

Mobile Trainer SEM

Ke-S3-M2901

History and Development

More and more, the creator of the [Sakura Enhancement Module](#) (Star Army Officer [Kage Yaichiro](#)) noticed the lack of well trained soldiers and competent officers. This problem plagued the [YSS Sakura](#) in his days on the ship, and was painfully evident during his short stay on [Pisces Station](#). He saw his own rapid advancement as a further indicator of this situation, and decided to devise a solution.

After much thought, Yaichiro decided that a mobile training site would greatly benefit the Star Army, even if it was only used by one or two ships in each squadron. The Mobile Trainer SEM was then designed, to provide a realistic environment to continue the education and testing of Star Army Enlisted and Officers while away on missions.

As a final measure, the SEM can separate and function as a very low capability vessel for minor “test” missions. This permits novice officers to gain real experience without needing a ship allocated to them.

Basic Description

The Mobile Trainer SEM is designed to replicate the (internal) look and feel of a real starship, complete with its own EIES. While the areas are meant to look similar to the real stations on the [Sakura-class Light Gunship](#), thick orange striping runs across the middle of all walls, and is also found on consoles, to remind the occupants of their true location. All areas can be run independently of each other for individual training exercises, or integrated to give the illusion of a single vessel.

The Nacelle, due to the contents, is a bit wider than a normal nacelle, measuring in at 80 meters long, 20 meters tall, and 20 meters wide.

Emulated areas include the following locations:

- Bridge

The SEM has its own bridge, modeled after that of a [Sakura-class Light Gunship](#) (see [Sakura's Command Bridge](#) and [Sakura's Main Bridge](#) for details). For the safety of the trainees, these bridges are sealed inside the SEM entirely, the “windows” all simulated projections or relayed footage from external cameras.

The Bridge can, in emergencies, act as an actual bridge if an order is given from the highest ranking officer or soldier currently alive/aware on the vessel, or by MEGAMI herself. In this event, MEGAMI completely overrides the EIES, using its resources for its own operation. However, as it is a training bridge, its capabilities are a bit more limited than its “true” counterpart.

- Engineering

Engineering emulates the basic interface between the ship's systems and its people, which is necessary for a ship to function. As can be guessed, control over this area is very tight, and the Aether Generator, Capacitor Banks, and other critical components are actually contained in their own rooms, which are normally locked to trainees. In emergencies, this Engineering area can be made mostly functional, with control of the SEM's systems being unlocked and run through this system. This equires a transfer of site control by the highest ranking surviving/aware officer or soldier, or by MEGAMI.

There are also maintenance conduits throughout the SEM, to train young Technical Sentries of maintaining and repairing components in them, as well as to help train everyone else in defending against a boarding aggressor using the normal pathways.

- Medbay

The Medbay is less of a medical location and more of a research lab, though it contains basic healing equipment. Anything utilizing more than a few liters of Hemosynthetic fluid is tightly regulated, and as such, most actual work must be done in the main Medbay on the main ship.

There are various thermal control units, a number of sterilization stations for washing hands and tools, some small hemosynthesis containers, and person-sized tables. These tables have the dual purpose of projecting 3-D holographic images of subjects for study, and the dissection of hemosynthesized "cadavers". These cadavers must be supplied by the main ship. There are also several terminals for study.

- Power Armor Training Pods

It is still true that you have to actually pilot a Power Armor to learn how to use one. However, in areas where such exercises would attract unwanted enemy attention, this may be the best alternative available.

The Power Armor Training Pods are meant to simulate training within a Power Armor, a half-dozen lining the wall of the Power Armor Pod (PAP) Room. These pods not only contain the standard fleshy insert of a Power Armor pod, but false helmets which feed data to the pilot. Also installed are heating, cooling, and force application elements to simulate the environment, various acceleration factors, the force of hits, tactile data, and the recoil of some types of weaponry. SLICS, SPINE, and manual control are all compatible with these units.

Eather than each unit having its own AIES, like true Power Armors, the EIES simulates a virtual AIES interface for every pod. This also allows each pod to be loaded with the capabilities of a different Power Armor each time the system is initialized.

Weapons Systems

Ke-S3-W2901 Positron Accelerator Cannon 1

This weapon is one of the standard Sakura Railguns normally found on the default nacelles of the ship,

placed on the Mobile Trainer so as not to leave the SEM undefended. Usually this is locked out of the SEM's control system entirely, used solely by the Sakura for actual combat. Only when the SEM is detached or when the SEM is given control of its resources (or the entire ship's) can it use its own weapon unhindered.

Below is the weapon, taken directly from the Sakura's technical data.

These cannons function as deadly antimatter railguns, firing massive 2000kg compressed positron shells at near-light speeds. Each railgun fires a subspace pulse (to provide shield penetration effects) which is used to provide short-term encasement to a packet of compressed positrons (which are suspended with electromagnetic fields until leaving the cannon). The positrons annihilate electrons they come in contact with, thus destabilizing and destroying molecules, and creating a surge of energy through the target. Anti-matter weapons should not be used in atmospheres.

- Location: Nacelles Fore-top Nacelle (1)
- Primary Purpose: Anti-starship
- Secondary Purpose: Bombardment
- Damage: Rating of 9. Extremely Heavy damage against any starship. Smaller starships or starships without high-end armor will likely be completely obliterated.
- Area of Effect: Point of impact and splash area
- Range: About 804,672 km (500,000 miles)
- Rate of Fire: One burst every seven and a half seconds.
- Payload: Self regenerating.

Other Systems

Hull

There are two sections of Zesuaium-reinforced Yamataium Armor with Xiulurium coating, one for the top half and one for the bottom half of the SEM.

EIES, Wired Communication Links and Data Storage

In addition the the [Escort Integrated Electronics System \(EIES\)](#) and its Sensors and Communication systems, the Mobile Trainer SEM contains wired communication systems to connect the vessel's IES and communications system directly, as well as data storage relevant to the function of the device. It is heavily shielded, to try and allow it to survive the destruction of its module and/or the Sakura it is linked to, in which case it can act as a black box.

HSCS conduits and Passageways

The SEM contains passage ways to permit travel between the Sakura and the SEM, lined with HSCS conduit. While the SEM lacks HSCS fluid or nodal capability on its own, it can utilize such systems from the Sakura it is linked to.

The passageways have thick walls made of Zesuaium-reinforced Yamataium and Yavex mesh, as well as Zesuaium-reinforced Yamataium bulkheads half a meter thick every ten meters down the corridor. These

are normally open, but can be programmed as needed. They can be used to prevent depressurization, lock certain people or people below a given rank out of the SEM, or trap an enemy lured into the corridor. These are under the control of the IES as well as the CO.

Aether Generator

The SEM has its own Aether Generator to supplement that of the Sakura. The Sakura does not lose power to the SEM, so SEM use does not prevent the Sakura from firing its Main Gun, for example. However, the Sakura can pull power from the SEM if needed for emergencies.

Capacitor Banks

The SEM relies on Aether Generators from the Sakura and itself to power the Capacitor Banks. The banks are linked to power any devices on board, which are continuously charged by the Aether generators. Rather than draw massive amounts of power at once for the SEM, they continuously charge, and when the capacitors are discharged, the banks are charged gradually again. The charging rate can be configured via IES, but the faster the rate, the more the drain of the Sakura's and the SEM's Aether generators.

Docking Ports

For emergencies such as when the Sakura is disabled, or other unforeseen instances, a small collection of docking ports can be found, meant for shuttles and Power Armors from the Sakura attached to it.

Life Support

The SEM has basic Life Support, specifically air scrubbers, oxygen tanks, water and ration storage. It is meant to be an emergency "life raft" of sorts, should the attached Sakura be destroyed, but lacks any form of engine capacity unless connected to an external computer. If engines are needed, shuttles can be connected to the unit, though acceleration will be very slow.

Quick Release

In an emergency, the Sakura can detach from the SEM in less than one second, and vice versa. However, this requires permission from the IES being disconnected, the highest ranking and surviving officer on the Sakura being disconnected, or the CO.

Self Destruct

With the potentially sensitive nature of the components of a module designed for any specific mission, it is possible to detach the vessel from a SEM and detonate it, using the Aether generator to overload and destroy the SEM.

Combined Field System

The Sakura S3 has an excellent Combined Field System that can protect against up to 4.5 YottaWatts worth of damage (4.5×10^{24} [4.5 septillion] joules a second) per each 1 square meter area in either kinetic or energy form, or a bit more than the matter-energy conversion rate of the Sun (3.83×10^{24} Watts). This is usually enough to hide within a star or withstand many main cannon blasts from enemy

vessels. The nacelles are responsible for 15% of this power. Since the Mini Trainer SEM has its own computer system, it can utilize this 15% on its own if seperated from the ship, allowing it to act as a massive escape pod. Unfortunately; it can not utilize the shield function, and as such, is not fit for stand-alone combat.

Virtual Mission System

The Virtual Mission System essentially loads missions for soldiers or officers to engage in. These missions can be manually configured by someone such as the ship's CO (to round out specific skills in an officer or soldier which are lacking, or to test a specific skill), randomly created by the EIES itself (self-training), loaded from previous real missions in the ship's memory (trying to see what actions make different results), or downloaded from [PANTHEON](#). The Star Army provides missions for download via PANTHEON which conform to its own training practices, and may eventually utilize this system as a means of completing coursework.

SRP Costs

Item	Point Cost (Each)	Number	Description	Subtotal
FTL Engine	(Speed in $c/100$) $\times 0.15^1$	485	CFS	485
Main Gun Battery	25 x DR	1, DR 9	Particle Cannon	225
Main Generator	400	1	Aether	400
Computer System	100	1	EIES	100
Armor	50 x DR	2, DR 9	Zesuauium-Reinforced Yamataium	900
Stealth Armor	200	2	Xiulurium	400
Secondary Generator	200	1	Capacitor	200
Life Support	200	1	HSCS/Conventional	200
Sensor/Communications System	100	4	Main, WARMS, RDD, Tachyon	400
Total SRP Cost				3310

¹ Multiplied by 15% because each Nacelle accounts for 15% of the Sakura's total CFS capacity, according to Wes

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