OSR2

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Overview



The **Open-source Stroker Robot, 2-axis** (OSR2) is a **Multi-Axis Stroker Robot** (MAxSR) designed to hold and move a standard Fleshlight or similar toy with 2-4 degrees of freedom.

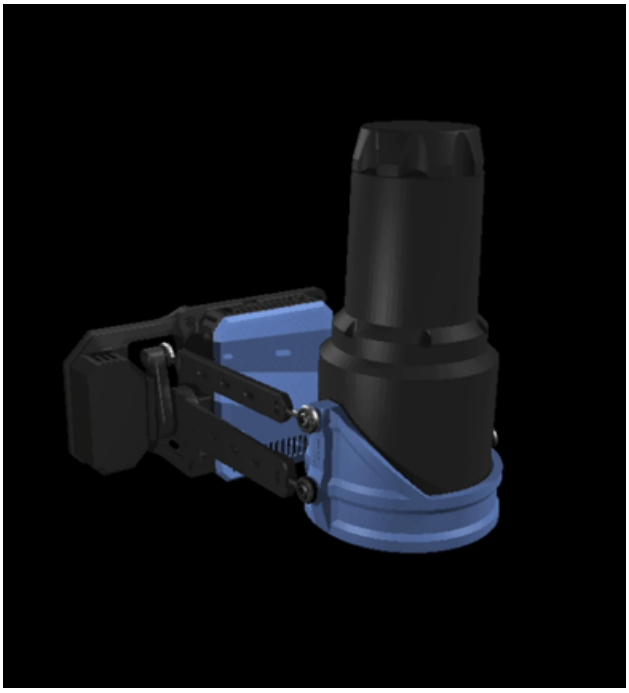
It is constructed from a combination of 3D printed plastic and commercial off-the-shelf components and is designed to be home built, modifiable, and user-repairable.

The base model can move up and down while rolling left and right. Additional modules can be added to allow for pitch and twist (an OSR2 with a pitch module added is typically referred to as an OSR2+).

The operation of the OSR2 is managed through an open-source protocol known as T-Code. This protocol is designed to interpret and transmit commands to the device's microcontroller, typically either a Romeo BLE Mini or an ESP32. The microcontroller is responsible for processing the received commands and determining the correct control angles for the servos to position the receiver.

The OSR2 mounts to a standard VESA 100mm hole pattern using 4x M4 bolts, which allows for an enormous range of mounting options; the most common being commercial display and monitor stands. Other options include custom 3D printable desk and chair clamps.

Additional Capabilities



The device incorporates a component known as the receiver, designed to hold a standard Fleshlight. This receiver can be enhanced with a twisting mechanism, commonly known as the "T-wist." This addition introduces a fourth axis of motion, enabling the OSR2 to rotate the mounted toy around its vertical axis.

The most advanced version, the OSR2+ with T-wist, boasts a range of movements including vertical motion, orbiting around a central point, and twisting along its vertical axis. This configuration results in a combination of one axis of movement and three axes of rotation, offering diverse motion patterns.

Additionally, the OSR2 can be fitted with a "T-valve" accessory to regulate the dynamic suction within a standard Fleshlight's casing. This feature is controlled by a servo mechanism that automatically adjusts the air gap at the top of the Fleshlight case, enhancing the user experience.

There are also adapters available for soft, sleeveless toys such as Onaholes, as well as add-ons for lube or vibration.

Assembly

Detailed assembly instructions are available through the Patreon of the original designer, TempestMAx.

A full Bill of Materials is also available.

Cost

The total cost for the hardware components of the project typically ranges from **$150** to **$450 USD**. This variance in price is primarily influenced by the selection of servos, the type of controller board used, and the source of purchase.

In the context of 3D printing requirements, assuming the availability of a 3D printer, a single roll of the preferred filament type is generally adequate for the project.

For individuals without access to a 3D printer, numerous online services offer the convenience of printing and delivering custom designs directly to the consumer.

For beginners who do not possess any tools, the essential toolkit should include a soldering iron, a crimping tool, pliers, wire cutters, and Allen wrenches suitable for M3 and M4 screws. The cumulative cost for these basic tools is estimated to be between **$50** to **$100 USD**.

Bill of Materials

If you want to know exactly which parts to order and where to order them from, the following link goes to a Google Sheet that sources parts for the OSR2 and OSR2+. There are columns for China, USA, and Other Country sources.

See the "OSR2+ Tab". This Google Sheet is still in progress.

Bill of Materials for OSR2+

Mounts

Mounts for the OSR2 and OSR2+.