# MIKO Sensors

A master list of sensor components of the MIKO Electronics Suite.

The goal of this page is to flesh out sensor systems to be utilized by MIKO and it's various modules in a way that a player can insightfully utilize a character stationed at the science, command or sensor station on board United Outer Colonies Peacekeeping Forces ships.

## Variable Wide-band Imaging Clusters

| **Variable Wide-band Imaging Clusters** | |
|---|---|
| Type | Unidirectional |
| Detection Classification | Passive |
| Effective Range | 2 AU |
| Mount | Hull Integrated Cluster |

Specialized telescopic imaging scanners that read the visible spectrum with added infrared, and ultra-violet monitoring capabilities. They produce a gyroscopically-stabilized view and are capable of powerful magnification up to eight-hundred and fifty times.

Imaging sensors are important because they allow the operator to visually identify an object of interest, essentially acting as the eyes of the ship. Can be used in conjunction with other sensor systems in the creation of dynamic multi-layered readouts. Images are presented either on a fixed or volumetrically projected screen.

## Electromagnetic and Gravimetric Sensors

| **Electromagnetic and Gravimetric Sensors** | |
|---|---|
| Type | Unidirectional |
| Detection Classification | Active |
| Effective Range | Optimal 2 LY, effectiveness drops off at 3.2 LY |
| Mount | Hull Integrated Cluster |

### Gravimetric Scanners

These powerful sensors sense the presence of ships and other objects through the warping effect their mass has on space-time. While this sensor is not particularly good at getting exact information about the phenomenon being observed, it is extremely good at working out where something is, and its inertia.

Data from these sensors are generally translated for visual use in graphs and can be combined with readouts from other sensor systems.

Gravimetric scanners are proficient in detecting vessels utilizing gravimetric shielding, gravimetric and other non-distortion sub-light drives, Anti-FTL Fields and their countermeasures, graviton beams and

emissions. It also helps provide details about the inertia of normal spacial phenomenon.

### Electromagnetic Sensors

Electromagnetic sensors observe the electromagnetic spectrum, they are utilized like radar where the sensor emits a carefully configured electromagnetic wave which then returns and is analyzed for variances.

Data from these sensors are generally translated for visual use in graphs and can be combined with readouts from other sensor systems.

Electromagnetic sensors are proficient in detecting electromagnetic shielding, electromagnetic pulses or waves emitted from other ships, weapons, or spacial phenomenon.

### Magnetic Resonance Sensors

Utilize a spectrum electromagnetic pulses of varying frequencies to determine the constituents of a metallic object. This can be very useful when trying to pinpoint the weakness in a structure of a ship, building or other object of interest.

## Infrared Spectrometer

| **Infarared Spectrometer** | |
|---|---|
| Type | Unidirectional |
| Detection Classification | Active |
| Effective Range | Optimal up to 2 LY, effectiveness drops off at 2.5 LY |
| Mount | IR Spectrometer Assembly |

This sensor basically detects the infrared radiation given off by hot bodies. In space almost everything is cold, space itself is only around 3 Kelvin, and the only things which are significantly above this are stars, planets and other celestial bodies. As such, if something is giving of Infrared radiation and it’s not a celestial body then it must be something artificial.

Infrared Spectrometers can be used to identify ships and weapons emitting infrared radiation.

This data can be used as an overlay with navigational charts or images, or visualized in a graph.

### Alternate scanning mode

Can be used to examine matter clouds, nebulae, atmospheres and organic compositions by the array emitting an infrared beam, and analyzing the absorbency of the substance being examined to identify the molecular bonds that hold the molecules together.

# Distortion/Subspace Sensors

| Distortion/Subspace Sensors | |
|---|---|
| Type | Omnidirectional |
| Detection Classification | Active |
| Effective Range | Optimum to 0.5 LY, effectiveness diminishes on a gradient out to 1 LY. |
| Mount | Subspace S/R Array |

Utilizes low-energy pulses to detect variances in subspace, for detecting ships and objects moving through subspace however due to the limited effective range is mainly utilized to detect ships entering or emerging from hyperspace, the utilization of distortion drives such as CDD or CFS, distortion shielding and subspace-encased weaponry such as those utilized by the Sfrarabla Mishhuvurthyar Xhrafuklurp (SMX) and other factions. These sensors can also be utilized to observe natural subspace phenomenon.

Data is generally translated into graphs or other visual aids for easy interpretation.

### Subspace Mass Sensors

A secondary scanning mode in which the array is utilized to simply detect mass in subspace, and its passage through this domain. This sensor also functions on the related hyperspace. It is vital for detecting vessels which are traveling through these domains. It is notably hard to hide mass from these variety of sensors when traveling through Hyperspace or Subspace.

### Aetheric sensors

Detect the usage of trans-dimensional quantum potential energy commonly referred to as Aether. These sensors detect in one of two ways; the first being through the monitoring of local dimensional membranes for the disruptions caused by the extraction/tapping of aether, the other is by observing the distortions and manipulations to space-time created by aether-induced disruptions such as bombs or other weapons.

Again, like most emission sensors; aetheric sensor data is generally displayed as a graph or combined with other data to created dynamic overlays.

# Neutrino Telescope

| Neutrino Telescope | |
|---|---|
| Type | Unidirectional |
| Detection Classification | Passive |
| Effective Range | See description |
| Mount | Neutrino Telescope Assembly |

Utilizes a sophisticated telescope assembly that detects neutrinos emitted from stellar bodies,

phenomenon and other objects including starship systems that emit neutrinos. Since neutrinos are relatively attenuated by their travel through the interstellar medium and travel at nearly the speed of light they can be detected over greater distances. Problem is the delay experienced over long distances, so for detecting things such as “cloaked” ships it is more useful over short distances within two to six astronomical units (2 AU-6 AU). For the study of distant more fixated phenomenon they are useful for hundreds of light-years and beyond.

Neutrinos are also a product of nuclear reactors or munitions, so the neutrino telescope can be utilized to detect their presence.

## Ionized Radiation Sensors

| **Ionized Sensors** | |
|---|---|
| Type | Unidirectional |
| Detection Classification | Passive |
| Effective Range | Target dependant |
| Mount | IR- Sensor Assembly |

Utilizes a super-dense absorption material that differentiate alpha, beta,x-ray, gamma and other high energy radiation particles that are the result of nuclear fusion, fission and radioactive decay. This emission sensor can be utilized to study stellar bodies and other spacial phenomenon such as singularities, pulsars,etc. It also can detect the presence of the resultants of artificial radiation such as damaged or malfunctioning fusion and fission reactors or the by-products of the use of nuclear ordinance, artificial singularity power sources and weaponry.

## Time-Modulated Ultra-Wide Band Radar

| **Time-Modulated Ultra-Wide Band Radar** | |
|---|---|
| Type | Omnidirectional |
| Detection Classification | Active, but covert. |
| Effective Range | Atmospheric: 2,000 km |
| Mount | UWB |

Signals transmitted by UWB radars are pulses generated pseudo-randomly in time. They are only 0.5 nanoseconds in duration. The energy content in any conventional frequency band is below the noise, making TM-UWB transmission highly covert. TM-UWB has no carrier frequency or conversion, 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.