



The **NEW** Sound Tool for the GS
- MIDI Synth -



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Engineering and Testing

This Talk Will Cover...

- Live Apple IIGS, Macintosh, Amiga demos
- What do we need to make music easily
- MIDI Synth for the Apple IIGS
- Support Utilities: synthLab and MIDicine
- Questions and answers

IIGS Sound History

- The Sound Toolset
- The Note Synthesizer
- The Note Sequencer
- The MIDI Toolset
- MIDI Synth

The Sound Toolset

- Play multiple samples simultaneously
- Variable playback rate
- Individual volume control
- DOC chip interface

The Note Synthesizer

- Play notes with pitch and velocity
- Envelopes and multi-sampling
- Note priority scheme
- Pitch bend and vibrato

The Note Sequencer

- 16 tracks
- MIDI output
- Lots of features
- Sequence control mini-language

The MIDI Toolset

- Full 1.0 MIDI implementation
- Running status
- Intelligent All-Notes-Off
- Time-stamping facility

What Do We Want

- Quality sound output
- Ease of programming
- Support utilities
- An integrated environment
- A robust MIDI interface
- Low CPU and memory overhead
- More ways to manipulate sounds

MIDI Synth

- Major reduction in programming required
- Rich and varied instruments
- Support utilities available now
- Integration of synth, MIDI, and sequencer

MIDI Synth

- Robust yet simple MIDI interface
- Low overhead asynchronous operation
- Loaded with real-time multi-track features
- Written by the author of an Ensoniq Mirage operating system

synthLab

- Create instruments
- Record and play 8-track sequences
- Port sequences from other MIDI devices
- Growing library of instruments/patches
- Experiment with tempos and voice stealing

Demos

- Amiga: *Deluxe Music Construction Set*
- Macintosh: *ConcertWare+*
- IIGS: *synthLab and MIDicine*

Architecture

- MIDI interface
- MIDI sequencer
- Wave synthesizer

MIDI Interface

- Controlling the MIDI port
- MIDI modes
- Velocity compensation
- Things you don't have to worry about

MIDI Sequencer

- Overdubbing
- Callbacks
- Metronome
- Input and output controls

Wave Synthesizer

- Instruments
- Envelopes
- Multi-sampling
- Oscillator configurations
- Pitch bend and decay gain
- Custom tuning



The power to be your best