'Peeper' Sensor Monocle

The 'Peeper', or sometimes simply called 'Peep' is a sensor device which is designed to be worn over one eye of a user. This device is intended to be sold to any interested buyers and is distributed by the United Manufacturing Cooperative.

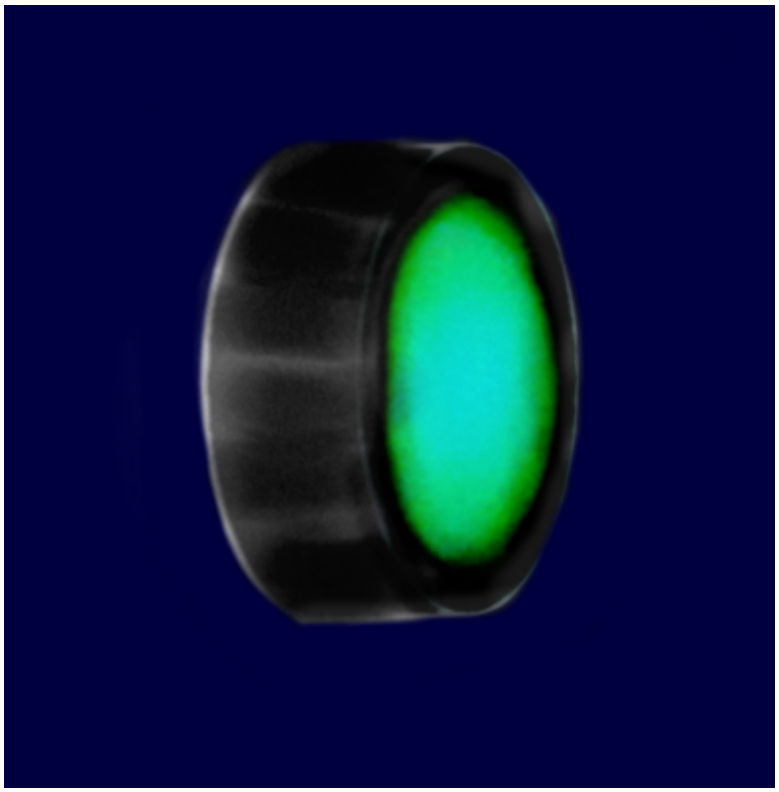
Availability

Cost: 25 HS/KS **Shippable To:** All interested parties **Producible By:** All interested parties, with 5 HS/KS payable to United Manufacturing Cooperative

Information

Appearance

The 'Peeper' is designed to be a simple semi-thin cylindrical object. The primary housing has a distinctive metallic appearance. The most eye-catching feature of the 'Peeper' is the sensor lens which is located in the very middle of the forward-facing portion of the device.



History

Initially developed by the Lorath Matriarchy, the sensor monocle was a device which was used by cargo screening personnel, field medics, and various forms of scientists which needed to get an augmented glance at something beyond the visual light spectrum. The same technology has also been developed by other civilizations, such as the Nepleslians in the form of developments in cybernetic optics. Carrying on the legacy of both series of developments, the United Manufacturing Cooperative set out to develop a basic model of optical lens which would be a cost efficient tool for basic sensor screening tasks.

Early series of sensor monocles were developed with very little popularity due to the wide spread use of previous models and larger yet effective systems which were in use. Due to the lack of demand, the United Manufacturing Cooperative shelfed the project as it stood, and revised the development to a newer model which would serve to provide superior function to existing equipment on the market. This line of research led to the development of the 'Peeper' Sensor Monocle in its early stages. However, due to the continued low demand, the 'Peeper' did not progress much in development until the year YE 31, when piracy became a common threat in the United Outer Colonies. This threat prompted the United Manufacturing Cooperative to continue putting resources into the 'Peeper', to introduce it to the UOC's Peacekeeper forces, to allow them to screen passengers for weapons with greater ease, and identify threats with minimal effort. With this added funding, the 'Peeper' was developed, yet production remained in an on-demand context. However, events led to a new series of developments in the production of the 'Peeper', with news of a new offensive against Yamatai by the NMX, the United Manufacturing Cooperative decided to step up production, and market the 'Peeper' as a tactical aid, and method to spot parasites and eggs implanted within victims.

Technical Information

Sensor Function

The 'Peeper' incorporates many functions which have been commonly found in cybernetic eyes such as the eye used by the Nepleslian doctor Miles Gunn, basic sensors , and even mines. Using these sources of inspiration, the United Manufacturing Cooperative developed the 'Peeper' sensor package.

Using available technology, and developing some technology specific for the project, the 'Peeper' has been engineered to include the following sensor systems...

Passive Multi-Electromagnetic Sensor

Inspired by the Directional Explosive Sentry Unit, this sensor is used to passively monitor multiple forms of electromagnetic radiation. This passive sensor is capable of receiving and interpreting visible light, radio waves, infrared, ultraviolet, thermal infrared, microwaves, and transmitted radio waves, and even x-rays. To achieve a compact size profile, Nepleslian cybernetic technology was applied to optimize power conservation, system architecture, and cost effective component application. Due to size reduction, this system has suffered a slight reduction in resolution in ranges exceeding fifty-yards when attempting to interpret thermal signatures, microwaves, and radio waves.

Active Sensor System

Applying an active scanning solution, the 'Peeper' has been designed to incorporate a series of small emitter diodes which have been designed to project various portions of the electromagnetic spectrum, which are then detected by the passive-sensor. Various levels of the visible spectrum of light are transmitted by several diodes, a weak microwave diode is included, and a very low power x-ray emitter diode has been incorporated into the active sensor system. [1)]

Quantum Sensor System

Using technology found in NovaCorp and Motoyoshi Fleetyard products... then dumbing down the technology to make it compact, the 'Quantum Sensor System' of the 'Peeper' is something which is a marvel... while being rather dinky as some may say.[2)]

The quantum sensor has cut out many of the resolution enhancing systems, active tracking, and a sum of precision data gathering. Yet it does function, simply by monitoring bosons, yet this simple monitoring leads to some interference from common-place sources as focused light, and ambient radiation. However, the sensor maintains the capability to identify 'wakes' of disturbances and interpret them into sensor data. This monitoring system allows detection of the following;

- Gravitational disturbances; gravitic/gravimetric device usage, gravitational disturbances
- Aether tapping
- Intense electromagnetic disturbance and fields
- Virtual-collision disturbances caused by objects moving in a phased state

Despite the wide range of function, the sensor still has a major down-fall... the best image which the sensor can deliver is something which looks like a 'tie-dye' rendition of what there is to see. Many test users describe the image as 'psychedelic' and 'chaotic', yet were able to positively identify when disturbances took place 85% of the time... just not able exactly identify the cause of the disturbances.

Data Interpretation & Interface

Despite the vast function of the sensor systems packed into the 'Peeper', the issue of interpreting the data remained. However, the issue was solved through the application of some basic technologies, which have allowed the 'Peeper' to function to its best.

OLED Display

To optimize the space for the sensor systems of the 'Peeper', a solution for a display which took up minimal space was needed. The solution to the problem was found in OLED technology. A simple layer of material within the eye-piece of the device with a layer of protective film makes up the display of the sensor. This OLED is capable of displaying high resolution images which are comparable to the resolution of normal sight capabilities of Yamataians, Nepleslians, Jiyuuans, and many other humanoid species. This

function allows for the wearer to use the 'Peeper' with minimal sense of 'looking at a monitor'.

Image Processing

Sensor data which is drawn from the Passive Multi-Electromagnetic Sensor is routed to an on-board rendering device. This device interprets the raw sensor data and delivers a signal to the OLED display to produce an image which is comprehensible to the observer's eye. Images include outputs such as regular visual output, thermo graph display, UV reactive indication, X-Ray interpretation, infrared filtering, and other display modes which can be applied at the user's discretion. Images are often at a 380 Mega-pixel resolution and have a 100 degree angle field of view.

Data Output

If desired, a user can connect the 'Peeper' to a recording device, or cybernetic port to provide the capability to store images, or apply additional computing power to interpret sensor information. It should also be noted that the 'Peeper' includes a simple data recall system, which is capable of taking still images of sensor data. The on-board memory is only capable of holding ten full-data images.

Interface

The 'Peeper' can be interfaced with through several methods, each of which have been very easily incorporated into the design.

- Wired connection to data interface device or cybernetic port
- Verbal commands
- Underside touch panel
- Eye movement; monitored by skin-contact electrodes which monitor muscle movements, analysis of eye position,analysis of positioning of features of the user's eye, and reverse geometry to analyze where the user is looking.

It should be noted that the 'Peeper' does not include the ability to be interfaced with by a remote 'over the air' communication system. A remote receiver-transmitter was simply too large to incorporate into the design. However, an external unit can be fixed to the device.

Power

Power for the 'Peeper' comes from several sources, each of which provide their own benefits and flaws.

On-Board Battery

The 'Peeper' is marketed with its own on-board battery system. The standard battery is capable of operating the monocle for one hour of constant full use, or one day of simple visible-light spectrum monitoring. This battery is capable of being recharged over time by exposure to light, which charges the battery through a photovoltic cell coating which has been applied to the forward and top-side portion of the unit. The internal battery can also be charged by external connection.

External Connection Capability

An external power supply can be connected to the 'Peeper'. This capability allows for the user to attach their own power supply system to the device to provide it power. However, the inherent draw-back in this power supply method is that the monocle is effectively anchored to the power source, thus reducing its versatility in use.

Attachment

The 'Peeper' monocle can be fixed into place by several methods;

- 'Headband', a simple string or strap put around the user's head.
- Adhesive strip, a circular adhesive strip which is included with the 'Peeper'.
- Pico-Jelly grip-strip, which is recommended for long-term use, and is included with the 'Peeper'.
- Cybernetic implanting option, can be enhanced with a 'fisheye' lens which provides a 120 degree field of vision in this application.

[1)]
Quality & Function: There are sensors in existence at this time which deliver the majority of the 'Peeper' functions which can be packaged in a digital-camera sized device, or even smaller in many cases. Infrared, radioscopy imaging, and even thermal imaging is done on the cheap now in small packages. Easily these devices can be compacted down to this size in the setting. As for function, the 'Peeper' monitors the electromagnetic spectrum, waves of particles moving at the speed of light from any given location. So long as there is not a line of sight issue, there should not be any sensor resolution reduction to the systems other than those mentioned (thermal signatures, microwaves, and radio waves).
[2)]
Quantum Detection: The sensor device used in the 'Peeper' monocle which allows for quantum disturbance detection is a low resolution passive sensor. A user can not see well with it, what the user can see can't be identified easily, and any sort of interference from secondary disruptive sources would render the sensor readings absolutely unreliable. Sensors images are generated through the passive observation of the values of local gravitational fields, electromagnetic influences, quantum states, and similar phenomena. Due to the wide range of influences on this sensor, many things can influence it to produce false images or even to just have a bad picture. To put it simply, the thing is cheap, shoddy, and generic for the purpose of quantum monitoring.