travel Mode it is possible for the player to engage targets using Travel Mode (or are boosting) to slow them down to allow other ships to catch up.

Mixed Mode

Although not a mode which can be activated it is possible to utilise **Boosting** to accelerate into **Travel Mode**. With a **Travel Drive** active it is possible to Boost *while* Travel Mode charges up to reach high Travel Mode speed quickly. Whereas with a **Combat Drive** we can Boost *before* activating Travel Mode to reach high Travel Mode speed quickly. Ships that are out of shield are unable to perform Boost+flee+Travel Mode jousting.

Actions that are difficult when attempted while steering the ship

The 'Pause' key can be configured in the Controls/General menu. It allows us to access in-game menus while the game is paused.

Autopilot

Flies the player ship to the guidance marker, reserved docking pad or sets about completing queued orders. Autopilot can be toggled under the Ship Interactions Menu or by hotkey (Shift+A).

Flight Assist OFF mode

Thanks to the "flight assist computer", the normal behaviour of all ships in X4: Foundations, behave very much like planes in an atmosphere. This flight assist is constantly correcting the ships path. For advanced gameplay and maneuvers however, you can turn flight assist OFF by pressing the mappable hotkey (CTRL SPACE by default). The most notable effect of this, is that your ship will continue to fly in its current direction after turning around. You can basically fly backwards at very high speeds.

Flight assist mode is also turned off temporarily when coming out of travel drive.

Docking

When the player ship is within 5km of a friendly dockable ship or station and Dock Permission is requested (Shift+D), a trail of green landing lights will appear guiding the player to a docking pad. As the playership approaches the allocated landing pad, the HUD will indicate which it is with a hologram of the playership above it. Helpfully, the holographic ship will be facing in the direction that the playership should face as they land.

When closer-still, the HUD displays a 4-part alignment indicator to illustrate the location and orientation of the playership relative to the pad. The aim is to position the ship so that all four elements of the docking screen are green to land the ship. The HUD elements of this overall process for approaching and landing are illustrated on the Docking, and Using The Docking Computer page. Once landed, the Ship Interactions Menu can be used to trade or Get Up and explore the station platforms.

Going For A Spacewalk

While flying through space it is possible to use the Get Up command of the Ship Interactions Menu (Control+D) to leave the pilot seat and explore the ship if the player is not already playing passenger. Interact with the **Use Transporter Room** panel at the back of the ship (insert picture) and select **"Use Space Suit"** to go for a space walk. Just remember to park a ship nearby to go back to. To re-enter your ship, request docking permission (Shift+D) in order to get open the airlock you'll need to manoeuvre into.
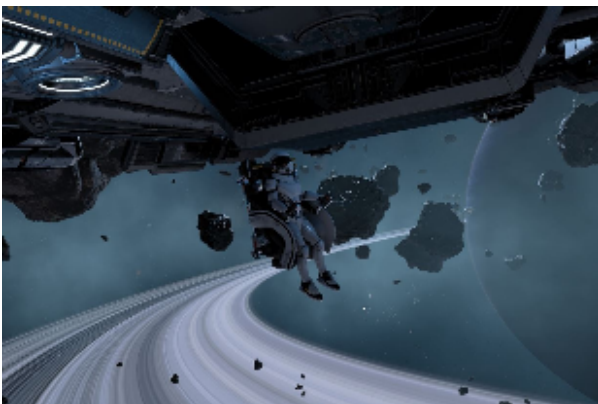
Highways

Populated sectors have constructed highways to make travelling around the sector faster. Highway lanes have gates at their start and end and only flow in one direction. When a ship flies into a highway lane at any point of the route it will be instantly rotated and accelerated to high speeds

along the route of the highway. To exit a highway press the Backspace hotkey or strafe up/down to leave the lane. Strafing into the sides of a highway lane will slow the ship down allowing for more controlled exits. The route a highway takes can be seen using the Map. The positions of highways do not vary with different game starts.

## Superhighways, Orbital Accelerators, Jump Gates And Anomalies

The sector, or Hex, the player starts in may go on for vast distances in each direction but it is just one of many. To travel to other sectors and systems requires ship to fly through a **Superhighway**, **Orbital Accelerator**, **Jump Gate** or **Anomaly**. **Superhighways** are used to travel between nearby sectors within the same system and have unidirectional entrances and exits. The diameter of **Superhighway** gates means that care must be taken when flying larger ships though them. **Orbital Accelerators** and **Jump Gates** are wide bidirectional gates linking sectors together allowing for the rapid traversal of multiple ships at once.

Anomalies are one way wormholes connecting distant sectors and do not show up on the map. **Anomalies** have an anti-gravitational field around them preventing slow moving ships from entry, meaning they need to be approached at high speed using Boost or Travel Mode. Be warned that using anomalies may leave the ship deep in hostile territory and may require an alternative route to be found back to known space.
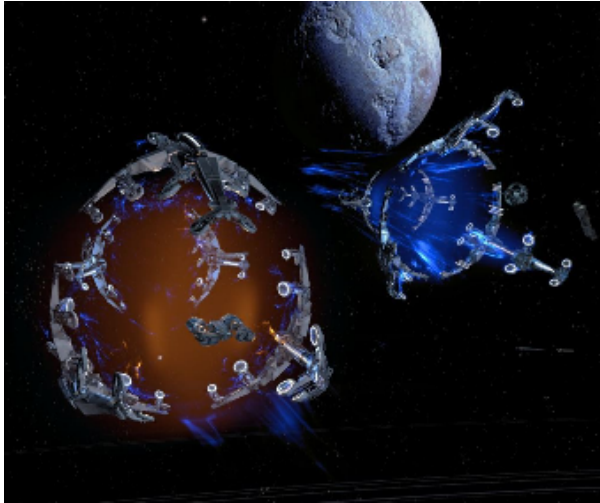
Jump gate:
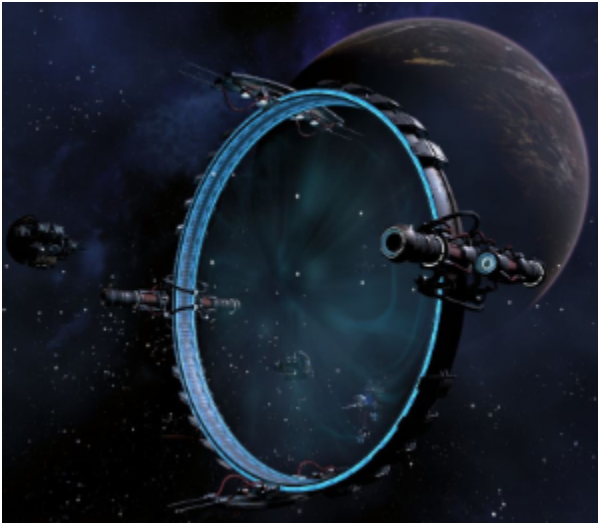
Orbital Accelerator:
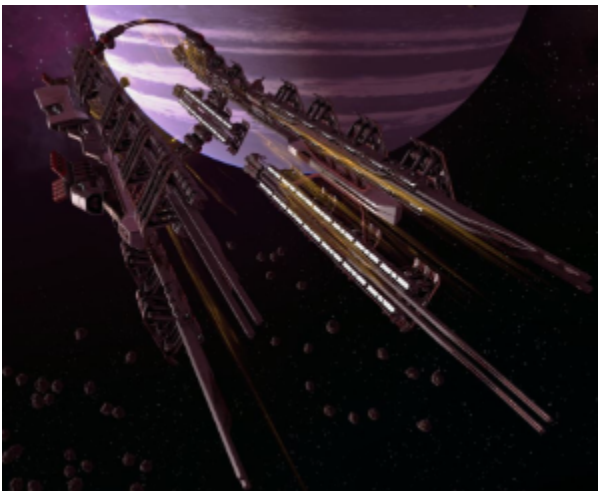
Superhighway:

Navigational Hazards And Minefields

Not all of space is empty and safe, some sectors are littered with natural hazards or the remnants of past conflicts. Vast Electromagnetic Storms will tear through unshielded ships while fields of Radioactive Asteroids will cause constant damage to both shields and hull. Dense Asteroid and Wreckage fields provide plenty of obstacles to collide into when traveling at high speeds while some sectors will be littered with minefields where one wrong move could destroy a ship.

The X-Universe And Map

- Layout of the X-Universe
- The X-Universe Map
- Legend
- Micro Scale
- Macro Scale
- Object List
- Property Owned
- Mission Offers And Mission Manager
- Information
- Manage Station Plots
- Filters
- The Encyclopaedia

Layout of the X-Universe

The X-Universe in X4 is set in a **Galaxy** containing multiple different **Star Systems** (AKA a **Star Cluster**). The areas within which ships fly are called **Sectors**, and there may be more than one Sector in each Star System. Including the Split Vendetta DLC, there are ~60 Star Systems. Roughly half of which contain 1 Sector, with the others containing 2 or more.
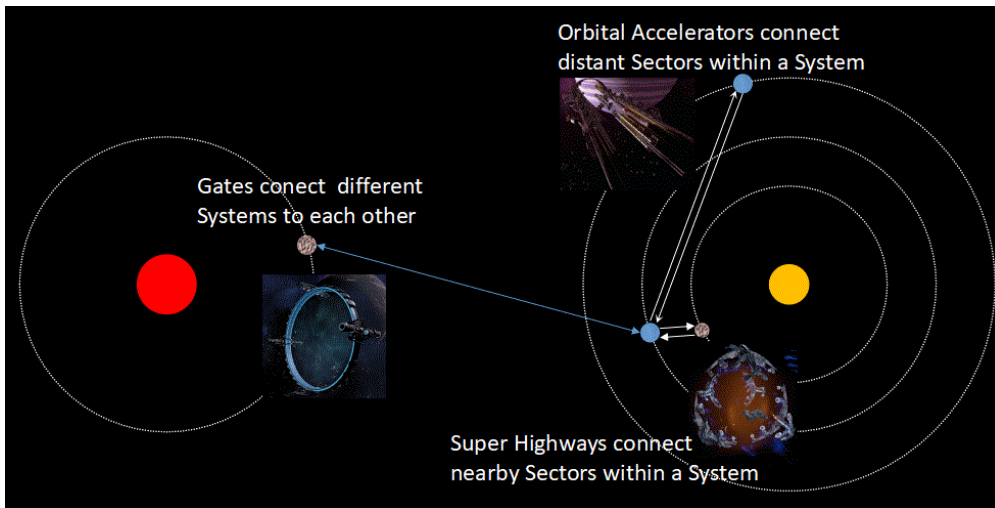
Sectors are connected, and laid out in the map, in 3 main ways:

- **Jump Gates:**
  - Connect Sectors if they are in different Star Systems
  - The Sectors' map hexagons have a solid, uniform-colour border
  - Crossing a Jump Gate counts as moving 1 sector in context like auto-miners operational range
- **Orbital Accelerators:**
  - Connect Sectors if they are far apart within the same Star System
  - The Sectors' map hexagons touch, and those hexagon boarders have a hollow border
  - Travelling through an Orbital Accelerator counts as moving 1 sector in context like auto-miner operational range
- **Super Highways:**
  - Connect Sectors if they are close together within the same Star System
  - The Sectors' map hexagons are within a larger hexagon
  - Travelling through an Super Highway does not count as changing sectors in context like auto-miner operational range

The local area within a Sector around objects (e.g. ships and stations) is referred to as a **Zone**. As such Zones are transient and do not have specific locations illustrated on maps.

Visit the Piloting And Travel page for further info on Jump Gates, Orbital Accelerators and Super Highways.

The above layout is illustrated in the following diagram where different 4 Sectors are located around 4 planets.

Orbital Accelerators connect
distant Sectors within a System

Gates conect different
Systems to each other

Super Highways connect
nearby Sectors within a System

The X-Universe Map

Use the Map hotkey (M) to open a map of all the Sectors the player and player-owned ships have visited. Unexplored areas of Sectors will appear as grey (AKA "Fog Of War"), whilst resource areas will appear as red, purple or blue. Most stations will not be found in the same places each time we restart the game. That station variation has some constraints to support faction viability.

Selected objects on the map can be targeted by the player ship using the Target Object In List hotkey (T). Player assets are coloured green, friendly NPC objects are Blue and hostile objects are Red. If the checkbox "Show Faction Colors" in Filter Settings->Think Filters is marked, the objects will use the faction colours.

The outline for sectors and systems is the colour of the faction with local administrative power:

- Neutral = Grey
- (Player) = Bright Green
- Alliance of the Word [ALI] Does not own sectors as of 3.20 beta 1
- Antigone Republic [ANT] = Light Blue
- Argon Federation [ARG] = Dark Blue
- Cabal of Curbs [CAB] = Yellow
- Duke's Buccaneers [BUC] = Dark Purple (similar to GOP)
- Fallen Families [FAF] Does not own sectors as of 3.20 beta 1
- Free Families [FRF] = Light orange
- Godrealm of the Paranid [GOP] = Dark purple
- Hatikvah Free League [HAT] = Cyan/teal
- Holy Order of the Pontifex [HOP] = Pink
- Kha'ak [KHK] Does not own sectors as of 3.20 beta 1
- Ministry of Finance [MIN] Does not own sectors as of 3.20 beta 1
- Realm of the Trinity [TRI] = Purple (roughly halfway between GOP and HOP)
- Scale Plate Pact [SCA] Does not own sectors as of 3.20 beta 1
- Teladi Company [TEL] = Light Green/Yellow
- Xenon [XEN] = Red
- Zyarth Patriarcy [ZYA] = Dark Orange

The viewing angle of the map can be adjusted by holding the right-mouse button while moving the mouse (or controller equivalents). This helps observe the height of objects relative to the ecliptic, represented by a thin grey line pointing from the object to its 2D position on the ecliptic. Since we can center the map on objects, these view rotations can also be used to look at station module layouts.

Legend

Each object type is represented by a symbol on the map for easy identification when zoomed out (activate Legend button in top-right of the map to see a key).

Legend (map screenshot)

Search... | Hatikvah's Choice III

Legend
- Unknown location
- Mineral Region
- Gas Region
- Mineral/Gas Region
- Jump Gate Connection
- Superhighway
- Local Highway
- Jump Gate
- Accelerator
- Superhighway Gate
- Owned
- Neutral
- Enemy

Stations
- Headquarters
- Faction Headquarters
- Shipyard
- Wharf
- Equipment Dock
- Trading Station
- Defence Platform
- Free Port
- Factory

Ships: XL
- Fighter
- Builder

Ships: L
- Fighter
- Freighter
- Miner

Ships: M
- Fighter
- Transporter
- Miner

Ships: S
- Fighter
- Transporter
- Miner

Units
- Defence Drone
- Cargo Drone
- Mining Drone
- Civilian Ship
- Building Drone

Misc
- Laser Tower Mk1
- Laser Tower Mk2
- Mine
- Missiles
- Satellite
- Advanced Satellite
- Resource Probe
- Nav Beacon
- Point of Interest
- Unknown Object
- Faction Representative
- Person of Interest
- Black Marketeer
- Mission offers
- Accepted Missions

Micro Scale

When zoomed in the map will show all the details seen on the ship radar including containers, missiles, asteroids, lock boxes, ships and station modules. The traded wares of individual stations will be shown next to the station. Modules of NPC station that have been scanned will be highlighted yellow on the map when selected under the Object List. As the player zooms out, groups of stations will become clustered together in a box and their traded ware lists combined. Eventually all stations from groups of systems/sectors will become grouped together and individual ships will stop being represented on the view of the map.

Macro Scale

When zoomed far out the map will only show key stations for factions like Wharfs, Shipyards, Equipment Docks and Trading stations, along with Highways, Superhighways, Jump Gates and Orbital Accelerators. Resource tiles will cease being visible and all systems/sectors will be represented as grey hexagons with a border colour of the owning faction. If zoomed out far enough the net wares for the entire X-universe will be clustered together.

Object List

List of all known stations and ships within radar range of player owned assets within the viewed area of the map. As the map is zoomed out more objects will show until smaller ones start being filtered out by the micro to macro transition. Left clicking player assets will select them and enable orders to be given by right clicking objects in the Object List or map and locations in the map. Stations have a + next to them to expand them to allow individual station modules to be selected. Station modules which have not been scanned appear as "???" icons.

Property Owned

A list of all player owned assets. Double click an object to centre the map on the object. Left click objects to select them and right click on the map or other player assets to give them orders. Right clicking an asset has the Information option at the top of the menu, which shortcuts to the Information tab for that asset

Mission Offers And Mission Manager

'Mission offers' is a list of all missions currently being offered in the sector the player ship is in (& has vision over, via satellite or other asset visibility radius - see below). Guild Missions will always show on entering the sector (if unlocked by faction rank promotions) while Other Mission Offers will only show if the player has assets near the offering station or has unlocked them from an Audio Signal. Left clicking missions will open a window for the mission allowing the player to accept or open the briefing window.

The Mission Manager will show all currently accepted missions; left clicking such missions will allow the player to abort the mission, toggle guidance for the mission or open the briefing window. Upkeep missions are automatically generated by player assets to highlight a crucial lack which can impair operation.

Information

Shows information for the left-click selected object. General information shows stats from the owner, current shield and hull values to the loadout and station modules. Click the + next to sections to expand them. The amount of information shown for NPCs is limited by how deeply they have been scanned, while player assets may have additional fields which can be set (eg the weapon configuration for ships and the amount of credits in the manager's account for stations). Global Standing Orders are automatic responses towards police and pirate hostility or if the ship encounters an abandoned ship with each having 4 simple options.

Ship Standing Orders have the same options *and override Global Standing Orders* should the player want some assets to be exceptions. Ships have **Default Behaviour**, which can be adjusted. Order Queue allows the player to see all current orders and set the Default Behaviour for a ship (when not the player ship) which is the order to perform when no additional orders are given by the player (for example getting idle Trading ships to Auto Trade). Change the Default Behaviour by clicking the pencil symbol to the right of the order, while the * symbol determines what weapon systems the ship will use for combat while carrying out the order.

To make an order queue right click a point or object on the map and select an order from the list. The arrows to the right can be used to shuffle the position of the order in the queue. Each order will have several parameters that can be adjusted, usually by right clicking objects in the Object List which appear when the parameter is selected or using Shift+Left Click to target a 2D point in space. *If the ship has no Default Behaviour* the player will be notified when the ship completes the list of orders.
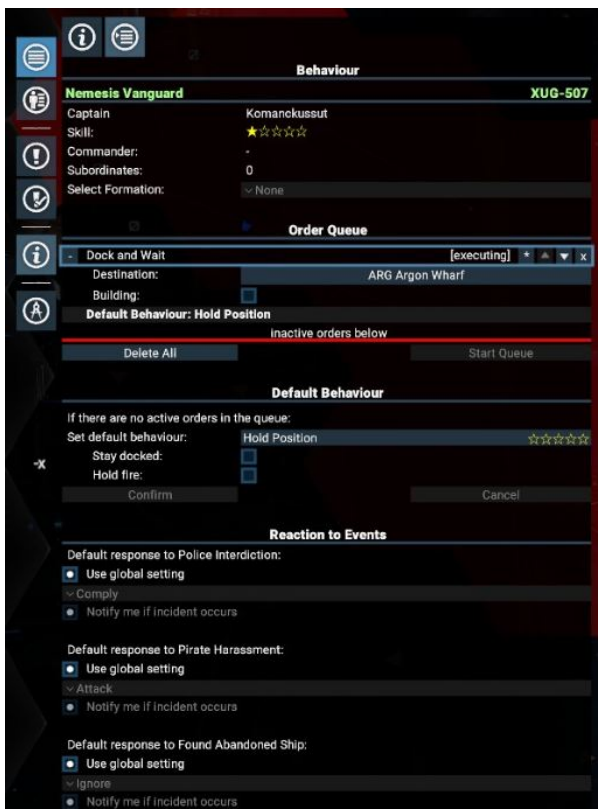
Manage Station Plots

Opens the view to show plots for stations in the selected sector. To change the sector viewed use the Object List to select a station in another sector. Friendly NPC plots are blue while hostile ones are red. Plots can range from 1x1x1km to 20x20x20km. At the top is the list are plots the player already has and left clicking will centre the map in plot view on the selected plot while at the bottom of the list is the option to create a new plot.

Filters

At the top right of the map are Filter Setting options to select the amount of information displayed on the map at one time. This can be useful for focusing on trading specific wares (eg Claytronics and Hull Parts for station module construction). Wares can be added to the filter by right-clicking the ware listed for a station or group of stations, and removed by left-clicking. Alternatively use the Filter Settings button to add and remove wares from the filter

The Encyclopaedia

The in-game encyclopaedia hosts a vast wealth of information and trivia about sectors, factions, station modules, ships, consumables, weapons and turrets, equipment, licences, wares and lore of the X-Universe. Sectors, ships, factions and wares will have their entries appear as the player encounters them, while consumables, weapons and turrets, equipment and licences require the player to have docked at a station which sells them. Station modules will only show when the player has obtained the blueprints for that module. Encyclopaedia entries list key stats as well as the types of wares needed to produce/build the item.

Stations Basics

- Introduction
- Station IDs
- Platforms
- Elevators And Transporters
- NPCs
- Modules
- Scanning
- Audio Signals And Data Leaks
- Mass Traffic
- Docks
- Docking, and Using The Docking Computer
  - Manual Landing
  - Docking Computer-Assisted Landing
  - Guide with screenshots
    - Request Permission to Dock
    - Navigate to docking area
    - Find the docking alignment indicator
    - Use alignment indicator to land
- Hidden Crates
- Climb On-board A Ship
- Undocking
- Sabotage
- Research

Introduction

Scattered throughout the X-universe are numerous stations and more will be constructed while other will be destroyed as play progresses. Stations consume wares to manufacture other wares or build and equip ships. Trading Stations are special in that they will both buy and sell a range of wares. Defence Platforms provide a means for a faction to maintain ownership of a sector.

At this time (v1.50), players are able to build **manufacturing stations** and **Defense Platforms**. Station Trade offers are only available to the player has gather this information (see the Trading And Mining page).

Station IDs

Stations have unique IDs displayed within menus. The generation of IDs is completely random.

Platforms

Docking modules that look small when seen from space appear vast when explored on foot. Each docking module has a unique layout from which the player can watch ships come and go. Automated safety systems prevent unoccupied landing pads from being walked on (if you find yourself trapped in a bay, look for escape ladders near regular exits). Player-owned ships can have their Ship Options displayed via interacting with the panel on the edge of the landing pad in front of the ship. In addition to docks, all stations have an Engineering Bay, Managers Office and a mission-unlocked Bar.

Elevators And Transporters

Whilst travelators are available on larger docks, not all areas of all stations may be accessed on foot. The player may need to take an elevator or transporter to other areas. Elevators and transporter are used by interacting with control panels on the inside on the left. From left to right,

elevators, transporters and the panel on the edge of the landing pads are ringed in the picture below.
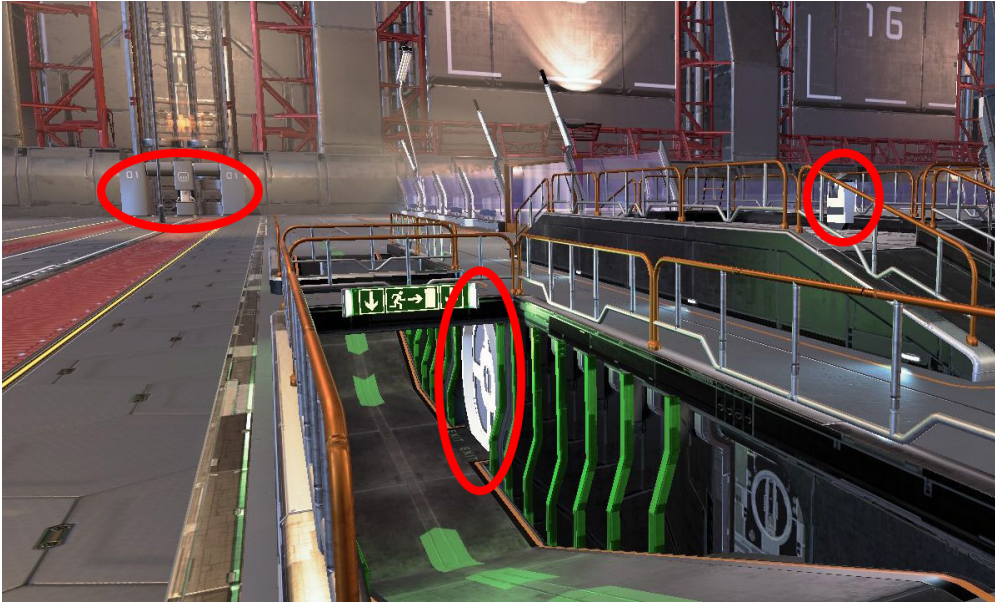
NPCs

Talk to the denizens of stations to ask for directions, progress missions, trade and to hire new staff for ships and stations.

Modules

Stations are constructed from multiple interconnected modules. Each module acts independently from the rest having an independent amount of hull and surface elements. NPC modules can be scanned to reveal information about the module, while player-owned station will show this by default. Modules are classed into Production, Build, Storage, Habitation, Defence, Dock and Other categories.

- Production: Manufacture wares using other wares as resources.
- Build: Produces, upgrades and repairs ships.
- Storage: Stores excess resource and product wares
- Habitation: Houses the station workforce
- Defence: Heavily armed and durable modules for repelling attackers
- Dock: Provides docking facilities which enable ships to dock at the station
- Other: Struts and other connectors for linking modules together

Scanning

Modules, Audio Signals and Data Leaks are scanned by setting the player ship or Space Suit to Scan Mode and facing the object to scan before flying close enough. With Audio Signals and Data Leaks the player needs to aim for the middle of the glowing red part while station modules can be scanned from any place on the module.

Audio Signals And Data Leaks

When approaching a station there is a chance Audio Signals and Data Leaks will spawn at specific hardpoints on modules. They have a 'static' sound, and their visual location is easier to detect when your Ship is in Scan Mode.

These can be repaired using the Repair Laser of the Space Suit to earn some notoriety with the faction which owns the station or scanned for other benefits. Audio Signals will reveal hidden missions when scanned while Data Leaks can grant temporary station wide discounts or commissions for specific wares. There is even a chance to obtain a free Blueprint for the module with the Data Leak when scanned. The probability of obtaining rewards when scanning data leaks is dependent on the type of Data Leak and the type of scanner used to scan it with. This means not all Blueprints can be obtained using ships to scan the Data Leaks and using the Spacesuit Scanner yields the best results.

Mass Traffic

When stations are large enough they will begin to generate mass traffic of smaller NPC ships that fly around the station along specific lanes. Some of these ships will be Police Vehicles which will deviate from the mass traffic lanes to scan random ships nearby for wares which are illegal

to the faction which owns the sector. Failure to comply will cause the Police Vehicle to go hostile and attack the offending ship and may even lead to the whole station attacking the ship. Killing mass traffic is considered a hostile act by the owning faction. Mass traffic will occasionally spawn Criminal owned craft which can be killed without penalty and even earn notoriety with the faction which owns the station.

Docks

These allow ships to dock at stations. There are usually a mix of S and M size landing pads on the same docking modules while L and XL ships need to use piers. The availability of docking options can limit which ships can trade with a station.

Docking, and Using The Docking Computer

Manual Landing

After requesting docking permission (see below), approach the designated docking bay and use the on-screen guidance to help you land flat, in the center of the bay.

To land, the following 4 parameters must be met exactly:

1. The front of the ship must be pointing in the right direction
2. The ship must be parallel to the landing pad
3. The ship must be located centrally over the landing area
4. The ship must be hovering at a certain maximum height above the landing pad

Docking Computer-Assisted Landing

The Docking Computer helps the player to land by taking over when your ship has almost met the above four parameters.

The **Mk1** version will kick in when the player has almost landed, avoiding the need to match the parameters very precisely. The **Mk2** version kicks in while your ship is further from the landing point, streamlining landing further.

Guide with screenshots

Request Permission to Dock
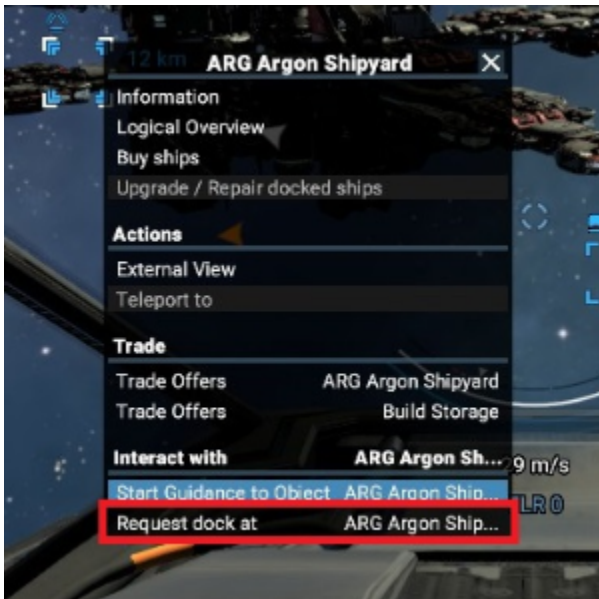
1. Left click on the station to select it.
2. Right Click to bring up a context menu, then select "Request dock at"

- Alternatively select the station and use Shift +D
- You must be within a 6km to dock. If the docking option is unavailable, you may be too far away, the docking module may be full, or you may need a higher reputation with the owning faction.

Navigate to docking area

Follow the green landing lights to the approximate docking area.

The green lights may not always indicate the optimal path, so be aware of obstacles!


When approaching the landing pad, there will be a faint hologram of your ship superimposed over the allocated landing pad, showing the required alignment.

Slowly fly towards this location, being mindful of speed, position and alignment. It may be best to try and fly above the spot, then descend into it.

Find the docking alignment indicator

As the landing pad is approached, a red triple chevron symbol will point towards the docking alignment indicator. If you are facing in completely the wrong direction, there will be a U-turn symbol in the top left of the screen.
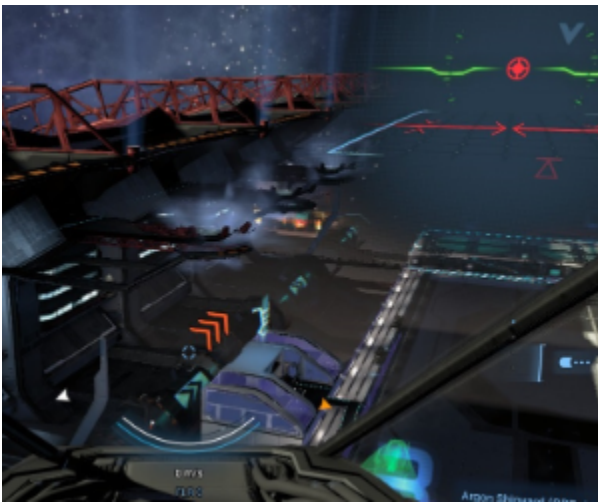
Try to centre it onto your screen.

Use alignment indicator to land

Your initial alignment may be very bad!

First, centre your direction reticle on the target in the alignment indicator, and rotate so that you're level.

Now, strafe left/right so that the red triangle with a line above it is centred. When you're centred, you'll see the two arrow tips turn green.

Now, slowly move forwards or backwards to bring the red triangle in alignment with the line. You will see more of the diagram turn green when you're perfectly aligned.

Now, slowly strafe down until docked. You may need to make minor adjustments at the landing pad, but you'll soon be landed.

HINT: it may be easiest/quickest to lock steering using the Space bar once the (round, central) target indicator is green, then use strafe, Q/E to roll, & slowly accelerate/decelerate until ILS alignment is correct. Only then should you use S strafe to move down onto the pad

Hidden Crates

Certain missions will require crates hidden on the station platforms to be found and collected by the player. These crates usually contain wares to progress the mission.

Climb On-board A Ship

The player can enter owned and friendly docked ships. If the player owns the ship it is possible to interact with the pilot seat ask the pilot to vacate their seat and let the player fly the ship while NPC owned ships will permit the player to be a passenger while they go about their business.

Undocking

Open the Ship Interactions Menu and click Undock to begin your journey into space

Sabotage

A number of nefarious Inventory Items (Security Bypass Systems, Decryption Systems, and Slicers) may be use to sabotage a station. The player can cripple station defences, shielding, repair, production, construction, trading,or gain discounts or release stored wares by using them on the panels on the station (e.g. the Engineering Bay).

Research

In order to stay ahead of the competition a player with a Player Headquarters can undertake Research to unlock upgrades and perks to make their growing empire more effective. To research an upgrade click the Research menu (when unlocked at the Player HQ) and select a technology to research before clicking the Start Research button. If the player has the required wares available at the research facility the upgrade will be completed within the specified time.

Combat And Weapons

- Fight
- Combat
- Weapon Types
- Main Weapon Aiming (Guns)
- Main Weapon Aiming (Missiles)
- Main Weapon Firegroups
- Main Weapon Heat
- Turret Settings
    - Turret Rules of Engagement:
    - HUD Controls for Turrets on Medium ships:
    - Full Controls for All Ships:
- Defence Drones
- Attacking specific station modules
- Loot
- Fleet Management

Fight

History has always been written by the victor and great treasures await those willing to take them by force. Whether it is defending player owned traders from marauding pirates or galactic conquest there will always be plenty of reasons to be armed and dangerous. Some fights end in destruction, others lead to capturing ships or conquering sectors.

Combat

Ships armed with frontal weapons, turrets and Defense Drones can attack other ships to deal damage to them. Shields will absorb damage taken until they are depleted, but will start to recharge after not having taken damage for a period of time. Some shields protect ship hulls, whilst others can protect nearby ship systems on larger ships.

Individual surface elements on Large and Extra Large ships can be targeted to disable them, however these may also have their own independent shielding. Once shields are depleted the ship or surface element will start taking hull damage from landed hits. If the hull 'hitpoints' of a surface element reaches 0 it is disabled until repaired; if the ship's hull HP reaches 0 it will blow up, destroying the ship (and if the player was on-board it will result in a Game Over).

The player is free to customise the turret loadouts of all ships, and the main weapons of Small and Medium Ships (see the Weapon Configuration part of the Ship Interactions Menu). This allows the player to tailor the roles of ships, or sub-sections of ships, for specific roles (e.g. high damage and long range, or accurate short range weapons). Most ships have blind spots from which they can not attack making ideal spots for their enemies to manoeuvre into. Although an individual ship can be good at duelling opponents, superior numbers are another way to win battles.

Weapon Types

Weapons fall into 5 general categories:

- **Main** weapons**:**
    - **Primary Guns** (forward-facing weapons on S, M and L ships)

- **Secondary Launchers** (forward-facing weapons on S and M ships)
- **Gun Turrets** (available on M, L and XL ships)
- **Missile Turrets** (available on L and XL ships)
- **Defence Drones** (deployable from some M, L and XL ships)

Main weapons are controlled by the player when captaining their ship, and Defence Drones will deploy automatically to protect their mothership if piloted by an NPC.

Main Weapon Aiming (Guns)

The game settings contain an option called **player-assist 'target target' mode** (enabled by default). When enabled, player-controlled primary guns will automatically fire at a leading point to intercept the position the target is flying towards. The same approach is taken automatically by ship-controlled gun turrets. When 'target target' mode is not enabled, or when manually aiming, main guns will fire at the cursor's position.

Main Weapon Aiming (Missiles)

Player-controlled (forward-facing), secondary launchers equipped with dumbfire missiles will fire at the cursor's position. When equipped with homing missiles, secondary launchers use a missile lock HUD marker to automatically try and lock on to the playership's target. Secondary launchers are fired with the "L" key.

Main Weapon Firegroups

Under Ship Information, "**Weapon Configuration**", Weapon (i.e. S Pulse Laser Mk1), there are 2 sets of 4 boxes. These are labeled Primary and Secondary (see above).

Those four boxes are where you can setup the main weapon's Primary and Secondary Firegroups. You can put a weapon into all 8 firegroups if you wish.

The firegroups are toggled using **Hotkeys**:

- Change Primary Firegroup: **1**/**2**/**3**/**4**
- Change Secondary Firegroup **5**/**6**/**7**/**8**

Main Weapon Heat

When primary guns are fired they generate heat, which the ship must dissipate in order maintain combat efficiency. When multiple weapons are fitted and used simultaneously, larger amounts of heat are accumulated and it takes the ship longer to dissipate it. The impact of firing multiple guns is visualised by the heat bar to the right of each weapon icon on the HUD (see images below).

When shooting for short periods of time, heat build-up usually isn't an issue, and primary guns DPS is the "Burst Weapon Output" listed in the ship purchase/upgrade menus. When fired for longer, especially when several are fired together, heat can force primary guns to shutdown temporarily. When firing over long periods leading to overheating (and weapon shutdowns), primary guns DPS is reduced to the "Sustained Weapon Output" (*please note that at this time, the ship purchase/upgrade menus lists incorrect sustained MW values*).

Minor heat buildup (bar the on right is short)

Heavy Heat buildup (bar is long, and orange)

Overheated (bar is red, and weapons have shutdown)

Turret Settings

Turret Rules of Engagement:

- Turret offline : Will not take any action
- Turret online : Will take the actions below:

    - Attack Enemies : Attack any hostiles

    - Target Target : Will only attack the selected target if it is hostile

    - Defend Ship : Returns fire on things that attacks the ship (not missiles)

    - Missile Defence : Will only try to intercept incoming missiles (not ships) - [X3 'Missiles Only' mode]

    - Break Asteroids : Supports mining solid materials

HUD Controls for Turrets on Medium ships:

- Depending on ship model, there may be 2-4 turrets
- Their per-turret settings icons are found at the top-middle of the screen:

Full Controls for All Ships:

- Customisable turret controls for all ships
- Each Turret, or Turret Group (pairs of Mediums), have settings:
    - Each setting offers the same options as the HUD Controls above
    - Additionally, there is a setting that to **apply an option to all turrets**
- Available on two places via drop-down menus:

- **Piloted ship**: **Ship Menu** (click on the chevron in top-centre of screen):

- **All owned ships**: **Ship Info Menu** (locate Turret Behaviour settings are near the bottom):

Defence Drones

These small craft can be equipped to, and operated by, ships with Small Docks (Frigates, Large and XL Ships).

Summary of capabilities:

- Cheap (~15,000 Cr)
- Equipped with a Pulse Laser Mk1
- Scout-level hull integrity (1,900 MJ)
- Do not have shields
- Auto-repaired by their motherships after docking

Attacking specific station modules

It is possible to order ships on the Playership's Wing to attack specific modules. For example, Storage, Defence or Administrate modules.

Process for doing this:

1. Open the Map
2. Expand the station's info so that you can see specific modules (see image below)
3. Left click on the module you wish to attack
4. Right-click on the Playership (or specific ship in Wing) and select "Wing: Attack My Target"
   - If this order is not available, re-select the module, press "T", and try again

Loot

Hacking or destroying ships and station storage modules will cause them to drop a proportion of their cargo for other ships to collect. Collecting wares dropped from a station is considered theft, so the station may turn hostile with any ships that do. NPC ships also have a chance to drop wares for the player inventory dependent on the type and faction of ship killed.

Fleet Management

Ships can form hierarchical groups. A leader followed by several "wingmen", often referred to as a squad(ron), but also multiple levels deep as soon as a leader of one group itself follows instructions of another leader.

Setting up such a fleet can be done the easiest by selecting one or multiple ships which are supposed to be the followers on the map, then right clicking on the new leader. The context menu will now show ASSIGNMENT options such as the new behaviour to DEFEND this leader. Selecting this option will move all these ships into the hierarchy of this leader. A plus + symbol now appear in front of the leader ship in the OBJECT LIST as well as the PROPERTY OWNED menus at the side of the map.

Ships which are in such a squad or fleet can still receive and execute explicit player orders. These orders would overwrite their current behaviour to follow their "boss" for their duration. This way a player can use any ship for a trade run or overwrite their targets during a battle.

When ships are in a squad or fleet, they can also fly in formations. The command order menu of the leader, does allow selection of the currently used formation.

The Spacesuit

The Spacesuit

When the player steps out into the vast reaches of space in only a Spacesuit they are comparatively slow, clumsy and vulnerable, but are able to perform actions that no ship could. Use the Spacesuit to patch up damage from combat, sabotage competitors or gain intelligence. To help you get around, you will be sitting in an EVA chair equipped with thrusters.

Tools and Weapons

The Spacesuit may be equipped with a variety of tools. They are sold by Item Traders on each station and they are individually selected just like ship weapon groups (Hotkeys 1-4).

- Repair Laser (available on all spacesuits):
  - A tool used for slowly repairing hull damage for free at up to 25m range. It's a fixed amount of repair per tick, so tougher hulls will take a looong time to repair this way!
- Hand Laser:
  - A weak beam weapon that can be used for shooting locks and surface components.
- Bomb Launcher:
  - Launches magnetic **explosive** and surface-element-disrupting **EMP bombs**. Projectiles are consumable and need to be crafted in player's inventory. Spacesuit Bombs are remotely detonated by selecting the attached bomb and selecting the Detonate order by right clicking to deal heavy damage in an area around the bomb - which can harm the player if used at close range! The detonation point of the Spacesuit EMP creates several small data leaks, which can be scanned

Abilities

- Spacesuit Scanner:
  - The Spacesuit scanner is capable of performing the deepest scans of ships and station modules to gain full information of the scanned object. Scanning a Data Leak with the Spacesuit Scanner also has a higher chance to obtain Blueprints, and level 2 Data Leaks can only be scanned this way.

Getting Back To The Ship

- You can pilot your Spacesuit back into your ship by requesting docking permission, which opens the hatch you manoeuver into. Entering the hatch will move the player to the Transporter Room of the ship.

Oxygen levels

The Spacesuit has a finite amount of oxygen supply. A bar under the crosshair shows the remaining oxygen. After 25 minutes, it will become harder to breathe as indicated by changing (increasing frequency) breathing sounds. The oxygen bar will also turn red. If the player has not returned to a ship or teleported to a station within 30 minutes of going EVA, they will die.

Missions And Collectable Loot

Introduction

The X-universe is filled with people needing help in the form of missions. Missions can be accepted to earn reputation with the giving faction, along with credits and occasionally other rewards.
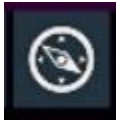
Available missions are listed in the Mission Offers tab on the map:

Accepted missions are listed in the Mission Manager tab on the map:

Guidance missions

These are player-determined and only apply to the playership. Objects such as ships, stations, gates and lockboxes may be selected as destinations via the HUD, radar or Map and guidance will show the way to them. It is also possible to set a position in empty space as a destination via the map.

Generic missions

'Making your way in the world today takes everything you've got!' Until, or even after, you've found your place in galactic society, "generic" missions let you swap effort for hard cash, or occasionally for other random looted goodies.

There are a multitude of them:

- Assassination
- Clearing military objects
- Criminal termination
- Delivering crew
- Deploying objects
- Espionage
- Item or ware deliveries
- Lost item recovery
- Passenger transport
- Repairing satellites
- Rescuing trapped ships
- **Secret missions**
- Station construction
- Theft recovery

There are multiple ways of finding and accepting these missions. When the player passes within radar range of stations, any generic missions offered by their population will be visible through icons on the HUD, radar and map, and will be listed in the Available Missions tab. Mission details are available from the "Open briefing" menu that is offered via the Available Missions tab or a right-click on the Map icon. The instant a mission is added to the Mission Offers tab and map, these icons also blink for a moment.

In contrast to most generic, publicly-available missions, some are **secret** and often illegal missions. The nefarious Individuals offering these missions do not post them openly: instead they try to contact potential pilots using disguised audio transmissions. Use the SCAN MODE near stations to find signal leaks that may offer secret missions: often the rewards for these types of missions are significantly higher than those of normal missions.. but of course the risk is higher too!

Upkeep Missions
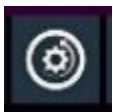
The upkeep mission category holds small tasks related to player property. A ship that does not have a pilot, a station in urgent need of a manager

and similar tasks to regain functionality in the players empire. Completing these missions do not give rewards but help keep things running smoothly.throughout your empire

Guild Missions

Faction missions are the highest and most important tier. A player must first gain a very good standing with a faction and be invited to the faction representative to get access. During the visit to the faction representative (ie at level +10 reputation) an offer to join a faction mission may be given. The most prominent but also most dangerous such examples are the war effort missions: several large wars are happening in the universe and the player can join either side.

After joining a War Effort Faction its path works as a subscription for many further missions. The player can choose which to pick from a list of offers.

Playing Multiple Missions At Once

There is no limit as to how many missions can be accepted at the same time. While there can only be one mission active, many more can be accepted. Failing or aborting missions usually has no consequence, however in some cases failing a mission may be punished, especially during faction missions or if the mission is time-critical.

Crystal Clusters

In the depths of space there are treasures to be found and collected. When traveling through asteroid fields the player may spot small glints of light coming from asteroids. These glints are reflected from asteroid-placed Crystal Clusters which can be specifically targeted and shot at until they release their contents (if you shoot the 'roid itself it's unlikely to release the valuable crystals). The sale value of collected crystals can range from 1,000-250,000 credits each depending on their type, and also provide crafting materials.

Lockboxes

Use of the long range scanner or flying in the right place at the right time may reveal Lockboxes floating in space. Lockboxes require the player to accurately shoot between 1-16 glowing red locks off the spinning box to open without dealing enough damage to destroy the box along with the contents. Lockboxes usually drop items for the *player* inventory, with the number of dropped wares being proportional to the number of locks. It's recommended to use a low power weapon to do this, as some boxes can be very dangerous if destroyed at close range

Tips: The Lockboxes can spin quite fast sometimes. By carefully nudging the Lockbox with a ship the rotation speed of the Lockbox can decrease, making it easier to aim correctly at the locks: the locks don't appear to (currently) react to collision damage: only the entire structure is affected, if at all

Data Vaults

Occasionally the player will encounter large satellite shaped Data Vaults floating in space. These puzzles require the player to use a combination of techniques to open, including damage, repair and scanning.

In order to open these all pressure valves & power relays on the outside must be repaired (red illuminated displays). To to this you'll have to approach the display in a space suit, then use its repair laser to repair the displays at a target distance of 20 meters or less

NPC Behaviours

- Introduction
- Impact of "Remove all orders" Command
- Setting Behaviours
- Available Behaviours
- Images Showing the Location of Common Confirmation Buttons

Introduction

Behaviours represent the **default actions** of **NPC Captains** employed by the player. In other words, if a ship has now current orders, or has just completed an order, they will follow their Behaviour until told otherwise.

Please note that if a player takes control of a ship mid-order, the Captain will re-initiate the previous order after the player relinquishes control (instead of reverting to their default Behaviour). This allows the player to take control of any ships fluidly without having to repetitively reset orders after they leave. This can become especially helpful in the mid-to-late game after player teleportation has been realized.

Impact of "Remove all orders" Command

- **Remove all orders** - removes only the orders in the ship's order queue but retains the ship's behavior
- **Remove all orders and assignments** - removes all orders in the order queue, resets the ship's behavior, and removes the ship from any command hierarchies

Setting Behaviours

1. Open the Map and locate the Ship you wish to adjust the Behaviour of it's Captain
2. Right-Click on the Ship in the Map to bring up the context menu, and left-click on the "**Information**" option:

3. Stay on the Map and, looking at the top-left area, change the view to the Behaviours tab by left-clicking on the highlighted button:

4. Within the highlighted section below, left-click on "**Hold Position**" to view and chose from default Behaviours (listed in the table below):
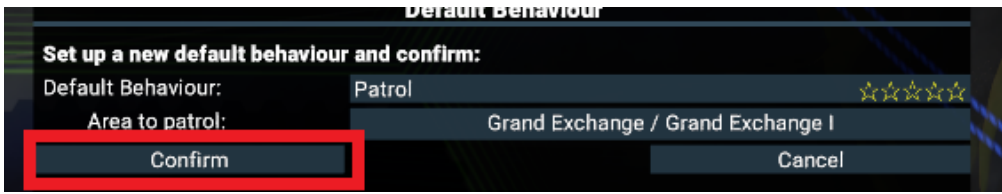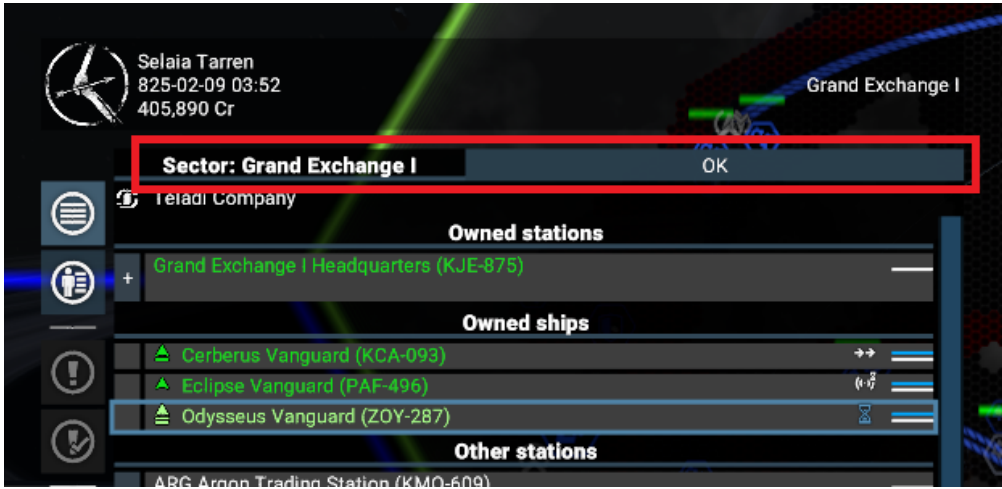
5. Within the highlighted section above there are also to additional left-click options (unassigned ships only):
   - "Stay docked"
   - "Hold fire"
6. Below the highlighted section above we can adjust how the Captain responds to scenarios (and chose if we want notifications or not):
   - **Police Interdiction** (where a Police scan found illegal goods):
     - Attack
     - Comply (dropping requested wares; <u>default setting</u>)
     - Escape
     - Wait
   - **Pirate Harassment**:
     - Attack (<u>default setting</u>)
     - Comply (dropping requested wares)
     - Escape
     - Wait
   - **Finding abandoned ships**:
     - Claim if possible (a Marine will be used to board the ship)
     - Ignore (<u>default setting</u>)

- Mark
- Protect

Available Behaviours

Behaviour type	Behaviour	Skill requirement	Setup steps for the Default Behaviours menu in the Map
Combat	Patrol	0	1. Left-click on the area to the right of "Area to patrol". 2. Left-click on the Sector you wish the Captain to Patrol. 3. Left-click on the "OK" button at the top of the Default Behaviours menu (see images below). 4. Left-click on the "Confirm" button in the Default Behaviours menu (see images below).
Combat	Protect Position	0	1. Left-click on the area to the right of "Area to protect". 2. Left-click on the Position in a Sector you wish the Captain to Protect. 3. Left-click on the "Confirm" button in the Default Behaviours menu.
Combat	Protect Ship	0	1. Left-click on the area to the right of "Ship to protect". 2. Right-click on the Ship you wish to be Protected (**can belong to another Faction**). 3. Left-click on the contextual "Select" option. 4. Left-click on the "Confirm" button in the Default Behaviours menu.
Combat	Protect Station	0	1. Left-click on the area to the right of "Station to protect". 2. Right-click on the Station you wish to be Protected (**can belong to another Faction**). 3. Left-click on the contextual "Select" option. 4. Left-click on the "Confirm" button in the Default Behaviours menu.
Mining	AutoMine	1	Mining Ship-specific
Navigation	Dock and Wait	0	
Navigation	Explore	3	
Navigation	Follow Ship	0	
Navigation	Fly to Object	0	
Navigation	Fly and Wait	0	
Navigation	Hold Position	0	
Trade	Revisit known stations	1	1. Left-click on a ship in the Map. 2. Right-click on empty space in the map and select "Update Trade Offers".
Trade	Find Build Tasks	0	Builder Ship-specific
Trade	Distribute Wares	2	
Trade	AutoTrade	3	

Images Showing the Location of Common Confirmation Buttons

Purchasing And Upgrading Ships

- Ship-Related Stations
    - Ship construction locations:
    - Ship upgrade/repair locations:
- General Ship Capabilities By Size Class
- The "Buy Ships" / "Upgrade/Repair" Menu
- The Buy/Upgrade/Repair process
- Understanding Delays and Ware Shortages
    - Wares Shortages
    - Available Construction Slots
- Cancelling a Buy/Upgrade/Repair
- Loadout Options
- Missile Ammo
- Crafting
- Personnel
- Everybody Can Be A Captain (if he just has to believe in himself)
- Skills
- Training Crew Or Marines
- Digital Seminars

Ship-Related Stations

Ships are manufactured to order and sold by Ship Traders, who can be found on Wharfs and Shipyards. The Ship Trader can be contacted by right-clicking on the Wharf/Shipyard in the Map (Buy Ship option), or in person at the Maintenance Bay on Fabrication modules (their offices also have Transporter Rooms for fast-travel). Equipment Docks are the other ship-related station.

Wharfs, **Equipment Docks**, can support ships in several ways:

Station	Sell	Buy	Repair	Upgrade[1-2]	Restock Consumables	Supported Ship Classes
Wharf						Small and Medium
Shipyard						Large and Extra Large
Equipment Dock						Any[3]

1. *Software, crew and equipment*
2. *At this time (v1.50), it is not possible to directly add a Captain to an existing ship via the Buy/Upgrade/Repair Menu (described below)*
3. *At this time (v1.50), there is a Pirate Equipment Dock that can only service Large and Extra Large ships*

To initiate non-buy tasks, select the relevant ship (left mouse click), open the context menu for an above station (right mouse click), and select "Upgrade / Repair at..." option.

Ship construction locations:

- Small and Medium Ships are constructed on their landing pads
- Large and Extra Large Ships are constructed in huge docking cradles on the sides of stations

Ship upgrade/repair locations:

- Small and Medium Ships are upgraded/repaired on their landing pads
- Large and Extra Large Ships:
    - Captains ordered to upgrade/repair use the docking cradles
    - Player-controlled ships docked manually will be upgraded/repaired at their Pier

General Ship Capabilities By Size Class

Ship role	Ship Type	Ship Size	Forward Weapons[1-2]	Gun Turrets[3]	Missile Turrets	Landing Pad[4]
All	Fighter/Scout/Interceptor/Trader/Miner	Small				
All	Corvette/Bomber/Trader/Miner	Medium				
Fight	Frigate	Medium				
Fight	Destroyer	Large				
Trade/Mine	Trader/Miner	Large				
Fight	Carrier	XL				

1. *Some Small Trade Ships (and Xenon Capitals) do not have Forward Weapons.*
2. *Small and Medium Mining Ships may mount Mining Lasers.*
3. *Medium and Large Mining Ships may mount Mining Turrets.*
4. *Capable of supporting a range of Drones, and 1 or more Ships of smaller sizes classes.*

The "Buy Ships" / "Upgrade/Repair" Menu

A single, all-purpose menu is used for this, which is described below. After creating a Ship Design, it is possible to order single or multiple copies of the ship to be built. Ship Designs can be saved for future use. Certain advanced ships and equipment require appropriate Faction Licences to be purchased.

This menu is shown In the image below.

Within the Menu you can see:

- Model of the selected **Ship** (central area):
    - This can be **rotated** and **zoomed** in and out
    - Selectable Main Equipment / Surface Elements **slots**:
        - White filling = empty
        - Green filling = currently selected item in Tab menu on the left (see below)
        - Yellow border = full
  Top-middle area options:
    - **Ship Class**
    - **Ship Type**
    - Semi-random **Default Loadouts**
    - **Save** option for player-defined Loadouts
    - A **Reset** button for cancelling any rotation applied to the Ship model
    - **Undo** and **Redo** buttons
- Tab-based menu down the left for purchase options:
    - **Main Equipment** (Small / Medium Ships) / **Surface Elements** (Large/XL Ships)**:**
        - **Engines** (few and large):
            - Performance in straight lines (all ships)
            - Some Small Ships (Nova, Falcon and Guillemot) can articulate them to aid maneuverability
        - **Shields**
        - **Forward-mounted weapons**
        - **Turrets**
    - **Thrusters** (many and small):
        - Maneuverability (yaw, pitch, roll and strafe performance)
    - **Software**
    - **Consumables** (missiles, drones, deployables and countermeasures)

- **Crew** (Captain and Service Personnel, which improve ship efficiency)
- **Repair** (if damaged)
- If a tab has a **red icon**, it contains **compulsory items** (marked red within)
- A shopping list of selected purchase options in the top-right
- Ship stats, based on selected purchase options in the bottom middle
- Info on your existing wallet balance and on missing components in the bottom-right

Small Engines

[0] X

All-round Mk1 ARG - 5,265 Cr	**All-round Mk2** ARG - 25,688 Cr	**All-round Mk3** ARG - 120,424 Cr
Combat Mk1 ARG - 7,746 Cr	**Combat Mk2** ARG - 39,470 Cr	**Combat Mk3** ARG - 176,930 Cr
Travel Mk1 ARG - 6,506 Cr	**Travel Mk2** ARG - 33,819 Cr	**Travel Mk3** ARG - 162,804 Cr

Hull (MJ)
Shield (MJ)
Radar Range (km)
Burst Weapon Output (MW)
Sustained Weapon Output (MW)

Speed (m/s)

Acceleration (m/s²)
Boost Speed (m/s)
Travel Speed (m/s)
Yaw (°/s)
Pitch (°/s)
Roll (°/s)
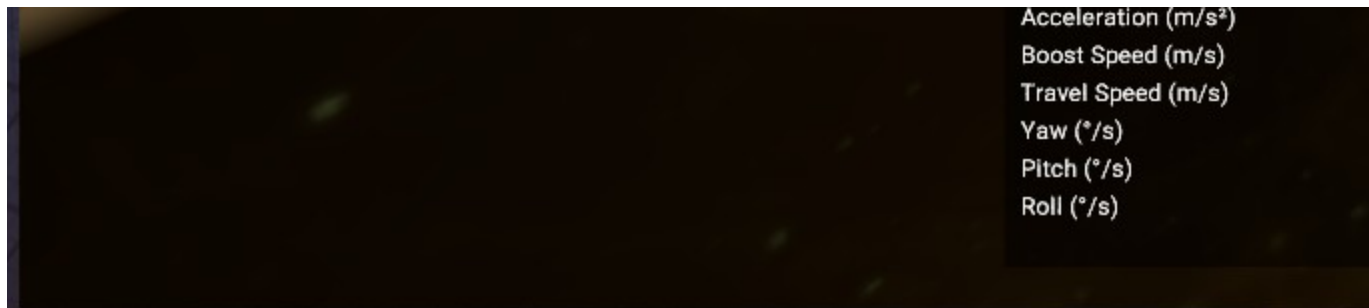
The Buy/Upgrade/Repair process

Please note that at this time (v1.50), it is not possible to directly add a Captain to an existing ship via the Buy/Upgrade/Repair Menu. They can still however be gained by manually hiring an NPC on the same Station as the Ship, or remotely promoting promoting another member of the crew to Captain.

Steps taken to buy, repair or upgrade ships:

- If **Buying** a new Ship, select a Ship Size first, and then a Ship to display it in the main screen
- Select desired Equipment, Software, Consumables, Crew and Repair options:
    - From **Tabs** down the left (all equipping options)
    - Via **Context Menus** on the Ship model (Main Equipment / Surface Elements, only)
- **Red Tabs** contain one or more **compulsory items** (marked red within)
- Available equipping options are **context-dependent**:
    - Missile Turrets and Mining weapons will only be listed for ships that can mount them
    - Missiles will only be listed for ships that have a Missile Launcher added to the design
    - Drones will only be listed for ships capable of supporting them
- Some listed ships and equipment require a **Faction Licence**:
    - If the Licence is not owned, the item is greyed out and marked with a star
    - **Advanced weapons** require a Military Equipment License (available at rank 10)
    - **Large / Extra Large Military ships** require a Capital Ship License (available at rank 20)
- Currently-selected items (All-Round Mk1 in image above) are **highlighted**:
    - In pale blue within related **Tab** (Engines in image above; also highlighted pale blue)
    - On the **Ship model** (Engines, shields and weapons, only; see above)
- Some Ships can fit **multiple** versions of things within tabs

Once happy with the ship design:

- Select "**Add to shopping list**" (top-right shopping list)
- To **order multiple ships** of this design, adjust the **-/+ icons** (top-right shopping list)
- To purchase, click "**Confirm Order**" (bottom-left area)
- The ship(s) will then be built over the next few minutes if the station has enough resources.

Understanding Delays and Ware Shortages

Wharfs, Shipyards and Equipment Docks are operated by the main Factions. They produce Ships and equipment out of Wares produced at manu facturing stations. The production processes take place **in the Slots where ships dock**, which means that the player can watch the claytronic-ba sed construction process if they wish (the same visual process can be seen with station module construction).

Delays to ship building/modification can arise when:

- Player-owned ships fill up available docks
- The station suffers relevent Wares Shortages
- All Construction Slots are busy

Wares Shortages

If one of these stations is **already missing some Wares** needed to build/modify a Ship, those missing Wares will be listed on the lower-right side of the Menu. If your build/modify plan needs some Wares **that the station doesn't have enough of**, they will be **added** to the existing list, or the list **will be displayed before** you are able to select "Confirm Order". In the following image shortages for 3 Wares can be seen:

As also seen in the image above, the warning "**Not enough resources on the station, order may take a long time**" is displayed.

Available Construction Slots

Wharfs, Shipyards and Equipment Docks have **finite** Construction Slots:

- Small and Medium Ship Slots:
    - 8 on Wharfs
    - 8 on Equipment Docks
- Large Ship Slots:
    - 2 on most Shipyards
        - None on the Alliance of Worlds Shipyard
    - 2 on most Equipment Docks
        - None on a Pirate Equipment Dock
- Extra Large Slots:
    - 1 on Shipyards
    - 2 on Equipment Docks

If all Construction Slots are **full**, new Ship build/modification orders will be added to a **Waiting List**. To determine if the Slots are full, expand the station's "**Ships in construction**" info within the Map. This is illustrated in the following image where only one Large ship listed (player-owned), which means the Shipyard could make/modify one additional Large Ship and an Extra Large Ship.
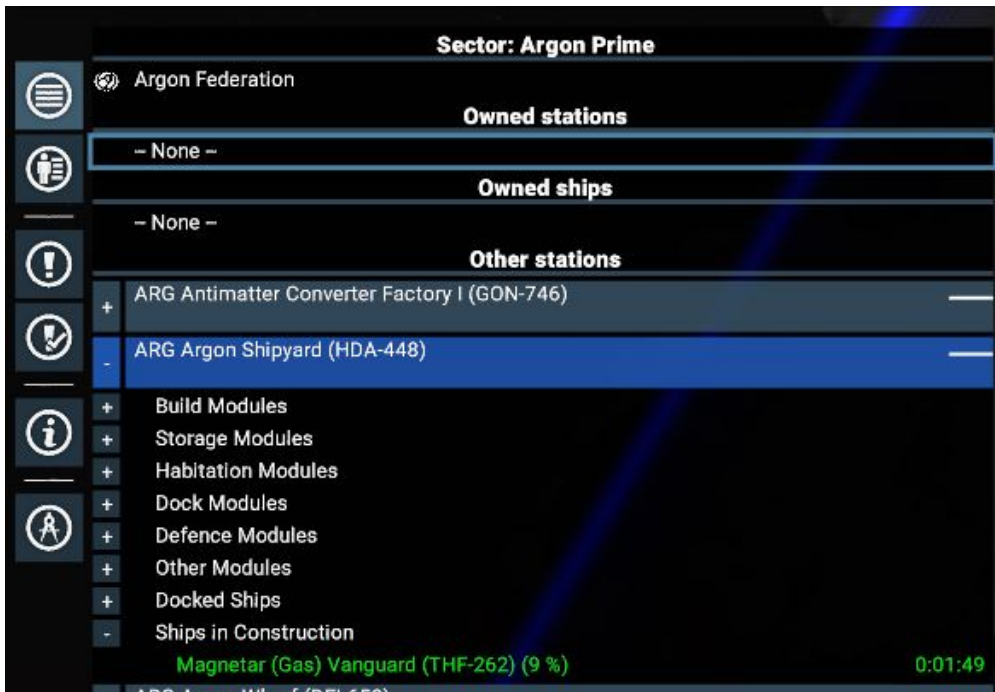
The next image illustrates how the above image would look with both **Ware Shortages** (two NPC Faction Destroyers block the Large Slots) and an active **Waiting List** (a player-ordered Magnetar is #1 in the list).

Cancelling a Buy/Upgrade/Repair

Ship purchases:

- If a Ship is already under construction **it is not possible** to stop the process
- If a construction of a Ship has not started yet (e.g. due to Ware shortages or being in a Waiting List), **it is possible** to stop the process and recoup the credits:
    - Open the station's "Ships under construction" info (see images above), right-click on the listed Ship in question, and select the available option

Ship upgrades:

- If any ship has started being upgraded, **it is not possible** to stop the process
- If the playership is waiting for a delayed upgrade (due to Ware shortages / Waiting List), **it can be cancelled** by taking off (Shift+D)
- If a player-owned ship piloted by a Captain is waiting for a delayed upgrade, **it is not possible** to cancel the upgrade
    - Under these circumstances, **it is not possible** for the player to take control of the ship to cancel the upgrade

Loadout Options

- **Engines** (determines ship max linear speed and acceleration):
    - All-Round: Available for all ships with no weaknesses
    - Combat: Available for S and M ships, sacrificing Travel Mode speed for improved Standard and Boost speed
    - Travel: Available for S and M ships, sacrificing Boost speed for Travel Mode speed
- **Thrusters** (determines how fast a ship yaws/turns, pitches, rolls and strafes):
    - All-Round: Available for all ships with no weaknesses
    - Combat: Available for S and M ships, sacrificing yaw/turning for better pitching and rolling. [Yaw is side-to-side movement (rudder in an aircraft); pitch is up/down movement; roll is twist, all aligned to the ship's primary axis (usually longitudinally). These can be combined with strafe for highly effective combat maneuver]
- **Shield Generators** (determine the shield capacity and regeneration rate for protecting the hull damage):
    - Some Engines, Weapons and Turrets may be grouped with shields that protect them
- **Main Guns and Gun Turrets**
    - Beam: Low DPS damage but accurate beam
    - Bolt Repeater: Rapid fire weapon that does high burst damage but has poor heat management
    - Ion Blaster: Argon weapon for removing shields without causing a lot of hull damage
    - Plasma Cannon: Long range weapon with a slow projectile speed

- Pulse Laser: All rounder with a good balance of damage, range, fire rate, accuracy and heat management
- Shard Battery: Launches a short range burst of multiple high damage projectiles which moderately scatter at longer distances
- **Main Missile Launchers and Missile Turrets**
  - Dumbfire Launcher: Launches Dumbfire and Cluster consumables as missile projectiles
  - Torpedo Launcher: Launches Torpedo consumables as missile projectiles
  - Tracking Launcher: Launches EMP, Guided, Heatseeker, Smart and Swarm consumables as missile projectiles
- **Other weapons**
  - Mining Drill: Weak beam that does bonus damage to Asteroids (main gun and turret)
  - Main Battery: Long-ranged Destroyer weapons (only the racial variant can be used on the race's Destroyer)
- **Software**
  - Docking Computer: makes landing easier (see here for further info)
  - Flight Assist Software: Mandatory upgrade (assists by automatically compensating for drift when using Flight Assist Mode)
  - Long-range Scanner Software: Mandatory upgrade (see below)
  - Object Scanner: Mandatory upgrade with Scan Mode (Basic Scanner gains info about ships and modules, and obtain discounts and commissions from data leaks; Police Scanner gains further info about objects, and can obtain Blueprints from some data leaks)
  - Targeting Computer Extension: Allows the targeting of small objects (e.g. debris and containers) via the HUD and radar
  - Trading Computer Extension: Maintains a link to trade info offered by recently-visited stations for a limited period

Missile Ammo

Ships can carry a finite number of consumable missiles for their missile launchers and missile turrets. The max number of which is listed in the Ship Builder UI and in the Ship Info menu. Missiles can be replenished at Equipment Docks and, depending on ship size, Wharfs and Shipyards. Once missile stores are depleted, the "Out of ammo" warning greats us. Info in missiles themselves has begun to be added to the Missiles page of the main X4: Foundations Wiki.

Crafting

Some wares collected do not go into the storage of the flown ship but into a separate inventory for the avatar of the player. These wares are used for completing missions, special actions and crafting an assortment of tools to give the player an additional edge. The player inventory can be found under the Inventory tab of the Player Information menu.

Near **Traders** and **Black Marketeers** there is usually a **Crafting Bench** which can be interacted with open a **Crafting Menu**. Items to craft only appear once the player has collected one of the components for the recipe. Select a ware to craft and then click the Craft item button before selecting the number to craft with the slider which appears and then confirming by clicking the Craft Item button again. Some crafting components can only be obtained by performing specific tasks like mining or combat.

It is also possible to further **customise favourite ships** by applying **Ship Mods** to them. Ship Mods come in 3 tiers: **Basic**, with a modest bonus, **Enhanced** with a larger bonus at the expense of a penalty to a related parameter, and **Exceptional** with a much larger bonus but penalties to to related parameters. When created, the size if each bonus or penalty is random, within defined ranges.

To apply a Ship Mod requires the ship to be docked at a station. **Ship Mods** may be dropped by destroyed ships and when they do, they can be installed through the **Redesign menu** in **panels in front of landing pads**. Alternatively, they can be crafted and installed using a **Workbench** found near most **Ship Dealers**, using designs which need to be unlocked through Research (Player Headquarter needed). Installed Ship Mods can be salvaged to regain their ingredients.

Personnel

Every ship has a limited capacity to host crew. Crew consists of 3 types of NPC:

- Captain (Pilot for smaller ships): Enables a ship to be remotely given orders. Skill points contribute most to ship efficiency.
- Crewman: Skill points contribute slightly to ship efficiency.
- Marines: Used to claim abandoned ships and board other ships and stations or to repel enemy boarding attempts.

On stations there are also :

- Managers: Give orders to subordinate ships

A skilled captain will unlock more maneuvers, fight and trade better and will unlock new options for the **DEFAULT BEHAVIOUR** of the ship.

Ship crew management is an essential part of improving your fleet's abilities. The skill of Service Crew will also improve the rate of ship actions and the quality of steering, repairing, aiming, trading and fighting (Everything gets better with a good crew!) although their skills will not count as much as those of the captain/pilot. The sum quality of a ship's crew is increased with the number of people and with the **SKILL** of each individual.

Passengers from missions also count as temporary crew, & need (crew) space in the transport ship to fulfil the mission acceptance requirements: if you've filled your ship with crew they'll refuse to board, claiming 'no space for me' or similar. Fire/reassign a crewmember to another ship, or change ships to one with a free crew slot to allow the passenger their comforts

Everybody Can Be A Captain (if he just has to believe in himself)

Every person you hire, whether through the shipyard or wharf "**UPGRADE SHIP**" interface or by hiring individual people on platforms, can be assigned to any of the three categories, *provided a vacant slot on the selected ship exists*. This also means you can assign any marine or crew member to be a captain or manager.

NOTE: unhired station crew NPCs will mostly be designated 'crewmember' despite their individual skillset (you may stumble across a hireable marine etc tho, although these are rare). Open the 'hire' dialog while chatting with them to see their full skillset, enabling you to assign them appropriately. **All 'crewmembers' can be assigned to any job**, so if you have a station needing a manager or a ship needing a pilot/captain/marine etc you can assign any NPC (your own or a new hire) to that job. They may not be good at it, but it fills the position if urgently required..

Skills

The quality of people in your crew is grouped by skill sets. These skills are always shown with star ratings from 0 to 5 stars. If you open the detail view of an individual crew member, you will find that their total skill is made up from individual types of skills such as:

- Piloting
- Morale
- Management
- Engineering
- Boarding

How good an NPC then performs in any duty depends on these skills. While a CAPTAIN's overall performance depends mostly on PILOTING a marine depends more on his boarding strength.

Skill Name	Pilot / Captain	Manager	Service Personnel	Marine
Management				
Piloting				
Boarding				
Engineering				
Morale				

All NPCs improve through their MORALE however.

Training Crew Or Marines

Crew improve their skills though learning by doing. Thus they all get better the longer they survive.

Marines improve their main boarding skill the most in actual boarding missions, while ordinary crew gets better in normal ship operations like trading. Surviving a fight can also improve the skills in many areas.

Digital Seminars

Digital seminars may be found as loot and sold at/to Item Traders. At this time (v1.50), they can not be used to train crew.

Resupply Ships

- In a Nutshell
    - Setting up your ship:
    - Getting resources:
    - Activating automatic resupply:
- Resupply Ships and Their Capabilities
- Activating Fleet Auxiliary Ships
- Supplying Resupply Ships
    - Determining what resupply ships need:
    - Supplying resupply ships:
- Resupplying at Resupply Ships

From version 2.50, it is possible for ships to get repairs, ammunition, units, and deployables at resupply ships belonging to their faction.

In a Nutshell

In the simplest case, all you have to do to use a resupply ship is: set up your resupply ship, make sure your ship has resources, and activate automatic resupply

Setting up your ship:

- If your resupply ship is a carrier, attach it to a fleet.
- If your resupply ship is a fleet auxiliary ship, order it to **Supply Fleet** at a location in space via a Behaviour, or while assigning it to a fleet. (detailed here)

Getting resources:

Right-click your resupply ship and tell it to **Get Supplies**. Note that fleet auxiliary ships will also passively purchase resources from free traders.

Activating automatic resupply:

Navigate to the Global Orders section of the Empire menu (under Player Information) and set Automatic Resupply to anything other than Off.

If you want more control or would like to understand more about how this works, read on.

Resupply Ships and Their Capabilities

Two types of ship can be used to provide supplies to other ships:

Carriers

and Fleet Auxiliary Ships.

Carriers are able to repair and rearm ships that can dock at them. In general, these are ships that are of size-class S or M.

Fleet Auxiliary Ships are able to repair and rearm ships of all size-classes including Carriers and other Fleet Auxiliary Ships. Ships of this type also advertise trade offers to acquire resources that they need as long as they are actively providing supplies.

To be clear, the term Resupply Ship refers to both carriers and fleet auxiliary ships.

Activating Fleet Auxiliary Ships

While carriers will always repair and rearm fighters subordinate to them as needed, fleet auxiliary ships must be activated to make them available to ships that require repair and resupply. This also instructs fleet auxiliary ships to acquire resources that they need to rearm ships.
To activate fleet auxiliary ships, either:

1. Assign the ship to be subordinate to another ship with Assignment: **Supply this fleet**.

2. Or give it the behaviour to **Supply Fleet**, and specify a location.

Behaviour

Nomad Vanguard — YKB-501

Captain	Tallee Mellerd
Skill:	★★★★☆
Commander:	-
Subordinates:	0
Select Formation:	⌄None ★★★☆☆

Order Queue

Default Behaviour: Hold Position

inactive orders below

Delete All | Start Queue

Default Behaviour

If there are no active orders in the queue:

Set default behaviour: Hold Position ☆☆☆☆☆
Stay docked: ☐
Hold fire: ☐

Confirm | Cancel

Reaction to Events

Default response to Police Interdiction:
◆ Use global setting
⌄ Comply
◆ Notify me if incident occurs

Default response to Pirate Harassment:
▪ Use global setting
⌄ Attack
▪ Notify me if incident occurs

Default response to Found Abandoned Ship:
◆ Use global setting
⌄ Ignore
◆ Notify me if incident occurs

Default response to Found Lockbox:
◆ Use global setting
⌄ Ignore
◆ Notify me if incident occurs

New Default Behaviour

Combat

Patrol	☆☆☆
Police	★★☆
Protect Position	☆☆☆
Protect Ship	☆☆☆
Protect Station	☆☆☆

Mining

Sector AutoMine	☆☆☆
Advanced AutoMine	★★★
Expert AutoMine	★★★

Navigation

Dock and Wait	☆☆☆
Explore	★★★
Fly and Wait	☆☆☆
Fly to Object	☆☆☆
Follow Ship	☆☆☆
Hold Position	☆☆☆

Trade

AutoTrade	★★★
Distribute Wares	★★☆
Find Build Tasks	☆☆☆
Revisit known stations	★☆☆
Supply Fleet	☆☆☆

Selected Object

◯ x1

-Z

Default Behaviour

Set up a new default behaviour and confirm:

Default Behaviour:	Supply Fleet ☆☆☆☆☆
Commander:	
Destination:	

Confirm | Cancel

Click on the field labeled **Destination:** and click on the desired location on the map.

Default Behaviour

If there are no active orders in the queue:

Set default behaviour:	Supply Fleet ☆☆☆☆☆
Commander:	
Destination:	Argon Prime

Confirm | Cancel

Don't forget to click Confirm to lock in the new behaviour.

This will cause your fleet auxiliary ship to start acquiring resources and will make it available to other ships that you own for resupply.

Note that this step is neither necessary nor available for Carriers.

Supplying Resupply Ships

While repairs do not require resources; ammunition, units and deployables are built to order so, in order to fulfill orders for these items, resupply ships need certain resources.

Determining what resupply ships need:

To find out what a resupply ship needs, right-click on the ship and click on **Information**. The wares that it needs and the corresponding target amounts can be found in the Storage section of the Info menu for that ship.

Supplying resupply ships:

1. You can manually order the resupply ship to purchase resources that it requires.

Note that the amount of scanning arrays needed is indicated in the trade menu in parentheses.
This method is available to both Carriers and Fleet Auxiliary Ships.

2. You can manually order one or more of your own freighters to deliver resources that it requires.

The number of scanning arrays that the Nomad needs is also indicated here in parentheses.
This method is available to both Carriers and Fleet Auxiliary Ships.

3. You can also tell your resupply ship to **Get Supplies**.

This will order the ship to look for trades on its own and buy all of the resources that it needs. As long as you know of trades within a few sectors of the ship that are selling the resources that it needs, this will result in a series of trade orders to purchase these resources. You can verify that the ship is going off to trade by looking at that ship's **Order Queue**.

Note the maximum gate distance over which the ship will look for trades at the bottom of this image. This gate distance depends on the Piloting skill of the ship's captain.

While this is the fastest method by which resupply ships automatically get resources, this is also usually the most expensive.

This method is available to both Carriers and Fleet Auxiliary Ships.

4. You can allow the resupply ship to acquire resources on its own.
   - Fleet auxiliary ships advertise trade offers for the resources that they need. Free traders will occasionally entertain these offers and spontaneously fly to these ships to deliver resources. Do note, however, that resupply ships deactivate these trade offers when they engage in certain activities such as going into combat.

   To activate this, all that needs to be done is to order your fleet auxiliary ship to **Supply Fleet** as detailed in the section above labeled Activating Fleet Auxiliary Ships.

   To verify that these trade offers are active, right-click on the ship's icon on the map and select **Trade Offers**.
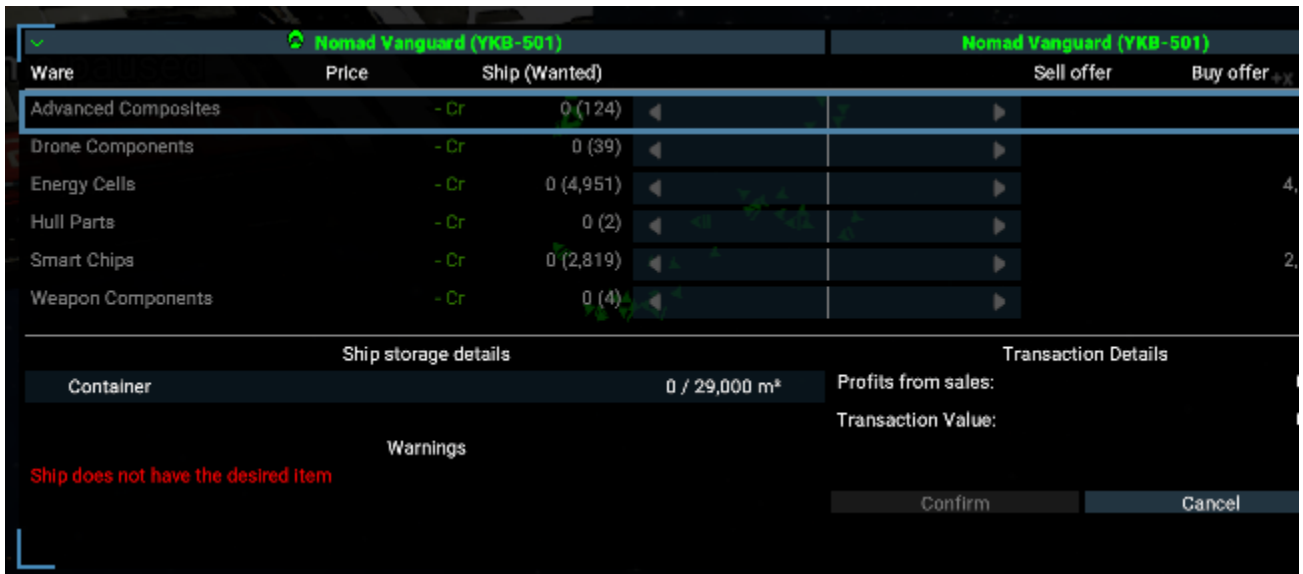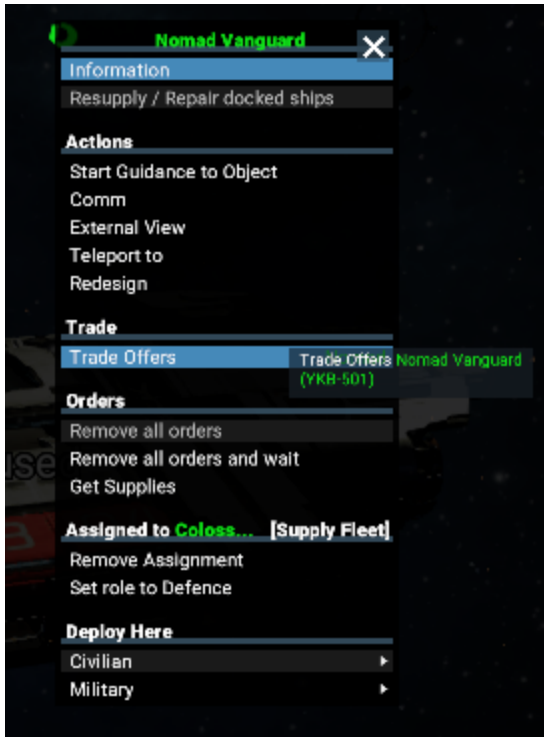
This brings up a menu that details all of the wares that your resupply ship is trying to purchase, and in which amounts.
This is the most hands-off method, but also tends to be the slowest.
Note that this method is only available to Fleet Auxiliary Ships.

## Resupplying at Resupply Ships

There are three ways to get ships to rearm and get repairs at resupply ships: automatic resupply, by ordering a resupply ship to resupply all docked ships, and by ordering a ship (or group of ships) to resupply at a resupply ship.

1. **Automatic**: by default, all ships periodically check to see if they need supplies or repairs. If they find a resupply ship that is owned by their own faction, they go there to rearm and get repairs. Preference is given to resupply ships attached to their fleet, with further preference to resupply ships that they are already docked at when they do this check.

   When rearming in this manner, the equipment that they get is determined by the loadout level set for automatic resupply. A global policy is set in the Global Orders section of the Empire menu:
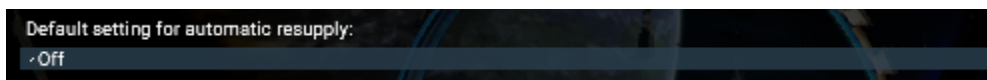
Options are: Off, Low, Medium, and High.
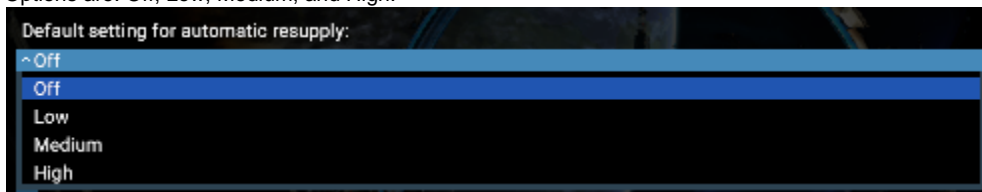
In general, Low, Medium, and High sets the number and quality of ammunition and deployables that your ships get when they automatically rearm. Off instructs them to never automatically rearm. Default is Off.

It is possible to override this global policy for each individual object. This is done in the ship's Order Queue menu:

Behaviour

Eclipse Vanguard   **PLB-202**

Captain   Vendy Yency
Skill: ★★★☆☆
Commander: ⬦ Minotaur Vanguard (UXN-194)
Subordinates: 0
Select Formation: ˅ None   ★★★☆☆

Order Queue

Default Behaviour: Escort Ship

inactive orders below
———————————————————————————————
Delete All   Start Queue

Default Behaviour

If there are no active orders in the queue:
Set default behaviour: Escort Ship   ☆☆☆☆☆
Commander: Minotaur Vanguard
Confirm   Cancel

Assigned to ⬦ Minotaur Vanguard (UXN-194)

Current Role: ˅   —
Remove Assignment: Confirm

Reaction to Events

Default response to Police Interdiction:
◆ Use global setting
˅Comply
◼ Notify me if incident occurs

Default response to Pirate Harassment:
◼ Use global setting
˅Attack
◆ Notify me if incident occurs

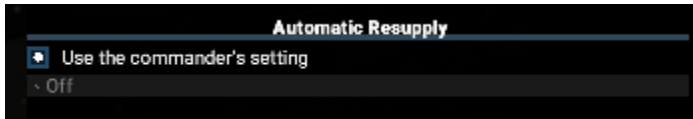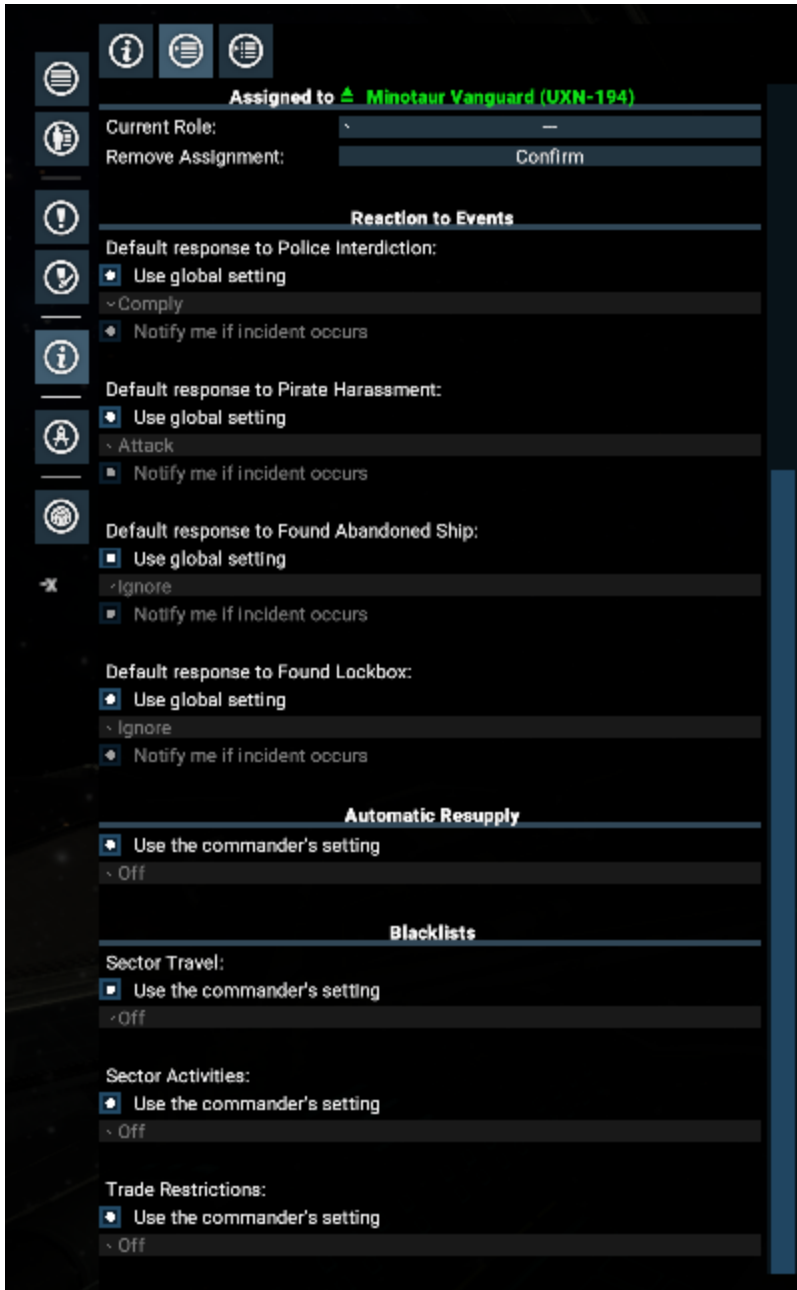Default response to Found Abandoned Ship:
◆ Use global setting
˅Ignore
◆ Notify me if incident occurs

Default response to Found Lockbox:

Scroll down.

The per-object setting defaults to use their commander's setting. In this way, you could change the loadout level of an entire fleet by setting a level of their commanding ship.

2. **Resupply docked ships**: Order a resupply ship to resupply all docked ships: if you have a resupply ship that has ships docked at it selected, then right-click on it, you have the option to **Resupply / Repair all docked ships**.
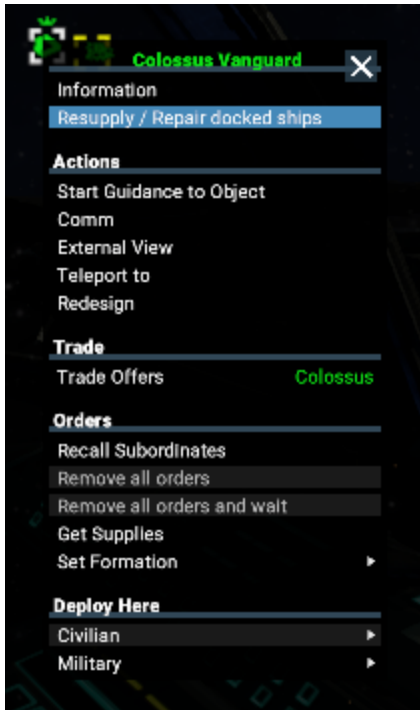
Clicking on this option pulls up the Ship Configuration menu in a mode that allows you to select any of the ships docked at your resupply ship. You could order any combination of ammunition and deployables as well as order repairs for them in this way. Blueprints are required for any kind of regearing, ship upgrades, and restocking/changing ammunition types i.e. (Torpedoes, and missiles).

Software

[   ] [0] [X]

Docking Software

- ☐ Docking Computer Mk1
- ☐ Docking Computer Mk2

Flight Assist Software   Mandatory

- ⦿ Flight Assist Software Mk1

Long-Range Scanner Software   Mandatory

- ⦿ Long-range Scanner Software Mk1
- ☐ Long-range Scanner Software Mk2

Object Scanner Software   Mandatory

- ☐ Basic Scanner
- ⦿ Police Scanner

Targeting Software   Mandatory

- ⦿ Targeting Computer Extension Mk1

Trading Software

- ⦿ Trading Computer Extension Mk1

⌄	Size S

⌃	Eclipse Vanguard (BVC-744)

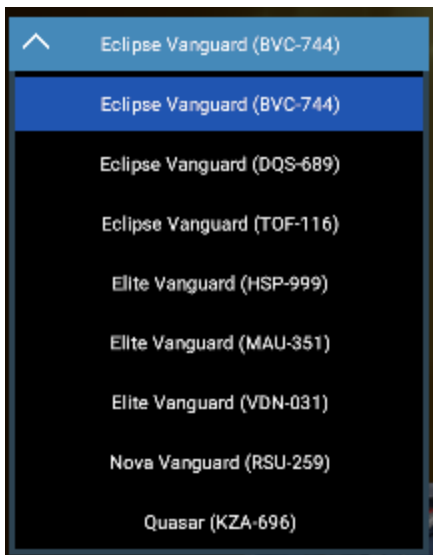| Eclipse Vanguard (BVC-744) |
| Eclipse Vanguard (DQS-689) |
| Eclipse Vanguard (TOF-116) |
| Elite Vanguard (HSP-999) |
| Elite Vanguard (MAU-351) |
| Elite Vanguard (VDN-031) |
| Nova Vanguard (RSU-259) |
| Quasar (KZA-696) |

Stat	Value
Hull (MJ)	4,000
Shield (MJ)	1,654
Radar Range (km)	40
Burst Weapon Output (M...	182
Sustained Weapon Outpu...	177
Speed (m/s)	167
Acceleration (m/s²)	99
Boost Speed (m/s)	1,339
Travel Speed (m/s)	2,009
Yaw (°/s)	35.9
Pitch (°/s)	72.7
Roll (°/s)	84.7

Con...
Sol...
Liq...
Nu...
Nu...
M S...
S S...
Cre...
Uni...
Mis...
Dep...
Cou...

The menu as well as this procedure is described in more detail in this section of the manual.

3. **Order ships to resupply at a resupply ship**: With one or more ships selected, right-click on a resupply ship that you own.

This will give you the option to **Resupply / Repair at** the resupply ship.
Selecting this option will pull up the Ship Configuration menu where you can configure your selected ships.
After you have reconfigured the first ship that is shown, use the "Add to shopping list" button and then used the drop-down menus in the top-middle of the screen to select other ships you'd selected.

Software

[ ]   **[0]**   **X**

Docking Software
- Docking Computer Mk1
- Docking Computer Mk2

Flight Assist Software   Mandatory
- Flight Assist Software Mk1

Long-Range Scanner Software   Mandatory
- Long-range Scanner Software Mk1
- Long-range Scanner Software Mk2

Object Scanner Software   Mandatory
- Basic Scanner
- Police Scanner

Targeting Software   Mandatory
- Targeting Computer Extension Mk1

Trading Software
- Trading Computer Extension Mk1

Size L   Behemoth Vanguard (JCG-886)

Hull (MJ)	93,000
Shield (MJ)	138,846
Radar Range (km)	40
Burst Weapon Output (M...	630
Sustained Weapon Outpu...	607
Speed (m/s)	147
Acceleration (m/s²)	74
Boost Speed (m/s)	293
Travel Speed (m/s)	3,961
Yaw (°/s)	16.2
Pitch (°/s)	11.8
Roll (°/s)	12.7

The above menu, as well as the procedure for using it, is described in more detail in this section of the manual.

Note that capital ships cannot resupply at a Carrier.

They would need either a Fleet Auxiliary Ship, a Shipyard, or an Equipment Dock.

Trading And Mining

Items Versus Wares

It is important to understand the difference between Inventory (also known as items) and cargo (usually referred to as wares). Cargo is in your ship, while inventory is on you. Inventory is listed in the SHIFT+I menu under player information. It moves with you when you go (or later teleport!) from ship to ship. Cargo is listed in ship storage and can be seen in the ship info menu (Shift+Enter for your current ship or INFO option in the map).

Trade and Combat ships have CONTAINER class storage, which covers all tradeable goods that are manufactured. Mining ships can have either LIQUID or SOLID storage, which covers all materials that can be harvested from space. Trading with ship storage items happens with the TRADE menu when docking, while trading with inventory happens in-person with the trader found on a platform (look out for for the shop sign above the building).

Natural Resources

At the base of the Ware manufacturing chains are natural resources which have to be harvested and refined into useful products. Solar energy is converted directly into Energy Cells by Energy Cell Production modules while other Solid and Liquid resources need to be harvested by specialised Miner ships. Liquid resources are collected from flying in nebulae while solids require asteroids to be broken up and the fragments collected. The abundance of solar energy in a sector can be seen under the entry for the sector in the Galaxy category of the Encyclopaedia.

- **Energy Resources** (from suns):   Energy Cells produced by Solar Power Plants
- **Liquid Resources** (from nebulae): Helium, Hydrogen and Methane (also known as gases)
- **Solid Resources** (from asteroids): Ice, Ore, Nividium and Silicon (also known as minerals)

Trading

Price Development

The production and exchange of wares is key to any healthy economy and the X-Universe is no different. Despite fierce competition from NPC

traders there are always gaps in the market for the player to fill and line their pocket with credits in the process whether it is using a small courier or a huge manufacturing complex.

Ware prices vary a lot depending on the quantity of the ware the station has in its reserves. For reference menus often show the average price of a ware to give a trader an idea of how good a price is.

Gaining Info About Trade Offers

Trade Offers describe what wares a station, or it's Build Storage Module currently wish to buy or sell. Once Trade Offers are known for a station, they will begin to become out of date over time if whatever granted knowledge of them stops occurring. If the playership has **Trade Computer Extension software**, it postpones the time before knowledge of Trade Offers begins to deteriorate.

Ways to gain trade offers from stations:

- When the playership, or other owned ships, are near them
- When the station is within radar range of a player-owned Satellite or station
- If the player has gained sufficient rank and cash to purchase a Faction's Trade Subscription

Scanning station modules will reveal info on what wares it uses and creates.

How To Buy And Sell Items - Station Trader

Items are often found in space as loot (dropped by other ships), or in lockboxes and other storages. Some items can be useful in crafting special upgrades or useful items like the EMP bombs used in a spacesuit. Most however can be sold at a good profit. When on station platforms the player can interact with traders and ask for them to **"Show me your wares"** opening the trade menu for wares from the personal inventory. Use the sliders to buy or sell items and then click the Confirm button to complete the transaction.

How to Buy and Sell Wares - Ship Trading

When in the pilot seat of the player ship the Ship Interactions menu will have the Trade option in the middle allowing the ship to trade with the station currently docked at. The trade menu works similar to the item trader menus, except the ship and station will trade wares from their storage with the type of wares able to be exchanged being limited by the storage type. Other player assets can be told to remotely trade by left clicking them in the Object List or Property Owned menu and then right clicking a target station and selecting **Trade With** to either trade with the station or its Build Storage (only present on expanding stations). Alternatively after selecting a player owned ship the wares shown by the filter can be right clicked to open a trade menu to order the ship to buy/sell the wares for the best price within the viewed area of space. Wares on stations will be automatically sold to interested NPC traders by the manager or by player owned ships assigned to act as a subordinate for the station.

How To Transfer Wares Between Player Owned Ships - Ware Exchange

There will be times when it is preferable for wares or consumables to be on a different player owned ship or station. This can be to free up cargo space for other purposes, stock up a reserve ship for exploration, meet mission requirements or to keep fleets supplied. To transfer wares between ships or stations requires one of the assets to have Cargo Drones before left clicking the asset with the ware to transfer in the Object List or Property Owned menu and then right click a target asset in Map and select the **Transfer Wares With** action to open a trade menu allowing wares to be transferred between the two ships up to their respective capacities for the ware.

Auto Trading and Auto Mining

Player owned ships that have captains with enough skill stars can be set to automatically find profitable transactions or to mine resources and sell them at nearby NPC stations. The **AutoTrade** and **AutoMine** behaviours are set as the Default Behaviour under the Behaviour menu (see below for info on mining). As opposed to an order, a Behaviour is a permanent assignment for a ship until revoked. For AutoTrade and AutoMine the player must specify a whitelist of wares to trade before adjusting the leash range for how far to look for stations to buy and sell at. The ships will then be fully automated allowing the player to divert attention to other tasks.

Mining

Introduction

Ships with **Solid** or **Liquid** storage types can harvest **asteroids** or **nebulae**, respectively. This generates resources (see above), which can be sold to NPC stations as a source of income that requires no operating costs. Alternatively, it can be fed into player-owned stations to act as the basis for manufacturing chains.

Resource Probes can be deployed at prospective mining sites to learn about the abundance of natural resources. In order to locate Solid natural resources, the player ship can use Scan Mode to help visually detect asteroids. Nebulae are represented as blue tiles, asteroid fields as red tiles and mixed collection sites as purple tiles on the Map. After use, Deployables like Resource Probes can be deactivated through the HUD menu, and collected by flying over them.

Mining Turrets

- Used to break up **asteroids** into small, collectable mineral fragments (Sold cargo)
- **Turret Settings** are explained on the Combat And Weapons page
- Once in range, **Mining Turrets** automatically open fire on asteroids within line-of-site

Mining ships Piloted By Captains

Small and Medium Mining Ships:

- These ships collect gases or minerals **like other items and wares in space** (on contact with the ship)

Large Mining Ships:

- These hulls collect gases or minerals through the use of specialised **drones**

Ordering Ships To Mine

All player-owned mining ships can be ordered to mine using the Mine order by right clicking a resource region on the map and selecting the **Mine** order before left clicking a resource to harvest from the list. They can then be order to sell their wares to stations. Player-owned mining ships that have captains with enough skill stars can be set to automatically mine resources and sell them at nearby NPC stations (see "Auto Trading and Auto Mining" section above).

Manual Asteroid Mining For Solid Resources

Mineral mining with Small and Medium ships:

- The Container Magnet (hold the O hotkey) can be used to speed up collection of mineral fragments.

Mineral mining with Large ships:

- At this time, only NPC-piloted large mining ships will deploy and use their drones to collect mineral fragments.
    - Handing over control of the ship to the Captain and ordering them to mine locally could work around this (unconfirmed).
    - Where the fragments are small enough, they may be collectable on ship contact like small/medium ships (unconfirmed).

Crystal mining:

- Some asteroids have surface spots that can be individually mined away to release various types of crystals.
- Depending on rarity, crystals can be quite valuable when sold to Item Traders (see "Items versus Wares" section above).
- As with mineral fragments, the Container Magnet can speed up collection.

Manual Nebula Mining For Liquid Resources

At this time, it is currently not possible to collect resources from nebulae while the player pilots the ship.

Station Building And Management

Manual Ware Delivery

- Manual Ware Delivery

Station Building
- Very Basic Overview Of Building In Friendly Space
- Claiming A Plot
- Construction Planning
- Station Module Blueprints
- Construction Guide
- Supplying The Build Storage With Construction Wares
    - Automatic Ware Supply
    - Ware Transfer Supplying
    - Manual Ware Delivery

Station Management
- Hiring a Manager
- The Logical Station Overview menu
    - Top half: The logical station overview:
    - Lower half: The graphs:
- Interacting with the logical station overview
    - Automatic storage allocation:

Station Building

Stations that can be visited are not limited to just NPC ownership; the player can also construct their own stations from small factories to supply a a local niche to self-sufficient mega complexes and fortresses to control regions of space. Station costs can be estimated from blueprints. A simple station with just a basic dock and small platform will cost 2-3 million.

Very Basic Overview Of Building In Friendly Space

The following list isn't a recommended approach. It is just a basic overview of the minimum steps needed to build a simple station that that the rest of the page elaborates on in more detail.

1. Open Map and select the Manage Plots tab
2. Decide how big you want your Plot (top-left area)
3. Click on "Create new plot"
4. If the fee is too high, return to Manage Plot tab and click on 'red x' to delete the Plot (top-left area)
5. Select a position on the map (z/x axis only)
6. Left click and decide whether to buy a license
7. When ready, click on "Continue"
8. Place a Dock, then anything else in sequence
9. When ready, click on "Confirm module placement"
10. On Map, 'right mouse button' on the Plot and select "Manage funds"
11. Provide funds to cover wares you won't be delivering yourself
12. On Map, select Plot , 'right mouse button' on NPC Builder Ship, hire, and wait

Claiming A Plot

Open the Manage Plots tab of the Map and select a New Plot from the list at the top. In the middle are sliders for adjusting the size of the plot relative to the centre with the sum of the directions along an axis being able to range from 1-20. Click the Create New Plot button to be able to place the plot of the selected size on the map along the ecliptic by left clicking. The player then has the choice to pay the Real Estate Transfer Tax for the plot or to ignore it. The tax costs between 1,000 and 7,000 credits per km^3 depending on location and notoriety with the faction who

owns the sector. If the player ignores the tax the owning faction of the sector will attack any station modules built in that plot. Plots placed in Xenon or unowned sectors will not need to pay anything. The player can then click Continue to enter the Plan Build UI for station construction.

Construction Planning

The construction of a station requires some planning. It is only possible to plan stations using **Blueprints that the player has already obtained** (see below). Note that modules will be constructed in the order of their placement meaning priority modules should be placed first. The actual construction (i.e. hire a builder ship) should commence after all modules have been place and equipped with turrets and shield because any change on a module already build will recycle that module at the cost of part of the resources required. One of the upper right buttons of the construction screen provides the option to save the current construction and the player is encouraged to use that option frequently during the construction.
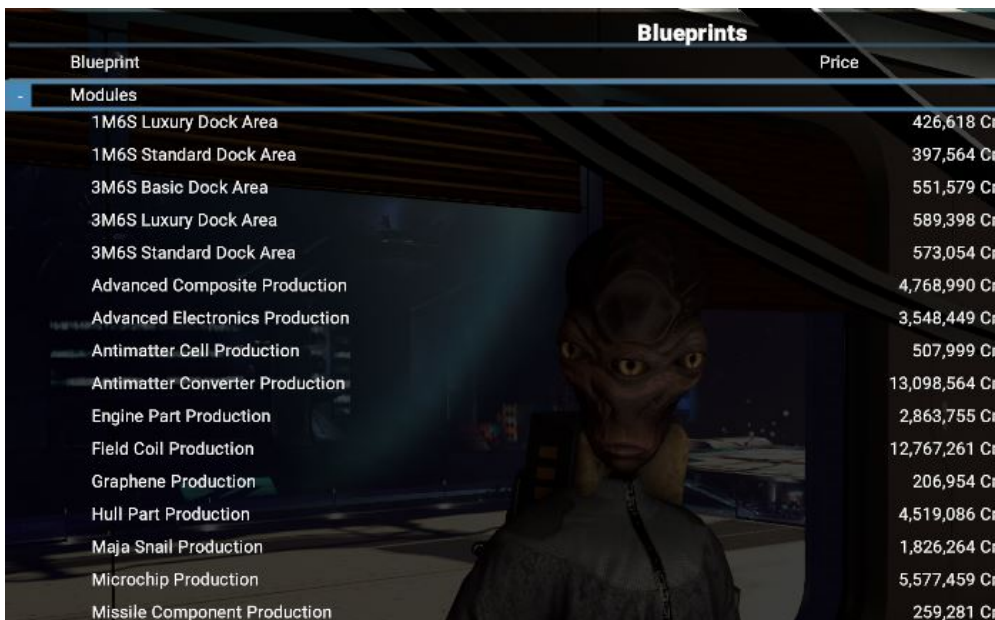
Station Module Blueprints

When starting the game the player has access to several basic Blueprints (BPs), which allows for building rudimentary stations. In order to construct more complex stations, and station defences (see "**Station Defences**" section below), further Blueprints must be acquired (e.g. for habitation, better docks or additional production modules). Blueprints are acquired from Faction Representatives, Data Leaks and Space Suit EMPs. As additional Blueprints are unlocked, they become listed in the player's Encyclopedia.

For a given gamestart, the available BPs are found in the Encyclopedia:
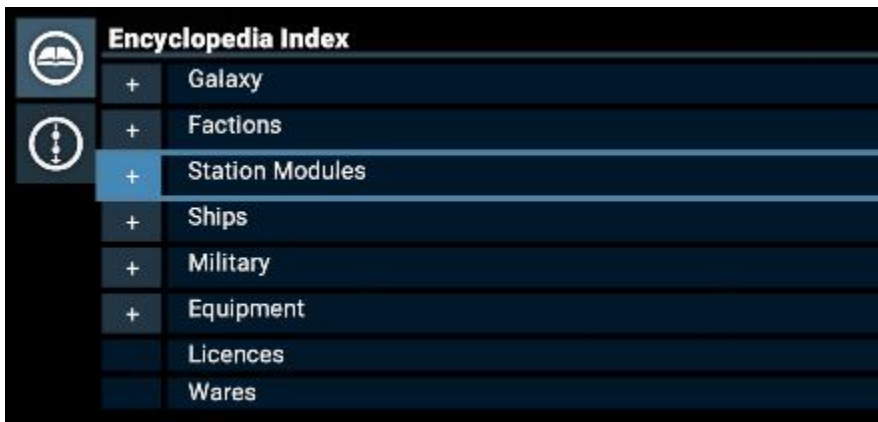
Faction Representatives will show you the full list of Station Module Blueprints their Faction offers. The Sector that a Faction Representative is based in is listed in the Faction's entry in the in-game Encyclopedia (expand the "Factions" group in the image above). If unsure what station they are on, you can ask local NPCs for directions.

The full list of modules available for **Argon** and **Paranid** stations are in the following images. Since the **Teladi** produce Teladianium-based equipment, they offer a Teladianium Production Module instead of a Refined Metals Production Module. Similarly, **Teladi** Representatives offer several modules that utilise Teladianium instead of Refined Metals but have the same name as their **Argon** and **Paranid** counterpart modules.

Blueprint	Price
Modules	
1M6S Luxury Dock Area	426,618 Cr
1M6S Standard Dock Area	397,564 Cr
3M6S Basic Dock Area	551,579 Cr
3M6S Luxury Dock Area	589,398 Cr
3M6S Standard Dock Area	573,054 Cr
Advanced Composite Production	4,768,990 Cr
Advanced Electronics Production	3,548,449 Cr
Antimatter Cell Production	507,999 Cr
Antimatter Converter Production	13,098,564 Cr
Engine Part Production	2,863,755 Cr
Field Coil Production	12,767,261 Cr
Graphene Production	206,954 Cr
Hull Part Production	4,519,086 Cr
Maja Snail Production	1,826,264 Cr
Microchip Production	5,577,459 Cr
Missile Component Production	259,281 Cr

Paranid 1-Dock Pier	2,390,572 Cr
Paranid 3-Dock T Pier	4,141,198 Cr
Paranid Administrative Centre	1,029,319 Cr
Paranid Base Connection Structure 01	87,142 Cr
Paranid Base Connection Structure 02	124,368 Cr
Paranid Base Connection Structure 03	155,220 Cr
Paranid Bridge Defence Platform	625,993 Cr
Paranid Cross Connection Structure 01	74,433 Cr
Paranid Cross Connection Structure 02	155,220 Cr
Paranid Cross Connection Structure 03	124,368 Cr
Paranid Disc Defence Platform	721,308 Cr
Paranid L Container Storage	911,918 Cr
Paranid L Dome	24,708,550 Cr
Paranid L Liquid Storage	911,918 Cr
Paranid L Solid Storage	911,918 Cr
Paranid M Container Storage	619,045 Cr
Paranid M Dome	15,902,862 Cr
Paranid M Liquid Storage	619,045 Cr
Paranid M Solid Storage	619,045 Cr
Paranid Medical Supply Production	1,662,872 Cr
Paranid S Container Storage	411,498 Cr
Paranid S Dome	11,057,075 Cr
Paranid S Liquid Storage	411,498 Cr
Paranid S Solid Storage	411,498 Cr
Paranid Vertical Connection Structure 01	73,227 Cr
Paranid Vertical Connection Structure 02	95,908 Cr
Plasma Conductor Production	3,480,983 Cr
Quantum Tube Production	2,798,088 Cr
Refined Metal Production	266,841 Cr
Scanning Array Production	4,630,114 Cr
Shield Component Production	3,179,939 Cr
Silicon Wafer Production	545,818 Cr
Smart Chip Production	928,855 Cr
Soja Bean Production	2,178,450 Cr
Soja Husk Production	2,326,703 Cr
Spice Production	1,023,558 Cr
Superfluid Coolant Production	185,461 Cr
Turret Component Production	3,496,715 Cr
Water Production	265,043 Cr

Construction Guide

Controls

- Left mouse button is panning the screen
- The scroll wheel is zooming in and out
- Right click on a module opens a context window with option to remove or copy(*)
- Left click on a module to select it and then right click and hold rotates the module horizontally (note: vertical rotation is not possible)

Placing modules

It is recommended to make the first placed module one from the Dock Modules category to enable a Manager to be assigned early on, the station to use drones (see **Drone Management** section below) and for the player to be able to dock their ships. The player can select a module they want built using the upper left window and then placing it on the plot.

The first module placed will have the height default to the ecliptic while subsequent modules can have their height adjusted using vertical connection points. Available connection points a placed module has are represented by white arrows, which will turn green and form a line with compatible connection points of modules selected for placement.

Many production, storage and habitation modules require connection points in a specific direction making Cross Connection modules very useful for forming a framework to attach other modules to.

Anchor modules
Selecting an anchor and moving it (left click and hold) will also move the sequence of all modules attached to it. This is useful in combination with the copy sequence option(see * above). The anchor module of a construction is usually the first placed, i.e. the module on the top of the list(**).

Disconnected modules
Modules will be build even if they are disconnected from any other module or only connected to some others but to to the entire construction. That can be useful, for example a defence module placed far out at the plot cube perimeter, but it can also be of great disadvantage, for example a resource production or a storage module because the wares will not be transferred. To detect disconnected modules move the anchor module(see ** above).

Merging/overlapping modules
It is possible to merge or overlap modules if the snap points allow it. This will not affect the functionality.

Station defences
Some modules can be equipped with turrets and shield. They can be identified by a plus symbol "+" behind their names. To add turrets and shield click that symbol to open the equipment menu. Similar to the equipment menu of ships there are optional preset loadouts available on the top right of the screen. It also allows to save a manually equipped loadout.

Starting construction
Once the player is happy with their design it should be saved, and a Builder type ship needs to be hired or assigned to the construction site. Click the Assign or hire a builder button to open the Object List of the Map, use this or the property Menu to find a player owned of NPC Builder ship which is not busy and right click it in the list to click the Select option. NPC Builders will charge 50k credits for their service. Note: If a build is waiting for resources for a longer period of time the hired NPC CV will disengage in case they're needed elsewhere. This won't happen if an owned CV is used.

Supplying The Build Storage With Construction Wares

Although the **Build Storage** modules **do not have Map icons**, they are found in space (red box below) close to the build sites (orange box below), which do have "factory" map icons:
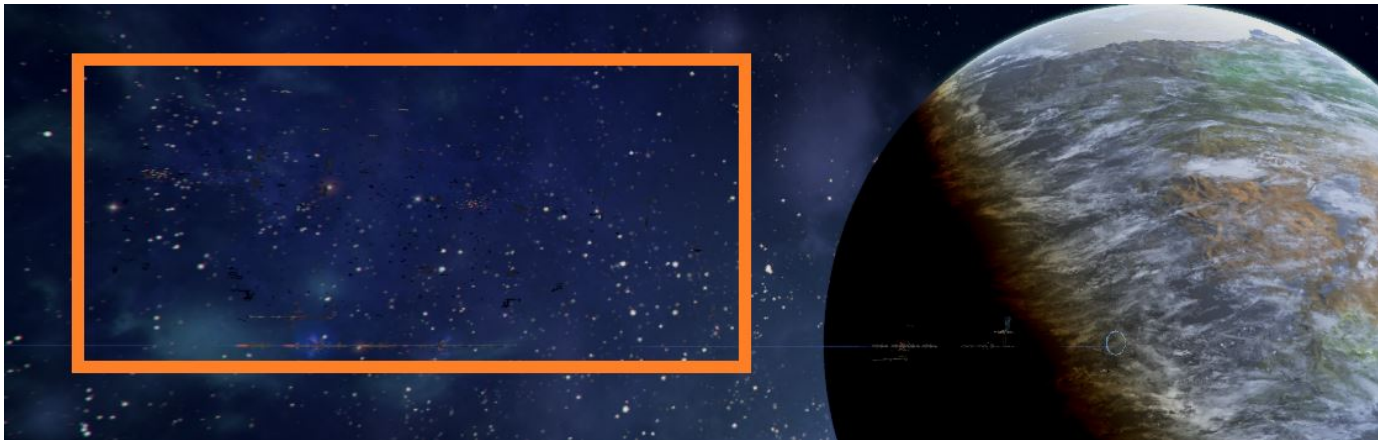
The Build Storage has 2 cradles for docking S/M ships (red bars below) and 1 dock for L/XL ships (above the orange arrow below):

The rate of station construction is dependent on the available construction materials and the number of Building Drones the Builder ship has (a max of 30 drone are used).

As wares begin to be delivered to the Build Storage, prism-shaped storage containers appear 'inside' the build storage giving a hexagonal shape as it fills up (illustrated in other images below). Note that the prism-shaped storage containers can be destroyed by weapon fire.

There are 3 ways to **supply** Wares to the Build Storage:

1. Let your Station Manager take care of it **automatically**
2. Order your Captains to deliver them via a **Ware Transfer** (any ship size)
3. **Manually** deliver them personally

Automatic Ware Supply

Under the **Plan Build menu** there is the "**Manage buy offers for needed resources**" tab, which has an option to transfer credits to the station Build Storage using the "**Available money for construction**" slider. The offered **buying price** for the construction materials can be set in the "**Configure buy offers**" sliders to determine how much of the money is spent on each resource. If the Build Storage has funds it will trade with NPC traders for the necessary resources until construction is completed or it runs out of credits.

Ware Transfer Supplying

Additionally it is possible to move resources directly into the build storage with the "**Ware Exchange**" menu. The player can manually use "**Execute Trade orders**" from the Map to buy construction materials for a cheaper price and then use the "**Trade with and Transfer wares with...**" commands to deliver the wares to the Build Storage for the station.

Select a transporter with a useful build resource (e.g. Energy Cells) and then right-click the station. Select the ware exchange action for the Build Storage. This allows wares to be moved directly from the ship to the storage. This method also allows more resources to be loaded at a build storage than are currently needed where they will remain available for future construction plans. This process can be conducted with ships of any size class.

Manual Ware Delivery

Notes for when piloting a **capital ship** (now possible in v3.20 b1 HF1):

- The Build Storage has no cargo drones so remember to bring your own
- Ensure you have a Docking Computer Mk2 equipped

As usual, the docking process involves approaching the Build Storage Module and requesting docking permission. However as mentioned, Build Storage Modules **do not have HUD icons**. Therefore the process is different to docking on stations and ships.

In order to request docking permission, we need to fly close to either of the 2 S/M ship cradles. Doing so puts the Build Storage on your HUD's right-side context menu. Note that this is the same even if you are flying a Capital Ship. This process is illustrated in the following images.

1. Top-down view of a Build Storage module with S/M ship cradles boxed in red:

2. Approach the centre area of a Cradle in your S/M ship (just to the side to avoid crashing in an capital ship):

3. Once you are close enough, you can request docking permission (Shift+D) when the right-side monitor shows the Build Storage:

For capital ships, your Docking Computer Mk 2 will move you automatically to the central L/XL dock.

4. For S/M ships, follow the docking guidance as usual:

Station Management

Most aspects of station operations are performed automatically by the **Manager** who will order subordinate ships to mine and trade for the station and automatically allocate the volume of storage space dedicated to each ware. To add a subordinate ship to a station simply select the ship then right click the station in the Property Owned menu and choose one of the Assign Role for options. The station is also run by **Workforce** (see bottom) who aids module production rates.

Stations are managed via settings in the **Logical Station Overview** (see below), with various duplicate controls also available via the **Map**.

Hiring a Manager

1. Hire a Crewman/woman and assign them to work on a Small/Medium ship (Management and Morale skills are important for Managers).
2. Have that ship dock at the station.
3. Within the ship's info menu, open the "Crew" tab and scroll down to the bottom where Crew are listed.
4. To see their ratings for individual skills, click on the plus sign to the left of their names.
5. To assign them as a Manager, right-click on their name and select "Work Somewhere else for me".
6. Right-click on the station in the map and select "Select", and sign as a Manager via the menu on the left of the map screen.

The Logical Station Overview menu

The **Logical Station Overview** menu can be your main interface to understand the internal proceedings of your factory, trade station or wharf, but it is also your best method to control all the settings you need to manage it.

Top half: The logical station overview:

The top half of this menu shows left to right the process of how wares are manufactured, stored and potentially further processed inside a factory.

- The rounded boxes represent your stations "production modules". So this is where wares are made.
- The sharp edged boxes represent the storage used per ware, either as resources consumed by a production or as product coming out of a production, OR if it is in between two productions BOTH at the same time.
- The lines show wares flowing through a factory, refined from simpler things (like minerals or energy) on the left of the diagram to the higher level (e.g tech) goods on the right.

Lower half: The graphs:

The lower half of the screen can show proceedings over time. You can display the development of storage levels, funds, traded quantities or traded prices over hours days or even weeks. By selecting the involved wares you can select multiple wares (up to 4) on the right side which then are visualised over the selected time.

You can close (or later re-open) the lower half of the menu and get more space for the logical station overview by clicking on the icon in the middle separation bar.

Interacting with the logical station overview

By clicking on any ware storage, you can configure how your station manager will deal with this particular ware.

Automatic storage allocation:

By default this setting is turned on and the manager will assign a given fraction of the total storage space available in a station for this ware. The storage space is calculated by the amount of wares needed in the same type of storage.

A station can have up to three different types of storage: Solid (orange dot), Liquid (blue dot) and Container (yellow dot). The most commonly used storage from these is definitely CONTAINER storage as this is used for all the intermediate goods in the economy, while SOLID and LIQUID are only used for resources.

This means a station can often function with a single container storage module, but its space might be fragmented for many different wares that are stored in your factory.

Setting storage allocation manually:

If you unset the "automatic storage allocation" checkbox, you can manually specify the amount that the manager should reserve for only this ware. This amount is then shown as a little triangle under the box while the bright blue bar represents the current stock level.

Restricting trade with other factions:

By checking this box you command your manager to only trade with your own stations and ships.

Automatic amount / Automatic pricing for sell and buy offers:

With all four of these checkboxes enabled (which is the default) your station will behave like NPC stations in the X universe. Your station will offer higher prices the fewer goods of a type it has and it will ask lower prices for a product the higher its stock level is.

In the case of Energy Cells for example, the manager will go down near the minimum price of 10Cr paid for energy as a resource only if its own storage is close to the set maximum as defined using the storage allocation described above. He will ask close to the maximum of 22Cr only if its product storage is almost empty.

You can turn off the automatic price calculation and set buying and selling prices manually with the two slider bars.
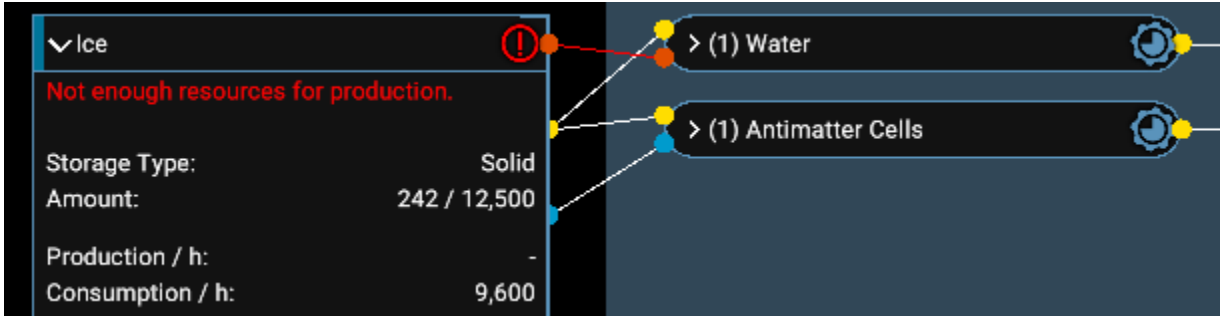
A red exclamation mark will highlight problems and expanding the box for that ware will offer details about the issue that needs to be resolved.

Production module boxes

The rotating circle in a production box shows the progress of one production cycle. Every time this circle finishes a set amount of wares are produced and resources are consumed. If this icon is instead red, the production can currently not produce (usually because it lacks the needed resources).

The interactive part of the production box mostly shows output status information for this type of production. Most notable the efficiency of a production, the time until the next cycle ends and the amount of products produced per hour (note that all timings can be shortened by SETA!).

Station account and drones

In the top-middle area of the menu is the box that governs the station's budget and lets you setup drone stocks.
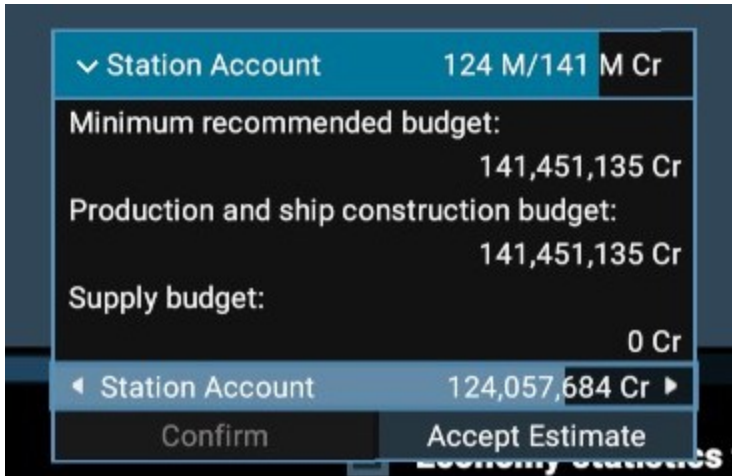
When you expand the Station Account section, you can see the **Minimum Recommended Budget** for your stations current array of modules (based on the **Production** and **Supply** budgets).

You can also see the current **Station Account**, which you can **adjust manually** by using the slider or clicking on the value to type in a specific amount. Alternatively, you can set accept the recommended value via the **Accept Estimate** button.
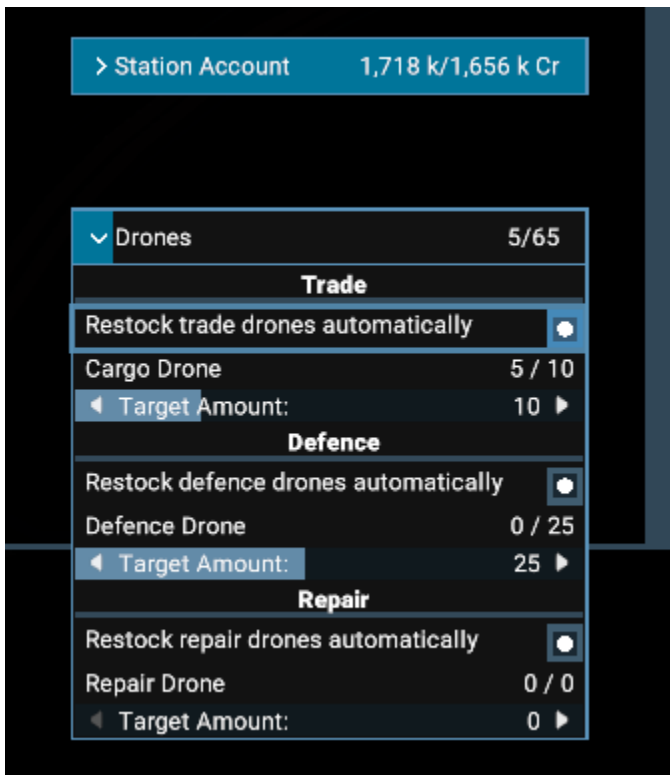
You can also control what types and number of **drones** your station should have to ensure smooth operations. With automatic restocking of drones enabled the manager will order the necessary parts to assemble enough drones to maintain the amount set via the corresponding slider. If automatic restocking is off, the slider can be used to place a one-time order for drone parts that will disappear once fulfilled.

Cargo Drones:

Used to exchange wares with L and XL ships docked at piers and also with other nearby stations. Additionally if your station stocks any resources required by its build storage cargo drones are used to transfer wares to the build storage directly.

Defence Drones:

As the name suggests they bolster your stations defences and can deal with minor threats.

Repair Drones:

Should any turrets, shields or modules of your station get damaged, these drones will slowly patch things up.

Trade Wares / Trading stations
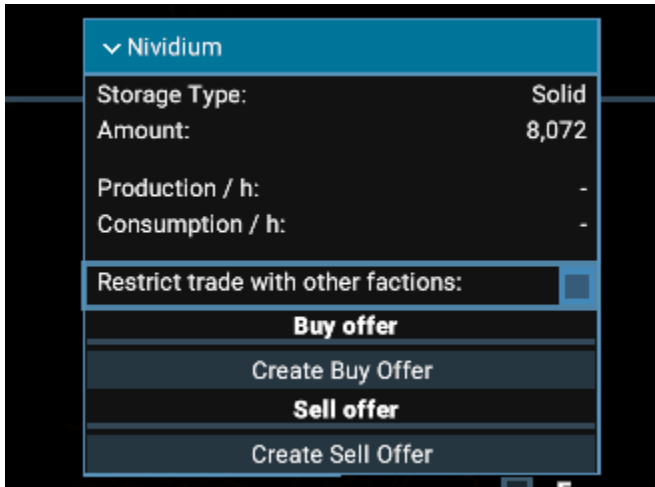
If you want your station to trade a ware that is neither a product nor a needed resource, you may manually transfer a sample of that ware to your station and will then be able to control trade offers and pricing for that ware following the same principle as described above.

Trade Rules (new in X4: Foundations v3.20 beta*)

*Please note that the final version of "Trade Rules" could be different by the time the v3.20 beta testing phase closes.

With **Trade Rules** you have finer control over buying and selling of each ware and can create templates to apply to your empire, multiple stations or even single wares. This works a lot like blacklists do.

You can create Trade Rules (Empire Menu > Global Orders) to set up any number of white- or blacklists for trading as well as ship building.

Global Orders

Global Standing Orders

Trade Rules

Only my propert...
Ship Building Ru...
Create New Trade Rule

Blacklists

Blacklist #1   Trade   [Default: Both]
Create New Blacklist

Alerts

Create New Alert

Trade Rules

Name: Shiny New Trade Rule

Set trade rule as d...   Station Trades
                               Station Supply
                               Sale of Ships

                               Restrict all factions

                               Additionally allowed factions:
                               BurnIt!
                               Alliance of the Word
                               Antigone Republic
                               Argon Federation
                               Hatikvah Free League
                               Ministry of Finance
                               Teladi Company
                                              Add / Rem

BurnIt!
825-02-08 11:43   Home Office
2,000,000,000 Cr
                                              Player Information

On the map you can set this quickly for an entire station using the Info tab.

Information

Factory GLOBAL RESTRICTION   **OWD-414**

Account Management

◄   Station Account   0 / 2,000,000,000 Cr   ▶

Expected operating bu...   956,050 Cr

Accept Es...   Confirm   Cancel

◄   Funds for Station Construction   0 / 2,000,000,000 Cr   ▶

Expected construction...   0 Cr

Accept Es...   Confirm   Cancel

Trade Rules

Station Trades:

☐ Use global setting

˅ Shiny New Trade Rule

Station Supply:

☐ Use global setting

˅ Only my property may trade

Station Construction Trades:

☐ Use global setting

˅ No restriction

Allowed factions:
- Burnlt!
- Alliance of the Word
- Antigone Republic
- Argon Federation
- Hatikvah Free League
- Ministry of Finance
- Teladi Company

General Information

Name	Factory GLOBAL RESTRIC...
Owner	Burnlt!
Location	Home Office
Hull	1,071 k / 1,071 k MJ (100%)
Radar Range	40 km
+ Docked Ships:	0 / 50
Updating Trade Offers	Yes

Using the LSO you can specify different rules for buying and selling and also for ship construction.

Medical Supplies

Storage Type:	Container
Amount:	0 / 648
Production / h:	-
Consumption / h:	7

Automatic storage allocation: ▣

Buy offer

Automatic buy amount: ▣

Automatic pricing: 89 Cr ▣

Trade Rule:
Use station setting: ☐
∨ Only my property may trade

Sell offer

Sell amount:
◀ 648 ▶

Automatic pricing: 89 Cr ▣

Trade Rule:
Use station setting: ▣
∨ No restriction

Remove Sell Offer

S/M Ship Fabrication Bay

No build in progress.

Trade Rule:
Use global setting: ▣

∧ No Unholy Creatures
  No restriction
  Only my property may trade
  Ship Building Rule #1
  Shiny New Trade Rule
  No Unholy Creatures

Restricted factions:
· Antigone Republic
· Argon Federation
· Court of Curbs
· Fallen Families
· Free Families
· Hatikvah Free League
· Ministry of Finance
· Scale Plate Pact
· Teladi Company
· Zyarth Patriarchy

> Workforce 0%

Existing save games are automatically converted to the new format. If you have previously used the LSO to restrict certain factions from buying ships you manufacture, a matching trade rule is automatically generated and assigned.
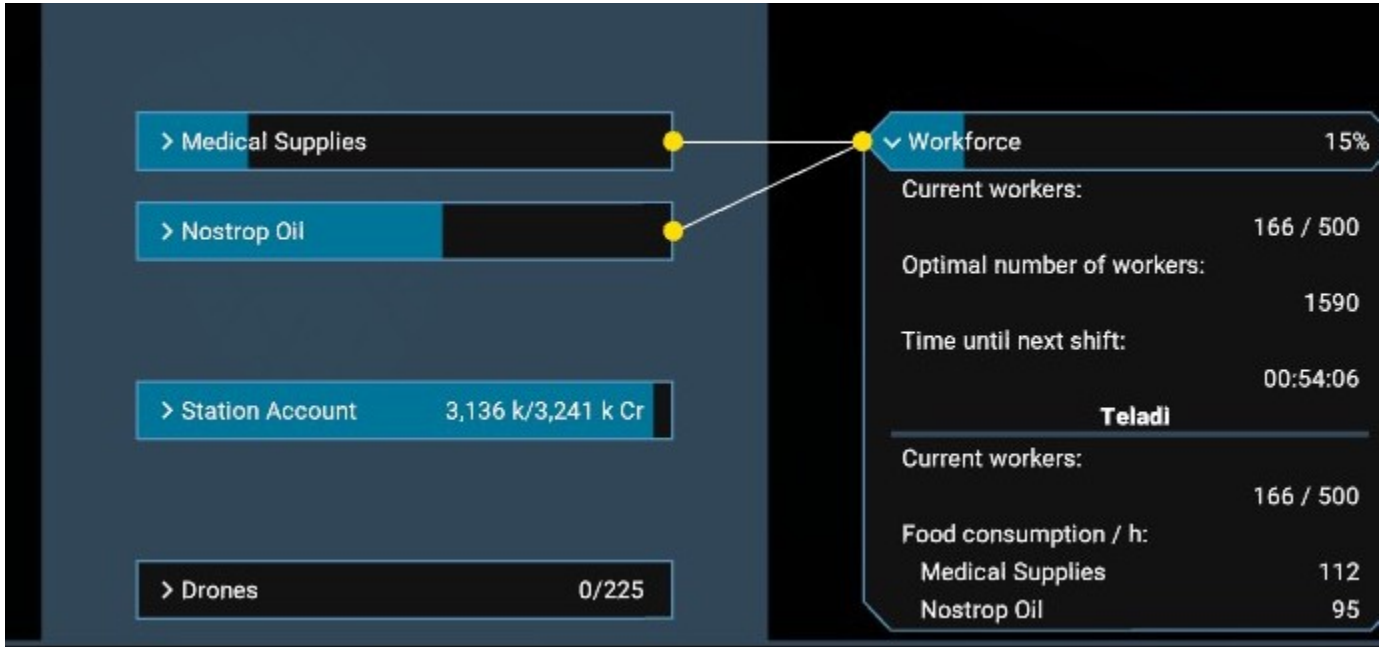
Workforce

A special case of the logical station overview menu is the workforce. It represents the people working aboard your station once you added a living section to your station layout. Workforce will increase all your production efficiency and can be very valuable.

Workforce is represented in a hexagon shaped box and contains all information about their effect on your production.

Workers however also need food, so unless your station already has food wares in storage, the necessary storage will be allocated and their effect on your workforce will be shown.

Station trade offers

In order to see what trade wares your station is currently buying and/or selling, return to the map, right-click on the station, and select either **Trade Offers** for the **Station** or for the **Build Storage**.

that has had some wares delivered to it (triangular

Capturing Ships And Sectors

Claiming Smaller Ships

During combat S and M size ships have a chance to bail leaving the ship abandoned and able to be claimed by other faction or the player. To claim bailed ships the player can either claim it from their Spacesuit or order a Marine to do it. To personally claim an abandoned ship, <player> must spacewalk to it, and then locate and scan a signal leak. After the ship becomes player property, the player can dock with the ship and fly it away.

Alternatively select the abandoned ship and then right click it to order a Marine on board the playership to go and claim the craft using a Boarding Pod (<playership> crew must have at least 1 marine assigned to use this option); the Marine will become the Pilot of the new ship once ownership has been transferred. If you intend to keep the ship, finding at least a one-star pilot is recommended to replace that random marine.. or you could set them to 'explore' for several hours to level up their piloting skill..

Marines will cause damage to onboard systems while boarding, so expect losses of (eg) weps, shields etc on <target> once claimed via marine. Personal <player> boarding via 'hacking' the signal leak may not cause (as much) damage..[needs further testing to establish what skills required to minimise remote & personal dmg to which systems - Snafu]

It should be noted, that it isn't possbile assign a new pilot to the claimed ship, if it was claimed personally. For that to work, the <player> has to dock both, the claimed ship and the ship with the pilot on board and then do the transfer.

Boarding Larger Ships

Large and XL ships need to be boarded to be captured. Boarding requires sufficient Marine crew across the player-owned ships participating in the action. Boarding involves **Scanning the target** to gain intel, **planning** (using the intel), choosing a **Behviour** for your boarding ship(s) and initiating the **3-stage operation**.

Either before or during the Op (via **Behaviour**), the target needs to be nullified (taking out the engines, turrets and shields; reducing crew levels through hull damage). To initiate boarding, select the desired player-owned ship(s) and then right click the target and order Marines to **Board** the target.

Within the Boarding Menu (see below), plan:

- Select each boarding ship (top of screen) to set the numbers of Marines on each to be used (lower left of screen)
- Scanning allowed your ship's computer to provide feedback on chance of success across stages (bottom of screen)

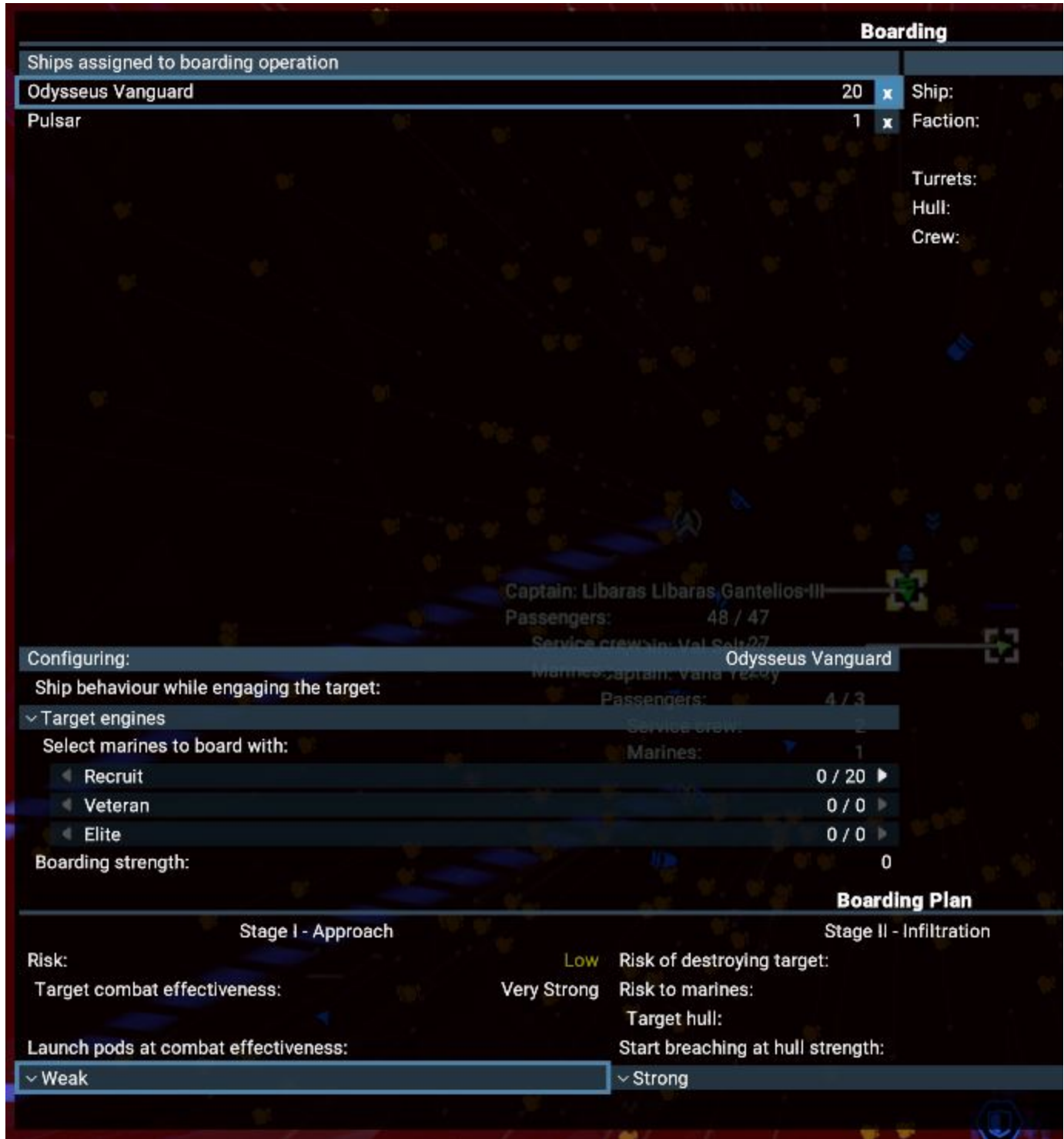**Choosing Behaviour for boarding ships:**

1. Attack escorts
2. Target engines
3. Target turrets
4. Disable Target
5. Maintain distance

Boarding stages:

1. Approach (getting Boarding Pods safely to the target)
2. Infiltration (breaching the hull)
3. Assault (Defeating the crew)

Stages 1 options instruct their boarding ship(s) how weakly-defended the target should be before launching Boarding Pods. **Stages 2 options** instruct their Marines how strong the target hull should be before breaching (weaken hulls reduce risk to marines but increase risk of destroying the target). Finally during **Stage 3**, your surviving Marines will attempt to defeat the target's crew.

Try to keep the subsystems destroyed, and work on reducing hull levels but not to the extent that the boarding marines will destroy the ship. Once the target hull is sufficiency low to reduce boarding resistance below the boarding strength of the players forces (20 or more is good) the ship is as good as captured. If successful, a Marine can be assigned as the captain for the ship or the player can move to the ship personally.

Boarding

Ships assigned to boarding operation

Odysseus Vanguard	20	x
Pulsar	1	x

Ship:
Faction:

Turrets:
Hull:
Crew:

Captain: Libaras Libaras Gantelios III
Passengers: 48 / 47
Service crew: in: Val Solt27

Configuring: Odysseus Vanguard

Marines captain: Vana YeAoy
Passengers: 4 / 3

Ship behaviour while engaging the target:

Service crew:

⌄ Target engines

Marines: 1

Select marines to board with:

◄ Recruit	0 / 20 ►
◄ Veteran	0 / 0 ►
◄ Elite	0 / 0 ►

Boarding strength: 0

Boarding Plan

Stage I - Approach   Stage II - Infiltration

Risk: Low   Risk of destroying target:

Target combat effectiveness: Very Strong   Risk to marines:

Target hull:

Launch pods at combat effectiveness: Start breaching at hull strength:

⌄ Weak   ⌄ Strong

Sector Control

Administrative Centre modules, when completed at a player station, grant ownership of an unowned sector on a first come first served basis, revealing all ships and stations in the sector and imposing the illegal wares list of the owning faction.

If the Administrative Centre module is destroyed, sector ownership will change over to the next faction with an Administrative Centre. Warring NPC factions are constantly playing a turf war to replace the Defence Platforms of their enemy with one of their own. Once the player has acquired Blueprints for an Administrative Centre, they too can conquer entire sectors if they are willing to defend it.

If a faction is about to challenge you for the ownership then there will be a warning "(Contested)" behind the name of your system indicating a construction of a station with an admin module has commenced.

Online Login

Egosoft Community Account

To use any of the games online features, like the bonus paintmod that any customer gets for free for just registering their game and the Venture Feature released as beta in v1.50, you need to set up an account on www.egosoft.com for the online community (same as your forum account!).

How To Register

- Start the game
- Open the **Online Features** menu:
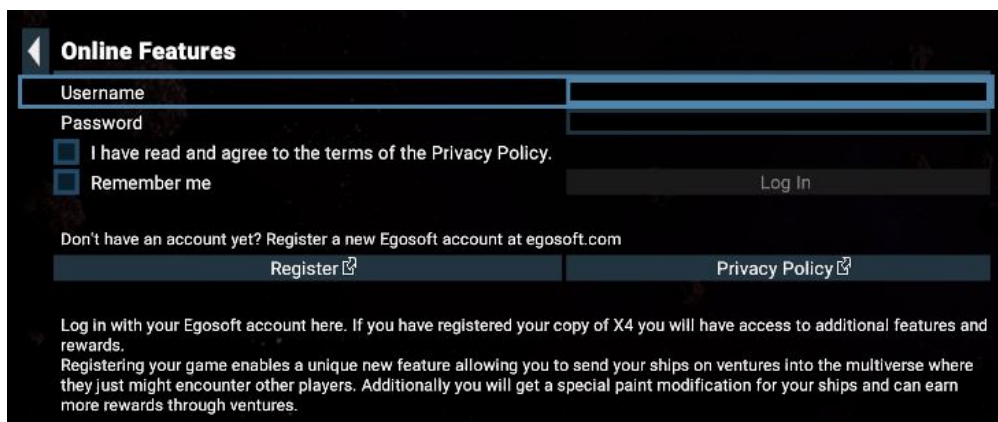
- Log in with your Egosoft Forum's account name and password
  - It is necessary agree to Egosoft's Privacy Policy
  - You can ask the menu to remember you for convenience
- Click on the Register button, which opens your Egosoft Forum User Control Panel
  - **Steam:**
    - On the Egosoft Forum User Control Panel
    - Click on "Update Via Steam"
    - Close and restart the game
  - **Non-Steam**:
    - On the Egosoft Forum User Control Panel
    - Enter your GOG serial key
    - You can find the GOG serial key from GOG Account -> Library -> X4 -> More -> Serial keys

Once you are logged in and registered, the Online Features menu should look like this:

The additional options at the bottom of the Online Features Menu (not visible in the above images) relate to the Online Ventures Feature. Those additonal options are explained on the Venture Feature page.

Paint Mods

Paint mods available in every restarted game:

- 50 Foundation X (bonus from registering as above)
- 10 Obsidian X (part of the Collectors Edition when it was pre-ordered)

Foundation X Paint Mod

Obsidian X Paint Mod (pre-ordered Collectors Edition)

How To Apply A Paint Mod

Right click on any of the ships you want to apply the paint mod to and select "REDESIGN" from the list of actions (or select the "REDESIGN" option at the computer panel in front of docked ships). There will be three tabs with the rarity categories of mods. The Foundation X paint mod is in the ENHANCED tab, and the rarer Obsidian X paint mod is in the EXCEPTIONAL tab.

Can Not Find Paint Mods In-Game?

If you do not see your mods listed in game in the REDESIGN action of one of your ships, after activating the game in the online community, try logging off and on again (or just restart the game, same effect).

If you have purchased the "Foundations Collector's Edition Content" upgrade, it will need to install before the Obsidian X paint mod appears in-game.

Online Venture Feature

- The Online Venture Feature

The Online Venture Feature

Update 1.50 to X4: Foundations introduces the **Venture Feature**. The Venture Feature is an **optional Online Feature** linked to your Egosoft community forum account.

Please note that this new feature is considered to be in **Beta** at this time with plans for future iterations. In this case the "beta" tag refers to how the Ventures operate online behind the scenes - **it isn't a risk to save games** in the way that participating in a beta for game updates might be.

Participating players are able to construct a station module that sends ships into the game worlds of other participating players, and of course 'welcome' them into theirs as they see fit.

Opting In Or Out Of Ventures

This is done via the in-game Online Features menu. After you have logged in and registered your game (see the Online Features page for details), the two options at the bottom of the menu are applicable (see the following image).

The first option is for **opting in or out** of the feature. The second lets you choose whether to see the **forum account names** of owners of ships that visit your universe.
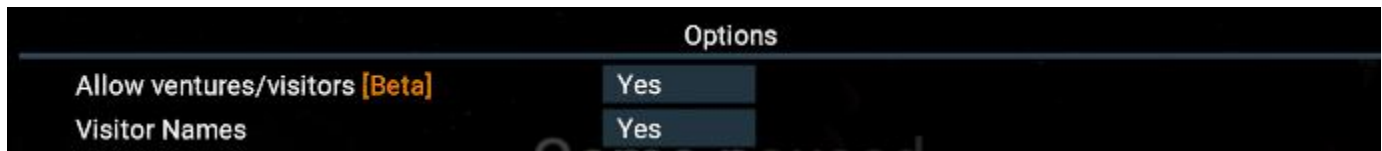
What Are Ventures?

The Venture Feature **can be turned on or off**. When turned on, we can send and receive ships.

The feature enables ordering sub-capital **Captains** out into the multiverse to explore and interact with whatever they find in the environments of other players. Your Captains will endeavour to travel peacefully but their ships should be prepared for hostility.

Each Venture is anticipated to take a specified period of time. For reasons unknown, the duration is not affected by time acceleration technology. Stepping into is associated with uncertainty but your Captains are confident of finding some tradable currency or technology.

Ship Safety

In v1.50 of X4: Foundations all Ventures are *intended* to be completely safe for Ships and their Crew (see intro video from 05:03). However, as also warned in the intro video (see from 02:06) this is a **Beta** and unfortunately some ships have been reported to have been destroyed whilst on a Venture. Egosoft are aware of this issue.

Building A Venture Platform

Players can build and operate one **Venture Platform**:

1. Select a favorite station to add it to
2. Build a **Venture Platform***
3. Build a **S/M Venture Sendoff Dock*** connected to Venture Platform

* These two modules must be built in this order.

Blueprint knowledge is added to existing and new games. Starting construction of these modules is **only possible** when your game is registered and you are logged in (see Online Login page).

Sending Ships On Ventures

The following steps explain how to boldly send your Captains into the multiverse:

1. Open the **Map**, select a Captained **Ship** of choice and right-click on your Venture Station:
   - Select the "**Venture from...**" order, and pick the station
2. Whilst on the station, take a **Transporter** to the **Venture Platform**
3. Approach the window where you'll your Ship and the **Control Console**
4. Use the **Control Console** to select an **Venture** for your Ship from the **Venture Missions** tab:
   - Gyroscopic apparatus form a field around the ship, taking it in to limbo during the Venture
5. After your ship returns, use the **Control Console** and open the **Venture Results** tab:
   - All ongoing and completed missions are listed
   - Review the "Venture Completed" entries to lean about their results and rewards

The above steps are illustrated in the following images.
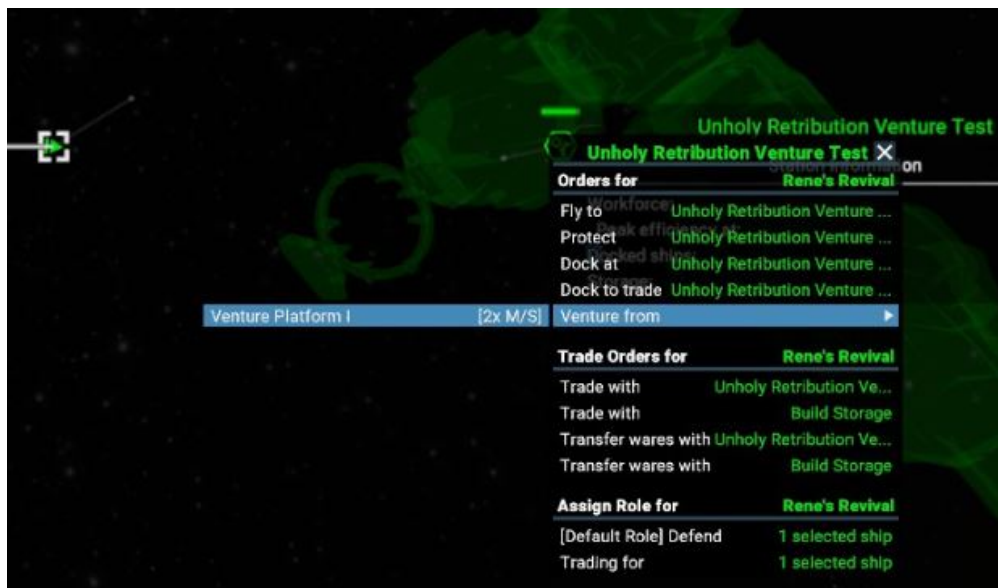
Venture Missions

Venture Branches

∨ Venture Platform I
  Ready   ⏏ x 1

Ships in selected branch

⏏ Rene's Revival (QIZ-646)

Available ventures in parallel universes

	Mission	Time	Ship
🔍	A Multiversal Problem Recommended ship type:	1 h 00 1x Fighter	
🔍	Multi-Verse Voyage Recommended ship type:	0 h 02 1x Any ship	
🏭	Parallel Distribution Recommended ship type:	2 h 00 1x Courier	
🏭	Resource Acquisition Recommended ship type:	64 h 00 1x Transporter	
🏭	Travelling Salesman Recommended ship type:	20 h 00 1x Transporter	
🔍	Venture Recommended ship type:	8 h 00 1x Fighter	

Description

If we can seek out a universe in which there is intelligent life and a legal system, then it is almost certain that we will find piracy too. Perhaps we can lend a helping hand here; send ... out to patrol against these pirates - not only will it help the other universes that we come across, but is also likely to be lucrative for us. I am sure local authorities will be pleased by ...
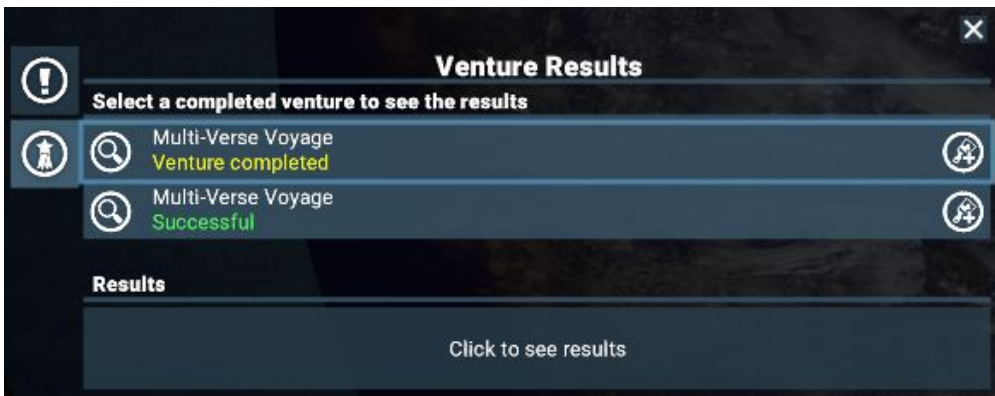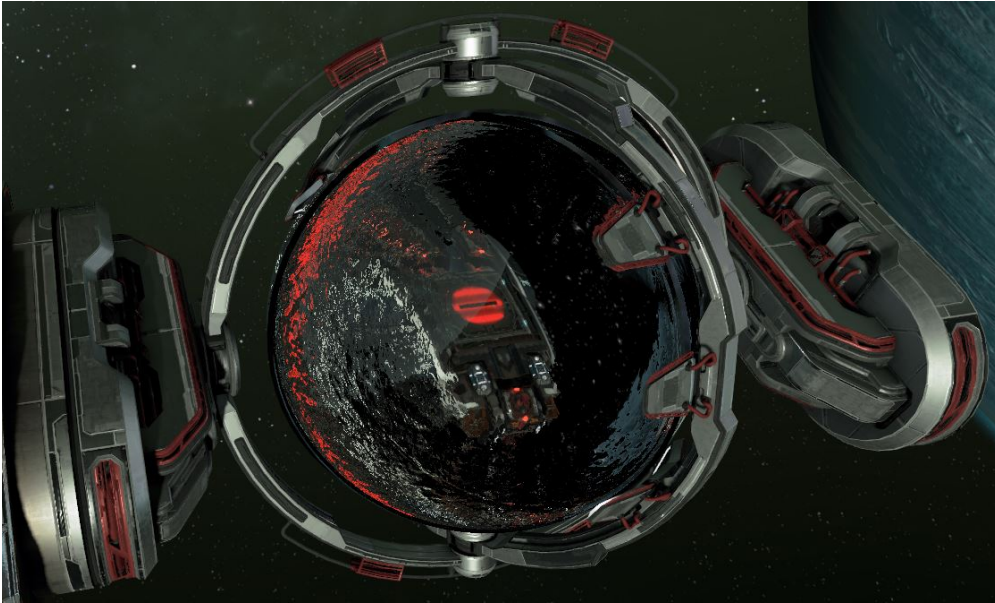
Rewards

Mods

Success Chance

Low

Start Venture

Venture Rewards

Captains have a chance to return with the following rewards:

- Paint Mods
- Exceptional Equipment Mod Parts
- Credits
- Crew skill training (*not implemented yet*)
- EgoCredits (ECs), for future use

The rewards from Ventures are stored in your online Venture Inventory that is found within the Player Inventory. Something you unlock in one save game can be available in a new game too. When logged in, the Venture Inventory looks as follows at game-start:

Val Selton			
825-02-08 11:01			Black Hole Sun IV
10,000 Cr			

Inventory

Item	Amount	Base Price	Total Price
Total Value			0 Cr

Venture Inventory

Item	Amount	Base Price	Total Price
Foundation X	50 / 50	0 EC	0 EC
S/M Venture Sendoff Dock	1 / 1	0 EC	0 EC
Venture Platform	1 / 1	0 EC	0 EC
Total Value			0 EC

Drop Item
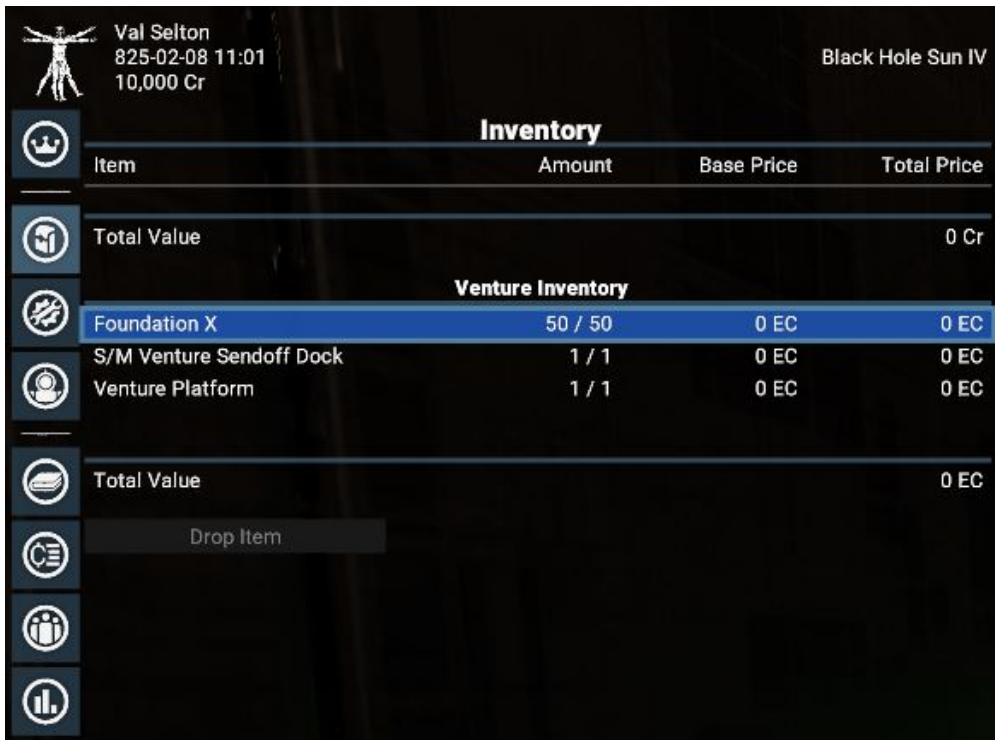
About Your Ships

What is flying through the multiverse will be your ship. It will have your module selection, your paint mod, your crew, the name you gave it, and even your logo (other players will only be able to see custom logos if they have your logo in the custom logos folder).

What Happens When The Game Is Modified?

Visitors from other universes can enter your universe (as long as you are logged in) and your mods will apply to the visitors. However, you cannot send ships on ventures from a modified game yourself, and nothing you do to visitor ships will be fed back to the person who sent them.

Joystick and Controller Configuration and Options

- Default Profiles
- Setting up your own profile
- Button/Axis configuration

Default Profiles

There are several profiles included for joysticks. To load a default profile, go to **Settings->Controls->Load Profile**.

Included profiles at this time are:

- Controller (based on Xbox360 Controller)
- Saitek X52 Pro
- Thrustmaster T16000m FCS HOTAS
- Thrustmaster HOTAS Warthog

Before loading a default profile, make sure you back up any existing profile using the option **Settings->Controls->Save Profile**. These profiles will then be listed in the Custom section of the load profile menu.

Important: You need make sure your devices are listed in the right order under **Settings->Controls->Manage Controllers/Joysticks**. If not, the default profile might not work correctly. If you want to use i.e. a Hotas Warthog, the order below will NOT work, due to the fact the XBOX 360 controller is listed at the top.
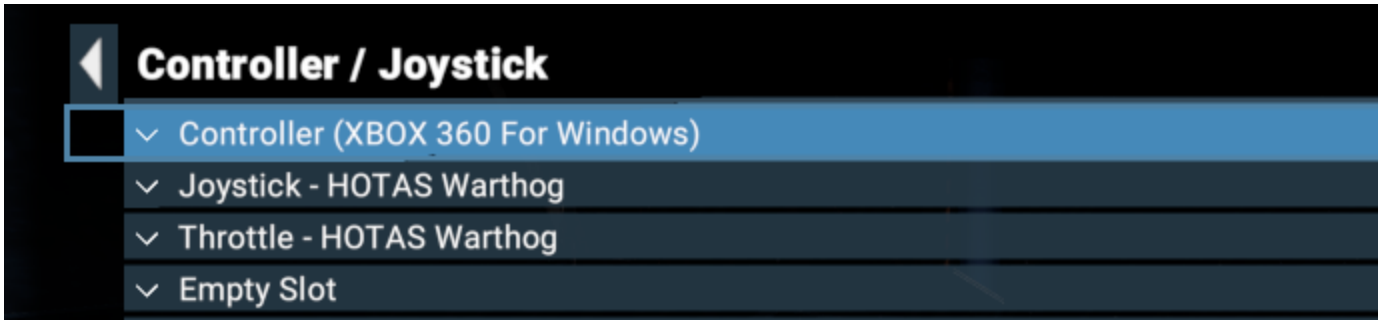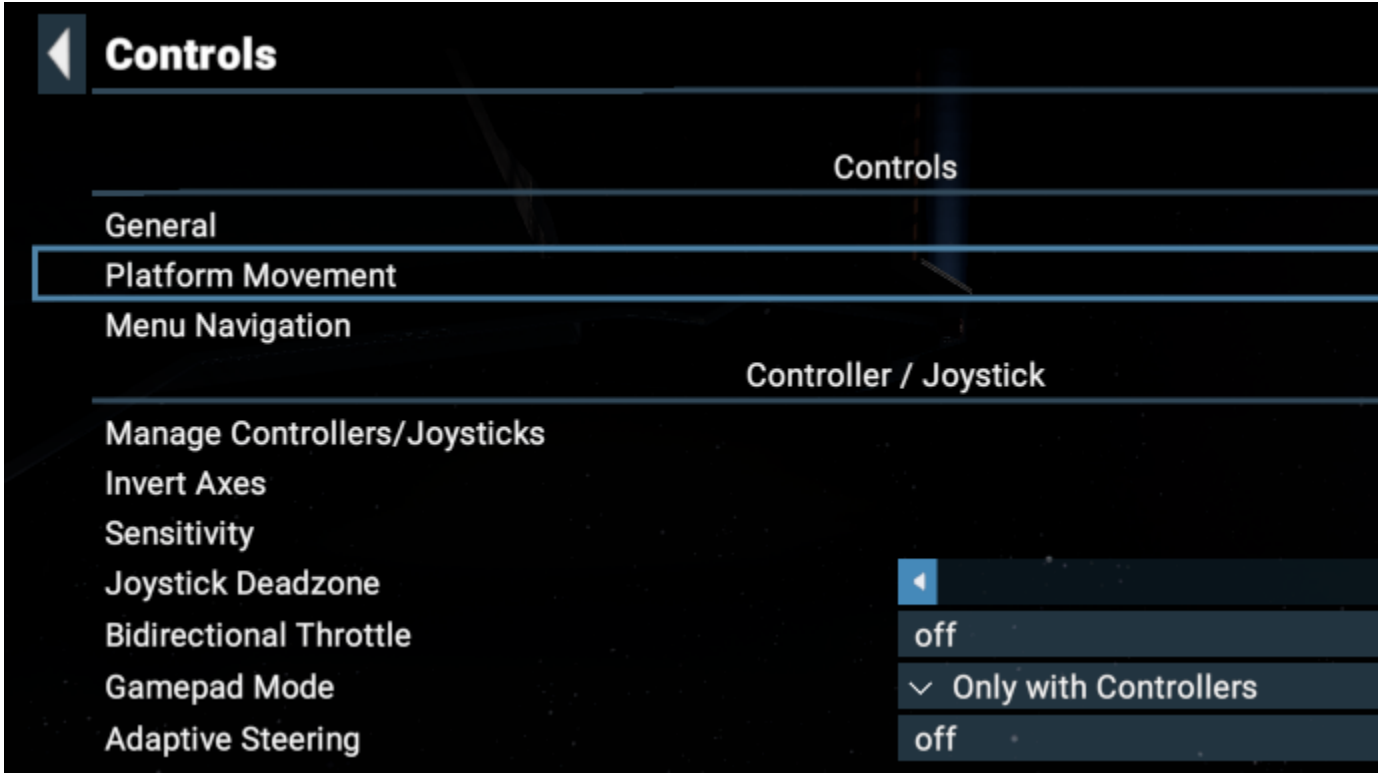
Instead, the order must as shown below.

Setting up your own profile

Most options related to Joystick/Controller input can be found in this section of the Controls menu:

To set up your own profile, start by checking whether your device(s) are listed in the menu accessed via **Settings->Controls->Manage Controllers/Joysticks.**

In this menu you can assign input devices to slots, check the current device number, or disable devices. Multiple Input devices will be indicated by a small icon with a number next to it.

Settings->Controls->Invert Axes This option allows you to invert the axes of many axis-controlled inputs such as steering, throttle, strafe, first person controls, etc

Settings->Controls->Joystick Deadzone This controls the size of the area in the centre of the axes for which no reaction to input is given.

Settings->Controls->Bidirectional Throttle Some devices have the throttle axis in the centre. If your throttle has its zero acceleration position in the centre and you want to change it, set this option to "off".

Settings->Controls->Gamepad Mode This option changes several interface behaviours related to automatic targeting and mouse usage while using a controller/joystick, etc.

Settings->Controls->Adaptive Steering If this option is enabled, your input will change automatically to the primary steering axes of your ship. For example, if roll is faster on the current ship, it will be mapped to the horizontal axis; if yaw is faster then that will be mapped to the horizontal axis. For full manual control over your ships' steering axes, disable this option.

Button/Axis configuration

To map individual functions to your device, go to one of the following sections:

- General
- Platform Movement
- Menu Navigation

Controls: General

Steering: Analog		
Primary Steering Axis		
Secondary Steering Axis	X Axis 🕹	
Steer Up-Down	Y Axis 🕹	
Strafe Left-Right		
Strafe Up-Down		
Throttle	Z Axis 🕹 2	
Invert Throttle	Button 7 🕹 2	
Primary Direct Mouse Steering Axis	Mouse Axis X 🖱	
Secondary Direct Mouse Steering Axis		
Direct Mouse Steer Up-Down	Mouse Axis Y 🖱	
Steering: Digital		
Steer up	NACH-UNTEN ⌨	
Steer down	NACH-OBEN ⌨	
Steer left	NACH-LINKS ⌨	Button 6
Steer right	NACH-RECHTS ⌨	Button 4
Strafe up	POV Up 🕹 2	
Strafe down	POV Down 🕹 2	
Strafe left	POV Left 🕹 2	
Strafe right	POV Right 🕹 2	
Accelerate	X ⌨	
Decelerate	Y ⌨	

In each sub-menu, you will find individual functions that can be mapped in various sub-sections. each functional area can be mapped to two different keys/buttons/axes.

A small symbol next to the mapped input will tell you which device it is on, or whether it is mapped to mouse or keyboard.

In **Settings->Controls->General** you can map the basic flight operations for your ship. Be aware that many steering-related inputs can be mapped in either the **Steering: Analog** or the **Steering: Digital** section. On any device using an axis for steering, make sure that you map them in the Steering: Analog section in order to be able to use fine control.

Using the available options, you can also set up mixed steering where you can control your ship via joystick in some situations while still using mouse/keyboard input in others.

Remember to save your profile after editing it!

System Requirements And Troubleshooting

- Minimum system requirements
- Recommended system requirements
- Installation using Steam
- Troubleshooting

Minimum system requirements

- Requires a 64-bit processor and operating system
- **OS:** Windows 10 (64-bit), Windows 8 (64-bit), Windows 7 SP1 (64-bit)
- **Processor:** Intel i5-4590 3.3GHz or AMD equivalent
- **Memory:** 8 GB RAM
- **Graphics:** NVIDIA GeForce GTX 780/970 or AMD equivalent (Vulkan support required)
- **Storage:** 12 GB available space

Recommended system requirements

- Requires a 64-bit processor and operating system
- **OS:** Windows 10 (64-bit), Windows 8 (64-bit), Windows 7 SP1 (64-bit)
- **Processor:** Intel Core i7-6700K or AMD equivalent
- **Memory:** 16 GB RAM
- **Graphics:** NVIDIA GeForce GTX 1070 or AMD equivalent (Vulkan support required)
- ***Storage:*** 12 GB available space

Installation using Steam

If you have a Steam Key for X4: Foundations, you can enter the product code in Steam to download it to your Library. To do this click the "+ Add Game" at the bottom left of the Steam window. In the menu that pops up, select "Activate a Product on Steam". After agreeing to the Steam Subscriber Agreement, enter in the product code and click Next. If the code is valid, it will start downloading and become available in your Library.

Troubleshooting

Problems starting the game?: https://steamcommunity.com/app/392160/discussions/0/1744479698798322333/

Egosoft Technical Support for X4: Foundations: https://forum.egosoft.com/viewforum.php?f=180

FAQ: https://www.egosoft.com:8444/confluence/display/X4WIKI/FAQ

Known issues: https://forum.egosoft.com/viewtopic.php?f=180&t=402386