

Why Ostracod?

Ostracod are small, bioluminescent shrimp, about the size of a sesame seed. The Ostracod use their bioluminescent displays for both warding off predators and attracting mates, often resulting in impressive coordinated displays seen in warm, shallow waters around the world.

About 70,000 species of Ostracod have been identified, with many having distinct differences in the intensity, duration, size, and coordination of their bioluminescent displays. By cataloguing these displays and matching them with the sequenced genomes of different Ostracod species, UCSB's EEMB department intends to further our knowledge of bioluminescence and the genes behind it, perhaps for use in future genetic engineering experiments.

The Camera System

OstraCam uses an ultra-low-light stereo camera system whose purpose is to both see the faint bioluminescent displays of the Ostracod and track them in three dimensions.

Stereo Cameras

Two Watec 920h extreme low light cameras in 3D-Printed Camera Mounts



Waterproofing

Waterproof Camera Tubes with double O-Ring seal



Video Hardware

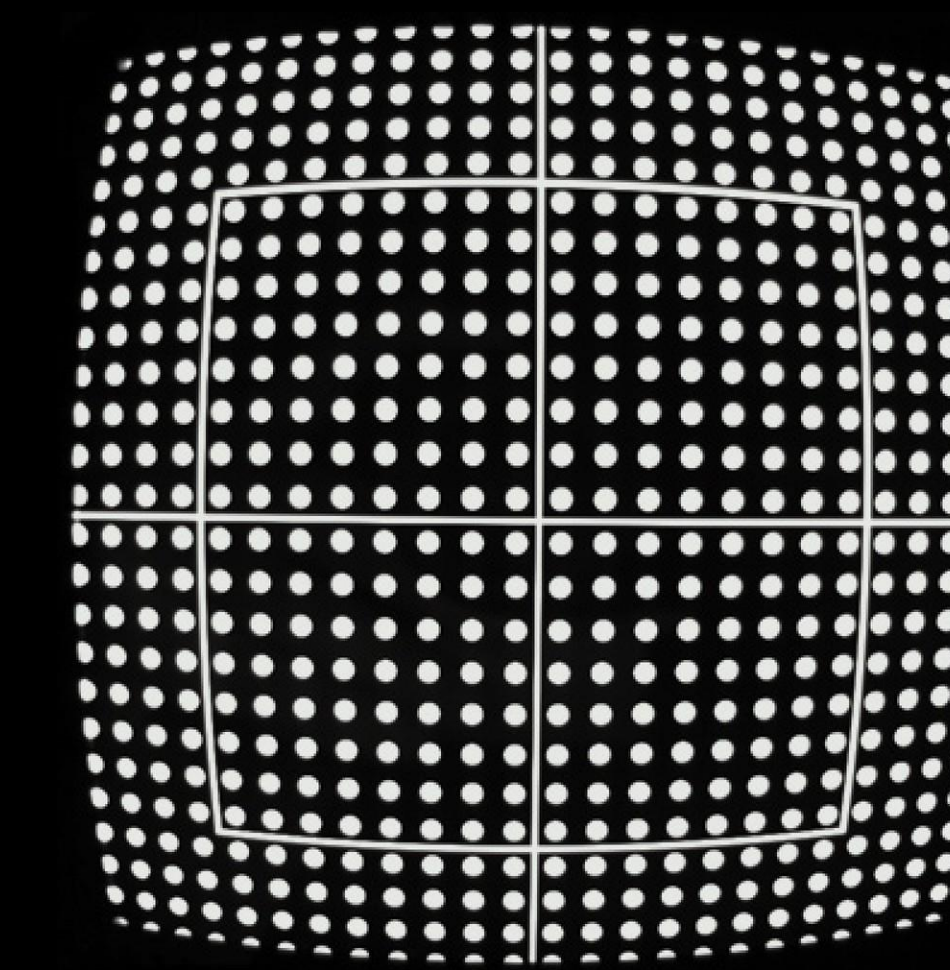
MobileMule™ 2100 2-Channel Mobile DVR, toggled by a YourDuino IR Receiver Kit and remote



+ Waterproof Cable Connections
+ Waterproof main box with double O-Ring seal

Post-processing

1. Distortion Correction



2. Rectification



3. Disparity Mapping

