

HDTV Offers *High Definition Sound*. TOBY speakers deliver it.

2009: In a year when broadcast television goes digital, and millions of viewers are already watching HDTV on their wide screens, it's high time for **High Definition Sound**. It's on your DVDs. It comes with your cable or satellite connection. Now it even comes from the TV antenna on your roof. It's easy to SEE the clarity HDTV makes, but it takes high quality speakers to HEAR it. **TOBY Speakers** have always been known for clarity, but in 2009, significant changes are being made for even better performance. It comes from lower distortion, better cabinet damping, more precise crossover design, and a wider listening window.

Lower Distortion comes from a new generation of drivers. Woofers, mids and tweeters have improved magnetic circuits containing copper or aluminum shorting elements. These can cut harmonic distortion in half. Tiny, but powerful neodymium magnets lower distortion. Modern drivers have mechanical innovations like venting through the cones and under the suspensions. Cast baskets diminish cabinet resonance.

Cabinet Damping is stressed in systems costing over \$10,000, but is often overlooked in lower cost systems. This is not the fiberglass or Dacron inside the cabinet, but the vibration of the cabinet walls. The midrange below 700 Hz has always been a critical range for clarity, but never more so than with speech in a home theater system. The surface area of a cabinet may be 30 times greater than the woofer cone area, so a tiny vibration of a cabinet wall can blur the sound dramatically. Toby speakers improve definition with careful bracing.

Crossover designs can be optimized by computer programs. Toby Corp uses modeling so precise that component values must be individually measured to assure a match to the model. MLS Frequency response curves come with each Toby High Definition Speaker, assuring accuracy in production. Use of graphic equalization or preset theater effects will compromise the performance.

Dispersion is optimized not only by choice of drivers, but also their position on the baffle and the phase at crossover points. Toby center speakers evenly cover a wide listening window of 60 degrees. Providing uniform dispersion also results in better imaging and depth of field.

Summing up, for decades, many elements that lead to High Definition Sound have been used by high end speaker companies, some by Toby Corp. Almost **all** of them are offered in 2009 in **Toby High Definition Speakers**.

Tips: The Best Speaker in the room should be the **Center**, for speech clarity. Speaker placement is critical. The subwoofer goes in the front, never in the back! Receiver choice: just a name brand. Unless advanced features are required, \$250 is enough to spend and still get HD Audio. A decent subwoofer is costly, but remember you are buying a robust amp **and** a powerful speaker system.