

Also includes a review  
of Apple's Jam Pack 4:  
Symphony Orchestra



The Sims 2

Winter 2005/ 2006  
Issue Number 9


# Digital Puppet Magazine Game Engines



Digital Puppets inside Game Engines

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Masthead  
**Digital Puppet Magazine**  
 Digital Puppet Magazine is an annual publication which tries to explain how to make motion pictures using the Macintosh and digital actors.



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## Marley

Created by

Thornetworks and Sarsa

Requires Millennium Kids - Preschoolers

Available at the  
DAZ3D.COM  
store for \$12.95

This is a digital puppet. It is beautiful and inexpensive but there are no tools to animate it realistically.

## Introducing Game Engines A Solution For The Future

The Poser figures from DAZ, RuntimeDNA and Poser are fantastic. For still art, they are the greatest!

But there is a problem when it comes to animation. The animation in Poser and DAZ Studio is limited.

Even worse. there is no professional animation program with built in controls for the Poser figures. Neither Lightwave, Maya nor 3D Max can control the digital puppets of Poser and DAZ directly.

Similarly, there is no scenery generation program which has built in controls for the Poser figures. Neither Vue nor Bryce can control the digital puppets of Poser and DAZ directly.

It is time for filmmakers to look for a different solution. That solution is Game Machines.

This is why this issue of Digital Puppet magazine is devoted to game engines such as "The Sims 2" and "The Movies" which have amazing scenery generation engines with preprogrammed character animation built, all in a single program.

So for this issue, we will forget about Poser, DAZ Studio, Vue and Bryce. For now, they just don't cut it. Sorry!

## Jam Pack 4: Symphony Orchestra

for Apple's GarageBand



Digital Puppet magazine writes about all the steps of making an animated motion picture.

One of the most important steps is creating the film score for your finished movies.

I think that the best news yet for digital filmmakers is Apple's Jam Pack #4: Symphony Orchestra.

This product is fantastic! When combined with GarageBand (which is free with all new Macintosh computers and bundled with iLife for \$79), filmmakers are able to create film scores that sound like a real symphony orchestra. Film scores created with Jam Pack 4 sound really, really good! And that is very important for filmmakers.

"Jam Pack" is a series of disks from Apple which contain additional musical instruments and loops for GarageBand. Also, these musical instruments can also be played using a free plug-in inside Apple's Logic Pro and Logic Express.

Currently, there are four Jam Pack disks and the most interesting disk for filmmakers is Jam Pack 4: Symphony Orchestra. This product is terrific for a number of reasons:

### 1. Become a Film Composer

GarageBand with Jam Pack 4: Symphony Orchestra turns any filmmaker into a film composer. Even if a filmmaker cannot play music, the wonderful sounds of the symphony orchestra are so natural and organic that just pressing a single note can create the proper mood for a scene.

It is absolutely amazing how wonderful these sounds are when you hear just a single note played expressively. Two or three notes are even better. A simple melody better yet.

### 2. Make More Money

Jam Pack 4: Symphony Orchestra sounds expensive. This is extremely good news for filmmakers because that means Jam Pack 4: Symphony Orchestra will increase the value of your low-budget motion picture.

Distributors pay what they think a movie is worth. If your movie sounds like you paid a lot of money for a symphony orchestra for your film score, your movie will be worth more than if you use an electronic keyboard from Radio Shack (which many low-budget movies still use for musical effects.)

### 3. Amazing Range of Natural Sounds

The musical instruments of Jam Pack 4: Symphony Orchestra are more than just a set of notes to be played loud or soft. Each musical note (such as middle "C") has more than one sound depending on the keyboard velocity.

As an example, there are at least three different guitar sounds for each note. At full velocity, you hear the sound of the string being plucked strongly with the hand. But at a lower velocity, the string is played gently. Therefore, to create music which



sounds custom made, you simply adjust the velocity and the volume of each note to get the ideal sounds for your musical score. Surprisingly, it is just that simple.

#### 4. Ideal For Film Scores

All of the sounds from Jam Pack 4: Symphony Orchestra are recorded in the same room (musical sound stage) used to record real film scores in Hollywood. Without adjusting anything, my music sounds absolutely professional which is not the case with sound samples from other sources that I have used. All the notes seem to have perfect reverb.

#### 5. Multiple Sounds

The depth of sounds in Jam Pack 4: Symphony Orchestra is amazing. Rather than the sound of a musical instrument being played in just one way, Jam Pack 4: Symphony Orchestra has multiple sets of musical notes for the same musical instrument.

Since the violin is the main ingredient in a symphony orchestra, there are 14 different sets of sounds for the violin alone plus 6 more for viola. For the violin, you get legato (very soft attack), pizzicato (plucked strings), staccato (short notes with a very strong attack), tremolo (rapid but very short strokes) and various trills (similar to tremolo but different) for the violin, first violins and the second violins. Amazing!

### My Personal Quest

Long ago, I began my quest to find the best way to create a film score for motion pictures.

Film scores are not songs or even full music. For the most part, film scores are simply musical sound effects that create the correct mood for the dialog or action of a scene. Unless there is a gap in the dialog, music for a film score is just one, two, or three soft notes. That is all that is needed.

Because I am a filmmaker and not a musician, I cannot play any acoustic musical instruments. I had piano lessons when young so I can play simple melodies with one finger on a keyboard. I know the C-Major cord. But that is all.

Also, the best film scores seem to be played by a symphony orchestra. I am just one guy with a Macintosh. So how can I create a professional sounding film score?

### E-mu UltraProteus

Long ago, I found that E-mu makes an orchestra sound module for their Proteus line of MIDI sound modules. It produces most of the sounds of a symphony orchestra and when these sounds are combined together, they sound like a symphony orchestra on an old photograph record.

Because the instrument sounds are only recorded fragments of a waveform shaped to the proper length and volume, the sounds of UltraProteus always seems a bit mushy. None of the sounds can be used for realistic solos so most of the sounds do not seem right when used as individual musical sound effects. Still, the UltraProteus was much better than any other MIDI sound module for film scoring.

### CyberSound

Then I tried CyberSound which is great for what it does. Basically, CyberSound is the Proteus stripped down to fit inside the old Macintosh. When CyberSound was written, 8 bits was the biggest sound sample that could be played on the Macintosh when six voices are played at once. So the sound from CyberSound was less than perfect. Also, some of the instruments did not sound natural at all. They were faked by combining basic wave shapes (square waves, saw tooth waves, sine waves, etc.) and not prerecorded wave shapes from actual musical instruments. Disappointing.

The great advantage of CyberSound is it did not require any external MIDI sound module. My music was recorded directly to the Macintosh's hard drive. This eliminated the hardware expense of creating a film score with Proteus.

### Unity Player

Next, I looked at Unity Player from the same authors of the now defunct CyberSound. While CyberSound was designed for consumers, Unity was designed for hard-core cyber musicians. To me, Unity seemed far too awkward and temperamental. Also the sound was not perfect. The sounds from Unity Player are similar to CyberSound so even though the program uses 16-bit rather than 8-bit sound samples, many of the General MIDI sounds for the symphony orchestra seem like synthesized musical instruments. Still, Unity was an improvement.

Eventually, I dedicated one Macintosh for running Unity Player and an antique Macintosh (Quadra 630) for running my MIDI program. I connected the two computers via a MIDI cable. Using this Frankenstein combination, I created some interesting, if not professional, symphonic musical scores for my animated movies. It did not sound too bad!

### Digidesign's ProTools

At this same time, I tried ProTools. Actually, I tried ProTools FREE which is still available for Mac OS 9 and is highly recommended for anyone who wants to learn the basics of ProTools. If you want to be a pro, learn ProTools.

The amazing thing about ProTools is the program is

remarkably easy to use. In general, ProTools requires fewer keystrokes and fewer menu selections than any other audio program I have tried. For many features, ProTools is even more efficient than the children's music program "Musicshop" which is my preferred MIDI music program.

Unfortunately, ProTools (except for ProTools FREE for Mac OS 9) does not work as a stand alone program. To buy and use ProTools, you must also purchase and use external hardware from Digidesign which is rather annoying.

## GarageBand

This year, I tried Apple's GarageBand 2 from Apple's iLife 05. This is a wonderful program... once you figure out the naming convention that Apple uses for musical instruments, external MIDI sound modules, and the internal sound engine software that is the heart of GarageBand. Once you get over this minor annoyance, GarageBand is easy and absolutely fun to use.

GarageBand is different from any other music program I have used. Rather than take fragments of sound from real acoustic instruments and reshaping them into attack, sustain, and release, GarageBand plays the original note as recorded by a live musician using a real acoustic musical instrument. The difference is positively amazing.

Still, this method has its limitations. Playing a string instrument such as a violin on a MIDI keyboard still limits you to only a fixed number of sounds. However, this is much better than the old way of creating sound from wave shapes and wave tables.

So, the bottom line is I am limited by the number of sounds that I can produce but the sounds that I do produce with GarageBand with the orchestra pack are fantastic.

Using GarageBand 2, I created a number of scores for practice scenes that I edited from television dramas. While my musical talents are noticeably limited, my music sounds professional. Or to put it another way, when people hear an oboe playing, they think I must know what I am doing because only professional musicians use an oboe in a film score. Ah ha!, I fooled them!

## Jam Pack 4: Symphony Orchestra

I like classical music and listen to it constantly. People who go to motion pictures expect to hear the music of John Williams and Danny Elfman which feels like classical music. Jam Pack 4: Symphony Orchestra gives me the sounds of classical music. Therefore, by using GarageBand along with Jam Pack 4: Symphony Orchestra, my music fits perfectly as a film score.

Jam Pack 4: Symphony Orchestra is everything I had hoped for. Now, when the monster appears in my movies, I can make the same sounds that you hear in the blockbuster horror flicks from Hollywood. And I can do this just by pressing one finger on my keyboard to get a beautiful violin trill that sounds real. To me, this is utterly fantastic.

### How I Score

To create a film score for a scene, I start by deciding if I need only musical sound or if I need a complete melody.

#### Without A Melody

When people are talking, I must never cover up the words of the conversation. Therefore, if there is dialog, I will keep my music to a bare minimum which is usually just one, two, or three notes played expressively but softly in the background using the wonderfully organic sounds of Jam Pack 4: Symphony Orchestra.

#### Using A Melody

When there is no dialog (either because there is a gap in the dialog or when there is action), I use a full melody.

I create my musical score either one of two ways:

1. I start by creating a very simple melody or
2. I start by creating a rhythm track.

#### Stealing is Good

If I cannot think of a melody or a rhythm pattern, I simply steal it from MIDI files on the Internet. Most of my better work starts as tiny fragments from Danny Elfman and Beethoven or cords from Star Trek: TNG or romantic songs from Broadway. I never take more than just a tiny piece of the rhythm or a single instrument but this is enough to get a feeling of how I want the music to be shaped.

Once I have a melody or a rhythm, the rest is easy. For melodies, I simply repeat the melody with other instruments and/or add harmony to the melody and/or add counter melodies. While this sounds complex, it isn't.

If I started with a rhythm, I make up a simple melody which matches the rhythm and then flesh it out. If the rhythm is good, creating the melody (a tiny tune which fits the rhythm) is not too hard... as long as I keep the melody very simple... like music for children's songs.

Once I get started, I keep building my musical score, instrument after instrument. Each instrument seems to tell me how to play it. That is why the extreme realism of Jam



Pack 4: Symphony Orchestra is so important. I simply set up to record in a loop and I noodle until something sounds right. That's it! I just listen to what is there and add a bit more with each musical instrument.

The most important thing is I never try to add too much at one time. Normally, I play using only one finger and so I never add more than one finger's worth of music at a time. Only rarely will I record music by playing two fingers at a time, then only as chords. The exception is when I play a violin sound. Then I overlap the sound of one note with the next note because that is the way violin sounds are often played with the bow moving from string to string.

Therefore, when I start out, my music sounds dreadful, like a little child's music. But by slowly listening to my music and adding just one more finger's worth of music, it keeps getting better and better.

And if it does not get better, I throw it away and start again. That is why 80% of my music goes into the trash. But on good days, everything seems to work and all the music is usable. It is a tremendously creative feeling.

### Time is of the Essence

I make this process sound easy but it takes time. A complex scene can take a week to find the right melody and then flesh it out into a full score.

But this is a thousand times better than hiring a musician to do a film score and then ending up with something which sounds wonderfully professional but does not exactly match my vision for the scene. I have been there!

### Violin Tracks

The only drawback of using GarageBand with Jam Pack 4: Symphony Orchestra is you must put each different kind of notes on a different track. That means if I want the sound of a pizzicato note followed by a staccato note on the violin, I must use two tracks in GarageBand.

The reason that I cannot do all my violin sounds on a single track because GarageBand is not smart enough to know that a violin trill is played on the same instrument as a legato violin note. To GarageBand, these are two different musical instruments so they must be on two separate tracks.

Normally, this is not a problem. I simply create my music quickly (ignoring which notes are legato and which are staccato) and then I duplicate this rough musical track once for each kind of musical note. Next, I assign each of the tracks to a different kind of violin note (in this example,

legato and staccato.) Finally, I erase the notes I don't want. That is, I erase the notes which are not staccato on the staccato track and I erase the notes which are not legato on the legato violin track. Therefore, when the two tracks are played together, it all works. Amazing!

### Editing the Movie to fit the Music

And of course, the biggest advantage of creating my own film scores is I can adjust my edit of the scene to add more room for my film score. Since I am both the film editor and the film composer, I can easily change the movie to fit the film score rather than adjust the film score to fit the motion picture. The difference in the final movie is positively amazing!

I have long since realized that the best film editors are people who understand film scoring. Film scores can narrate the movie but only if there is space between the dialog of the movie for the musical narration. I can do this.

With GarageBand and Jam Pack 4: Symphony Orchestra and an editing program such as Final Cut Pro (I use Final Cut Pro 3), I have complete control over both the look, the pace, and the sound of my movies. Total joy!

After I tried GarageBand 2 from iLife 05, I tried Apple's Logic Express 7. See the review in this issue.

With Logic Express, I can make musical scores while I watch my movies. I cannot do this with GarageBand 2.

This is a tremendous advantage over GarageBand 2. Therefore, my musical cues are absolutely frame accurate when I create a musical score with Logic. Also I can have more tracks with Logic Express than with GarageBand.

Very important, Logic comes with human voices (male and female choir) and GarageBand does not. Realistic human voices are amazingly beautiful in a film score.

Unfortunately, Logic Express comes with a price. Logic is designed for cyber musicians, not filmmakers. Filmmakers will find this program to be unbelievably annoying and awkward for anyone who is not a highly skilled electronic musician. Therefore, I do not recommend Logic Express to filmmakers. Most filmmakers will be very disappointed with Logic Pro 7 and Logic Express 7.

### Other Synth Sounds

The most important thing for non-musicians (such as filmmakers) to understand about film scoring is if you attempt to use anything except the natural sounds of real acoustic instruments, your lack of musical talent and

musical skill becomes immediately obvious to everyone.

So even though you can easily purchase additional sound libraries for use with GarageBand and Logic which contain the sounds of synths for rock music, etc., don't do it! None of these sounds are useful for non-musicians because synth sounds require real talent to sound good.

This is why the real-world instruments and the symphonic orchestra instruments for GarageBand are so important. These are the only musical instruments that filmmaker can use to create fabulous film scores.

### The Future

So now my dream is that Apple will release a better version of GarageBand 2 which will sync to picture. I need to watch my movies as I score them.

Once I have the next version of GarageBand plus Jam Pack 4: Symphony Orchestra, I will be able to create wonderful film scores that I will be proud of.

### Loops of Jam Pack 4: Symphony Orchestra

Please note that I did not try to use the loops that come with Jam Pack 4: Symphony Orchestra for creating narrative film scores. This is because loops work best with event video, multimedia, documentaries and corporate video.

Loops do not work well for dramatic scenes from narrative motion pictures. Don't try it. It will sound like canned music. It will confuse the audience's attention.

I used the loops from GarageBand for a few multimedia presentations and I had lots of fun with them. However, I notice that the loops in Jam Pack 4: Symphony Orchestra are limited to main themes and sub themes. The loops do not come with easy ways to end the loop.

Musicians have no problem with this but filmmakers sound awkward when trying to come up with an ending for a loop from Jam Pack 4.

### Recommendation

Because GarageBand comes free with all new Macintosh computers, I recommend that all filmmakers who purchased the newer and more powerful Macintosh computers (it must be very powerful to run GarageBand), should also purchase Jam Pack 4: Symphony Orchestra.

Jam Pack 4: Symphony Orchestra is fantastic. It is fun. It is good for your motion pictures. Buy it! Use it!

## Film Scoring with Logic Express 7.1

The Good News: Musicians love this program. It has all the complexity and depth that musicians enjoy in a music program for creating songs. On the Internet, musicians rave about this program for creating songs.

The Bad News: Filmmakers will find this program awkward, annoyingly complex, and far too deep to be useful for the average filmmaker who wants to create music and musical effects for a motion picture.

Filmmakers will spend too much time wading through hundreds of exotic options just to find the few features needed for film scoring for motion pictures.

And filmmakers will be disappointed because Logic does not support a critical feature that filmmakers need. Logic cannot lock the start of a music cue to time code.

### The Highest Rated Music Program

Many magazine reviewers list Logic as the best Macintosh program for musicians.

### What is Logic?

Logic is a complete electronic musician's studio that fits inside the Macintosh computer. Musicians are able to do anything they have ever wanted since Logic can simulate most all electronic musical instruments.

At the same time, Logic acts as an interface to all of the physical gear of a musical studio, from MIDI to Audio. Logic can control everything.

This is why Logic fits perfectly in any audio or music recording studio for **professional** musicians.

### Logic Pro vs. Logic Express vs. GarageBand

For this issue of Digital Puppet magazine, I reviewed Logic Express which is identical to Logic with just a few of the features removed such as surround sound, master volume control and sampling.

Basically, Logic Express and Logic are the same program. Logic Express is just as powerful as Logic and just as complex. Both Logic Pro and Logic Express are professional programs for professional musicians.

Apple says that Logic Pro and Logic Express are upgrade paths for people who use GarageBand. This is true for musicians but, in my opinion, Logic Express should never be considered by filmmakers who are not musicians.

Logic and GarageBand are two different programs with totally different design philosophies. Upgrading from GarageBand to Logic will not satisfy the needs of the average filmmaker who will be grossly disappointed.

## Why Logic?

I love Apple's GarageBand. I can make beautiful film scores with GarageBand 5 and Jam Pack 4: Symphony Orchestra. GarageBand is easy to use. It is fun to use. And it produces excellent music. Absolutely great!

The only problem is GarageBand 2 in iLife 05 cannot sync music to picture. That means I cannot watch my movie at the same time I create my film score with GarageBand. For a filmmaker, this is bad! Really bad!!!

**Not For Filmmakers**  
For filmmakers who are not musicians, I found Logic to be too difficult to use, buggy, and the wrong choice for film scoring.

At first, this might not seem like a major limitation but without being able to see each frame of the movie, film scores composed with GarageBand 2 are not frame accurate with the action in the picture. When you use GarageBand from iLife 05, the syncing of music to picture can only be done using the audio track of the movie, not the picture. That just does not work well.

In a movie where the action is seen but not heard, it is almost impossible to accurately match the music to the action of the picture. This is not good. I need a better solution. Perhaps Logic? It can sync music to picture.

## The Review Process

For this review of Logic Express 7, I created a number of short film scores for actual scenes from television dramas using both the GarageBand 2 from iLife 05 and Logic Express 7.1 on my new 20 inch iMac G5 with 1 Gig of memory. As part of this review, I used the wonderful sounds of Jam Pack 4: Symphony Orchestra which are ideal for expensive sounding film scores.

In the end, I still prefer GarageBand. As I became more familiar with Logic Express, I got faster and faster at composing music. However, with Logic Express, I never got faster than using GarageBand because GarageBand requires fewer keystrokes and fewer menus. A lot fewer!

I found that the quality of my music is the same with both programs. It is Jam Pack: Symphony Orchestra which makes my music sound OK, not Logic or GarageBand.

Therefore, the only difference in my film scores between GarageBand and Logic was the frame accuracy of my music. With Logic, my film scores were 100% frame accurate. With GarageBand 2, my music was not frame accurate. (See examples of the music I created are on the CD-ROM disk for this issue of Digital Puppet magazine.)

## One Zillion Features.

For my review of Logic, I did not examine all the



features of Logic . How could I? There are just too many to look at. Therefore, I looked at only the features needed by filmmakers (non-musicians) who need to quickly create film scores for their narrative movies.



Here is how you access the instruments that come with GarageBand in Logic.

The menu above is not where the instruments from Jam Pack 4: Symphony Orchestra for GarageBand are loaded.

Instead, the software instruments for GarageBand are loaded in a different menu than the GarageBand menu.

And to get to that menu, you have to go the bottom of another menu before you can access any of these instruments.



As an example, I looked only briefly at the Apple Loops. I did a few tests of creating music for multimedia presentations. They sounded great for multimedia but not for film scores. I do not recommend loops for film scores.

Loops are ideal for documentaries, news, events, corporate video and multimedia. But loops are not a good method for producing music for a narrative production with dialog. Most of the musical sounds for a motion picture need to be shorter and simpler than the music in Apple Loops (or anyone else's loops for that matter.) Except for the opening titles, the closing credits and action sequences, most film scores simply create a mood with one or two notes of musical sounds or maybe a tiny melody. That is all that is needed for dramatic conversations.

### Virtual Keyboards

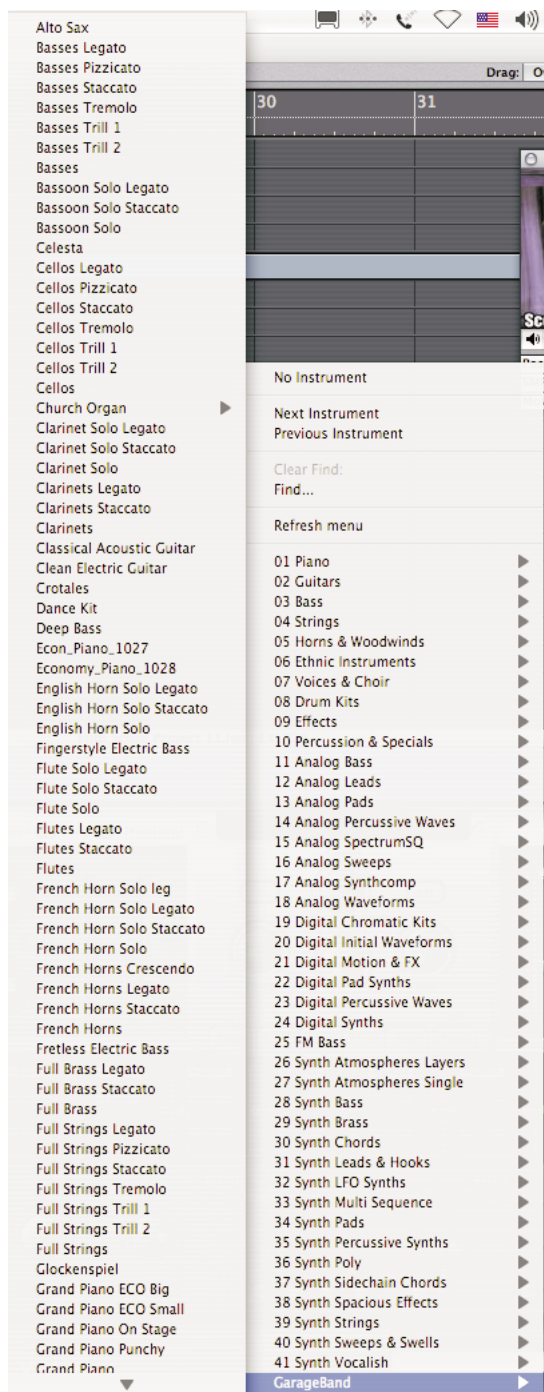
I did not test Logic with any MIDI gear. This includes a MIDI keyboard.

Not using a MIDI keyboard will surprise most musicians but not filmmakers. No musician would ever consider using the computer keyboard as a substitute for a velocity sensitive MIDI keyboard. But for non-musicians who do not play well on a full piano keyboard, the Macintosh computer keyboard works just as well.

Filmmakers are always in a hurry so they will actually prefer the built-in keyboard of the Macintosh... just as I did. GarageBand encourages this while the manual for Logic discourages using the Macintosh keyboard for making music in Logic.

What is surprising is I can create fantastic music just using the Macintosh's computer keyboard with either GarageBand and Logic. This is all I need. To make music, I entered the notes by playing on my Macintosh computer keyboard using one finger and later I adjust the velocity of the notes using the mouse. In both GarageBand and Logic, changing the velocity of notes is extremely easy to do.

One minor annoyance with the virtual keyboards of both Logic and GarageBand is the limited number of keys. Both programs limit the number of keys to one row of black keys and one row of white keys. In contrast, I have successfully used virtual keyboards in other music programs which have two rows of black keys and two rows



of white keys. Yet, neither Logic nor GarageBand offer this extremely useful feature. With Logic and GarageBand, only half the number of keys are usable at one time.

Unlike GarageBand, Logic has the capability to create other kinds of virtual keyboards using Logic's keyboard commands. Unfortunately, this is limited to only a single octave at a time which is surprisingly awkward for a professional music program. To get another octave, you must select to go up or to go down an full octave.

Also, in theory, with Logic, you can create different keyboards such as the keyboards used in India... but with only one octave worth of keys. To get another octave, you must choose to go up or down an octave or two.

Another minor limitation of Logic's virtual keyboard is the slow response time in Mac OS 10.4. I assume that a MIDI keyboard connected to Logic Express will have better response. Still, the Macintosh keyboard works well enough.

There is one major annoyance of Logic's virtual keyboard feature. In Logic, the virtual keyboard is turned on by pressing the cap locks key. Unfortunately, pressing the caps lock key also turns off numerous other features of Logic which is extremely annoying.

Like most filmmakers, I do not have any MIDI sound modules (hardware modules). Even the poorest professional musician seems to have an entire room full of MIDI gear. But filmmakers have no time, patience, or money for external MIDI devices.

For this review, I simply used the audio instruments (software based musical instruments) which work inside my Macintosh computer. Logic comes with a basic selection of built in software instruments. And, of course, I used the wonderful instruments of Apple's Jam Pack 4: Symphony Orchestra which is also reviewed in this issue.

## Different Goals

Logic is designed for musicians. Musicians want to create the best possible **song** while filmmakers worry about creating an ever changing **mood** for a scene. Even though a song and a scene are the same length (about three minutes), composing a song and composing a film score are completely different. It is just not the same thing at all!

Filmmakers who are not musicians need an easy-to-use music program which syncs perfectly with a motion picture. Filmmakers would rather have a music program designed for children so long as the program syncs the music to the picture of the movie.

If you are a professional musician, you will know exactly which musical instrument you need so traveling through all these menus is no problem.

If you an average filmmaker, you will spend a tremendous amount of time going back and forth through all these menus in search of the right instruments for your music.



With Logic, you can use the Macintosh keyboard for creating music.

In Logic, this keyboard appears when you press the caps lock on your keyboard.

But pressing the cap locks key also disables all the functions that caps are needed for.

The visibility of this keyboard can be turned down so you do not see it. But the keyboard still blocks you from selecting anything under it... even when it is completely invisible.

## Major Film Scoring Problem

While Logic is a very powerful program for professional musicians, Logic has a major design flaw for working with the timing and tempo of a film score. When the tempo track is modified while creating a film score, the music and the picture go out of sync after that point... always!

This is not just bad. This is a design mistake of major proportion. Bad, bad, bad!!! Totally unacceptable.

With Logic, time is measured in bars and beats. The time ruler can never be frame numbers or SMPTE time code. The time ruler has only one units of measure which is bars and beats. That is why the time ruler in Logic is called the Bar Ruler, not the Time Ruler. This is a problem!

In film scoring, all hit points are based on the frame number, either actual frame numbers or a time code such as feet and frames or in SMPTE time code. Film scores must be frame accurate (not just bars and beats accurate.)

Logic can never measure time in frame numbers or in SMPTE time code. Instead, Logic calculates the time based on the tempo... but this is only after the fact. Logic cannot actually measure time based on the number of frames from the start of the movie or the scene.

In Logic, you cannot specify that a small piece of music (called a region) starts at a specific frame of the movie. No matter if Logic is syncing to QuickTime movies or to external video tape decks, all of the regions in Logic start at a specific bar and beat. The regions in Logic can never be made to start at a specific SMPTE time code or a specific frame of the movie. This is totally impossible in Logic.

In Logic, the tempo is the only link between the bars and beats and the SMPTE time code. As long as the tempo is never modified, music and picture will always stay in sync. But if the tempo track is ever modified, all hit points to the right of the tempo change go out of sync. Always!

For song writers and professional musicians, this is no problem. However, for non-musicians such as filmmakers, this is extremely bad news.

Song writers have no need to change the tempo after they start composing their music. Therefore, song writers never have timing problems. Logic is ideal for songwriters.

Professional musicians can easily create all the music for a scene in order from the beginning of the scene to the end of the scene. Therefore, there is no worry about adding music with a different tempo in the middle of a film score. Everything is orderly and systematic if you are a





One of the advantage of Logic over GarageBand is Logic comes with human voices.

professional musician.

And if there is a problem, professional musicians do not need to rely on a metronome. They can simply play the music faster or slower on the keyboard. They do never need the metronome in Logic to do that.

But filmmakers are not professional musicians. Filmmakers frequently change the music tempo as they score a scene because the mood of the scene changes constantly. Everytime the mood of the scene changes, the filmmaker will use a different temp. To get a steady tempo for a new cue, a filmmakers must set Logic's metronome to the new tempo. Filmmaker are not skill enough to do without a metronome.

More importantly, filmmakers do not compose the music (or musical sounds) for a scene in order from beginning to end. Music is added randomly and so the tempo must frequently be changed between existing musical cues. That is where Logic gets into trouble.

When I write a film score for a scene, I usually create the music for the beginning of the scene and then I write the music for the end of the scene. Finally, I write all the musical sounds and the musical themes for the hit points in the middle of the scene. Each new hit point or musical cue always uses a different musical style. Often a different style means a different tempo. Each new tempo means a new setting for the metronome. Very basic stuff!

But as soon as I change the tempo in the middle of the scene, the music at the end of the scene goes totally out of sync in Logic. Always! Guaranteed! And not just a few frames out of sync but by seconds. And if the tempo change is from slow to fast, the notes following the tempo change can jump **before** the end of the music I am adding. There is no fix for this in Logic.

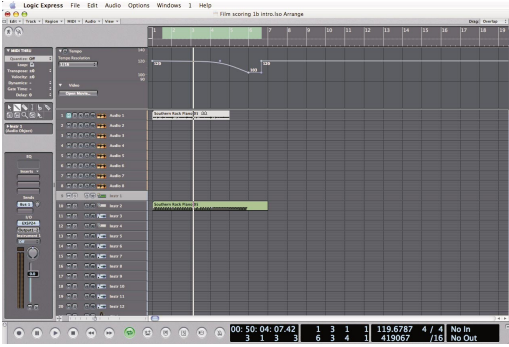
For professional musicians, the work around for this problem is very simple. They just ignore the metronome of Logic as well as the Step Input Feature of Logic. They never need these anyway.

But I am a filmmaker, not a skilled musician. I frequently rely on the metronome or the Step Input feature. Since both are based on the tempo, neither feature can be used for scoring a scene in Logic.

This is a fatal flaw in Logic for filmmakers... even if it is not a problem for professional musicians.

### Confusing Design of Logic

For filmmakers, Logic can be both overwhelming and



Logic can control the tempo. But any change in the temp will also change the start time of all hit points after any tempo change.

confusing. Logic is designed to simulate a recording studio full of electronic gear. This makes Logic easy for musicians to understand. Everything in Logic works exactly like all the electronic gear that every studio musician is familiar with and uses every day. This is great for musicians.

Unfortunately, most filmmakers have absolutely no idea about the gear in a music studio. Very few filmmakers have ever worked in a recording studio or spent a year in school studying electronic music studio production (which I have.) Therefore, most filmmakers will be totally lost when they start using Logic.

Or to put it another way, using GarageBand, filmmakers can get up and running in just a few seconds.

This is not true with Logic. It can take a full day to get any sound out of Logic except for the demo songs. It actually took me longer than a day to play a single note in Logic on my own.

In GarageBand, if I want to add the sounds from Jam Pack 4: Symphony Orchestra, I simply select the musical instrument I want to use such as a violin trill and instantly, I see a track which has the name "Violin Trill". Wow! It is that simple, remarkably fast and very easy to do. Cool!

Setting up my first track in Logic is unbelievably complex. With Logic, I cannot just select an instrument from Jam Pack 4 and immediately hear something. This is not possible in Logic.

In Logic, all sounds are created by various "plug-ins" which is a piece of virtual electronic gear that must be inserted in the audio chain.

To play a instrument from Jam Pack 4 in Logic, I first need to choose a plug-in which simulates a Sample Player. To do this, I must go through three layers of menus... while ignoring the option called "GarageBand" because this option refers only to the default instrument for GarageBand. The instruments for Jam Pack 4: Symphony Orchestra are not installed there which is unbelievably annoying.

Once I finally select the audio sample player (which is not called "Audio Sample Player" but rather by the mysteriously cryptic name "EXSP24"), up pops a huge floating window which looks like a gargantuan audio sample player machine with lots of knobs and dials, none of which are useful for playing the natural organic sounds of Jam Pack 4.

Finally, inside a tiny window of EXSP24, I must select the musical instrument I want to play. Even this is awkward because the GarageBand instruments from the



Jam Packs are located in a sub menu at the bottom of the first menu which is very long. What a pain!

Therefore, selecting just one musical instrument in Logic requires as many as a dozen menus and keystrokes.

This is no problem for any experience musician who knows the all the sounds that he or she wants for a song. But filmmakers often change their mind once they hear the sounds of the musical instrument so the average filmmaker must do ten times the amount of setup work as a skill musician. With Logic, this is not easy.

### No Circuit Diagram

Probably the best example of the problems with Logic is the total lack of functional diagrams for the various modules of the simulated recording studio that are a part of Logic. Apple does not provide any functional diagrams.

All professional music gear, specially mixing boards, come with a functional diagram to explain how all the components tie together. This diagram looks like a circuit diagram but is actually a simplified diagram showing the connections between the various functional elements of the musical gear. These connections include the many different kinds of busses and all the switches and knobs of a mixing board. With Logic, there are a huge number of knobs and switches to worry about so this is not trivial.

If you can read a map, you can learn a tremendous amount about any piece of musical gear just by studying the functional diagram. Just follow the lines on the chart to see where the signals goes next. It is that simple.

Mixing boards are notorious for using every trick in the book to keep the cost down. Most knobs and switches have dual functions depending on the other switches and knobs which also have dual purposes.

Therefore, mixing boards are never straight forward. The signals never run cleanly from top to bottom or from left to right. It just does not work that way.

This is why you need a functional diagram to understand how all the busses are interconnected and the switches which interconnect them.

Just turning the knobs until you get sound is not the correct way! This might be the musician's favorite way of working with a mixing board but it is wrong, wrong, wrong! You must have and use a functional diagram.

Since Logic simulates a mixing board (plus all the other gear in a recording studio), people who are not professional

musicians desperately need a functional diagram. A functional diagram is absolutely necessary for successful use of any musical gear, specially the mixing board in Logic. But there is none for Apple's Logic. Why???

### Too Much Work

Logic requires too much work.

Well designed programs such as GarageBand and ProTools require an absolute minimum of keystrokes. These programs work with a minimum of effort and thought by the user. Almost everything seems natural with these programs.

This is not true of the design of Logic. Rather than a planned and organized growth as features were added, Logic seems to have all the newer options tacked on randomly. Therefore, Logic is unbelievably slow, awkward to use and exceedingly difficult to learn to use.

### Bugs In Logic

And worst of all, Logic is not without bugs. While I am sure that every possible effort has been made to fix all the bugs that musicians find in Logic, features that only filmmakers need still have bugs.

When I began using Logic, the program crashed at least once each day. Using Apple's bug reporting feature of Mac OS 10.4, I reported these bugs and so they will be fixed.

However, Logic also can lock up the entire computer and Apple's bug report system cannot deal with these problems. Logic is still unstable with Mac OS 10.4 which might be Tiger's fault, not Logic's fault... but be aware that the problem exists.

Note: After I learned which functions of Logic to use, the crashes stopped. But I think that the crashing stopped because I stopped hitting the "wrong" keys, not because the program is bug free.

### Annoying Features

"It's a feature, not a bug!"

Here is another example of why musicians will be very happy with Logic while filmmakers will not be happy.

Logic has a Step Input Keyboard feature which is very important to non-musicians such as filmmakers. But, in Logic, this features is design for musicians, not anyone who is a non-musician such as filmmakers.

Since musicians never make mistakes inputting musical notes on a keyboard using the Step Input Keyboard, Logic

does not seem to have a “rest” button. Musicians don’t need it. Instead to get a rest, a musician simply presses an extra note and then erase it with the delete key. When you erase a note using Step Input in Logic, the time pointer (called the song position line) does **not** move back in time to the end of the last note. So, in effect, you get a rest. Tricky, huh!

The problem is every time a filmmaker makes a mistake, the filmmaker ends up with an unwanted rest note.

Similarly, the Undo key command (command “Z”) does not move the sound position line back to the last note which is wrong. But since no musician would ever make this mistake, no one worries about this bug.

In theory, you can use the step backward key command to move the time pointer back one note. This would be great except that the step backward button (like the step forward button) is not defined when you start Logic. The Set Up Assistant for Logic does not set up a keyboard command for either step back or step forward.

To use step backward, you first have to find this feature in the preferences for Logic, learn under which circumstance the step backward button will work, and then you have to select an unused key for this command. By now, filmmakers are tearing their hair out! This extreme level of control is just plain stupid.

But since professional musicians don’t need this, this awkward situation has never been fixed.

### Professional Music Theory

Filmmakers have another disadvantage when using Logic. Filmmakers know about as much musical theory as a twelve-year-old kid in an elementary music class. Since Logic is a program for professional musicians, many of the theories of music used in Logic are different from what kids are taught in grade school.

As an example, to a beginning music student, a dotted note is simply a longer note. But to a musician, a dotted note is part of a triplet which is a set of notes, some longer than normal and some shorter than normal so they all fit into a measure. Therefore, filmmakers must be careful when selecting an option such as triplets because this feature will change the length of more than one note. Some notes will become longer and some shorter.

### Logic vs. GarageBand Features

As I mentioned before, both Logic and GarageBand have the option of using the Macintosh keyboard as a

substitute for a master MIDI keyboard. What is surprising is the virtual keyboard in Logic is only half as useful as the virtual keyboard in GarageBand even though Logic is the more expensive program.

In GarageBand, you need only two keys to go up or down an octave. If you want to go up an octave, you just hit the “up” button. But with Logic, you must look to see what octave you are currently using and then you must select the next higher octave from a row of octave buttons. When the keyboard is hidden from view, this is very awkward for filmmakers. Musicians, on the other hand, can tell just by listening what octave they are currently playing. For them, this is easy!

### The Manuals

Logic comes with three full manuals – “Getting Started with Logic 7”, a references manual (pdf) and a plug-in reference manual (pdf).

Like all of the newer Apple manuals, only the essentials are included in these manuals. This is understandable since Logic does so much, no single manual can begin to explain how to use all the features of Logic.

The “Getting Started with Logic 7” manual is short and simple while the Logic Reference manual has over 500 pages. Yet, it is not until you read the “Plug-In Reference Manual” that you learn how to get started using Logic.

Logic also comes with a short booklet for people who are upgrading from GarageBand to Logic. It explains all the similarities between the two programs. Unfortunately, it does **not** explain the differences and it only explains things from a musicians point of view. As an example, the booklet does not even mention the EXSP24 plug-in which is the only way you can hear the sounds of Jam Pack 4: Symphony Orchestra in Logic. Now, that is really bad!

Many of the pictures in the “Getting Started With Logic 7” manual are unreadable. The pictures look like muddy blobs. Also, some of the pictures in the English version of the “Getting Started With Logic 7” are in German. Let’s hope this is fixed in the next version of Logic.

### The Human Interface

The human interface of Logic is OK but looks odd. Since Logic was developed back when System 9 and Windows 3 were popular, the interface appears old.

Also, the floating vs. non-floating windows are a bit overwhelming. I tested Logic using a 20 inch iMac G5 and I found my screen to be completely cluttered with windows

specially when using the EXSP24 sample player plug-in which is a huge window that can appear numerous times.

### Audio

I did not look at Logic's capability of recording audio. This feature will be very useful for filmmakers but it requires setting up a recording studio which includes an audio interface or external mixing board, a professional microphone, and a quiet room to do recording of voice overs or Foley sound effects. Even though the iMac G5 is very quiet, it still makes enough disk noise that a sensitive microphone will pick up. Therefore a special room (recording booth) is needed with the computer outside.

I believe that the audio capability of Logic will be great for recording Foley sound effects recording once I build a Foley studio. Note: Foley sound can never be recorded using GarageBand 2 from iLife 05 because GarageBand 2 does not show the movie while recording Foley sound. This is an advantage of using Logic.

### Reviewing Logic Express

Logic is an extremely difficult program to review. Normally when I review a program. I find a only few features which are awkward and unusable for filmmakers.

But with Logic, my list of annoying features grew to ridiculous proportions. I could have pointed out a hundred poorly designed features that are excruciatingly inefficient in Logic.

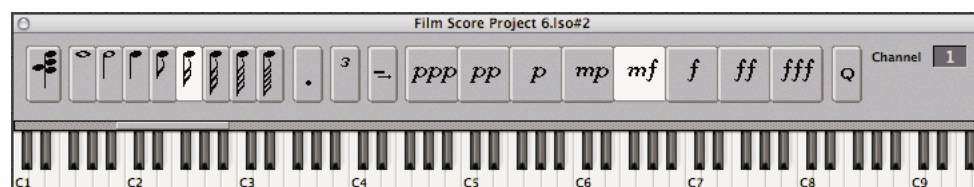
Because this program is designed for musicians who like total control, musicians will be very happy with Logic.

But filmmakers will have no patience with all the details that total control requires. Filmmakers want results. And they want it now! Filmmakers can get excellent results from Garage Band 2 in iLife 05... except syncing to picture.

### Bottom Line

Therefore, my recommendation is for filmmakers to wait for a better version of GarageBand which will sync audio to moving pictures.

Filmmakers will find Logic too annoying and complex to be useful. Not recommended.





## “The Sims 2”

### A game for the Macintosh

One of the most promising technologies for the future of digital puppets is game engines. With a game engine, all the characters, movie sets, and actions are built in, ready to begin making motion pictures.

Recently, “The Sims 2” was released for the Macintosh. This game has a feature which allows you to make QuickTime movies of the digital figures of “The Sims 2” and their world. So naturally, I am eager to learn how well these digital characters work for making motion pictures.

The bad news is “The Sims 2” is not ready for prime time television but the concept is valid and very much worth looking at. At only \$50, I think you will enjoy buying it just to experiment with. And even to play the game.

The good news is “The Sims 2” looks surprisingly good. Most of the features you need for making a motion picture are there. The scenery, while not the quality of Vue or Bryce, matches the quality of the digital actors of “The Sims 2” so the scenes filmed in “The Sims 2” look good. Animation is not too bad and the physical interaction is satisfactory but mostly uncontrollable.

The three major problems with “The Sims 2” for making your own motion pictures are:

#### 1. Movies of the Silent Era

The acting of “The Sims 2” is like acting for silent pictures which means that facial expressions are far too exaggerated.

#### 2. Uncontrollable

You have little control when you are filming and directing the digital actors. Using “The Sims 2” is more like filming a documentary. What is needed is a stage direction language to control the actors’ movements and facial expressions. There also needs to be lip sync to a script.

#### 3. Unwanted items

With “The Sims 2”, you continually see symbols for the dialog and emotional status of the characters. You see a light bulb that appears above the head of the currently selected character and, when a Sims talks, you see dialog balloons containing pictures appearing above the mouth of the actors. Similarly, an action icon appears over the Sims head when you give a Sim character an action to follow. Other symbols for the game also appear. Naturally, this is undesirable for a movie.

These problems hopefully will be fixed in future versions of “The Sims”.



## The Program

The Sims 2 uses low-resolution digital actors which have actions (animation) built in. The animation is triggered by objects around the digital characters and by the other characters. If there is a refrigerator in the house then there are a set of animations which deal with getting food from the refrigerator. If there is a TV set, there are actions built in that the digital characters can perform based on watching the TV set. If there is an exercise machine in the house, the digital characters have a set of animation dealing with the exercise machine.

The Sims characters also interact with each other using predefined animation. When one character is selected, and another character is in the household, you are given a set of predefined options for interacting with the other character. You can ask the character to repeat the animation as often as you want but the animation is basically fixed and does not change much each time you ask the digital puppet to perform the action.

There is an exception. To get the character in the correct location for an action, the program calculates the route of the actor and creates a walk to get the character into that position. Therefore, all the movement appears to be continuous. Try doing that with Poser! Never happen.

The Sims characters in "The Sims 2" can operate independently or they can be controlled. That is, they can have a mind of their own or you can give them actions and thoughts to follow.

However, this is not as simple as it might sound because you have no control over time. The game and the characters progress over time and you cannot turn back the clock.

The movie sets are simple yet amazingly complete. The movie sets match perfectly with the style of the Sims figures so both seem natural together. Parts of houses can be removed allowing you to see inside but lighting controls are limited to daytime and night time. Night time looks much more dramatic and exciting.

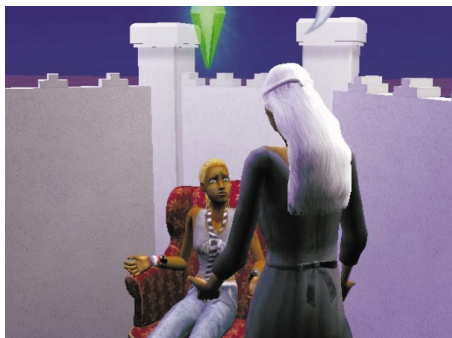
Filming with "The Sims 2" is like filming with a hand held camera. All camera controls are live. You cannot specify a predefined camera movements in advanced and have it performed automatically. If you need a dolly in shot, you have to do it live and hope that your mouse actions are perfect. And you cannot fine tune the action.

Here are some things to think about:

1. The camera movement prefers a three button mouse







(two buttons plus a control wheel.) Using the work around for a one button mouse is awkward at best.

2. There is no anti-aliasing. The movies always look a bit rough.
3. There can be rips in the joints of the actors when they move in certain positions. At times, it gets ugly.
4. Even when the characters are standing still, the characters never stand perfectly still which is good. The Sims always seem alive (unlike "Polar Express" where the actors occasionally seem to die for a brief period of time.)
5. You can set the length of the camera shoot. I prefer to set the length to five seconds for each shot.
6. There is no command to get a Sims character to continually move his or her mouth so you can get a rough lip sync. Also, you cannot repeat a moment so you can cut between talking and reaction shots as needed for lip sync dialog.
7. You cannot pan up or pan down control. Zoom out rotates the camera down as the camera moves up. Similarly, zoom in also creates a slow pan up.
8. There is no horizon so you see cannot see the horizon from an aerial shot. The end of the universe is fog.
9. Camera controls have no fine adjustment. You cannot hold the option key down to move more slowly. Most movements are very bold and dramatic looking.
10. You cannot use third party cameras such as Snap Z because any external camera program will see the controls as well as the movie set.

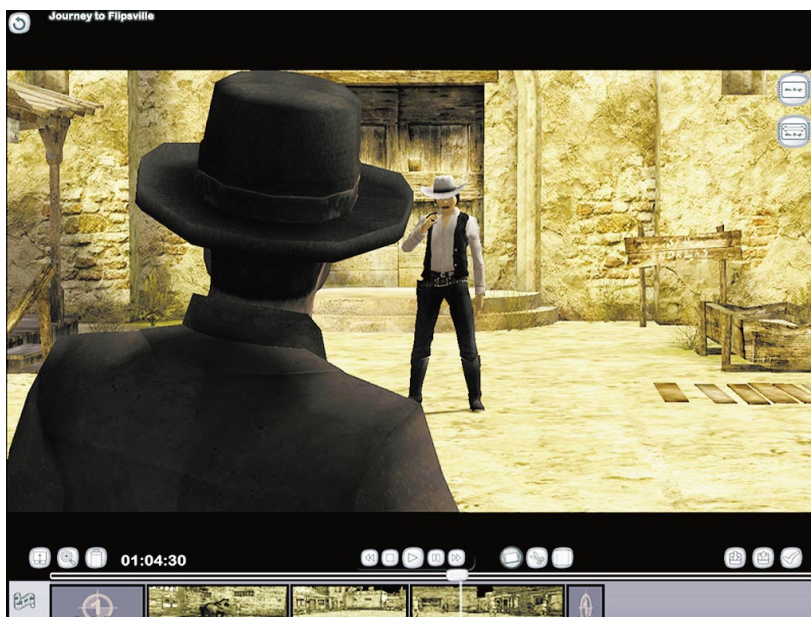
### Bottom Line

What is amazing about "The Sims 2" is how close it is to a usable system for making movies. One more generation and it will probably be ready for prime time.

That does not mean that making a motion picture with "The Sims" will be easy. Writing the script will be a challenge as well as the rest of the filmmaking technology for animation (voice over, Foley, sound effects, and film scoring.)

But one look at "The Sims 2" will show you that things are progressing very quickly. The future of movie making with game engines looks bright. Very bright indeed.

Take a look! Buy "The Sims 2" and see for yourself.



## “The Movies”

by Lionshead and Activision

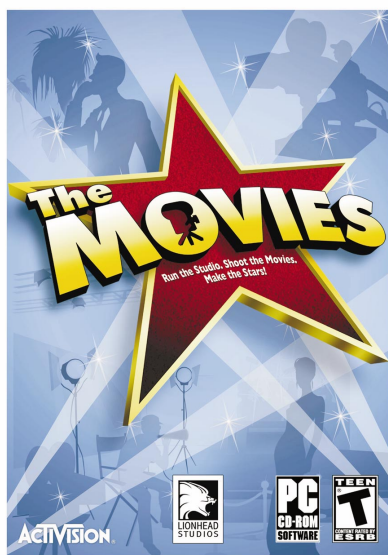
“The Movies” is a game similar to “The Sims 2”. In this game, you run a film studio.

Unlike “The Sims 2”, “The Movies” has complete movie sets for shooting scenes using digital actors. When you are finished shooting a scene, it can be imported into an editing program and turned into a motion picture.

“The Movies” has been released for some game machines. Unfortunately, it is not yet available for the Macintosh. So far, there is no direct connection from the xBox to the Macintosh so the xBox 360 can be used as a peripheral for the Macintosh for creating scenes for your movies. Therefore, I have not tested this program.

However, the early reviews of this program say that the scenes and the camera movements are limited. That is, you have only a limited number of options when you film a scene and your camera movement is predetermined for you by the program. You cannot simply build a movie set, select the actor’s costumes, and give stage directions and your own script to the actors and then film them with any camera movements of your choice.

Still the results are impressive.



# HyperEngine-AV 1.5

An Easy-To-Use Editing Program

For years, I have been looking for a simple and inexpensive editing program for high school students to learn to edit scenes from motion pictures. This is very important. Once high school students learn how motion pictures are filmed and edited, they can create their own motion pictures and tell their stories to the world.

iMovie 05 does not work well for editing scenes with dialog. Doing roll edits and cutaway shots are awkward.

Final Cut Pro 3 is my preferred editing program but for beginners, it is far too expensive and complex.

Final Cut Express is expensive for just learning film editing and it cannot edit movies which are filmed at 24 frames per second... which includes all motion pictures and television dramas shot on film.

Avid's software has the same problems.

Then I heard about HyperEngine-AV (previously called Montage which should not be confused with the Montage editing program from Hollywood.) HyperEngine-AV is free and designed to be simple for beginners. Therefore, I hoped that it would be ideal for first year film students.

Unfortunately, HyperEngine is designed for editing multimedia, not motion pictures and television dramas.

Editing dialog with HyperEngine is not easy because there are major weaknesses in the design of HyperEngine for editing dramatic scenes. Apparently, the programmers of HyperEngine never tested it by editing a conversations from either a television drama or a motion picture. While these problems are not major, they are annoying enough to stop most people from using the program to edit dialog.

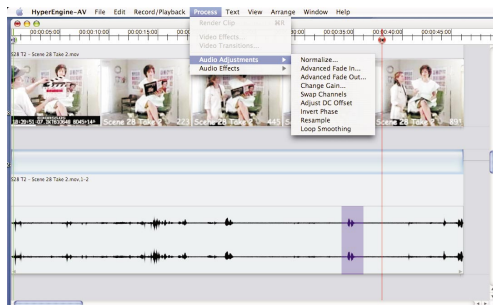
Once these problems are corrected, HyperEngine-AV will be an outstanding editing program for film editing.

The weaknesses of HyperEngine are:

## 1. Two Sync Problems

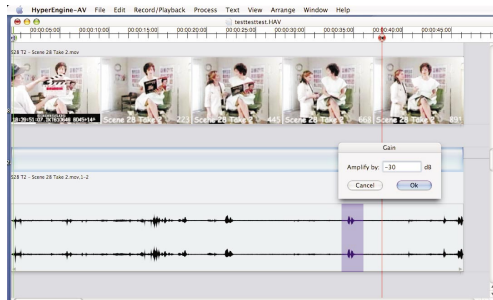
In HyperEngine, the audio and the picture are never linked. With most motion picture editing programs, the audio and the picture are linked and synced no matter how often you move the clips or how you trim the ends of the audio or video.

In HyperEngine, the audio and the picture are never linked. You must always remember to select both the audio and the video when you move a film clip which gets annoying real fast. To edit even the simplest scene from a motion picture

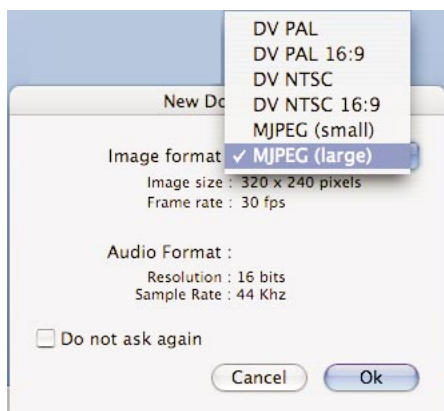


HyperEngine-AV is an extremely simple editing program that even kids can use to edit video clips.

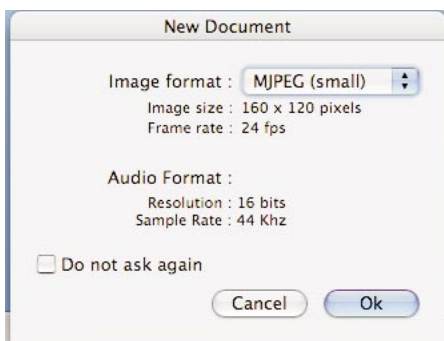
To adjust the volume, simply select the audio section and specify the amount of volume adjustment.



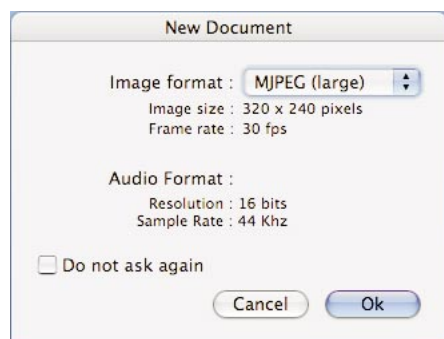




HyperEngine-AV works with six sizes of clips. All QuickTime movie clips are converted to one of these formats.



Only one of sizes works with clips at the motion picture frame rate of 24 frames per second.



or TV dramas, you must move a tremendous number of clips. HyperEngine makes it exceedingly awkward.

Also, because of the way the program is designed, the sound and the picture frequently go out of sync. When you move a sound clip and a picture clip together, the sound moves to the nearest sound sample but the picture moves to the nearest frame. They do not move together. Instantly, you now have two clips of different lengths (sound vs. picture) with two different starting times. This is not a major problem since repeated movement of the two tracks seems to average out the error which is never more than a half frame.

## 2. Destructive Editing

With HyperEngine, splitting a track is destructive. This is a major design goof.

In all other editing programs, when you split a track, it is not destructive. In all other editing programs, when you split a track, you end up with two independent clips and both clips contain all the frame for the entire clip, just that some of the frames are hidden. None of the frames are permanently destroyed when you use a split edit.

Not so with HyperEngine! When you split a track in HyperEngine, the track is permanently chopped in two. Rolling the picture edit will not restore any of the missing frames at the ends of the clips. They are gone forever!

This problem is particularly annoying when you think of how dialog is edited for motion pictures.

### The First Step – Edit For Sound

The first step when editing a scene with dialog is to edit the audio (with the picture remaining synced to the audio.)

With all other editing programs, you take all the different shots and split them at every place where you want to cut back and forth.

Later, when you need to make fine adjustments to the audio edits by one or two frames, you simply roll the end of the clip (audio and picture together) to show more frames of audio or to hide frames of audio. With all other editing programs, you can restore all the hidden frames of a clip at a split edit simply by rolling the end of clip. But not with HyperEngine.

### The Second Step – Adjust only the Picture

When you edit a conversation, after the rhythm of the dialog is perfect, you lock the audio (keeping the picture in perfect sync.) After this, you never change the audio.

Then you roll each of the picture edits back and forth until you find the best visual transition (while still synced to the locked audio.) This is known as an “L-cut”.

Unfortunately, if you use split edits in HyperEngine, you

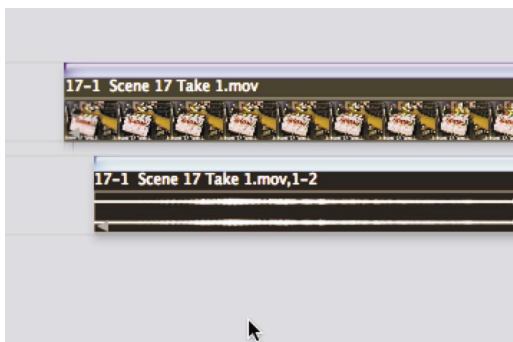
can never do L-cuts because the split command has destroys all the picture frames after the split edit points. This makes HyperEngine ten times more difficult to use than it should be.

### 3. Limited Audio Control

With HyperEngine, there is no rubberband volume track. Adjusting the volume of an audio track is destructive.



Even though the audio and the picture clips start out in sync, once they are moved together, they go out of sync by as much as half a frame.



This is not a major problem but annoying because it is so dangerous. The only way I can remove the director's voice yelling "Action" and "Cut" is to do a destructive volume adjustment (Change Gain). Similarly, if I need to decrease or even increase the volume of certain words of the dialog, every change I make is permanent and the audio cannot be adjusted later without an additional loss in quality.

### 4. Limited Frame Rates

With HyperEngine, you are limited to only certain frame sizes and frame rates.

HyperEngine can only work with six frame sizes & frame rates. Only one of these presets works at film speed.

The DV frame size & frame rates are great for DV footage (either NTSC and PAL - either regular and wide screen.)

The other choice is motion JPEG which is also great. To save disk space, I prefer to edit motion pictures using half size images (same as iPod movies which are VHS quality). Unfortunately, HyperEngine cannot edit these clips at film speed (24 fps); only at 30 frames per second.

Only quarter size images can be edited at film speed. I find quarter size too small for editing motion pictures and television dramas. Half size is ideal... at 24 frames per second.

Because of the importance of motion pictures and television drama (which are filmed at 24 frames per second), HyperEngine must allow you to edit half size (320 by 240 pixels) movies at 24 fps. This needs to be fixed.

### The Future of HyperEngine-AV

HyperEngine is an open source program so that anyone with knowledge of Apple's Cocoa should be able to change the coding to fit their needs. (To download the source files, you need to understand CVS Repositories or contact the lead programmer.)

I hope these fixes to HyperEngine will be made. Most are just minor fixes. HyperEngine can be a great program for kids and adults to learn motion picture editing.

Let's hope this will happen soon!



Costumes by Secretheart  
Available from the DAZ Store

## What is the Correct Frame Size?

Long ago, deciding the correct frame size and frame rate for animation was never a problem. All animation for motion pictures was done at 12 frames per second on 35 mm film which has a resolution of about 4,000 by 4,000 pixels with 30-bits of color (10 bits log per RGB color).

Note: In the good, old days, almost no animation was made at 24 frames per second. Rather, to save from having to paint a huge number of frames, each frame was repeated twice. So 12 fps, not 24 fps was the norm for animation.

Therefore, 4k by 4k at 12.00 fps was the standard frame size and rate for all animation. If you began planning for your next animated movie, you never went wrong by adopting this standard. Easy decision. No problem.

### The Modern Age

But with the advent of color video and computers, this has all changed... and not for the better.

Last year, for low-budget animation to be released on DVD-Video disks, I recommend a frame size of 720 by 480 (non-square pixels) using wide-screen anamorphic pixels at 23.976 frames per second with 24 bit color (8-bits linear per channel.)

For animation programs which only work with square pixels, this translates to 864 by 486 square pixels. Only when the movie is finished, do I recommend that you convert the movie to the final format of 720 by 480 pixels (anamorphic.)



Costumes by Secretheart  
Available from the DAZ Store

### New Recommendation

This year, however, I now recommend an animation frame size of 1280 by 720 pixels (square pixels) at 24.00 frames per second with at least 24 bit color (8-bits linear per RGB color).

This is good news since now the pixels are always square while the frame always has a 16 by 9 aspect ratio which is a nice compromise for an aspect ratio.

With this format, if you later need to convert this frame size to the current television aspect ratio of 4 by 3, you can create a pan scan version with Adobe AfterEffects by cropping the screen to a 4 by 3 image (960 by 720 pixels) aspect ratio which is then scaled down to the SD DVD resolution of 720 by 480 (or 486) non-square pixels.

Similarly, you can crop the frame to 1280 by 544 pixels for a 1:2.35 theatrical wide screen release. For the DVD release of the 1:2.35 frame, you would shrink this to 272







Costumes by Secretheart  
Available from the DAZ Store



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by 720 pixels and letter box this into the 720 by 480 frame.

Unfortunately, this format is not without problems and limitations. Here are some of the factors you must consider:

#### 1. 24.00 is not an option

When High Definition was introduced, it offered the wonderful option of using 24.000 fps as well as the more standard NTSC video frame rate of 23.976 (=24.00/1.001). But so far, none of the popular formats, such as HDV's 24p, actually works at 24.000 fps. Rather, HDV and 24p still only work at 23.976 frames per second... with no option for 24.000 frames per second. For compression to MPEG-2, Apple's Compressor 1 will not work at 24.000 fps or 12.000 fps or even the ideal video animation frame rate of 14.98 fps (30 / 1.001 \* 2) which is the video frame rate divided by 2.

#### 2. Not Full Frame

True high definition has a frame size of 1920 by 1080 pixels so using a frame size of 1280 by 720 is a compromise. Unfortunately, 1920 by 1080 is still too large for current computer speeds and current disk drive storage systems.

#### 3. Not Full Color

If you use a gentle color gradient in 8-bit color, you will see color bands. The color of neighboring shades are different enough to be visible and therefore ugly. Yet, few animation programs work with more than 8-bit color per RGB.

#### 4. Animation program limitations

Most animation programs still do not work at 23.976 fps (=24/1.001 fps). If your animation was created at 24.000 frames per second and you convert the footage to 23.976 for distribution, you will lose one frame every 1000 frames (42 seconds). Normally you will not notice this but in critical situations such as fade outs or fast pans, you might.

### The Future

Hopefully, more and more HD disk players will support true 24.00 fps which is the only true standard for motion pictures.

Good luck!

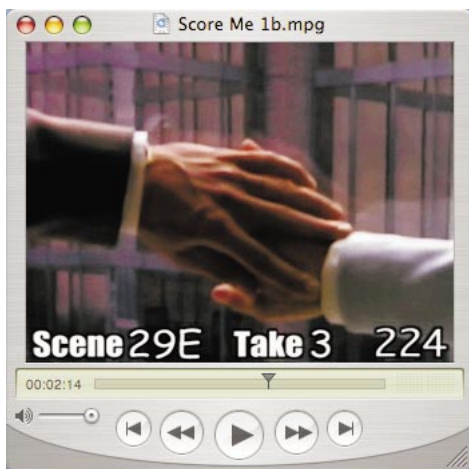




Unedited scenes available from  
The Star Movie Shop



Unedited scenes available from  
The Star Movie Shop



## Practice Scenes

### For Learning Film Editing

If you want to make movies using digital puppets, you need to learn film editing. This is absolutely required. You cannot ignore the importance of film editing.

With 2D animation, there is no film editing. 2D animators never draw more frames than are absolutely needed. Each frame is planned very carefully.

Not so with 3D animation. Each shot is done exactly like a live-action scene. While each shot is planned carefully, each frame is not. You always shoot (render) more frames than you need at the beginning and end of every shot. Later, you edit out the unwanted frames.

Therefore, you must learn film editing for 3D animation, just like for live-action movies. It is mandatory!

## Going To Hollywood

The best way to learn film editing is to go to Hollywood and work as a film editor on actual motion pictures.

In Hollywood, you need to see how the pros break down scenes, film the scenes and then edit the scenes.

And then, you have to get your hands dirty! You need to practice. You have to actually edit some real scenes.

## Me? Go to Hollywood?

Going to Hollywood is not easy. It takes money, time, and a huge amount of effort to get inside the film studios of Hollywood. Fun... but impractical for most people.

The only alternative is going to film school but going to film school can cost from \$40,000 to \$100,000. Can you afford that? Great fun... but impractical for most people.

## A Better Way

There must be a better way! There must be a way that you can work with the film professionals of Hollywood and see what they do... **without** leaving the comfort of your living room or classroom at high school or college.

Well, yes! There is a better way. You can purchase unedited scenes from Hollywood and edit them on your Macintosh computer. With film dailies, you can watch how scenes are filmed in Hollywood.

## The Source of Dailies

Today, film dailies are available from many sources. The DVD-Video disks for Highlander, Xena, and Hercules all have unedited scenes in their bonus section.





Occasionally there are raw film dailies for sale on eBay but these must be digitized and prepared for editing.

What you need are inexpensive film dailies that are ready for editing on the Macintosh computer.

The film and television studios do not offer this. And most unfortunately, neither does Apple. Apple has only documentary footage of kids washing a dog.

### The Star Movie Shop

Fortunately, the Star Movie Shop sells unedited scene for you to practice film editing. Their web address is "www.starmovishop.com". Take a look.

While their current selection is small, they have enough scenes to help you get started learning how to edit dramatic scenes with dialog. And these scenes are inexpensive.

### Frame Numbering

Note: The unedited film footage from the Star Movie Shop come with frame names and numbers on every frame which makes editing easier.



### Limitations (as I see it)

I think this is a good idea. Yet, after looking at the practice scenes that the Star Movie Shop has for sale, it is clear that there are still a few limitation to their scenes.

#### 1. TV Dramas

So far, all of the unedited scenes sold by the Star Movie Shop are from television dramas which is a bit disappointing. There are none from real motion pictures.

The Star Movie Shop claims that television dramas are filmed more efficiently and these scenes are better examples of well filmed scenes. This might be true but I still would prefer some scenes from movies... preferably from Steven Spielberg.



#### 2. Small Size

Most of their scenes are half size. You must be careful when you order scenes from the Star Movie Shop since only a few of their unedited scenes are full-frame resolution. Most editing programs require full frame images.

The majority of the scenes from the Star Movie Shop are a small frame size (half of standard size frames) and are compressed with the Sorenson 2 codec (a very old technology) rather than in the DV format. Again, disappointing.

The only advantage of these clips is they can be viewed with older versions of QuickTime but this is bad because of the low resolution. It is true that the smaller frame size requires





less disk space but works with only a few editing programs.

### Two Sizes Fits All?

The Star Movie Shop sells two kinds of scenes: VHS quality (half frame) and DV quality (full frame) scenes.

### The Half-Size Clips

Currently, the Star Movie Shop sells two disks containing unedited scenes which are half-frame resolution (320 by 240 pixels is slightly less than VHS resolution.)

In total, Filmmaker Disk #01 and Filmmaker Disk #02 contain 25 different scenes which gives you a wide selection.

But unfortunately, you cannot just buy one of these disks and assume you have gotten everything you need. One of the disks comes with instructions and the other disk has all of the interesting scenes.

Therefore, you must buy both disks. Fortunately, there is a discount if you buy both disks together.

Note: Editing half-size movie clips with Final Cut Pro can be a bit awkward because Final Cut Pro does not allow for a preset for the format used to compress these clips. For best results, you need to convert the clips to a format that Final Cut Pro prefers such as Photo JPEG at 24 pfs. This can be done by using either QuickTime Movie Player with QuickTime Pro or by using Final Cut Pro 3's Media Manager, etc.



### Filmmaking Disk #01

"Follow Dave" Editing Workshop CD

This CD-R disk has only a single, unedited scene but the scene comes with an educational movie which explains briefly the entire process of film editing in just 10 minutes. Plus this disk contains written instructions (pdf files) with lots of pictures and diagrams.

Unfortunately, most people find this scene boring. Also the video quality is absolutely dreadful. Probably a "5".

The good news is the disk (Filmmaker Disk #01) is inexpensive (\$3 plus shipping). At that price, it is worth buying to watch the animated instructions on the disk.

Note: The educational, animated movie on this disk is aimed at high school students. College students and adults will might think that the voice-over is loud and obnoxious. But it keeps the high school kids awake so I guess it is OK.

### Filmmaking Disk #02

"24 Practice Scenes"

As the name suggests, this disk contains a huge number of unedited scenes. However, if you cull out the less







interesting scenes, you end up with about 12 good scenes. Still for only \$7, this is not bad.

Unfortunately, there are no instructions on the disk.

Note: You can download PDF instructions for two of the scenes from the Star Movie Shop website. Like the instructions on Disk #01, these instructions are generic and are not helpful for learning Final Cut Pro. You should already know Final Cut Pro before you start editing these scenes.

#### Overview What?

One thing is confusing with many of the disks from the Star Movie Shop. There are two sections on each DVD-R disk which have different purposes. One section is for the film dailies and the other section is for something called "overview movies". Overview movies are like a preview of the dailies. All the film dailies are chopped up and edited into chronological order so you can see all of the camera angles while still following along with the story.

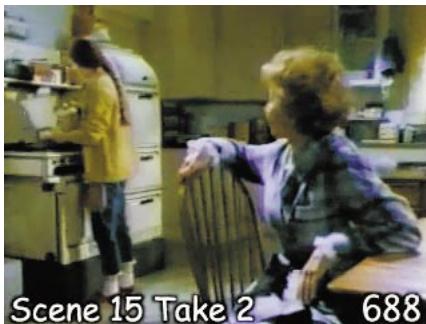
Note: Film dailies can be rather boring because of all the repetition so the overview movies make it a bit more interesting. However, when you begin to edit, you should edit the film dailies, never the overview movies.



#### Disks with Full-Size Clips

The Star Movie Shop also sells a few full-frame scenes which are either MPEG-4 H.264 movie clips and/or DV movie clips. The MPEG-4 clips require QuickTime 7 and the DV clips require QuickTime 5 or better.

Note: You don't actually edit the clips in the MPEG-4 format. Rather, you use QuickTime 7 Pro to convert these clips to whatever file format your editing program works best with.



#### Ugly Color?

There is a problem with the H.264 movie clips which were compressed using QuickTime Movie Player 7. To create MPEG-4 H.264, Apple's QuickTime uses a strong color filter when compressing any clip to remove much of the color. Therefore, the color of the MPEG-4 clips looks dull and washed out for most of these scenes.

Fortunately, the dailies for the full-frame scenes are also stored as DV movie clips which has much better color.



However, there is also a limitation with the DV movie clips. All the scenes were shot on film at 24 frames per second. Clips in the DV format play only at 29.97 fps. Therefore, some of the frames appear twice so you can easily edit on a non-existing frame. This is no problem if you are just practicing film editing but for professional editing of movies, you should never edit at 29.97 fps.



The other problem with DV clips is they take a huge amount of disk space. For most schools, this is a problem.

And even worse, most of the DV clips are in the DV Streaming format (which iMovie prefers) rather than DV QuickTime movies (which Final Cut Pro likes.) You must use QuickTime Player to convert the clips to QT movies. That takes about 15 minutes to setup and do.

#### The Full Resolution Disks

Currently, the Star Movie Shop has only four disks at full resolution:

#### Filmmaker Disk #03 - Rev 1 "Fireworks Display"



The scene is short and has only seven film clips. But it is interesting and funny. The quality of full frame scenes is excellent which makes a great difference.

The Star Movie Shop advertises that this scene is the best for beginners. I guess that is correct but you need to be aware that there are no written instructions for this scene. Instead, this disk contains just a short introductory movie which demonstrates how to edit this scene.

The introductory movie is OK except that it does not explain how to roll the picture edits once the audio is locked. Beginners will not understand this difficult concept just by looking at the introductory movie on this disk.

Note: Rolling the picture edits after the audio is locked is explained briefly on Disk #01 so you need to watch the animated educational movie on Disk #01 **before** starting editing Disk #03. For \$3 extra, Disk #01 is worth it.

#### Filmmaker Disk #04 "Blindman's Bluff Production"



This DVD disk set contains two scenes from a movie made for television. The first scene is exceptionally long (actually it is three scenes in one.) The second scene is remarkably short.

Also on the first disk of this set are educational introductory movies for both scenes which explain (very briefly) how to edit these scene. These are useful.

The introductory movie for the first scene is broken down into three parts. The first part is the overview movie, the second shows the rough edit and the third shows the finished scene. (Note: Overview movies are confusing until you understand what you are seeing and why the actors repeat everything so many times from many different angles.)

Also on this disk set, there are two edited scenes for this scene for people who want to practice film scoring. To







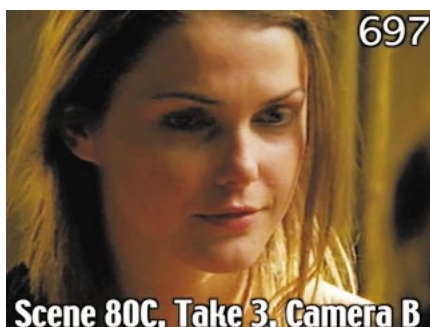
do film scoring, you import this movie (or a tiny copy of this movie) into your midi sequencing program for scoring.

The second scene is extremely short with only a few film clips. Even though this scene seems remarkably simple, it can be edited two different ways depending on the music. The introductory movie shows how music can be used to enhance the mood or to narrate the scene.

Unfortunately, this explanation is extremely short. The movie goes by so quickly, you will have to watch it a couple times before you begin to understand what is happening. Therefore, this disk should be used in a classroom where the teacher can explain the entire process of scoring and editing to match the narrative score. There are no written instructions which is very disappointing.

Filmmaker Disk #05 - Rev 1  
"Hearing Voices"

This CD-R contains an exceptionally short and simple scene yet the Star Movie Shop charges the same price as a full DVD. Perhaps the high price is because the scene is good for a classroom demonstration.



Like most of the unedited scenes, this disk comes with absolutely no instructions. For this scene, there isn't even an introductory movie to explain the scene. The only extra on this disk is an overview movie which is the dailies chopped up and combined so you can watch all the camera angles as you follow along with the story.

One good thing about this scene is it is excellent for a demo reel. It is short enough so you can show the whole scene. With the other scenes, you must show only an excerpt because the full scene would be too long.

Filmmaker Disk Set #06  
"Only a Dream"

This DVD-Data disk set contains one scene which has three parts. This scene was the final scene of a TV series.

There is nothing special about this scene except it allows for lots of editing. There is a tremendous amount of coverage, much more than is needed!

Like most scenes from the Star Movie Shop, this scene requires a massive film score plus sound effects. None of this is included with the disk.

Future Disk

The Star Movie Shop has promised to have a good selection of scenes by the end of 2006. We shall see. Since no one else sells unedited scenes ready for editing on the







Macintosh, we have no choice but to wait.

### The Good News and the Bad News

These unedited scenes from the Star Movie Shop are good because, currently, there is little opportunity for high school students to see how dramatic scenes are filmed in Hollywood. Apple does not teach this and either does our school system. Apple provides only documentary footage (i.e., kids washing the family dog) and schools emphasize creating multimedia, documentaries, or news programs.

The bad news is these disks are not perfect.



### Poor Instructions

Except for Disk #01, there are almost no written instructions on any of these disks. These written instructions are generic and contain absolutely nothing about editing with Final Cut Pro which is a tremendous disappointment since the scenes are sold for editing specifically with Final Cut Pro.

### No Examples

The second greatest weakness of these disks is the lack of examples of edited scenes. There are hundreds of ways to edit each scene but you will never know it from looking at these disks.



### No Music or FX

Almost none of these scenes can be edited without a musical score and lots of sound effects. Yet no music or sound effects are provided. You have to create this yourself or find a musician and sound effects person to do it for you. Most disappointing.

### Old, Old, Old

And, of course, the biggest weakness of these unedited scenes is they are from exceedingly old and long forgotten television dramas.

These scene have none of excitement that you get from working on a popular TV drama or motion picture.

### Take a Look

Yet, with all their faults, these scenes are worth looking at... if for no other reason that you cannot buy unedited scenes anywhere else.

If you want to learn film editing, you need scenes like these to get you started. Take a look at the Star Movie Shop website which is at [www.StarMovieShop.com](http://www.StarMovieShop.com).

These are just some of the scenes available from the Star Movie Shop for editing on the Mac.

## Follow the Money Trail

Profit is the guiding force behind software development. So let's follow the money trail to predict the future of digital puppets. Where there is a profit, there will be progress!

### In The Past

The digital puppets from DAZ started a revolution in artwork for still images of human figures -- both fine art and commercial art. Over 200,000 digital artists create still artwork using figures posed within Poser or DAZ Studio. It is a huge cottage industry. This is absolutely amazing!

The revolution has been so complete that the digital figures from DAZ and the other vendors such as RuntimeDNA's Lady Littlefox now totally dominate the still artwork market for human and animal figures. Therefore, writing software for making still artwork using digital humans has become a huge financial success.

Unfortunately, this success has been limited to **still** artwork, not animation. The digital puppets from DAZ, Poser, and Runtime DNA are not used in motion pictures.

Therefore, there is little financial incentive to develop or improve animation software for the Poser figures. Sorry!

### The Future

Therefore, predicting the future is easy. The computer programmers for Poser and DAZ Studio will continue to create absolutely fantastic software for still artwork.

But the programmers for Poser and DAZ Studio will mostly ignore the animation market. It just is not profitable.

As an example, when Poser was upgraded to Poser 6, many new and wonderful features were added to Poser yet none of the new features were for animation.

DAZ only recently released version 1.0 of DAZ Studio which has limited animation. I will review it in the next issue. Can it import motion capture data? We shall see.

### Mimic

DAZ has released a new demo movie for their Mimic software which shows a tremendous improvement over previous demos of this software. Yet, from what I have seen of the program, it is not easy to use and difficult to get realistic facial movement out of the Poser figures.

Unfortunately, there is limited financial incentive to create better computer programs for doing lip sync for the Poser figures. Hopefully, DAZ is planning to add this as a feature in DAZ Studio.





## Bryce and Vue



For still artwork to be impressive, there needs to have beautiful background scenery and realistic rendering. While some background scenery is available inside Poser and DAZ studio, the two programs which artist use most for creating the beautiful background scenery for still artwork are Vue and Bryce.

The artwork created with these programs is absolutely fantastic. Look at the sample artwork from the 200,000 artists that use Poser or DAZ Studio with Bryce or Vue.



Bryce was the first program of its kind on the market. Then a few years ago, Bryce was allowed to die a slow death at Corel. In the meantime, Vue kept getting bigger and better. Vue is now know as "Bryce done right!"

Fortunately, Bryce did not die. The program has been resurrected by DAZ so that, maybe someday, Bryce will match the features, ease of use, and quality of Vue.



But this is only for still images, not animation. Neither Vue nor Bryce have any incentive to add animation capability for digital puppets to make motion pictures. Both programs can generate animated backgrounds scenery but neither program can animate Poser figures directly.

Therefore, even though both Vue and Bryce are very profitable for 200,000 still artists who use these programs, Vue and Bryce will probably never add the features needed to make motion pictures with the Poser figures.

## Maya, Lightwave and 3D Max



Programs such as Maya and Lightwave can be used to create interior movie sets for high-end motion pictures. But Maya and Lightwave are not the best solution for creating exterior movie sets with natural looking scenery. They just do not compare with Bryce or Vue in either price or quality. Therefore, few artists use Maya or Lightwave for creating scenic backgrounds for still artwork of human figures. No profit here.

Unfortunately, this lack of interest also carries over to the animation of Poser figures. While Maya and Lightwave are used to make many expensive motion pictures, neither program is able to make motion pictures using the digital puppets for Poser or DAZ Studio.

There are two reasons for this lack of interest:

1. Motion picture companies prefer to create their own figures so they can market the rights to toy companies and computer games companies. If they are going to spend 40 million





dollars to create an animated motion picture then they might as well create their own digital figures so they will own all rights to the figures... even if their figures do not look as good as the extremely inexpensive and absolutely gorgeous figures for Poser and DAZ Studio.

- Both Maya and Lightwave use a different skeleton structure so neither Maya or Lightwave can load and use the digital figures for DAZ Studio or Poser directly. The digital puppets from DAZ and Poser must be translated to work with these programs.



So even though the figures from DAZ, Poser, Runtime DNA, etc. are much more beautiful than the figures currently used for motion pictures, no film company is interested in using the Poser figures in motion pictures. So there is no financial incentive to make the digital puppets from Poser and DAZ compatible with Maya or Lightwave.

### 3D Max

3D Max is still a Windows-only program. During Apple's lowpoint, Apple stopped being a major force in creative computing. Ten years ago, there was no financial incentive to port 3D Max to the Macintosh.



Now Apple has released the third generation Macintosh (Mac OS X) and Apple will soon switch over to faster processor chips from Intel, more animation software will be written for the Macintosh.

Unfortunately, at the time this article is being written, plans for 3D Max and Maya are uncertain since both programs will soon be owned by the same company.

### Game Engines



Fortunately, there is a new option for creating motion pictures using a technology called Game Engines. These programs rely on rules of animation or synthesized animation to animate human figures.

In the past, game programs have had no need for realistic animation beyond running and shooting a gun at bad guys.



But because 3D realistic games are so hugely profitable, games are now being developed in totally new areas... such as making motion pictures.

It is because of the financial success of these games that this new technology is being developed. It is the future!

### "The Sims 2"

The hugely profitable "Sims" program has been updated



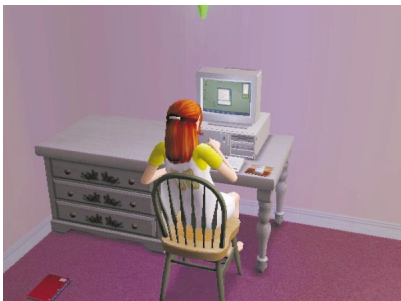


to "The Sims 2" and a Macintosh version has been released. "The Sims 2" now includes a feature for making movies using the digital actors built inside the program.

While very few people are using "The Sims 2" to make motion pictures, this is an extremely interesting beginning. Just look at the pictures on these pages from "The Sims 2".

There are some major limitations of "The Sims 2":

1. Currently, "The Sims 2" cannot create realistic close-up shots which are necessary for narrative motion pictures.
2. "The Sims 2" characters do not speak a real language so the acting is exaggerated just like the silent movies of the 1920s which over compensates for the lack of dialog with extreme movements and facial expressions.
3. The lighting for "The Sims 2" is limited to flat daylight or romantic night lighting. That is all that is needed for a game. For a movie, there must be more controlled lighting.



If "The Sims 2" is profitable, then there will be an incentive to improve on the program. And from initial indications, "The Sims 2" will be very successful.

### "The Movies"

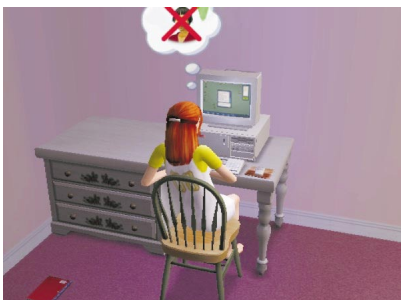
The huge profits from all of the "Sims" games has interested competitors. A new program called "The Movies" is able to create motion pictures using a game engine. Initially, it is only available for game machines and Windows. Eventually, there will be a Macintosh version but it is a year away.



"The Movies" is still limited to pre-defined movies on pre-defined movie sets using pre-defined camera movements. But hopefully, there will be better features in the next version.

### Other Game Engines

Currently, there are a wide selection of games engines for sale to developers but none of the other game engines are good for making motion pictures. But this will change specially if "The Movies" is a great success. Then there will be a lot of incentive for development in this area.



Remember the famous quote, "A billion dollars here, a billion dollars there. Eventually, it adds up to real money."

### Synthesized Motion Systems

Other software companies have noticed the benefit of creating software for synthesized animated movement of games. Now, there is a Windows computer program called Endorphin from NaturalMotion, Ltd which creates the

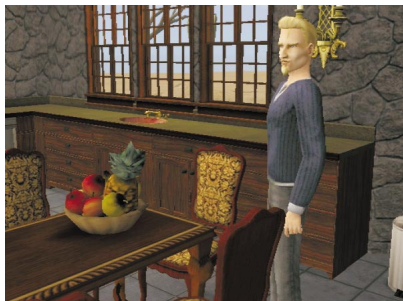






motion of human figures for games and movies. This program calculates the natural movement of the human body and applies artificial intelligence to some of the movement that a body can make.

Unfortunately, Endorphin calculates only body motion, not facial expression. Also, it does not work with the models of Poser. The motion files created by Endorphin are only for high-end animation programs such as Maya and Lightwave... since that is where the money is. Because there is no financial incentive to create a version of the program for Poser or DAZ Studio, do not look for it soon.



### Face Robot

The financial success of the motion picture "Polar Express" has created a minor stampede for realistic human figures for feature films. Hollywood is looking for better methods of creating realistic facial expression.

One interesting, new concept is called "Face Robot". This program is still unfinished but the basic idea is to use limited motion capture to create a basic facial expressions and then use a physical model of the human face to create natural movements of all the features of the human face.



In contrast, the figures of Poser are like balloons. The surface of the balloon is pushed into one shape and later pushed into another shape by morphs. Facial movement of the Poser figures is never based on the physical structure of the human face. Therefore, animating the face of the DAZ figure called Victoria looks unnatural and artificial... even though Victoria is extremely beautiful and realistic.



### Conclusion

In the past, Digital Puppet magazine was dedicated to the idea that someday, anyone will be able to use Poser, Bryce, Vue and DAZ Studio to create the animation for a low-budget motion picture. That is my dream!

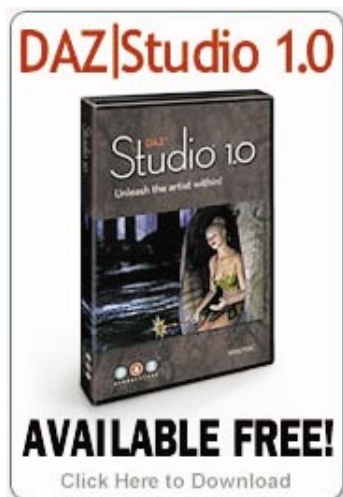
But now, this seems like a dead end.

Poser, DAZ Studio, Bryce and Vue will continue to add wonderful improvements for still artwork but not for animation. There is a huge financial incentive for adding features for creating still artwork. There is no financial incentive to add any major features for animation.

Therefore, I now believe that the missing animation features will probably never be added to these programs.

Now the only hope is that game engines will eventually be able to create low-cost motion pictures. We shall see!





## Daz Studio

Daz Productions released version 1 of Daz Studio. This program is an alternative to Poser 6 which is from e frontier (formerly Curious Labs).

Currently, DAZ Studio is free from the DAZ website. The only requirement is that you tell two people about the program. You are hereby notified!

The first thing that I do when I get a new 3D program is check the rendering of the various focal lengths used in photography. 24 mm is a great wide angle lens, 200 mm is a very strong portrait lens and 50 mm is usually boring. Take a look.

I will review this program in the next issue of Digital Puppet magazine. Stay tuned.

