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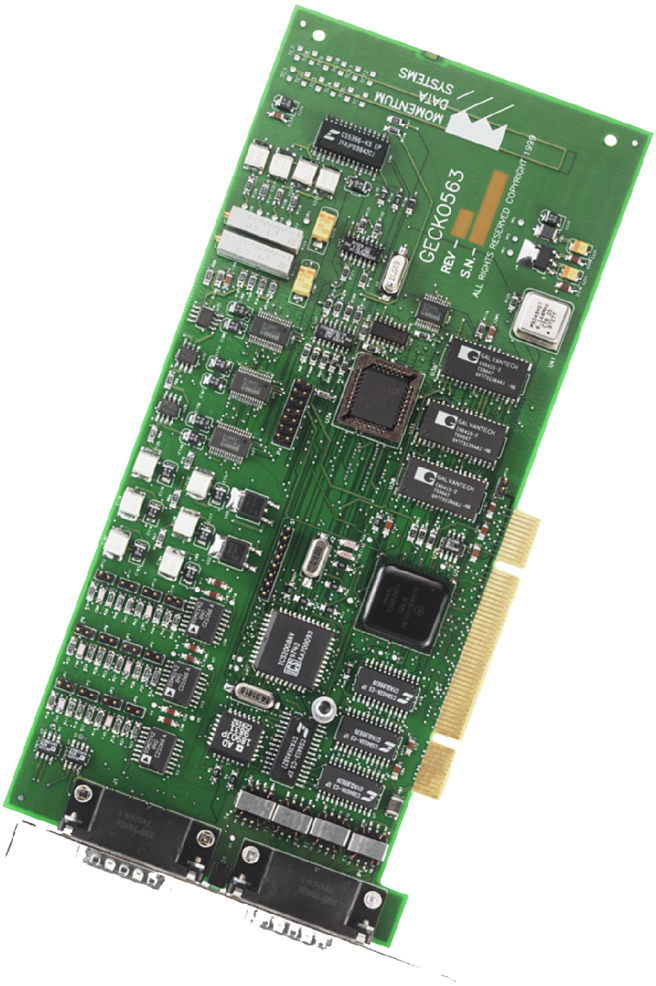
PRELIMINARY DATA SHEET
09/17/99

The GECKO-563 is a high performance, 24-bit Motorola DSP56301-based audio card for the PCI bus. 128k words of fast SRAM is included on board (512k words optional). The GECKO-563 is designed for a wide variety of applications requiring a very high performance sound card with advanced Digital Signal Processing (DSP) based capability. The GECKO-563 features 2 balanced analog input channels, 6 balanced analog output channels, 2 digital audio input channels and 6 digital audio output channels. All A/D and D/A converters have 24-bit resolution supporting sample rates up to 96kHz. An on-board sample rate converter facilitates easy conversion between different sample rates. The GECKO-563 accepts a SMPTE time code input signal.
Applications include: studio-quality sound card, multichannel encoding/decoding (AC-3), spatial effects processing, broadcast signal processing, general purpose development platform etc.

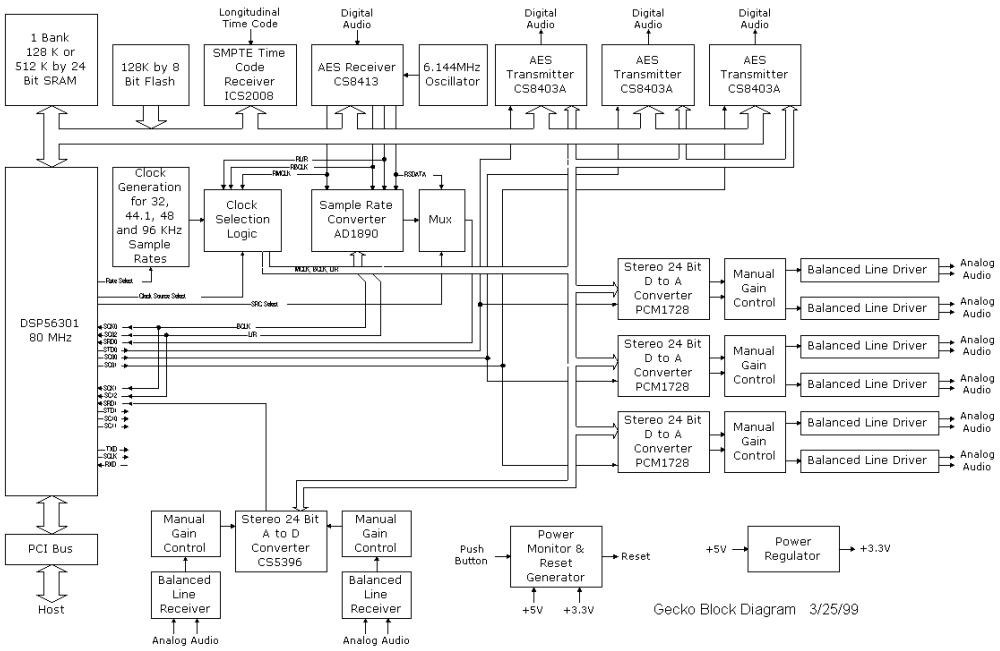
FEATURES:

- **Motorola DSP56301 80/100MHz Processor**
- **128k words of fast 10ns SRAM (512k words optional)**
- **24 bit 96kHz data converters featuring THD+N < -105dB for the ADC s and THD+N < -96dB for the DAC s**
- **Balanced audio analog inputs (2 channels) and outputs (6 channels)**
- **24 bit 96kHz digital audio inputs (2 channels) and outputs (6 channels) supporting AES/EBU, S/PDIF and IEC958 interface standards**
- **Sample rate converter featuring THD+N < -106dB**
- **SPMTE time code receiver**
- **PCI bus interface**
- **10 layer PCB for highest performance**
- **Extensive software support**
- **19 rack mount I/O breakout box**



The GECKO-563 is a high performance DSP-based audio card for the PCI bus. A block diagram is shown in fig. 1.
The board features the Motorola DSP56301 processor with 8k words of on-chip memory and 128k words of fast external SRAM (512k optional). External memory is a unified memory space i.e. P, X and Y addresses for external memory reference the same physical memory location.
The GECKO-563 has a high speed interface between the PCI bus and the DSP memory spaces using the universal host interface of the DSP56301. The GECKO-563 can be used as both an initiator and a target on the PCI bus.
The OnCE (On Chip Emulation) port connector allows an external emulator/debugger to access the internal registers of the DSP, set break points etc., without disturbing the processing state of the DSP.
The GECKO-563 has 2 analog input channels, 6 analog output channels, 2 digital input channels and 6 digital output channels. All analog I/O's are fully balanced and using 24-bit/96kHz data converters. All digital I/O's support AES/EBU, S/PDIF and IEC958 interface standards. Audio quality using the on-board data converters is very high.
An on-board sample rate converter that operates in the range from 8kHz to 56kHz sample rates makes conversion between different input and output sample rates an easy task without compromising signal quality.
The GECKO-563 accepts a SMPTE time code input signal, allowing accurate encoding start/stop times and providing time code reference stamps within a recorded disk file.
Software support includes fully functional NT driver, board library for interface to driver, sample applications (source code provided) and test programs (source code provided).

Fig.1



Motorola DSP56301 processor

- 100/80MHz (100/80 MIPS) 24 bit fixed point architecture
- 8k words of on-chip RAM
- OnCE port

Memory

- 128k words of 10ns SRAM (512k words optional)
- 128k byte Flash EPROM

I/O

- Analog: 2 input, 6 output (balanced)
- Digital: 2 input, 6 output (AES/EBU, S/PDIF and IEC-958)

Data converters

- 24 bit 96kHz CS5396 ADC
- 24 bit 96kHz PCM1728 DAC
- 32/44.1/48/96 kHz sampling

Sample rate converter

- AD1890 featuring 1:2 to 2:1 conversion range

SMPTE time code receiver

- ICS2008A

PCI bus

- 132 MB/s peak data transfer rate
- Initiator or Target transfer mode

MOMENTUM DATA SYSTEMS