

Jannat-Class Orbital Elevator

The Jannat is an [Orbital Elevator](#) utilized by the Sahaad for logistical goods and civilian transportation.

About the Orbital Elevator

The Jannat, much like its name is an Orbital Elevator Station hung in the heavens by seven carbon nanofiber tethers. The Jannat is a design that hasn't changed much over the long years of service, save for minor upgrades to materials or systems every couple of decades. Serving the purpose of lifting people and goods from planets to geostationary orbit and vice versa. The Jannat is usually a hub of commerce, trade and logistical distribution as freighters can dock with the elevator's station pickup cargo and be off within hours.

Key Features

- Large Orbital Logistics Complex
- Huge Transportation Hub For People and Commerce

Mission Specialization

- Transportation of people and goods from the surface.
- A hub and temporary dock for ships.

Appearance

Two metallic half circles connected by a lattice work of metal beams on both ends. These beams are encased in a type of 'glass' composed of [Synthetic Sapphire](#) and [Aluminum Oxynitride](#) to make a shatter resistant 'glass' and allow a series of observation concourses to be installed. Below portions of the ring are a series of smaller rings lining a single strand with an oft times golden or silvery coloration due to the semi-conducting films applied to power and assist in moving the orbital elevator's wagons. There are usually between four to seven of these applied to each orbital elevator depending on the planet. Sitting at the center is a large dome housing the central AI processing centers as well as a small number of office spaces for any onboard staff, the dome is connected to the remainder of the ring by a five to six 'spokes' that act as a means of traveling to the outer ring and to the dome.

History and Background

The Jannat was conceived as the first space station, being placed in equatorial geostationary orbit. From this vantage point, the Sahaad had an easy way to deliver and transfer goods and people from planet

side to space in a matter of minutes. It saved fuel costs and provided a large hub for commerce, transportation and military logistics. With major planetary development it was only the next logical step to have one of these in orbit to provide a necessary link to the interstellar trade lanes the Sahaad had setup across their colonized worlds.

Statistics and Performance

General

Class: Dj-P1-1a Type: Orbital Elevator Designers: [Djahet Fleetforges](#) Manufacturer: [Djahet Fleetforges](#)
Production: As needed. Fielded by: [Sahaad Confederacy](#)

Passengers

Note: While technically not required due to AI automation, a 'living' staff can be utilized.

- Command: 2
- Operations: 15
- Transport Operations: 30
- Medical: 6
- Maintenance: 30
- Security: 55

Dimensions

Diameter: 6km Height: 450 meters

Propulsion and Range

Lifespan: Indefinite if under proper maintenance periods. Refit Cycle: Once Every 20 Years.

Damage Capacity

- Hull: 125 SP (Station)
- Shields: 50 (Threshold 5/5)

Inside the Ship

Command

The Central Commander Center of any given Jannat is universally the same. Sitting at the 'center of the wheel' is the command hub. Spiraling outward however are the series of lifts, transports and offices for whatever crews are on board at any given time.

Command Hub

Situated at the heart of the the station, the Hub contains the central computer clusters as well as command stations. Usually left unmanned due to the sheer amount of automation of the Orbital Elevator, when in use however they're buzzing with activity. The computer clusters are kept within their own armored section of the Hub. It is here that the central A.I of the facility goes about its tasks, but it can interact with those aboard via a series of holographic 'plates' dotted around the station which allow a three-dimensional representation of the station's avatar to be displayed. Or, if the A.I is more reclusive it could simply utilize the P.A system.

Compartments

Armory

Even though most people would find it ludicrous to attack an unarmed station that is usually within protected space, a small armory is maintained on each Jannat. The Armory is located within the CCC area, usually sealed unless absolutely necessary. Carefully monitored climate control systems, titanium panels and stringent restrictions on access keep it safe from misuse. The compliment of weapons are uniform containing weapons for close quarters usually: Pistols, Shotguns and Carbines. Explosives are prohibited with the exception of tear gas, flashbangs or smoke.

Orbital Elevator Hubs

The hubs in which passengers and or goods both board, or depart from are separated to both help alleviate traffic and sorting of people and goods. The elevators themselves can carry both people, and goods or if configured one or the other for maximized loading potential.

Orbital Elevator Tethers

The tethers of the Jannat are composed of Carbon Nano-Fiber material at around ten feet in thickness. Utilizing semi-conductor coatings on the cable it was possible to enable Maglev travel. While perfectly safe as long as a current runs through it and with inexpensive liquid nitrogen for cooling purposes, the

Sahaad have included additional safety measures. While normally the Orbital Elevator provides the power for the cable, it is possible for ground facilities to do so as needed. In addition each train comes standard with braking mechanisms, micro-thruster packs and even air braking gear pre-installed to either halt, or slow a train's decent.

Elevator Trains

Each tether comes with a single train used for both cargo, and passenger travel. Cargo is usually stored on the lowest levels of the train to allow quick shipping. Passenger accommodations are within the upper reaches of the train. Accommodations come in the form of seating, drink dispensers, view ports, as well as interactive 'in-flight' information regarding the orbital elevator, the planet and current weather forecasts.

Each comes installed with several safety measures to ensure both cargo, as well as passengers remain safe during transit. They come standard with built-in braking mechanisms, micro-thruster packs to slow decent and air breaking gear. Along with these safety features each train also houses its own backup power supply, emergency beacon/communication equipment as well as an independent life-support system capable of keeping the passengers alive for two to three days provided the power supply holds. Should the train become stranded, in addition to the aforementioned safety features, the train also houses several emergency chests containing medical supplies, ration kits and fire extinguishing equipment.

Passenger Concourse

There are three concourses upon any given station. These concourses contain amenities in which to help ease the passengers journey both on the station and departure.

Information Kiosks

Information Kiosks containing information relevant to any given passenger's immediate curiosity. This includes planetary weather reports, local and international news broadcasts as well as maps of cities and areas of the Jannat itself including arrival and departure times. Info Kiosks usually are operated by android receptionists or living receptionists if the Jannat is orbiting a densely populated world. Smaller kiosks can be found throughout the station however these are much more limited with only directional, arrival and departure information.

Ship Systems

Armored Hull and Hull Integrated Systems

Frame

The Jannat's framework is made up of a series of [Titanium-Molybdenum](#) Alloy beams in a criss-crossing pattern with a hydraulic system acting as an emergency system to keep areas from collapsing in on themselves should structural integrity fail.

Hull

The Jannat features a dual hull design with an 'outer' and 'inner' layer with vacuum in between. The outer hull is a combination of Tantalum/Titanium with Boron Nitride nanofibers to improve the material's radiation protection. The inner hull layer however is made of a combination of tungsten and boron carbide to further protect from radiation by blocking what gets through the outer hull.

- **Breach Sealant:** The Jannat's dual hull makeup features vacuum between the two. However due to this design each 'segment' of the hulls are sections off individually. Should they be breached a type of honeycombed webbing of gel will expand and fill in the breach on contact with oxygen. While not particularly durable vs anything larger than small arms, it can maintain atmospheric integrity until the breach is repaired.

Windows

The Jannat houses several large concourses for tourists, passengers and personnel to 'enjoy the view'. Due to this they had to be particularly strong so as to survive micro-meteorite impacts, debris, and other manner of natural or man-made accidental collisions. [Synthetic Sapphire](#) and [Aluminum Oxynitride](#) are their general makeup due to being relatively cheap to produce in an age of metamaterials, but still provide noteworthy durability.

- **Emergency Shutters:**

In the event one of the windows being shattered or cracked, a series of titanium emergency shutters will come down and seal the affected area.

Computers and Electronics

[Gestalt Sphere Array](#)

Emergency Systems

[Djahet Emergency Systems](#)

Life Support Systems

[Sahaad Life Support Systems](#)

Power Source

[Heavy Water Fission-Fusion Reactor](#)

Propulsion

Due to the unique nature of the Jannat in being an Orbital Elevator, it lacks true propulsive capability. However it comes with a series of compact Ion Thrusters to maintain a stable orbit and orbital tether integrity.

Shield Systems

[Dj-P1-S1710 Electro-Static Field Generator](#)

Defensive Weaponry

(8): Point Defense Laser Arrays

[Point Defense Laser](#)

Location: Ring Mounted Purpose: Anti-Ordinance Secondary: Navigational Protection Damage: Tier 7
Range: 5 KM in Atmosphere, 300 000 KM in Space Rate of Fire: Can maintain up to fourteen beams simultaneously. Muzzle Velocity: 1c

Vehicle Complement

- (20): Shuttlecraft
- (15): Work Pods

OOC Notes

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Approval Thread: <https://stararmy.com/roleplay-forum/index.php?threads/jannat-orbital-elevator.14774/>

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