HTI acoustic tags have several advantages over radio tags for tracking fish and other animals and objects in water.

- Sub-meter position resolution in three dimensions. Some deployments have realized 20 cm resolution.
- The smallest tag available: 0.5 grams, 15.3 mm long x 6.4 mm diameter.
- Detection ranges in water up to 1 km. Radio tags are typically limited to 10 m in water.
- Up to 250,000 user-specified individual tag ID codes available with Model 795 Acoustic Tags.
- Code-phase modulation for Model 795 Acoustic Tags increases signal strength by as much as 11 dB over a conventional CW pulse.
- Acoustic Tag software permits display of three-dimensional tag tracks on a PC.
- Tags can be rapidly programmed by the user in the field for pulse width, pulse repetition rate, and individual tag identification: 0.5-10.0 msec pulse width (most tag sizes), ping rates 25 pings/sec to 1 ping/16 sec.
- No antenna required for the tag, reducing drag and the potential for atypical behavior with radio tags.
- Over 1000 tags in the same area can be detected and tracked simultaneously. Tag “collisions” common with radio tags are a thing of the past with acoustic tags.
- Via modem or satellite communication, Model 290/291/295 Acoustic Tag Systems can be operated remotely from virtually anywhere in the world with reliable telephone communication. For example, HTI can remotely operate a client's Model 290/291/295 System from HTI's Seattle offices for upgrading systems, downloading data, and addressing quality control.
- Better tag detectability with acoustic tags (typically > 95%).
- Less detection equipment required, yielding a quicker deployment. For example, in 2002 in order to monitor smolt passage with radio tags at John Day Dam, 210 antennas were required with Model 290 Acoustic Tag Receivers; as few as 20 hydrophones would be required.
- Positive indication that hydrophones are functioning properly.
- HTI acoustic tags are rated to 300 m depth.
- A portable acoustic tag receiver (Model 291 PATR) is available that is compact and operates on 12 VDC.
- Manual mobile tracking of fish tagged with acoustic tags is possible using the 12 VDC Model 291 Portable Acoustic Tag Receiver.
- Acoustic tags function in seawater, unlike radio tags.
- The Model 290 Acoustic Tag Receiver can collects data simultaneously from up to 16 hydrophones. Model 290 Acoustic Tag Receivers can be synched via GPS to collect data from all HTI ATR's and Dataloggers.