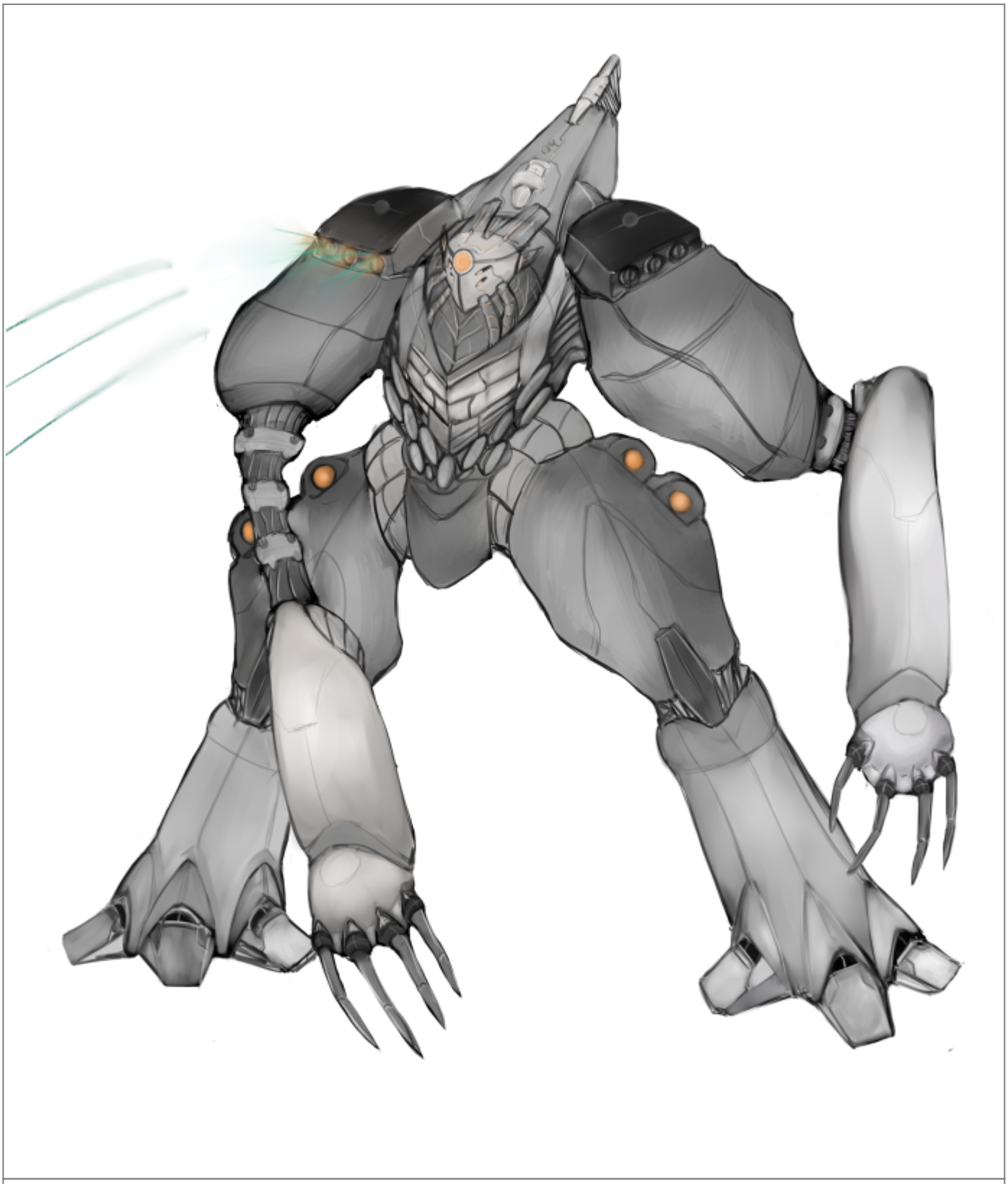
So-M3-1A Haidan VANDR

The So-M3-1a Haidan VANDR is an aquatic organoid powered frame designed by Solan Starworks in AR 936.

History and Background

With innovations furthered by the new Raevr VANDR, Solan engineers eventually turned their attention to the proposed scouting model. Ongoing battlefield conditions were revealing the major strengths and weaknesses of their previous EV/EV II and RV series models, and it was eventually decided to delay the development of a dedicated scout in favor of a more complete 'deep strike' unit that could perform reconnaissance in force and provide pivotal offensive support during the protracted planetary sieges that were foreseen to eventually occur during the later phases of the AR 936 Astral Vanguard campaign.

The resulting engineering work went into producing a unit that was versatile, capable of operating effectively in aquatic and land-based environments. Something of a maverick concept, it is a no-frills design with any quirks or special features being incidental or a consequence of the specialized role it was made to fill.



So-M3-1a Haidan VANDR (Test Colors)

About the Haidan VANDR

The Haidan stands taller and heavier than any design produced by Solan to date, heavily armored and

well shielded from environmental and battlefield hazards. It boasts a considerable array of particle beam and solenoid weapons at the cost of its missile capacity, and although it does mount a pair of powerful VT Claws, it lacks the flexibility in melee combat that the Erla VANDR II is recognized for.

Despite this, it represents a clear improvement in overall designs, with most of the components being easily replaced or self-maintaining, a carryover from the Raevr VANDR. What is unique to the design is 'limited variation' on existing concepts that have already been extensively studied and worked upon in previous research cycles, resulting in a unit that is roughly as expensive to produce and field as it should be, despite being fielded in the same generation as an experimental unit.

The Haidan is classed as a 'deep strike harassment and heavy assault' platform, essentially acting as the hammer to the Erla VANDR II's rapier in forward assaults. But while conventional 'heavy strike' platforms are unsubtle and attack from the front, the Haidan is just as suited to do so from the flanks.

Statistical Information

Government: Iromakuanhe Astral Commonwealth Organization: Astral Vanguard Role: Forward/Rear Rear Assault Type: Organoid Powered Frame Class: So-M1-2A Haidan VANDR Designer: Solan Staryards Manufacturer: Solan Starworks Production: Mass Production

Crew: 1 Iromakuanhe. Entry port inserts restrict the use of a standard model to Iromakuanhe pilots only. Maximum Capacity: There is sufficient room and life support resources to keep 3 people alive inside the cockpit.

Width: 3.66 Meters Height: 7.88 Meters Mass: 17.7 Tonnes

Range: Lifespan: Years

Speeds

Ground speed (Hover): 240 KM/H Air speed (Flight): Mach 3.1 (3797.6 KM/H) Water speed (Skim): 360 KM/H Water speed (Submerged): 240 KM/H Zero Atmosphere (Flight): .3c (323 775 855 KM/H) MASC Drive (FTL): 500c

Damage Capacity

Hull: T9 Shields: T9

Interior Descriptions

Cockpit

The cockpit is a cramped, cylindrical chamber on a slight angle that slopes down towards the front, with a seat similar to that of the EV 1. The front is inset with electronic display screens for diagnostic purposes, while the sides open up into airtight compartments with rations and self-defense weapons stashed away in sealed bioplastic bags. The orange color scheme has been replaced with a more somber blue and grey, with lines of a reflective white outlining panels and access ports for electronics. Although claustrophobic by comparison to the spacious cockpit of the 1a, this newer, more compact cockpit block has allowed for Solan to integrate the cockpit into the body.

Weapons Systems

(2): HV-I Assault Arm System [AAS]

The Assault Arms System is a chassis-intergrated heavy weapons package that combines the sweeping close combat power of Vector Transition Blade-type claws and reactor-boosted assault cannon. Both systems differ from baseline variants significantly, offering unique advantages. Phantoma Talon weapons are shorter, but increase the number and severity of slashing attacks and can be used to scale large objects or restrain units.

The EX-ACPA is a larger variant of the basic assault particle beam cannon, set into arms with large cooling units and intakes that can inject circulate water through secondary cooling conduits and reduce recycle time for the weapon, allowing the unit to make follow up volleys more quickly. In situations where water is not available, the Haidan is capable of expending prepared amounts of its synovial fluid as emergency coolant, effectively dumping heat into and jettisoning the red liquid from the hands to achieve the same effects. If the coolant system is compromised or drained, attempting to use the EX-ACPA will cause the weapon system to overload and self-destruct.

Location: Hands/Forearms

So-M3-W0936.A "Phantoma Talon" VT Claw

VT Sword

Purpose: Anti-Vehicle/Anti-Infantry Secondary: Psychological Warfare

Damage: T8 Range: 1 Meters Rate of Fire: Varies

So-M3-W0936.B "Shockflail" EX-ACPA

ACPA (Assault Charged Particle Accelerator) Cannon

Purpose: Anti-Armor, Anti-Vehicle Secondary: Anti-Shield Damage: T9 (for 3 Seconds), Electrical Damage

Range: 5 KM in Atmosphere, 15 000 KM in Space Rate of Fire: One blast every 13 seconds of charging, 4 if cooled. Area of Effect: 20 Meters Muzzle Velocity: .25c

Ammunition 130 Particle Shots, Replenishes completely after 30 Minutes out of combat Overcharge Limit: 18 Coolant Units, Replenishes completely after 30 Minutes out of combat

(2): HV-I First Strike Weapons Case [FSWC]

First Strike Weapons Cases are simply-engineered optional external-usage missile pods that encase the unit's hands and inhibit the usage of any weapons in the AAS weapons group. They allow a single strike of 8 volleys of the “Star Adder” missile more commonly deployed on the Raevr VANDR.

Location: Over hands/forearms of the Haidan VANDR.

(4): So-M2-W2936 "Star Adder" APaLa Missile Rack

Advanced Particle Lancing (APaLa) Missile

Purpose: Anti-Emplacement, Anti-Vehicle Secondary: Anti-Starship Salvo Size: 3 Damage: T8, Electrical Damage

Range: 55 KM in Atmosphere, 5.4 Light Seconds in Space Rate of Fire: 1 salvo every 7 Seconds Area of Effect: 10 Meter 'Geyser' Muzzle Velocity: Mach 8.1 in Atmosphere, .27c in Space Ammunition 3 Missiles

Hardpoint Weapons

(1): So-M3-W3936 "Shocklance" SCPA Cannon

SCPA (Sniper Charged Particle Accelerator) Cannon

Location: Head-Mounted Purpose: Anti-Armor, Anti-Vehicle Secondary: Anti-Shield Damage: T7, Electrical Damage

Range: 20 KM in Atmosphere, 60 000 KM in Space Rate of Fire: One blast every 4 seconds of charging Area of Effect: .5 Meters Muzzle Velocity: .50c Ammunition 180 Particle Shots, Replenishes completely after 30 Minutes out of combat

(4): So-M1-W3784 "Storm Ray" LEMB Laser Array

LEMB (Light Enhanced Multi-Beam) Laser

Location: Hips and Thighs Purpose: Point Defense Weapon Secondary: Anti-Infantry Damage: T4

Range: 5 KM in Atmosphere, 300 000 KM in Space Rate of Fire: Can maintain up to 12 beams simultaneously. Muzzle Velocity: 1c

(6): So-M2-W0936 "Linear Hammer" Shoulder Mortar

HLS (Heavy Linear Solenoid) Bazooka

Location: Shoulder Pods Purpose: Anti-Vehicle Secondary: Suppression Fire Damage, AoE: T7, 10m (40m shockwave)

Range: 20.03 KM Rate of Fire: 60 RPM Muzzle Velocity: 1300 m/s Ammunition 690 Rounds

Systems Descriptions

Hull and Hull Integrated Systems

Hull and Chassis

Hypercarbon Sheath Armor (HySAr) HySAr represents an improvement in materials science with the development of the ADNR-derived allotrope Hypercarbon, but a step forward in Iromakuanhe engineering principles. Although it moves away from the strictly organic armor of previous designs, it affords greater protection and survivability. Although more expensive when compared to Aerudirn, maintenance is easier and the armor more affordable than almost any other of its weight category.

Organoid-type Substructure Highly resilient organoid tissues form the remainder of the body, including an endoskeleton, muscles and primitive organs that perform various functions related to keeping the unit and runner alive. The tissues have exceptional toughness compared to those of normal species, and can even survive in vacuum conditions should the entirety of the upper armor layer be destroyed. Given the living nature of the organoid, the frame will retain the ability to move its limbs, even in the event of power failure.

Life Support

The Haidan VANDR's life support functions are tied in directly with the Organoid's natural bioelectrics and life functions, meaning that should power failure occur, these systems will continue to function until the components expire.

Organoid Integrated Life Support Functions + Prajna The organoid's Prajna glands will fill the cockpit module in the liquid breathing fluid once the pilot has activated the frame, and will withdraw it during the powering down process. The liquid also removes the need to eliminate waste, eat and can greatly assist

in the healing process.

So-M1-R0784 KORD System The KORD (Kinetic Force Diffuser) is an essential system that protects the frame runner from the tremendous G-Forces and shocks the Erla VANDR experiences during both before and after FTL travel and during highly perilous combat maneuvers. It also protects from weapons that kill through kinetic force, in a manner similar to maces against armored troops in ancient times.

Shields

So-M1-S1784 Frame-type Vector Shroud Vector Shrouds are sophisticated vector field systems that envelop the craft in a conformal shell of compressed space, allowing one to become relatively invisible to electromagnetic and particle based sensors, and shrinking the frame's profile to other systems. As a shield, it is reliable and particularly effective versus energy weapons. Shares SP with the Vector Barrier Guards.

Locations: Integral Runtime: Limited by Power Source Only

So-M1-S1784 Vector Barrier Guard More powerful but considerably less reliable than the Vector Shroud, the Vector Barrier is the first line of defense in the field, and an excellent last resort. They employ advanced space compression to generate a long 4m oval shield that is separate of the main unit and acts as a kind of disposable barrier. These are generated at various locations on the frame unit and remain fixed in proximity to the module that formed it.

Locations: Left and Right Forearms Runtime 8 Minutes

Power Generation

Reactor

So-M1-G0935 Frame-class ZeP Siphon

Capacitor System

So-M1-G1935 Frame-class NEn Capacitor x8

Propulsion

Main

So-M3-P0935 Vector Transition Drive

The Vector Transition Drive is an unconventional distortion field-based propulsion system developed by

Solan Starworks based on the MASC Drive. As with other variants of the drive optimized for frame usage, it allows for both slower than light and faster than light travel, as well as a third mode known as the 'Vector Translation' or 'Sublight Jump'. As long as sensors are functional, the pilot may initiate a sudden jump to any point within a range of under a light second without charging their drive system. When undertaking this 'Sublight Jump', the unit loses all directional momentum as a consequence of inertial dampening and the distortion of the mecha's compressed space fields.

The Haidan's VT Drive is notable for being designed for the additional purpose of underwater travel. This is initiated through a 'stutter wave' system which generates a hydrodynamic funnel around the unit and propels it through the water. These distortions are tuned to dissipate quickly in the water, allowing the Haidan to be rather stealthy in spite of using a distortion drive, but have the side effect of creating sonic vibrations which incidentally resemble the effects of whalesong.

Faster than light travel requires several minutes of charging and calibrations to ensure the creation of stable corridors in compressed space, else the unit might experience critical damages during or after transit.

Maneuver

So-M3-P1935 Liftskimmer System The Haidan VANDR has lift rings situated inside the palms and soles of its feet and hands, allowing it to skim surfaces. This variant of GE Lifter is especially weak, downtuned to produce fewer emissions. The unit is capable moving at high speeds just above the surface of a solid or liquid layer, but has less agility in aerial maneuvering.

Electronics

Control Systems

So-M1-E0784 VANDR-type Immersion Control Pod w/ VCANIOS Core

Due to their natural interface abilities, designing a responsive and intuitive control system for an Iromakuanhe was relatively easy. This system, know as the Immersion Control Pod, allows easy and natural control of most vehicles, including large units such as powered frames and starships. The Control Pod is the seat component of the cockpit, and is comprised of a rounded chair in which the pilot is most comfortable in a reclining position, and multiple entry port plugs. The chair itself is lined in a soft, organic material lined in a highly flexible rubbery skin that is smooth to the touch and has a light golden reflective sheen. It will naturally conform to the user's body, and can even form cushioned indentations for the tips of horns.

Use

To connect with the machine, one must connect the plugs to their entry ports, which can be done manually, or automatically by the organoid. The pilot's senses and ability to move will then quickly begin

to fade as they are rerouted to those of the frame, which they will be able to control as extensions of their own bodies. Weapons systems and certain functions may have to be practiced.

Note

Transfer of pain cannot occur because organoids lack developed tactile senses in most cases, however, the have been uncomfortable sensations reported by pilots when their units lost limbs or took heavy damage, similar to a sort of strong pressure. On very rare occasions, the sensory redirection effect caused by the control module lasts after disconnection from the craft, which will require immediate medical attention.

Communications Systems

So-M1-E1784 Frame-type Communications Package

Location: Torso, Cockpit Pod

Includes:

- Laser
- Radio
- MASC-Assisted Laser
- MASC-Assisted Radio

Passive Sensors

So-M3-E0935 Frame-type Passive Sensors Pod The passive sensors of the Haidan VANDR consist of advanced long-range RADAR for area scanning, along with Vector Wave Sensors and Subspace Mass Sensors for early warning purposes. Because it is also designed for aquatic operators, it also possesses short-ranged SONAR capability that allow it to detect low-to-high volume targets at a variable range of 1 to 10 KM based on size and underwater conditions. The sensors pods are located on the end of the back unit, near the end of the cockpit block.

Includes:

- Vector Wave Sensors
- Subspace Mass Sensors
- RADAR
- SONAR

Active Sensors

So-M1-E1935 Frame-type Active Sensors Pod The Haidan VAADW recycles the sensors suite utilized on

the Erla Vandr 2, placing its main sensors suite in the shoulders and head. These sensors are often of greater importance during combat and when determining the course for high-speed STL and FTL maneuvers.

Includes:

- LADAR
- MASC Particle Scanner
- Thermal Sensors

Stealth and Countermeasures

Passive Stealth

So-M1-E2935 Phantoma Sink System The Phantoma Sink System is a system that was developed specifically for the Erla VANDR II, that uses the reactor and primary drive system to effectively regulate the space immediately around the unit, allowing it to camouflage itself by imitating background radiation and heat levels within 88% accuracy. This is done by effectively sinking reactor by-products such as heat, heat gradient, neutrinos, loose virtual particles and electromagnetic radiation back into the artificial space that it taps for energy. However, the reactor must be operating at at least minimal levels to initiate this effect or the system will be unable to function.

In practice, this means the mecha can hide in plain sight in areas with large numbers of mecha with Aether, Quantum Foam and Zero-Point reactors, and be difficult to track in even nominal conditions.

Active Stealth

So-M3-E1936 Muted Resonance Shroud

Countermeasure

(2): So-M1-E6784 Regenerative Beacon Flares

Location: Back Thigh Pods Purpose: Anti-Missile, Anti-Targeting Lock Secondary: Misdirection Salvo Size: 1, 2 or 3 Damage: MDR 1

Range: 25KM in Atmosphere, 15 000 KM in Space Rate of Fire: 1 salvo every 2 Seconds Area of Effect: 500M in Atmosphere, 2500 KM in Space Muzzle Velocity: Mach 6 in Atmosphere, .2c in Space Ammunition 24 Missiles Ammo Replenish: Can refill capacity in hospitable conditions in about 1 hour outside of combat. Any further attempts to refill will require an external source of biomass.

(4): So-M1-E4935 Regenerative Canister Missiles

Location: Upward Facing Back Pod Purpose: Anti-Beam, Sensors/Communications Jamming Secondary:

Misdirection Salvo Size: 3, 6 or 9 Damage:

- *Impact:* MDR 1
- *Cloud:* Tier 1, Light Anti-Personnel

Range: 20KM in Atmosphere, 12 500 KM in Space Rate of Fire: 1 salvo every 2 Seconds Duration: Cloud dissipates after 20 seconds. Area of Effect: 400M Muzzle Velocity: Mach 3 in Atmosphere, .1c in Space Ammunition 27 Missiles Ammo Replenish: With power supply from reactor, can refill capacity in hospitable conditions in about 2 hours outside of combat. Any further attempts to refill will require an external source of biomass.

Misc

Internal Storage

There are internal storage compartments within arms reach of the pilot on the left and right, with each roughly 50cm x 25cm x 25cm in size. By default, they contain:

- Rations
- 2 Litres of water
- (4) Leyflar Supercapacitor
- (1) Solanii Laiz Carbine

Crowd Control Device

The mouth of the Haidan VANDR is equipped with a gland that can project capsules of an organic foamy adhesive, which break on impact. These allow the pilot to restrain civilians and unarmored infantry without harming them, and can also be used to anchor light objects to surfaces.

Optical Distortion Emitter

The metamterial coating of the unit's HySAr armor can be electrically charged to generate a functional stealth field. Although not originally meant to be used as such, it can function as an optical stealth system when outside of combat. The power of a single NEn Cap can power the ODE for up to 14 days without recharging.

BHS

Biomass Harvest System (BHS)

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