Warship Integrated Electronics System (WIES)

The WIES system, based on the [MEGAMI](#) concept, is a network of sensors, communications, and fire control all built around a centralized computer system. WIES is built for main warships - (battleships, assault ships, heavy cruisers and carriers) and is the most common computer system in the Star Army of Yamatai. WIES is both a subordinate and a master system; it operates as part of a larger command hierarchy of computers, but commands all elements below it

Above WIES is [MEGAMI](#), and [KAMI](#). Under WIES is the [Escort Integrated Electronics System (EIES)](#); for light cruisers, destroyers, and escort carriers, and the [Compact Integrated Electronics System (CIES)](#); for frigates, corvettes, and gunboats. Such smaller ships are usually under the control of the WIES, though another system can take over if necessary (if the WIES ship is destroyed or unavailable).

Computer

The heart of the integrated electronics suite is an advanced quantum computer, capable of performing super-high-speed data-churning and possessing untold memory. Quantum computers, unlike old computers which could only process 1 and 0, can process an effectively infinite range of digits, making them awesomely powerful. In addition, the system's sub-particle memory system allows for truly magical storage and access speeds. Data processing is further assisted by an electro-gravitational temporal distortion field which can increase the processor and memory signal speeds to many times that of light, for use during continuum distortion travel. WIES computers usually share the name of the ship they are on, and if necessary, can run a small group of ships on their own (frigates, corvettes, gunboats). WIES ships can remote control up to 250,000 [Sprites](#) at one time. The systems were designed by Kessaku Anri and are now by her company, [Kessaku Systems](#).

The AI-driven system can manifest itself as a hologram on the bridge, or through a synthesized body. The computer room is located in an armored room that is normally inaccessible. Since the system is involved in nearly all functions of the ship, it is vitally important. This was brutally clear to the crew of the YSS Yui (YD-30) when a seraph infiltrated the ship and destroyed the ship's MEGAMI, rendering the ship stranded and unable to call for help. Access to the computer room is only available to both the ship's captain and chief technician or technicians from SARA or KES. While not truly sentient, the WIES system is intelligent and intuitive, and usually interacts fairly well with the crew.

The WIES systems actively defend and maintain themselves; they can [Nekovalkyrja, Type 33](#) weapons to do so. WIES is compatible with the [PANTHEON](#) system.

Sensors

Unidirectional Sensors

Unidirectional sensors included in the WIES include variable wide-band imaging clusters, long-range

gravimetric and magnetic resonance and distortion sensors and spectrometers, These sensors face the front of the ship and have a range up to ten light-years.

Omnidirectional Sensors

Omnidirectional sensors of the WIES include aetheric/quintessential field/differential/particle/wave sensors, scalar field sensors, subspace mass sensors, and unified field mass/energy sensors. These sensors have a range of five light-years.

TQP-RDD

One of the most sophisticated electronic intelligence tools used by the Star Army, it can detect any ship or energy source by observing its mass and/energy by actually making TTD-based quantum linked observations of phenomena. There are three levels to scanning: a wide range passive scan, which monitors for unidentified energy objects and mass fluxes among a wide range of dimensions and phases; the second is an active scan. Active scans are used rarely because they can give away the presence (but not location) of a vessel to other ships. The active scan is a high-powered sweep of a particular phase and dimension. The third mode is a remote scan of a clearly defined area such as an enemy ship. Using the scan, the complete nature of the target can be recorded. Because of the massive scanning area, the sensors of a ship are not a single solution for quickly finding enemy targets, although they can keep track of them with ease once discovered. The WIES's Transmetaphasic Quantum Particle/wave Remote Detection Device can only track one target area at a time.

Level	Range	Sphere Diameter	Resolution	Minimum Mass
1	100 light-years	10 light-years	Stellar	Star
2	80 light-years	1 light-year	Planetary	Planet
3	60 light-years	0.5 light-years	Lunar	5,000,000 kg
4	40 light-years	0.2 light-years	Rough	2,000,000 kg
5	20 light-years	58.8×109 miles	Low	100,000 kg
6	10 light-years	20 trillion miles	Medium	75,000 kg
7	5 light-years	500 billion miles	High	45,000 kg
8	1 light-year	1 billion miles	Molecular	20,000 kg
9	1 light-year	10,000 miles	Subatomic	10,000 kg
10	58.8×109 miles	100 miles	Total	20 kg

The Remote Detection Device, being teleportation-based, has proven somewhat ineffective against ships with teleportation-oriented defenses. While the RDD can detect such vessels, scanning them yields no results. This is due to failure to create the quantum links necessary to perform the scan. The "Minimum Mass" on the chart above indicates the minimum mass that will register during a scan of the corresponding level. The RDD can track smaller items if it knows what to look for, but will not see underweight objects when searching for "anything and everything."

Time-Modulated Ultra-Wide Band Radar

Signals transmitted by UWB radars are pulses generated pseudo-randomly in time. They are only .1 nanoseconds in duration. The energy content in any conventional frequency band is below the noise, making TM-UWB transmission highly covert unless ones knows the specific pseudo-random sequence. TM-UWB has no carrier frequency, no conversion either up or down, and because of the low frequency content of TM-UWB signals, they are capable of seeing through foliage and nonmetallic objects better than regular radar can. Ideal for atmospheric operations and nebulae.

Communications

Any WIES ship is equipped with a multi-channel wide-band array that gives both security and versatility. Among the types of communication supported are radio, laser, subspace, and hyperspace. Communications can be secured using Quantum Encryption technology, which (due to the Heisenberg Uncertainty Principle) allows the system to detect any monitoring attempts and counter them.

Radio

Full spectrum, Dual-Modulation, range theoretically unlimited except by interference. Practical range is short, since the waves only travel at light-speed.

Laser

For close-range transmissions, it is more difficult for the enemy to intercept, because they have to be in the area of the beam. Also limited to light-speed.

Psionic Filter Device

The PFD is a form of psionic and telepathic protection, capable of nullifying all such activity. A ship's ADN devices can selectively allow channels to permit secure telepathic operation and to maintain communication even under psionic attack. The Irim's PFD devices also negate magical attacks and effects. The PFD is usually on standby, and activates after sensing an attack or unfamiliar signal. Activated PFDs are known to cause weird psychological effects on the ship's crew.

Subspace/Hyperspace

Allows faster-than-light transmission. A standard means of communication.

Tachyon

Quantum tunneling used for faster-than light transmissions. A tachyon is a photon without any mass. Tachyon transmissions, because they travel faster than light in normal space, appear to travel towards the transmitter from an observer's view.

Transuniversal Quantum Relay

Delivers a message anywhere, instantly, but precise coordinates of the receiver must be available. Mainly used by PANTHEON computers for relaying information through starships. Shields may interfere with TQR transmissions.

ECM

Ships with WIES computers include the Type 31 Electronic Warfare Suite.

Fire Control

The WIES does not use an independent Fire Control System per se, but operates a sub-system of itself dedicated to fire control operations. WIES compensates for all movement of the ship and of target ships, and can track upwards of a trillion targets ranging from pebble-sized shrapnel to planets. WIES-FCS is a mainly offensive system, and ignores all but the largest incoming missiles, leaving the powerful shields (below) to dispose of the threat. Weapons under WIES's control automatically: target sensitive areas of enemy ships; identify friendly assets; optimize beam power and range; guide missiles and torpedoes, assign (and reassign, if necessary) targets in real-time; and control ECM, and ECCM functions.

Interacting With WIES (OOC)

WIES is an extremely fast and powerful computer system. Characters will almost never have to wait on it to think things over or to reply. If you know or can find out the answer to a question your character asks WIES, it is okay (and even expected) to also post WIES's reply.

WIES can:

- Create holograms.
- Create extra crewmembers (sprites).
- WIES does not cooperate with demands that could likely result in unnecessary collateral damage to the ship or could be remotely hazardous to the ship's crew.

WIES cannot:

- Open blast shutters (it can, however, unlock them for authorized persons)
- Change the settings on a manual safety switch (such as the one disabling the main gun).

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