

DevCon '96 Wrap-Up: now the fun begins

Thanks to everyone who attended DevCon '96: Sega Saturn Unleashed. The conference was a success. Our goal was to get developers information they wanted and needed to complete and improve their games. According to your high level of participation, one on one interactivity with our staff from Japan, Europe and America, and your positive feedback from the conference, we hope to have accomplished that goal.

DevCon '96 was different than '95 in several ways that everyone considered an improvement. Instead of large conference rooms and lectures, we used small rooms and repeated topics to keep the number of people per seminar low. This allowed people to simply ask their questions as the presentation went along instead of waiting for a formal Q&A at the end of the session. Small seminars also allowed for more interaction with the topic leader, both before, during and after seminars. We also combined SEGA knowledge with external expertise by bringing in the developers themselves who had experience in a particular area of Saturn.

Internally, we wanted DevCon '96 to mark the beginning of a new, more open philosophy of Developer Technical Support and a more progressive style of helping developers get information. We are currently building our Web Site (see WWW inside) which will house FAQ's and information ordering methods, etc. We will be at E3 with a Developer Room which will have engineers on hand to answer questions if you have them (in addition to our display). We plan to be using FTP access for more efficient methods of distribution of bulletins and documentation, etc. We will also be using e-mail to a large degree to distribute information. Therefore, we need your e-mail addresses. Please send them to us via e-mail (dts@segaoa.com) or on the *fax back* sheet on the back of this publication so that you won't miss out on any announcements.

We hope you continue to get as much out of Developer Technical Support as you need and we look forward to unveiling our additional services which will make it easier for you to get your games done better and faster.



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**MAKE A
NOTE**

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To Mr. Suzuki, Mr. Adachi, and Mr. Takase,
as well as everyone else at SOJ and SOE
who contributed to DevCon...

Thanks!





As you may have found out are still a little buggy. If you because it crashed for the 14th

time today, you are confused as to why there is hash at the end of your sample. This article will give you tips to help you work easier and understand what is going on behind the applications.

One of the most frustrating things to happen in sound development is to have your system crash right before you load the last sample into your Tone Bank. First there are a couple of general things you can do to help prevent unwanted system crashes, then I will get into the finer details of making your sound development system happy.

Things NOT to do

Send midi commands while editing patch in Tone Editor

The Tone Editor automatically downloads any editing that you do to the SCSP chip in the Saturn sound system, and if you send any MIDI data via a controller, sequencer, or sound simulator, it is more than likely to crash because it will try to play the tone bank while it is getting new patch information.

Edit wavfile and save it as the same name

If you have imported a sample into the Tone Editor and then re-edit the sample, you must give it a different name so the "new" sample (with the new edits) can be imported.

Open the Tone Editor without starting up the sound system

When opening the Sound Simulator it automatically downloads the sound driver and sets up the memory. If there is no sound driver or space allocated for "BankData" then the Tone Editor will crash when opened.

Macintosh RAM:

minimum:	16mb
smooth:	24mb
happy:	36+mb

Tone Editor version 2.06*

minimum:	4000K
suggested:	4000K
preferred:	8000K

System

minimum:	7.0
smooth:	any after 7.0
happy:	7.01

version 1.13

minimum:	4000K
suggested:	4000K
preferred:	8000K

Sound Simulator version 2.06

minimum:	500K†
suggested:	2500K†
preferred:	5000K

Wave Editor version 1.13

minimum:	4500K
suggested:	4500K
preferred:	8000K

† you should set both the "Minimum" and "Preferred" size to 5000K
 * version 2.06 of the Tone Editor has a bug in the looping function.



Q. What is the performance penalty for using the VDP1 Gouraud shading hardware?

A. A measurement of the time required to draw several hundred non-textured polygons with and without Gouraud shading indicated that using Gouraud shading slows down the VDP1 by about a third. It is not clear if the penalty is any different when using textures. Note that if all you want is a cheap, flat-shaded lighting model, you can do it without incurring a performance hit by making your sprites paletted and enabling color calculations between the sprites and the line screen. Each paletted sprite can select its own color calculation ratio, giving up to eight levels of brightness or dimness.

Q. Can developers still receive Saturn documentation on paper?

A. Yes. If you wish to receive a full set of Saturn documentation, the cost is \$250.00. This fee is simply the cost of reproduction and mailing. Make checks payable to ;
 Sega of America/DTS.
 150 Shoreline Dr.
 Dept. 448
 Redwood City, CA
 94065

DevCon '96 SEGA DEVELOPERS CONFERENCE

Sega Saturn™ Unleashed



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D T S
W W W



As you read this very article, Sega DTS is assembling one of the most ambitious web sites ever related to game development. This secured environment will house an FTP site filled with Saturn-related publications and documentation in PDF format. All components of Saturn development will be part of a colorful and easy to navigate interface. Over the next few months we have plans to add moderated newsgroups, an FTP site for code exchange with our domain experts and an electronic magazine devoted to Saturn game development.

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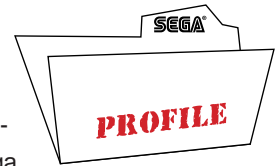
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Dick Holmes

Domain Expert/Graphic Artist

If jargon such as "interface, icons, title screens and weapons" are part of your everyday conversation, than you need to meet Dick Holmes. Dick is our resident chief Domain Expert in charge of the Saturn art component. Dick's expertise spans the areas of graphics tools, video compression, animation and conversion tools for the Macintosh. Dick played a key role at DevCon '96 by organizing presentations directed at the artist.

Along with all his other duties, Dick keeps an eye towards the artist's needs. His main goal currently is to improve the communication channels between the artist and Sega.



Dick came to Sega in 1992 from Apple Computer where he helped develop a large number of key training tutorials, such as the award-winning *Before You Install System 7* disk. Before that, symmetry and aesthetics were still a part of his world by way of architecture and construction.



Occupying the other half of Dick's life is his wife and son. When he's not working out or comic book collecting, he can be found on the slopes snowboarding with his son Jeremy. This past winter both participated in various competitions and achieved promising standings.

DEVCON '96 EXHIBITORS

Alias Wavefront	416-596-7077	John Sierotko	info@aw.sgi.com
Animetix Technologies	604-730-5627	Adam Walters	adamw@axionet.com
Autodesk, Inc.	415-507-5000	Kevin Blaker	kevin.blaker@autodesk.com
Coryphaeus	408 395 4537	Bruce Sinclair	sales@coryphaeus.com
Cross Products Ltd.	44-(0)113 242 9814	Ian Oliver	enquiry@crossprod.co.uk
Faro Technologies, Inc.	800-736-0234	Jon Houston	info@faro.com
Immersion Corporation	408 467-1900	David Hague	rdhsales@immerse.com
SOFTIMAGE	510-803-2300	Gary Horstkorta	garyho@microsoft.com
Motion Analysis	707 579 6500	Jerry Burg	sales@macorp.com
Nichimen Graphics	310-577-0500	Greg Minter	themint@nichimen.com
Polhemus	802 655-3159	Ed Costello	info@polhemus.com
PSY-Q Development Systems	44-(0)151-282-3000	John Rostron	john.rostron@psygnosis.co.uk
QSound Labs, Inc.	708-256-0044	Brian Schmidt	bls@qsound.com
SC Imaging Solutions	916 774 0600	Charles Morris	scimg@quiknet.com
Silicon Studio, Inc.	415-933-1203	Patty McDonough	pattym@studio.sgi.com
The Duck Corporation	212-941-2400	Stan Marder	stan@duck.com



SATURN TOOLS

The following is a list of the current Saturn Development Tools. Refer to the key in order to find the latest releases of these tools.

KEY:

- ▲ SEGA DTS MARCH '96 CD
- ▼ SEGA DTS BBS
- Contact vendor directly for information about product. Details on where to call are listed.
- Contact SEGA DTS at 415-802-1719 or e-mail dts@segaoa.com

PROGRAM

- ▼ **BGCON** (2D Background Converter, version 1.6)
- ▲ **CF.EXE & ROF2BIN.EXE** (Converters)
- ▼ **GNUTOOLS** (SOA960314)
- ▲ **HSI_TL** (For development of Cartdev Tools)
- ▲ **DSPASM & DSPSIM** (SCU DSP assembler & simulator, version 2.00 & 2.11 respectively)
- ▲ **VCD** (Virtual CD tools & demos)
- ▼ **EXAMPLES from DEVCON96** (Demonstration code)
- **SNASM2.1** (Development software by Cross Products; assembler/linker and debugger)
- **PSY-Q** (Development Software by Psy-Q Dev. Systems. Contact Psy-Q Sales at +44 (0)151 282 3000 or e-mail psyq@psygnosis.co.uk)
- **Hitachi** (Development Software: C Computer, Assembler and Debugger)
- **TrueMotion** (Video compression tools by The Duck Corporation)
- **Cinepak** (Video compression tools)

GRAPHICS

- ▲ **Sega Macintosh Art Tools**
 - 3DEditor 1.72US
 - MapEditor 1.81E
 - ScreenEditor 1.07E
 - QuickViewer 3.17US
 - Sega2DViewer 1.0US
- SegaConverter 4.83E
- SegaPainter 1.11US
- SpriteEditor1.36US
- PhotoShop Plug-Ins** (6 plug-ins)

Vendor PC Art Tools

- **GAMUT-SG** (Downloader/Converter by Animetix for Autodesk 3D Studio ver. 4.0. Contact Adam Walters at 604-730-5627 or e-mail adamw@axionet.com)
- **InterChange** (3D conversion tool by Syndesis for Windows. Contact Tanya Murray at 414-764-5200 or e-mail syndesis@inc.net, <http://www.webmaster.com>)
- ▲ **PhotoShop Plug-In** (Converter created by Sega for Adobe PhotoShop. This tool is currently being updated and will be distributed shortly.)

Vendor SGI Art Tools

- **SOFTIMAGE 3D Design Toolkit** (Created for version 3.0 of SOFTIMAGE 3D. Contact Gary Horstkorta at 510-803-2300 or e-mail garyho@microsoft.com, <http://www.softimage.com>)
- **Saturn Express** (Downloader/Converter by Nichimen Graphics for N•World ver. 2.1. Contact Bill Clark at 303-693-8999 or e-mail bclark@nichimen.com, <http://www.nichimen.com>)
- **Wire to Sega GL Converter** (Created by Alias|Wavefront for PowerAnimator V7. Contact Alias|Wavefront at 800-447-2542 or e-mail info@aw.sgi.com, <http://www.aw.sgi.com>)
- **General Games Tools** (Plug-ins created by Alias|Wavefront for PowerAnimator V7. Contact Alias|Wavefront at 800-447-2542 or e-mail info@aw.sgi.com, <http://www.aw.sgi.com>)

LIBRARY

- ▲ **SGL** (version 2.0a)
- ▲ **SBL** (version 6.0)

SOUND

- ▲ **Sega Sound Tools & Converters**
 - Sound Simulator** (version 2.06ce)
 - Tone Editor** (version 2.06 & 1.13 are both current)
 - DSP Linker** (version 2.0)
 - Wave Editor** (version 1.13)
 - AIFF to RedBook**
 - Tools Demonstrations**
 - Sample Code**
- **QSound** (3D Sound DSP)
- eLinker
- **YSound** (3D Sound DSP)
- eLinker
- ▲ **InVision Tone Library**



SMUG

Saturn Master User's Group

There is a collaborative effort among developers to share Saturn programming tricks and experience. There is an e-mail Saturn Master's User's Group (SMUG) that you can join if you like. It is an on-going conference where everyone sees everyone else's name on the list. Sign up is completely voluntary and is not automatic. Although SEGA will help facilitate the project, it was started by and for developers by Jeff Lander of Accent Media. If you would like to be placed on the list and be SMUG yourself, send your e-mail address to <evelyn.merritt@segaoa.com> with a note saying you want to be SMUG. By joining, you can receive and contribute to ongoing technical discussions regarding Saturn. There are no fees.



UPDATE TO DEVCON DEMO CODE AVAILABLE ON SEGA BBS

An update to the DevCon '96 subtree of the March '96 CD-ROM is now available in the Saturn conference of the Sega BBS. The file devcon96.zip completely replaces this subtree. Here's what's new: A demo that shows how to combine the line screen with a coefficient table on a rotating background has been added. A demo that shows how to get the Saturn to display bitmaps having non-standard sizes, which can save lots of VRAM, has been added. All the demos now use SBL v6. The VDP1 and VDP2 libraries have been revised and expanded.

DOCUMENTATION

Listed below is the complete set of Saturn documentation as of March 28, 1996. If you wish to order a complete set of Saturn documentation contact us by e-mail or use the Fax Back section on the last page of the newsletter. **DTS e-Mail: dts@sagaoa.com / Fax: (415) 802-1717**

Document Name	Document #
SATURN PROGRAMMING MANUAL VOL. 1	
Saturn Introduction Manual	ST-155-062094
Sega of America-Introduction to Saturn Game Development	13-Apr-94
Saturn Overview Manual(temporary version 1)	ST-103-R1-040194
SCU User's Manual	ST-97-R5-072694
SCU Final Specifications: Precautions	ST-210-110194
SMPC User's Manual	ST-169-R1-072694
SMPC Sample Program User's Manual	ST-214-111594
Saturn SCSP User's Manual	ST-77-R2-052594
SEGA Saturn Dual CPU User's Guide	ST-202-R1-120994
SATURN PROGRAMMING MANUAL VOL. 2	
VDP1 User's Manual	ST-013-R3-061694
VDP1 User's Manual Supplement	ST-13-SP1-052794
VDP2 User's Manual	ST-58-R2-060194
SATURN DEVELOPMENT TOOLS MANUAL	
Sega Saturn Software Development Standards	ST-151-R3-082295
Boot ROM User's Manual	ST-079B-R3-011895
Disc Format Standard Specifications Ver.1.0	ST-040-R4-051795
External specifications Saturn file system Library	ST-39-R2-011094
External Specification Doc. Saturn Stream System	ST-98-031194
Backup System Production Standard	ST-203-100494
Sample Game Program User's Manual	ST-159-R1-092994
Sample Data User's Manual	ST-160-R1-092994
NEW SATURN Demo - Demo File Loader Specifications Ver. 1.11	ST-250-091895
SCU DSP Assembler User's Manual	ST-240-A-042795
SCU DSP Assembler User's Manual Addendum	ST-240-A-SP1-052295
SCU DSP Simulator User's Manual	ST-240-B-042795
SCU DSP Simulator User's Manual Addendum	ST-240-B-SP1-052295
CD Development Tool Description File	ST-211-110494
NEW Virtual CD System User's Manual	ST-129-R2-093094
NEW Virtual CD Supplementary Manual	ST-129-R2-SP1-061995
NEW MPEG Stream Build Precautions	ST-129-R2-SP2-082495
Virtual CD System (Release 3) Limitations	ST-182-081294
Write Once CD-R System User's Manual	ST-201-B-092994
SH2 Dynamic Load Linkage Editor	ST-19-R1-B-050994
Authoring Environmental Guide	ST-91-R1-062794
Saturn Author User's Manual	ST-164-062794
SEGA BASIC LIBRARY (SBL)	
NEW Sega Basic Library 6.0 - ReadMe File Series	ST-267-011296
Saturn System Library User's Guide ver.1.0	ST-162-R1-092994
System Library User's Manual	ST-162-062094
Program Library User's Guide 1	ST-136-R2-093094
NEW Branching Playback Library User's Manual	ST-136-D-R2-082495
Program Library User's Guide 2	ST-157-R1-092994
NEW Program Library User's Guide 3	ST-135-R4-092295
DLL Library User's Manual	ST-200-092994
Saturn Software Library Release 3.01 Supplemental Disk	ST-208-110194
SATURN GRAPHIC LIBRARY (SGL)	
SGL Developer's Manual Tutorial	ST-237-R1-051795
SGL Developer's Manual Reference	ST-238-R1-051795
SATURN GRAPHICS TOOLS MANUAL	
NEW 3D Editor1.72US (ReadMe, Release Notes)	SGT-DISK-102795
NEW MapEditor1.81E (ReadMe, Release Notes, Basics)	SGT-DISK-102795
NEW ScreenEditor 1.07E (ReadMe, Release Notes, Basics)	SGT-DISK-102795
NEW QuickViewer 3.17US (ReadMe, Release Notes)	SGT-DISK-102795
NEW Sega2DViewer 1.0US (ReadMe)	SGT-DISK-102795
NEW SegaConverter 4.83E (ReadMe, Release Notes)	SGT-DISK-102795
NEW SegaPainter 1.11US (ReadMe, Animation, Menu, Palette/Color, Tool Palette)	SGT-DISK-102795
NEW SpriteEditor 1.36US (ReadMe, Release Notes, Basics)	SGT-DISK-102795
Saturn/32X Graphics References ver. 2.0	ST-124-R1-091394
SATURN SOUND TOOLS MANUAL	
Sound Development Manual ver, 1.1	ST-81-R5-062894
Saturn Sound Simulator Manual	ST-168-R3-011895
Wave Editor User's Manual	ST-99-R1-042594
SCSP Waveform Editor Technical Specifications	ST-67-121593
Tone Editor User's Manual	ST-68-R1-042594
Tone Editor User's Manual Addendum: File Format	ST-235-030795
SCSP/DSP Effect Module Specifications	ST-69-121693
DSP Linker User's Manual	ST-70-R1-031094
Parameter Editor User's Manual	ST-227-R1-030595
Saturn Sound Tools Manual Supplement	ST-198-R1-121594
NEW SATURN Sound Driver System Interface Version 3.03	ST-166-R4-012395
Standard MIDI File: Converter Specifications	ST-66-121593
Sound Programming Debugger User's Manual	ST-65-R1-031494
Microcomputing Developing Int. Environment for Macintosh	ST-80-R2-050994

Fax Back

Thanks to those who have shared comments and ideas regarding the DTS Newsletter. Please continue to give us your feedback so we can work together to make the future issues even better. Please take a moment to fillout the information below and mail or fax it to Sega @ (415) 802-1717, or e-mail us at dts@segaoa.com

What did you like/dislike about this issue of SEGA DevelopMental? _____

How can DTS better support your development efforts? _____

What features/information would you like to see included in upcoming issues? _____

If you need documentation, list the title and number below. You must have a SEGA non-disclosure document on file to receive documentation. If you have not signed a non-disclosure, contact DTS.

Please provide your e-mail address to facilitate communication. _____



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