Good Morning/Afternoon, my name is Michael DeMaria, and I am one of the principal software developers for the Light O Rama Showtime Software Suite. You may know it by the shorthand S2 or S3. Today we are here to talk about S4, the newest version of the software available.

I’d like you to think back to your youth for a second. For some of you, that’s not too long ago. For the rest of us, well lets see if I can jog your memory.....
There she is! Your first car. The stately 1984 Dodge Omni (that you acquired in 1995 with 198,000 miles on it)! Beautiful, isn’t she?

Don’t you DARE laugh! You gladly drove that car around town and YOU KNOW IT. Ok, so it featured an AM radio with realistic mono sound, genuine floor boards, and could go 0 to 60 in 29.whatdoesitmatter seconds. The difference was, all your friends were still WALKING. You drove.
Ok, it got you around town, but that was about it. A few years later and some of your friends could drive too. You needed an upgrade.

2002 Honda Civic to the rescue! You even bought it new! New car smell and ALL! Take that friends.... FM Stereo! The Civic was a capable car. It was red (your favorite color), and had a go-fast spoiler on the back! Just call me speed racer! But then you realized a car needed to be something a little more. You needed to be comfortable on those long drives.
2012 Camry. Heated Leather seats. Remote start. Sure it was a sedan, but it was RED and comfortable. New features made driving less of a chore. Compared to your friends, this was LUXURY. Not only was it reliable, the dealer actually helped you if you had a question. All your friends were still back there with their Yugo's and Trabants. Unfortunately, You were still talking 0-60 in too-many-seconds-for-REAL-street-cred.
Sure, it’s still a 4 door sedan in the same class. After all **You** still have a family. This one has those same heated leather seats, same FM radio (but now with CD) it’s still red, with 4 wheels and goes from A to B.

The real difference here is what you DON’T see. What’s under the hood......
Now, before ANYONE even asks..... We have a problem with not hitting our goals when it comes to dates. Not this one. This is available NOW! in plenty of time before the season.

If you still have time left on your license or recent renewal, you will be able to move up to S4 without cost. If you need to purchase a renewal it will be $30 and gives you updates for the next year.

If you have advanced and your updates have expired, the better value is to UPGRADE to Pro for $50. It’s $20 more than the renewal, but includes all the new pro tools.

Is there anyone here in the room that participated in the Beta?
Many updated features are actually behind the scenes updates for increased performance. New ‘Pro’ licensing level adds new pixel tools and further performance increases.

Until you touch it and use it a lot of S4 is BORING in slides. Of course the Pixel Editor is pretty sexy, but the rest.... MEH.. Still, we need to talk about all this new stuff....
The first really cool, but boring thing is the new on-wire protocol we have. This new protocol actually works hand in hand with a new save file format that I’ll talk about in a few slides.

(Goldie Hawn Protocol)
The new protocol is called ‘LOR Enhanced’, and it provides about an 20% savings ‘on the wire’. That means if you convert your sequence from the old file format to the new, and from the normal protocol to LOR Enhanced, you’ll be able to control that percentage more channels without the need for another network.

This along with the 500K speed we introduced a few years ago now means that our G3MP3 director should be able to pull off a MODEST pixel display.
There are a bunch of Sequence Editor improvements that have really amped up the speed, and a few tools that help with sequencing.

First and foremost are the increases in speed of loading and saving those huge sequences out there. We’re talking about you folks that have tens of thousands of channels and a jillion effect events.

The first improvement doesn’t require any changes on your end and is a general increase in loading speed. For example, we had a sequence that took 143 seconds, almost 2 and ½ minutes to load in S3. With S4, that is now down to 81.

Well, 81 is still a long time, so we also added a new tool called ‘Smooth to Fades’. Many times, automated tools you use (or even your own programming) may create multiple intensities. To the human eye these multiple intensities don’t look any different than a single fade from X to Y would look. The fade uses up a LOT less data (both in a file and on the wire). The same S3 file that took 143 seconds to load, takes 81 seconds to load AS-IS in S4. After applying ‘Smooth to Fades’, the time is 19 seconds – an 87% improvement.

We also increased performance on channel conversions. Your 15 minute wait to change a DMX universe to a bunch of RGB channels is a thing of the past!

[Sade – Smooth Operator]
The other new tool that seems to have caught the attention of the beta testers was the new ‘Change Intensities’ tool.

This will really come in handy for RGB type channels where you want to reduce the luminosity of a color without changing the color itself.

There are a couple of different modes that you can use, including:

CAP: Imposes a Maximum
Floor: Imposes a Minimum
Increase: Add this percentage to all values
Reduce: Subtract this percentage from all values
Scale: Increase/Decrease intensities relatively by this percentage.

(Ahhhhhhnold)
So again, there are a LOT of performance increases that have been rolled into the Sequence Editor. Many of these improvements don’t require a lot of work on your part. However, using the new tools can even further enhance your Sequence Editor experience.
There is a significant change in S4 when it comes to Visualizer performance.

The Visualizer now has a new rendering engine that blows the old one out of the water. The new engine takes advantage of the hardware acceleration your computer can provide when dealing with graphics. Unlike the change in the Sequence Editor that we can put a number on, this one is difficult since it really is going to depend on your computer. I can give you some numbers that we have heard from our beta testers.

One of the Beta Users on a Windows 7 Laptop (which are usually not known for their graphics prowess) that is a couple of years old is running 15,000 pixels – 45,000 channels with no lag.
Another is running a desktop with built-in graphics and is doing 22,000 pixels. 66,000 channels.

The better your hardware, the better your performance will be. (Show Demo)
So, what was the reason for all those performance improvements? The pixel explosion!

Just to touch on a new piece of hardware that is being introduced with S4, here is the LOR Pixcon 16. The Pixcon 16 can run in either E1.31 DMX over Ethernet, OR can be run on a LOR network (at 500K using ELOR protocol). That means you could expand into the pixel world without changing a lot of your existing setup.

The Pixcon16 will run up to 32 universes of 170 pixels each on the 16 ports (2 per port), along with 4 E1.31 to DMX bridges. That’s not a 16 channel controller, that is a 16 THOUSAND channel controller! Got a CCB Mega Tree with 16 strings? That means you have 8 controllers out there. You can replace it with ONE of these.
Lots of pixels means that we had to come up with some new testing tools to make life a little easier.

The Hardware Utility now has a ‘Pixel Console’ that makes it MUCH easier to test pixel based devices. The new pixel console can test all LOR pixel products, as well as DMX pixels. The Sequence Editor also has a new ‘Test Physical Channel’ function. Right click a channel or channel group and the Seq Editor will send an ON command to those channels so you know exactly where they are.

(Johnny Test)
The Pixel Editor is the belle of the S4 ball.

With the Pixel Editor, you can quickly create effects on your pixel based devices. By giving the Pixel Editor a model of what your pixel prop looks like, and some quick parameters you can create some complex patterns in a hurry.

If you have already visited the LOR both on the show floor, you may have played with the Pixel Editor and not known it. The ‘clear plastic’ tube tree at the (back left?) is being driven by the pixel editor using a (2? 3?) Pixcon 16(s). Playing with the joystick was actually just changing the effects that could be placed on the tree and some of the parameters.

If we have some time at the end of this class, I’ll do a very fast demo on the Pixel Editor. If you have not yet planned on attending Matt’s class on PE, you should.

(J Jonah Jameson – Spiderman Editor)
There have also been plenty of additions to Superstar to support pixels as well.

Superstar supports the creation of Intensity Files (ELOR)
DMX Pixels are now fully supported including
DMX Universes
Import of DMX Pixel Universes from the Visualizer, which we will talk about in a moment
New Instant Sequence effects
Support for full layouts of 64 CCRs

(Molly Shannon as Mary Katherine Gallagher in Superstar)
All of these back end changes really allow you to come up with super complex shows now. Our beta testers have successfully run shows, visualized them, etc. with 30,000 channels. We are now WELL positioned for insane numbers of channels.
Intensity files really are going to be the key to successfully using those huge channel count dreams to fruition. Intensity files are currently generated by the Pixel Editor and the Superstar Editor.

The easiest way to think of an intensity file is as a ‘Pre Rendered’ light display. Rather than make on-the-fly conversions of ‘This is a fade from 2.3 seconds to 3.4 seconds from 80% to 0%’, instead we create time slices and for each of those slices we pre-compute the value... 80, then 78, then 77, then 76, etc...

The reason this is more efficient is this: No longer do we have to load an entire sequence before we can start to control lights. As soon as we open the file we can start dumping values out the wire, leading to sequences that start MUCH faster.

Another nice thing with Intensity files is that glitches are now self-correcting. With normal LOR protocols, should a channel have missed a command due to a communications problem, that channel was stuck until another command came along to ‘fix’ it. With Intensity files, we regularly send complete update packets with ALL channels and current values. You may still experience a glitch, but it will correct in less than ½ of a second on average.
The secret to mega channel nirvana in the Visualizer is for you to use the new Pixel Universe fixture. With that new fixture type, you can attach up to 170 pixels to a single fixture, whereas previously you were limited to 1 pixel 1 fixture. Your old visualizations will work, however you should spend a couple of minutes now to update to reap the benefits.

(Gene Wilder Young Frankenstein, ‘Hello Handsome!’)
Thank you for being a part of the Christmas Expo family!