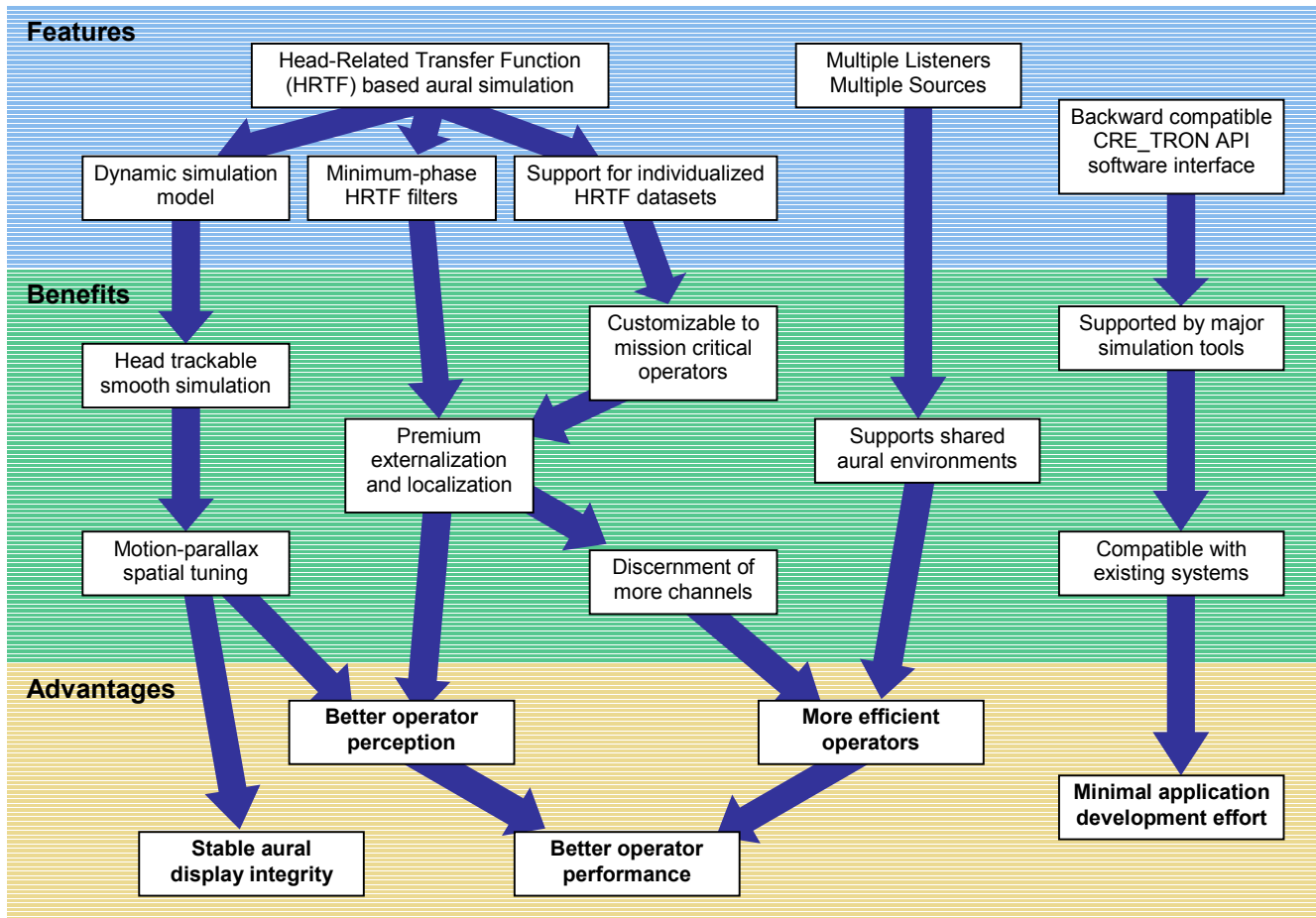


providing positional 3D audio simulation solutions for Mission Critical and Research Applications



**Engineering Solutions  
with  
Audio Simulation**

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## Details

The **AuSIM Gold Series** consists of a selection of audio simulation solutions, scaled by performance and assembled specifically to meet your application's requirements. Each solution includes:

- robust and flexible positional 3D audio software engine (AuSIM3D), based on minimum-phase Head-Related Transfer Function (HRTF) filtering.
- an entirely digital server running the compute-intensive, dynamic HRTF-based binauralization algorithms in parallel with your workstation or simulation computers,
- digital light-pipe interface compatible with ADAT and SP/DIF digital audio streaming protocols,
- an isolated analog interface, featuring high-resolution (20 or 24-bit) digital converters,
- a client-server control interface, including a minimal footprint communication stub library, installable on a wide variety of host computers,
- lots of software tools, demos, and examples,
- optional high-fidelity head-set with condenser microphone, headphone amp, and mic preamp,
- optional ultra-sonic or electro-magnetic head-tracking, driven directly by the audio server, and
- complete support service to ensure that the system properly solves your requirements.

The **AuSIM Gold Series** features:

- three performance levels of servers ... *GoldSolo*, *GoldDual*, and *GoldQuad*,
- chainable to any additional Gold Series server, for upgradeable localization performance,
- fiber-optic digital audio I/O may be connected to 8 or 16 balanced and isolated analog converters,
- low-latency RS232 hardware control interface,
- low-latency, direct drive head-tracking, and
- over an hour of available source buffering,

The **AuSIM3D** audio simulation library supports:

- the CRE\_TRON API for compatibility with thousands of existing applications and simulation systems,
- individualized HRTF datasets for optimal psycho-acoustic performance,
- multiple listeners in shared or independent virtual aural environments,
- sample-rate conversion and Doppler pitch-shifting,
- high-frequency rolloff atmospheric distance model,
- absolute and relative delays up to 100 seconds, and
- software upgradeable from anechoic to future acoustic model

The first **AuSIM Gold Series** model, "GoldMiner", has been available since Q3 1999.

## Specifications

Channel details	Maximum channels	Sample rates supported	Sample words supported
Input source streams	16 external (digital or analog) unlimited internal wavefiles	44.1, 48.0, & 96.0 kHz	16, 20, 24, & 32-bit integer, 32-bit floating point
Internal processing	application dependent	44.1 & 48.0 kHz	32-bit floating point
Output binaural streams	8 pairs (digital or analog)	44.1 & 48.0 kHz	16, 24, & 32-bit integer, 32-bit floating point
* All digital sample encoding is pulse-code modulation (PCM), little endian (LSB), please inquire if compression or decompression is required.			

### Localization

the maximum number of localizable channels is dependent on the AuSIM Gold Series model, the HRTF filter length, and the required dynamic performance of the application. This will be specified in any price quote.			
Dynamic Range:	23-bit, > 120 dB	Maximum Delay:	> 1000 msecs
Latency:	< 50 msecs with 128 tap filters	Update Rate:	> 50 Hz

### HRTF datasets

Format:	AuSIM Acoustic Head Map (AHM) [supports all CRE formats]
Filter Length:	<b>AuSIM3D</b> will render any FIR HRTF filter length up to 16384 taps, windowed to any sub-length up to the total filter length. Datasets or the rendered filter length can be changed "on the fly."
Sampling rates:	44.1 & 48.0 kHz
Sample word size:	16-bit integer, 32-bit floating point
Spatial grid size:	no limit, any rectangular, 3D non-linear datasets supported

For more information contact us:

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