



**1990 Worldwide
Developers Conference**



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**Apple IIGS
Animation and Graphics**

What This Session Will Cover

- Animation on the IIGS overview
- Quickdraw and the IIGS
- AnimateGS overview
- Questions/comments

Animation on the IIGS

- Full screen animations are impractical
- Character based animations better idea
- Screen choices
- Tricks...

Animation on the IIGS (*cont.*)

- Shadowing uses
 - Allows you to take your time drawing
 - Does not have to be done in order
 - Delta change re-blitting speeds drawing
 - Shadowed screen in “fast” RAM
 - The Stupid IIGS zero page trick

Animation on the IIGS (*cont.*)

- Character compiling
 - Allows the fastest drawing possible
 - Can be done on the fly or at compile time
- Razor blitting
 - Proper management allows fast drawing
 - Can be done in reasonable amount of space
 - Useful for re-blitting while shadowing

Animation on the IIGS (*cont.*)

- Color tables
 - Can give the illusion of motion
 - Allows “Cheap” activity indicators
 - Makes your water flow!
- Mixing modes
 - What is mixing modes
 - Action stage vs. Information bar

QuickDraw and the IIGS

- Multi-Layer drawing package
- Can be used with animation
- Allows full desktop support
- Faster than before

QuickDraw and the IIGS (*cont.*)

- Allows use of standard screen and shadow screen
 - Makes drawing up to 18% faster
 - Allows special effects like fading
- Fastport aware speeds drawing up to 50%
- FastFont, 100% faster text drawing

QuickDraw and the IIGS (*cont.*)

- Changes for 5.0.3
 - Unlocked Cursor records
 - Bug fixes
 - Animated cursors
- The future of QuickdrawII
 - QuickerGrafGS

QuickDraw and the IIGS (*cont.*)

- QuickDrawII Future (*cont.*)
 - Faster font drawing
 - Faster slices
 - Added features

AnimateGS overview

- Apple provided animation toolset
- Provides character/bitmap based animation
- Has special effects library
- Provides flicker free animation

Some AnimateGS Specifics

- Character based animation vs. Full screen
- Provides up to 16 characters at once
- Allows bitmap compilation and code caching
- Creates code in memory for faster drawing

Some AnimateGS Specifics (*cont.*)

- Compiled Bitmaps
 - Can be done on the fly
 - Can be provided a source code
 - Improved drawing speed (up to 600%)
 - Intelligently cached to allow low memory use
 - Can be used with partial character lists

Some AnimateGS Specifics (*cont.*)

- Calling conventions
 - Standard toolbox interface
 - Call table interface speeds calls
 - Will work with desktop tools
- Stage and screen
 - Works with the concept of actors and stage
 - Animation clipped to the stage
 - Provides convenient screen partitioning

Some AnimateGS Specifics (*cont.*)

- Stage and Screen (*cont.*)
 - Scenery can be foreground or background
 - Actor and part metaphor for ease of programming
- Special effects and external services
- You don't have to use it all

Summary and Questions

- Sum up AnimateGS
- Sum up Quickdraw
- Ask any questions you want
- Take a break



The power to be your best