

Mono-ears

Materials:

Sound canceling headphones (Wal-Mart or Harbor Freight)

2 whirly tubes

Duck tape and hot glue

Drill and paddle bit to drill out hole in earphones

1 funnel (large)

Instructions:

1. Remove the foam from inside the headphones.
2. Mark the outside center of the headphones and cut a hole in each side with the drill and paddle bit.
3. Replace the foam back inside the headphones.
4. Hot glue the whirly end to each side of the headphones and then duck tape over it for extra support.
5. Cut the open end of each whirly, about 2 inches down the middle.
6. Cut out the inside half, fitting the two whirly's together to making one larger piece of whirly. Tape the two whirly's together. Lot's of tape!
7. Fit the funnel into the opening and tape it securely.
8. Tape the funnel to the top middle of the headphones.
9. Done!



Mono-Ears

To do and notice:

Place the Mono-ears on your head so that your ears are covered.

Listen to the sounds around you.

Listen to the sounds as you move around.

How does the sound you hear change?

Do the sounds remind you of anything?

What's going on?

Take off the Mono-ears and examine the path that the sound takes to your ears.

The sounds or vibrations that the Mono-ears detect are focused into the funnel and then travel down the tubes to your ears.

Your ears are designed to help you detect sounds, but also locate the source of the sound. Mono-ears detect the sound, but change how the sound reaches your ears.

LIGO Connection:

Gravitational waves are not easily detectable. This knowledge gap is primarily due to the massive presence of 'noise' in the low frequencies where antennas currently operate. The Mono-ear changes what you hear amplifying certain frequencies and making it difficult to detect the source of the sounds.