



Acoustetron™

3D Audio Workstation

The Acoustetron is a studio quality, digital audio workstation, capable of over 2.5 GIPS per chassis, that enables the development of sophisticated spatialized audio applications.

Applications The Acoustetron has been designed for many applications that depend on dimensionalized sound. They include telecommunications and teleconferencing, telerobot control, air, highway, and harbor traffic control, vehicle training, and many others.

Using Convolvotron™ and Beachtron™ audio processors, the Acoustetron can be custom tailored to the needs of a specific application. A wide variety of conventional audio equipment such as CD players or microphones can be used to provide audio sources which the Acoustetron will convert in real-time into a three dimensional sound space presented over conventional headphones. Up to 16 sound sources can be rendered in a real-time anechoic (non-reflective) environment, and up to 4 sound sources can be modelled in a real-time echoic space with six reflective surfaces (walls).

Hardware Independence Use of the Virtual 3D Audio Protocol (VAP), developed by Crystal River, guarantees a stable software interface for your application, and eliminates costly software changes as hardware configurations evolve. The Acoustetron can be equipped with any Crystal River audio processors (Beachtrons or Convolvotrons) and operated as an audio server, connected to its client over a serial line. The client runs an application and sends all relevant information about the environment (i.e. source and listener locations) to the server which will independently render the 3D audio space. A client can be any computer capable of implementing the RS232 serial protocol.

Packaged with the Acoustetron are sophisticated acoustic environment models allowing rapid prototyping of reflective objects, Doppler shifts and other effects.

Flexible processing for
stationary and moving
sound sources,
non-uniform emitters,
reflective objects, and
Doppler effects

Software compatibility
across different hardware
platforms

Standard RS232-C com-
mand interface to any
computer

Programmable in ANSI C

General

- Programmable over RS232 serial connection
- Client serial drivers for DOS and UNIX based systems available
- 19 inch desktop or rack mounted unit
- 486DX 33Mhz CPU controller, with 4 MByte memory, 200 MByte hard disk, 3.5" or 5.25" disk drive, MS-DOS 5.0
- 13 to 18 spare ISA slots per chassis for Convolvotrons (2 slots) or Beachtrons (1 slot)
- Audio input pre-amplifier and output headphone amplifier
- Up to 16 input audio sources
- Atmospheric absorption model, Doppler shifts, several reflective surface materials, up to six programmable reflection paths, and independent gain and directional controls for each source
- Synthesizer and audio recording/playback capabilities (with Beachtron)



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