

## CWSF 2007 - Truro, Nova Scotia



### Ethan McNutt

#### Two Sides To A Speaker

**Division:** Health Sciences / None

**Category:** Intermediate

**Region:** Chignecto Central West

**City:** Truro, NS

**School:** Bible Hill Junior High School

**Abstract:** This project investigated the elimination of deformed sound waves produced at the back of a speaker diaphragm. The innovative design of the two sided speaker which has two diaphragms placed back to back on a single voice coil created phase cancellation and resulted in a decrease in deformed sound waves and a more even frequency response.

#### Biography

Ethan McNutt is a Grade 9 student at Bible Hill Junior High School in Truro, Nova Scotia. His interest in building began when he was quite young and played with Lego. Anything that did not work or was broken in some manner, was and still is, fair game to taken apart and investigated by Ethan. He is interested in music, audio technology and acoustics. Ethan started playing tuba in band in Grade 3. In Grade 5 he started playing electric bass. Ethan currently plays these instruments in 3 bands and is planning to start the trombone. He also enjoys the opportunity to assist a local DJ company with his school dances. These combined interests led Ethan to his first major achievement ? Canada Wide Science Fair 2006 in Quebec. He built a working speaker from miscellaneous items that could be found in any home. Ethan's interest and ability in music will undoubtedly continue for years to come as he is an aspiring electric bassist. His future plans will be in the field of sound/acoustics technology and engineering.

#### Awards

#### Value

The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Bronze Medal - Engineering - Intermediate Sponsor: Youth Science Foundation Canada	\$300
<b>Total</b>	<b>\$1 300</b>