# the plan

**ISSUE 25** / JULY 2009

The official bi-monthly publication for *wysiwyg* Members

IN THIS ISSUE: **R24 = a whole new *wysiwyg***

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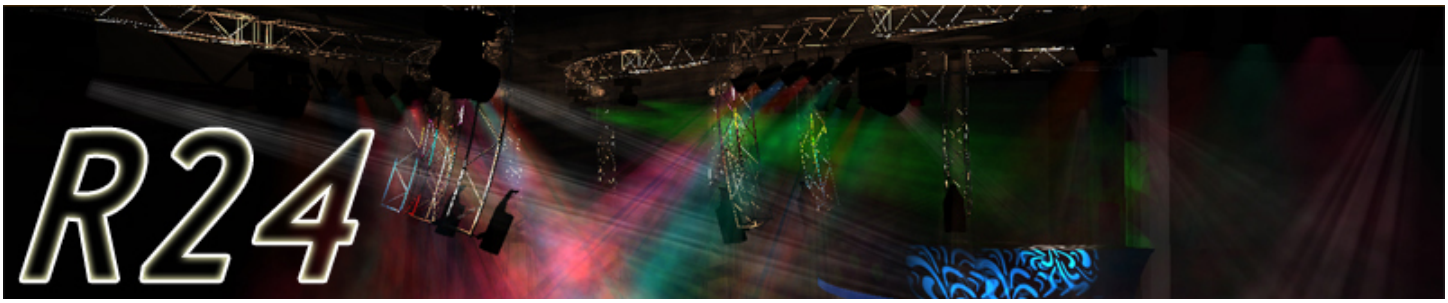
wysiwyg *the industry standard*

www.wysiwygsuite.com

cast software 35 Ripley Ave., Suite 1, Toronto, Canada M6S 3P2. Tel +1-416-597-2278

# R24 = A WHOLE NEW VERSION OF *wysiwyg*




Really Virtually Real

is the tagline for the launch of R24 -- **the third and final installment in the trilogy.** We intend you to take it literally. ***wysiwyg*** previsualization and renders are ***really virtually real***. What you see in Shaded View is exactly what you can get on the set, in the venue or on the exterior of the building.

Why is this so important? Because your professionalism depends on it!

With the new ***wysiwyg*** you get both the eye-popping images, appearing on screen or in the render or picture used to sell or get approval for the concept/project AND you know with confidence that you can deliver it in reality – a *win-win*! With the new ***wysiwyg*** and the stunning images it delivers, you will not need to work off a pretty picture, conceived by a non-production professional, that is not based on industry technology so you can't possibly deliver that design. ***wysiwyg***'s Library comprises greater than 20,000 intelligent lights, gobos, trusses, etc, so we simply don't need to cheat it!

***wysiwyg*** *What You See Is What You Get.* ***Seriously!***

R24's new visualization raises the standard for the industry and uses the new and existing features. However, even with this great step forward, our developmental advancements have not sacrificed or compromised ***wysiwyg***'s robustness or performance. Significant work has taken place "behind the scenes" to increase its speed, especially for the new visualization.

***wysiwyg*** began as a DOS product 1994 running on a 386 desktop computer. It migrated to Windows in 2002 and today runs on any PC computer running Windows XP or Vista (32 or 64-bit) operating systems, and on any Intel MAC Computer running via Bootcamp or via a virtual machine. Throughout ***wysiwyg***'s evolution, the consistency, integrity and reliability of previz to reality was paramount and evolved hand in hand with the uncompromising standards and growth of the Library. Over time, advancements to previz resulted from better visualization plus ongoing Library development. We simply believe you cannot have one without the other. Today, ***wysiwyg*** delivers pre-visualization solutions via 3 product levels -- Report, Design, Perform -- to meet the creative and delivery demands of production professionals.

Rest assured, if you are a Lighting Designer, Director, Technician, Set Designer, Electrician, Architect, Meeting/Event Planner or Teacher/Instructor, we have a solution tailored to meet your needs. Keep in mind that our milestone advances are available on all levels of ***wysiwyg*** – Report, Design, Perform.

So for $2499 you are solidly in the game with ***wysiwyg*** Design. If console connectivity is required you can step up to Perform, or if yours is a less complicated demand not requiring full 3D, use Report. (The only thing ***wysiwyg*** Design can't do, compared to the top-of-the-line Perform, is to connect to a console, media server or motion control system). ***wysiwyg*** is the only comprehensive software solution that is built for our industry; that delivers from concept to design – plotting to previz (in realtime OpenGL views or through our offline render engine). For one price you get an all-in-one software solution. One software that does it all means you only handle the data once (regardless of whether you make changes at a later stage), without translations or patches needed to migrate between softwares, and you get myriad efficiencies of a single, internally consistent, robust software solution.

Go ahead. Compare the punch of ***wysiwyg*** to the others. Compare Design's features, look, intuitive ease; its virtually unlimited capacity for automated and conventional fixtures, the depth and breadth of the Library, the practicality and quality-options for the renders, its pre-visualization and accompanying Technical Support. One low price for all that solution! The best value in the market priced at $2499. One tremendous bang for your buck!

## So, what is R22 + R23 + R24 ?

In R22, ***wysiwyg*** introduced our new enhanced beam simulation with soft-edge beams, accurate beam colour-mixing, lens flares, and animated smoke.

In R23, we enhanced the footprint qualities of the beams with new footprints, accurate shadows, an optional hot spot display, and our new video in beam feature to display video content for DL fixtures.

## *R24 - Continued*

And now with the new features in R24, we advance our visualization to yet a higher level, making it so *really virtually real* and so convenient that you simply don't need to interrupt the creative process and go offline to render. New LED models use a point source to better represent a diode for LED fixtures and LED walls. The intelligence underlying a Library object, for example, calculates beam intensity using the Inverse Square Law so you can previsualize and render accurate beam drop-off, or applies colour temperature data that adapts for different wattages of different types of bulbs.

Keeping up with the increase in the number of productions and major special events being planned for the outdoors, how would you like to task the software to replicate various time-of-day lighting simulations and various outdoor weather conditions (for any geographical location) so you can previz your future show?

## *Really Virtually Real*

***Visualization → a picture is worth 1000 words***
***…and can be worth big $***

Visualization has been advanced to a higher level in Shaded View making it so real that you simply don't need to interrupt or stop the creative process and go offline to render. This advancement is possible because of the innovative new features. Here are some of them.

**Enhanced Beams:** Enhanced beams offer a softer edge beam with accurate colour mixing of overlapping beams and beams hitting coloured objects. Lens flare can also be seen from certain angles.

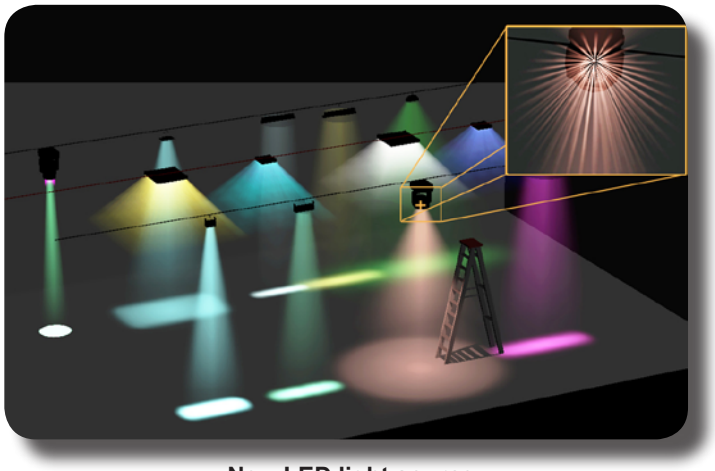
**Enhanced Beams and Smoke Effect introduced in *wysiwyg* R22**

**Improved Beam Footprints:** Beam footprints now wrap around objects in ***wysiwyg*** as they would in the real world.

**Smoke:** The animated smoke and enhanced controls allow you to control smoke direction, speed, and density from the new Environmental tab of the Shaded View's, View Options dialog.

**Shadows:** Now shadows are an extension of the new footprints—***wysiwyg*** accurately determines where the shadows are while calculating where footprints hit objects in the scene. The best quality shadows will result by turning on "Soft Shadows" to smoothen the shadow outlines (essentially an anti-aliasing technique). And now, with CAST's new visualization technology, shadows will appear through translucent materials, such as curtains, creating an impressive shadow effect.

**LEDs!** With new LED light sources and LED flare capability offering better representation in Shaded View, LED Fixtures and LED Walls look better, are more efficient and deliver better performance. This is an enormous advantage as LEDs are being used to some degree in almost every lighting design. This also means that simple light bulbs and other single point light sources will be nicely modeled in ***wysiwyg***.



**New LED light source**

**Inverse Square Law:** A new upgrade in R24, it calculates accurate beam drop-off in visualization calculations to make the beams really virtually real.

**For outdoor events:** R24 introduces a time-of-day capability in Shaded View. Use climatic or environmental conditions specific to the time and place (and all sorts of possible weather) specific to your event's geographical location – anywhere around the world → any date → any time -- to test your ideas and demonstrate your work. Now your Shaded View presents instantly what you formerly had to render – instantly print your Shaded View.

**Time-of-Day in Shaded View**

## *R24* - Continued

**Colour temperature:** Information from our Libraries, concerning adapting images for different bulb wattages, is used to more accurately display the photometrics of different bulbs.

**New features composing a *Really Virtually Real* Image!**

**Hot Spots:** Hot spots enhance visual realism and are now distributed based on the photometric data of the fixture.

**Video in Beams (for DL fixtures capable of displaying video):** In keeping with the increasing number of digital lighting fixtures capable of displaying video content, this new feature lets you pre-visualize videos through the fixture's beam and footprint in Shaded View.

**Geometry Smoothing in OpenGL:** This new shading technique delivers better looking sets and people, plus a performance boost.

**CITP Protocol for Video:** This new feature allows consoles which support this protocol to stream video content across a network into ***wysiwyg*** to be displayed on a video screen or DL fixture.

### *Design Tools → intuitive, logical, just what you need*

**Footprint Focus:** Using the new Footprint Focus feature, you can change the footprint's focus distance in visualize the footprint in Shaded Views, in effect varying the focus of the footprint from "hard" to "soft". (In previous versions, footprint focus was always "hard".) This feature is available for conventional fixtures (in CAD mode through the Fixture Properties), as well as for automated fixtures (in Design mode through the new Footprint Designer Tool). To display Footprint Focus, you turn it on in the Lighting tab of the Shaded View's, View Options dialog. Note: In a future ***wysiwyg*** release, the Footprint Focus feature will be extended to function in Live Mode like all other Designer tools.

**Fixture Point of View (POV):** The Fixture POV increases previous functionality to support automated fixtures and now provides fixture information (for example, Patch, Channel, Dimmer, etc.) at the bottom of the Shaded View. Now you can use the enhanced Fixture POV feature in conjunction with Footprint Focus to focus lights from ***wysiwyg*** and then provide screenshots of the desired footprint focus to his stage crew.

**Updates to Designer Tools:** The look, feel, intuitiveness and ease of use have been enhanced. Many now offer more informative feedback of set values for the selected fixtures, making the design process a lot easier. New functionality for enhanced colour-mixing options (RGB, CMY, HSI) is available through the Colour tool.

**Ruler Tool:** The Ruler tool provides a handy point of reference in CAD Wireframe views, enabling you to measure the objects that you are drawing and get an accurate idea of the distances between items in your plot.

**New Font Capabilities:** While working in CAD and paperwork you can now select TrueType fonts and styles for CAD mode and New Plots. On the new Font Styles tab of the User Options window, you can specify the font that you would like to appear globally in all new text labels, New Plots, and fixture layout labels. Mesh consolidation: This new CAD feature lets you group selected faces into one mesh to simplify the objects dramatically and improve overall performance.

**Dongle-less Background Render Manager:** We have removed the dongle restriction currently set on the Background Render Manager so that you can install the Background Render Manager software on other computers so you can run rendering jobs from independent idle computers. Now you can set up as many rendering computers as you need to help you complete your renderings.

**AutoFocus:** is the protocol that ***wysiwyg*** uses to "talk back" to a compatible console. Using the mouse in a Wireframe view or using the concept shortcuts and design tools at any time, you can direct the console to select fixtures, set focus, and control intensity, iris, and colour. AutoFocus is connected through MIDI, Serial, or Ethernet.

**AutoPatch:** is a protocol used by ***wysiwyg*** to transfer the patch hookup to a compatible console. AutoPatch is only available in ***wysiwyg*** Perform. You must be connected to a compatible console for this feature to be enabled. All ports for which you want the patch information to be transferred must be properly bound. Only the hookup information in patch universes bound to the console's outputs will transfer.

## Library → becomes a bigger and more useful resource

Comprising more than 20,000 lights, gobos, trusses, etc. the Library is one of its most valuable components of ***wysiwyg***, often sought-after by others. From LEDs to automated lights, all types of fixtures from all regions of the world making ***wysiwyg*** the only solution for truly international professionals and traveling productions.

Remember, only ***wysiwyg*** certifies that all additions to the Library are completely accurate and fully reliable. Many hours are in-

## *R24 - Continued*

vested and a rigorous standard testing protocol is used for each library item to ensure model accuracy and reliability. As well, all library fixtures and accessories are tested in ***wysiwyg*** before we release them to you. New additions to the Library are added all the time so keep your eye on the website.

Our discipline and the frequent addition of new lights mean we deliver reality so your creativity can be *really virtually real*.

**Searchable Library Browser:** Ever find yourself clicking through hundreds of Library files in search of a fixture or that perfect item for your file. In the Library browser, simply click the category tab that you're interested in, and then type the object name (or part of it) in the Search box at the top of the browser panel. All objects that match your query are shown. Note that on the Library tab, you have to select the folder in which your object is stored before you search.

**Numerous Library Updates:** Our enormous Library continues to grow with every new release of ***wysiwyg***. At least a few times per year, our library department compiles the latest fixtures, truss, gobos, gels -- library objects which are popular in the industry -- and includes them as new items available for you from the Library Browser.

## Security & Product Levels → new options

**Improved Dongle Security System:** We have improved the security of our products. Using better encryption algorithms for our dongles, we are protecting your investment and making ***wysiwyg*** more difficult to be tampered with by hackers. As a result, all dongles currently in the field must be checked to confirm they support ***wysiwyg***'s new security system. For newer USB dongles that pass the test, an online process is available that updates your dongle to run with R23 and newer Releases; older USB dongles that fail the test (do not support the new security system) and all Parallel dongles must be exchanged by contacting CAST Software for a new USB dongle. Replacement dongles are free for ***wysiwyg*** Members in good standing.

**Dongle Re-Authorization:** This new initiative will help safeguard your dongle, ensuring that if it is lost, stolen, or found by someone else, the new user will only be able to work with it until the currently authorized date, but never beyond. Re-authorization requires that you "re-authorize" your dongle once each year by logging into your Member's site, obtaining your Dongle Re-authorization Code and then applying this new code to your dongle.

**Dongle Leasing:** Starting with Release 24, you will have the option to lease your Dongle on a prepaid yearly basis. Leased dongles will carry the same privileges as purchased ones (i.e., software updates, library updates, and technical support). However, unlike purchased dongles, once the lease term has expired, that dongle will not permit ***wysiwyg*** to operate. At that point, you can either renew the lease term or purchase the dongle. This option is more expensive than renewing your Membership but may appeal to those who use ***wysiwyg*** infrequently. Full details and pricing for Dongle Leasing will be available when R24 is launched.

## Use the power and reality of the best ... to show off your best …

***wysiwyg*** **Demo (Dongle-less Console Viewer):** To better show the power of ***wysiwyg***, we have introduced console connectivity to any of our RWD's consoles and included limited, read only sample files in the Demo. With ***wysiwyg*** Demo, your hardware can connect and display full lighting functionality with a real lighting console, with cues from your console, and experience the value of ***wysiwyg***'s LIVE Shaded View as a tool to pre-visualize a show.

**YES stage lighting in R23 Shaded View**

**New features composing a *Really Virtually Real* Image!**

# wysiwyg IT JUST KEEPS GETTING BETTER

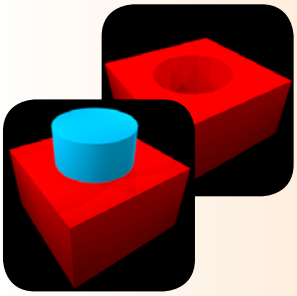
***wysiwyg*** development and innovation continues from two distinct approaches which work together in that the rolling forward long-term objectives for ***wysiwyg*** development and innovation define the innovative new features the Releases which are delivered in the short-term. Accordingly, and we have big plans, currently under development, for the future. As a result, consistent with the past years and on into the future, you can expect that ***wysiwyg*** just keeps getting better!

Here are a few highlights of recent Releases leading up to R22 + R23 + R24

## Some of our recent milestones

### R21 – Dec 07

**100 NEW FIXTURES!** CAST's biggest – ever. From LEDs to automated lights, all types of fixtures from all regions of the world → every single fixture addition came directly from a User request.



### R20 – July 07

**Better File Sizes** – LOT smaller, faster, and more manageable.
**Better Holes** – new Subtract/Unite/Intersect tool to do stuff like blast out a window in a wall, join two cylinders into one, and merge two objects.
**Better Pictures** – LES Wizard Image Mapping and new Image Console let you simulate low to medium res LED walls or curtains and apply images to arrays of light-emitting surfaces. (Ed: the precursor to the new LEDs).
**Better Lines** – choice of new Line Weight Options → improve the look and legibility of your plots.


### R19 – Mar 07

New features let Users **import from Google's SketchUp**
PLUS library object texturing; 200+ new or updated gobos; 200+ new types of truss; 145 new fixtures (moving, conventional, LED, and more); improved accuracy of moving lights.

# IT JUST KEEPS GETTING BETTER !

## Updated Features List

***wysiwyg*** offers Production Professionals an unparalleled, comprehensive toolset. Most Users choose ***wysiwyg*** Design. If you need to connect to supported consoles or motion controlling devices, or to use ***wysiwyg***'s time-saving AutoPatch and AutoFocus features, then you need to step up to ***wysiwyg*** Perform. ***wysiwyg*** Report is the introductory level with limited capabilities, usually ideal for students or those entering our Industry.

Dealers, lighting console manufacturers or any lighting professionals can use the new ***wysiwyg*** DV (for Demo Version) for free, without a dongle, as a viewer to demonstrate or learn consoles, using one of 4 different custom built onboard sample files. DV is an extremely beneficial tool to use at showrooms, testing labs, trade shows, fairs and conventions around the world. (As always, connectivity occurs via CAST's Registered ***wysiwyg*** Developer Program. Any of CAST RWD's can instantly take advantage of this free viewer working on their equipment!)

See the Table below for a helpful comparison of the available ***wysiwyg*** products. For more information about these products, go to www.wysiwygsuite.com or contact CAST Software.

| Product Comparison Table – R24 (Jul 09) | ***perform*** $4999 | ***design*** $2499 | ***report*** $699 | ***demo*** (free) | ***viewer*** (free) |
|---|---|---|---|---|---|
| **CAD** | | | | | |
| 2D views | ✓ | ✓ | ✓ | ✓ | ✓ |
| 3D views | ✓ | ✓ | | ✓ | ✓ |
| CAD elements & shapes | ✓ | ✓ | ✓ | ✓ | |
| CAD modelling tools | ✓ | ✓ | ✓ | ✓ | |
| Metric & imperial unit systems | ✓ | ✓ | ✓ | ✓ | ✓ |
| Drawing in real-world measurements | ✓ | ✓ | ✓ | ✓ | |
| Layers & Scenes | ✓ | ✓ | ✓ | ✓ | |
| Undo | ✓ | ✓ | ✓ | ✓ | |
| Venue creation | ✓ | ✓ | ✓ | ✓ | |
| Dimensioning | ✓ | ✓ | ✓ | ✓ | |
| Conventional fixture support | ✓ | ✓ | ✓ | ✓ | |
| Automated fixture support | ✓ | ✓ | ✓ | ✓ | |
| Fixtures automatically attach to hanging structures | ✓ | ✓ | ✓ | ✓ | |
| Truss structures | ✓ | ✓ | ✓ | ✓ | |
| Graphic representation of lighting accessories | ✓ | ✓ | ✓ | ✓ | |
| Fixture focus (Pan / Tilt) | ✓ | ✓ | ✓ | ✓ | |
| Footprint focus | ✓ | ✓ | ✓ | ✓ | |
| Shutters and beam shaping | ✓ | ✓ | ✓ | ✓ | |
| Intelligent library items (not symbols) | ✓ | ✓ | ✓ | ✓ | |
| Snap tools | ✓ | ✓ | ✓ | ✓ | |
| Align tools | ✓ | ✓ | ✓ | ✓ | |
| Line Weights | ✓ | ✓ | ✓ | ✓ | ✓ |
| TrueType Fonts | ✓ | ✓ | ✓ | ✓ | |
| Boolean operations | ✓ | ✓ | ✓ | ✓ | |
| Consolidate Mesh | ✓ | ✓ | ✓ | ✓ | |
| Import floorplan image | ✓ | ✓ | ✓ | ✓ | |
| Import from .skp file format | ✓ | ✓ | ✓ | | |
| Import & export from .dwg & .dxf format | ✓ | ✓ | ✓ | | |

*R24 - Continued*

| Product Comparison Table - R24 (Jul 09) | *perform* $4999 | *design* $2499 | *report* $699 | *demo* (free) | *viewer* (free) |
|---|---|---|---|---|---|
| **WIZARDS & TOOLS** | | | | | |
| Riser tool | ✓ | ✓ | ✓ | ✓ | |
| Venue creation tool | ✓ | ✓ | ✓ | ✓ | |
| Render Wizard | ✓ | ✓ | ✓ | ✓ | |
| Offline lighting designer tools | ✓ | ✓ | ✓ | ✓ | |
| Light Emitting Diode (LED) Wizard | ✓ | ✓ | ✓ | ✓ | |
| Quick tools | ✓ | ✓ | ✓ | ✓ | |
| **PAPERWORK** | | | | | |
| Interactive with CAD | ✓ | ✓ | ✓ | ✓ | |
| Data entry | ✓ | ✓ | ✓ | ✓ | |
| Customizable report content | ✓ | ✓ | ✓ | ✓ | |
| Customizable report headings & layout | ✓ | ✓ | ✓ | ✓ | ✓ |
| Data filtering | ✓ | ✓ | ✓ | ✓ | |
| Error checking | ✓ | ✓ | ✓ | ✓ | |
| Create spreadsheets | ✓ | ✓ | ✓ | ✓ | |
| Export to Excel (.xls) format | ✓ | ✓ | ✓ | | |
| Print spreadsheets | ✓ | ✓ | ✓ | | |
| Add spreadsheets to plots | ✓ | ✓ | ✓ | ✓ | |
| **PLOTS** | | | | | |
| Customizable plot layout | ✓ | ✓ | ✓ | ✓ | ✓ |
| Printable workspace | ✓ | ✓ | ✓ | | ✓ |
| Multiple views on one page | ✓ | ✓ | ✓ | ✓ | ✓ |
| Paperwork on plots | ✓ | ✓ | ✓ | ✓ | ✓ |
| Logos & bitmaps on plots | ✓ | ✓ | ✓ | ✓ | ✓ |
| Scaling | ✓ | ✓ | ✓ | ✓ | ✓ |
| Key Wizard | ✓ | ✓ | ✓ | ✓ | ✓ |
| Legend Wizard | ✓ | ✓ | ✓ | ✓ | ✓ |
| Title block | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tile printing | ✓ | ✓ | ✓ | | ✓ |
| **PRE-VISUALIZATION** | | | | | |
| 3D views | ✓ | ✓ | | ✓ | ✓ |
| Light beams in 3D views | ✓ | ✓ | | ✓ | |
| Enhanced beams (accurate colour mixing, lens flare, hot spot) | ✓ | ✓ | | ✓ | |
| Shadow simulation | ✓ | ✓ | | ✓ | |
| Smoke simulation | ✓ | ✓ | | ✓ | |
| Light emitting diodes (LEDs) simulation | ✓ | ✓ | | ✓ | |
| Light emitting surface simulation | ✓ | ✓ | | ✓ | |
| Textures support | ✓ | ✓ | | ✓ | |
| Custom gobo support | ✓ | ✓ | | ✓ | |

***R24** - Continued*

| Product Comparison Table - R24 (Jul 09) | *perform* $4999 | *design* $2499 | *report* $699 | *demo* (free) | *viewer* (free) |
|---|---|---|---|---|---|
| **PRE-VISUALIZATION - CONTINUED** | | | | | |
| Visualization of pre-recorded & live streaming video | ✓ | ✓ | | ✓ | |
| Video beam support for digital lighting fixtures | ✓ | ✓ | | ✓ | |
| Real beam simulation for Colour Temp & Inverse Square Law | ✓ | ✓ | | ✓ | |
| Pre-viz moving elements without ext. Controller | ✓ | ✓ | | ✓ | |
| Time of Day Simulation (Environmental Lighting) | ✓ | ✓ | | ✓ | |
| Transition between saved looks | ✓ | ✓ | | ✓ | |
| Fixture Point of View (POV) in 3D view | ✓ | ✓ | | ✓ | |
| User-definable Performance & Style View Options | ✓ | ✓ | | ✓ | |
| Connection to DMX devices | ✓ | | | samples | |
| Hook-up channel count capacity | Up to 51200 | | | samples | |
| Direct connection to supported consoles | ✓ | | | samples | |
| Connection to motion control devices | ✓ | | | samples | |
| 2-way console comm. (AutoFocus,AutoPatch) | ✓ | | | samples | |
| Control moving elements via DMX | ✓ | | | samples | |
| Video interface via CITP Protocol | ✓ | | | samples | |
| **RENDERING** | | | | | |
| Photo-realistic renderings | ✓ | ✓ | | 100 x 100 | |
| Create renderings without DMX source | ✓ | ✓ | | ✓ | |
| Material property simulation | ✓ | ✓ | | ✓ | |
| Natural light / sun mapping | ✓ | ✓ | | ✓ | |
| Light emitting surfaces | ✓ | ✓ | | ✓ | |
| Background Rendering Manager (offline capability) | ✓ | ✓ | | ✓ | |
| **LIBRARIES** | | | | | |
| Searchable Library Browser | ✓ | ✓ | ✓ | ✓ | |
| Fixture library | ✓ | ✓ | ✓ | ✓ | |
| Conventional fixture count (in library) | 2510+ | 2510+ | 2510+ | 2510+ | 2510+ |
| Automated fixture count (in library) | 650+ | 650+ | 650+ | 650+ | 650+ |
| Truss library | 4400+ | 4400+ | 4400+ | 4400+ | 4400+ |
| Gobo library | 3800+ | 3800+ | 3800+ | 3800+ | 3800+ |
| Color library | 2050+ | 2050+ | 2050+ | 2050+ | 2050+ |
| Texture library | ✓ | ✓ | ✓ | ✓ | |
| Material library | ✓ | ✓ | ✓ | ✓ | |
| Create custom conventional fixtures | ✓ | ✓ | ✓ | ✓ | |
| Create custom library items | ✓ | ✓ | ✓ | ✓ | |

***R24** - Continued*

| Product Comparison Table - R24 (Jul 09) | *perform* $4999 | *design* $2499 | *report* $699 | *demo* (free) | *viewer* (free) |
|---|---|---|---|---|---|
| **USER INTERFACE** | | | | | |
| Simple CAD navigation | ✓ | ✓ | ✓ | ✓ | |
| Customizable screen layout | ✓ | ✓ | ✓ | ✓ | ✓ |
| Customizable ruler tool | ✓ | ✓ | ✓ | ✓ | |
| Dual monitor support | ✓ | ✓ | ✓ | ✓ | ✓ |
| Multiple popup windows supported | ✓ | ✓ | ✓ | ✓ | ✓ |
| Integrated libraries | ✓ | ✓ | ✓ | ✓ | ✓ |
| User definable fixture attribute notation | ✓ | ✓ | ✓ | ✓ | |
| **GENERAL** | | | | | |
| Dongle Security – AES Encryption | ✓ | ✓ | ✓ | | |
| Dongle Reauthorization Program | ✓ | ✓ | ✓ | | |
| Dongle Lease Program | ✓ | ✓ | ✓ | | |
| Dongle-less Console Viewer (with Sample Files only!) | | | | | ✓ |
| Auto-save | ✓ | ✓ | ✓ | | |
| Reference Guide | ✓ | ✓ | ✓ | ✓ | ✓ |
| Online HTML help | ✓ | ✓ | ✓ | ✓ | ✓ |
| Context-sensitive help | ✓ | ✓ | ✓ | ✓ | ✓ |
| Technical Support (included with Membership) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Import formats | DWG, DXF, SKP, BMP, JPG, PNG, GIF, TGA, TIFF, LW2, Excel | | | image formats | |
| Export formats | DWG,DXFBMP,JPG,PNG,GIF,TGA,TIFF,Excel | | | | |
| CamStudio | Optional during Installation | | | | |

# R24 BETA TESTING

***Beta testing — committed to sustaining high standards while gleaning your valuable ideas for the future***

CAST's objective for its Beta Testing Program is to uphold the highest level of dependability and robustness by enlisting Members to test drive Releases, and sometimes specific innovations, in the field under a breadth of real conditions. CAST carefully monitors the Testers and ensures a reasonable cross-section of uses in order to optimize the usefulness of the feedback.

CAST takes Beta Tester and Member feedback very seriously. Dany Tancou, Technical Support Manager for CAST Software says, "One of my main responsibilities is helping Members solve unique challenges, which often translates into great ideas for future ***wysiwyg*** Releases. Although we get input from many sources, our Members are our greatest source of inspiration."

If you'd like to be considered for upcoming Releases, please get in touch with Dany@cast-soft.com.

As you read this article, Beta Testing of R24 has wrapped up and the final tweaking and fixes are being put into R24, and tested prior to its release to Members.

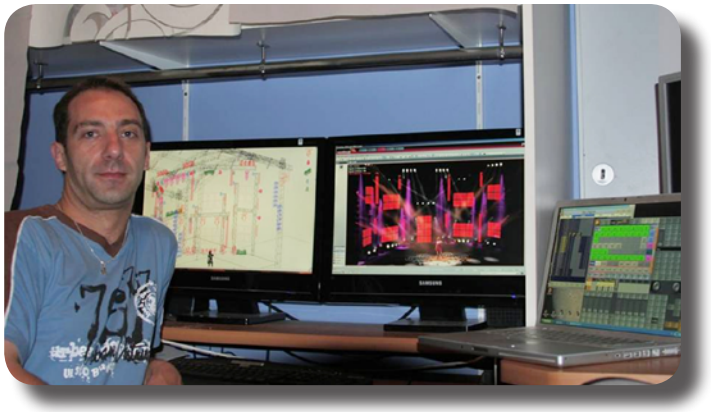
***Beta testers' draw***

On 09 Jul 09, Dino Mazza, Product Manager, and Dany Tancou, Manager Tech Support, put the names of all Beta Testers who submitted ***wysiwyg*** R24 Beta Test feedback before the contest deadline into a box and drew a winner.

And the winner is..[drum roll] Yves MANGIN, Light Designer / operator of Strasbourg, France. Yves, who works in an independent firm with a number of production professionals, wins a free one-year Membership renewal for his ***wysiwyg***.

Congratulations and our gratitude to Yves and all Beta 24 Testers.

***Let us introduce Yves ...***



"As a Lighting Designer, ***wysiwyg*** is very important to me. My imagination and creativity run freely; new concepts can be tried and previsualized. Without spending one Euro, I can see on my screen what works, tweak and produce alternative concepts or decide to start over. Then at the end, ***wysiwyg*** allows me to present a very realistic 3D project to my clients.

The great advantage of ***wysiwyg*** is that technically, you soon notice all the possibilities it gives you, according to the size of the decoration, of the room and according to the sound. The virtual reality from ***wysiwyg*** and reality are very similar.

The virtual reality to reality is easy to achieve because ***wysiwyg*** uses real equipment standards. This is a huge gain of time on the set. I get less stress and have no anxiety about the question of reliability of the system.

Finally, from the perspective of the "operator", the live mode function is, without any doubt, the strength of ***wysiwyg*** [that is AutoPatching & AutoFocus]; it saves working time on the set and for setting up and focusing the lights, even the advantage and time saving of getting the lights to operate during the rehearsal."

Thank you Yves!

# *wysiwyg* WORKS VIRTUALLY WITH HARDWARE AND TECHNOLOGY MANUFACTURERS

**CAST Software** delivers high quality software solutions that are universal or non partisan to any particular hardware/technology manufacturer or supplier. We realize that many if not most production professionals work on a number of different projects (each using a different mix of equipment from different manufacturers/suppliers) with a number of different teams, so for business reasons it is important to have tools that are adaptable to changing needs.

We understand your needs. ***wysiwyg*,** courtesy of its Library that comprises greater than 20,000 intelligent lights, gobos, trusses, etc., delivers you the advantage of universality -- the ease and hability to work with different equipment from different manufacturers so you can work on many different projects.

***wysiwyg*'s** planned universality also benefits those manufacturers and suppliers that are members of CAST's **Registered *wysiwyg* Developer (RWD) program.** Indeed, ***wysiwyg*** connects to almost all of the major entertainment control hardware manufacturers in the world.

Today there are more than 40 RWDs. They joined the RWD program because of ***wysiwyg***'s power, it's non partisan policy and to make their equipment an option for any one of the more than 10,000 production professional who use ***wysiwyg*** to plan or design projects. Essentially, RWD members leverage wysiwyg to help get information about their products to the large wysiwyg market.

"We are proud to announce that MADRIX now supports the industry standard ***wysiwyg***. This allows the ***wysiwyg*** professionals to plan a show using a MADRIX simulation with up to 131,072 DMX-channels. For us and the MADRIX brand it's important to support the industry standard for visualization because at the same time our goal is setting new standards for LED lighting control.

This implementation and other unique features of MADRIX version 2.6b, like the Philips Color Kinetics, ROBE and INSTA protocol implementation, opens for us new doors especially the market of professional shows.

For more information about CAST's RWD program, click gdensham@cast-soft.com or check out our website.

Here are two very current examples about how RWDs harness the power and renown of ***wysiwyg*...**

## Panalux integrates *wysiwyg* in new Vizilink

*Courtesy of Panalux www.panalux.biz*

Panalux Lighting, an international market leader in the provision of lighting facilities for film and television production has recently unveiled a lighting control system for the feature film industry called Vizilink. Panalux is the union of Lee Lighting and AFM Lighting, now owned by Panavision, the leading force in motion pictures produced on film and digital media. Panavision is the world's leading designer, manufacturer and supplier of precision film and digital camera systems for motion pictures and television, and winner of numerous awards, including Oscar and Emmy awards. In fact, over half of all films awarded Oscars for Best Picture of the Year since 1990 have been shot using Panavision cameras.

The Vizilink system by Panalux is a brand new, fully integrated suite of bespoke products and software applications developed specifically for use within the Film, Television and Broadcast Event industries.

Included in the new system is a modified Chamsys MagicQ, Military spec Tablet PC remote, handheld PC remote, custom engineered wireless playback remote, A3 printer for plots, Luminex Artnet Nodes and a Quad core industrial PC running video streaming from the video assist cameras, all with full ***wysiwyg*** visualizations on 3 large touch screens.

The first two beta systems used a ***wysiwyg*** Perform on each. Chamsys had the live integration, patching and playback between ***wysiwyg*** and the MagicQ running seamlessly, so Panalux decided to install ***wysiwyg*** Perform suite in all future systems. Steve Howard with the Broadcast and Event branch of Panalux worked closely with CAST Software to customize the ***wysiwyg*** library built into the desk.


Vizilink allows precise, creative command over complete production installations from a single 'base station' or via a range of unique handheld remote devices. Delivering realtime control of live effects and lighting sequences, Vizilink stores each performance in an internal memory to be used later for instant set-up and playback for multiple takes or re-shoots.

# wysiwyg Works Virtually With Manufactures - Continued

## Panalux - Continued

Flightcased into a single portable unit, the system can be easily configured ready for use in less than 15 minutes and requires just one operator. Optimal operational flexibility is provided via a family of remote controllers utilizing robust UHF frequencies, free from interference or network clashes, to deliver instant, live access to channels.
Built around a central operating console featuring three built in touch screen LCD panels, Vizilink keeps users fully informed through detailed analysis provided by way of industry standard ***wysiwyg*** software, graphical interpretations of the lighting installation, plus a live video assist transmission to allow accurate on screen visualization.

To offer further versatility along with added peace of mind, Vizilink maintains comprehensive digital records of all scenes, creating accurate 3D plots for quick and easy access where an installation must be recreated, analysis in a digital environment such as post production is required or when detailed printed plans are needed. Available exclusively through Panalux, Vizilink is a total production solution for cameramen, lighting directors, gaffers and operators who require the ultimate control solution from concept to completion.

*British Cinematographer magazine* quoted Haris Zambarloukos from the British Society of Cinematographers, “Film lighting has needed a lighting desk that is up to date with the needs of modern film making and I think Panalux have finally got it right.”

Only a handful of units have been developed at this time, although initial reviews indicate that Vizilink will revolutionize the motion picture industry. Stay tuned to future issues of The Plan for updates regarding sales and distribution.

## MADRIX® 2.6b sets new standards

MADRIX 2.6 has received a lot of attention at this year’s prolight+sound 2009. Madrix has controlled LED applications at 8 trade show booths and one large outdoor stage. The new version of Windows-based MADRIX lighting controller is now available – MADRIX 2.6b. And this version sets new standards for LED lighting control.

### *Integration of the Philips® Color Kinetics® (KiNetTM ) protocol:*

With the newest release of MADRIX, you can now control all of the LED products of Philips Color Kinetics (KiNetTM). MADRIX communicates in the lighting installation (power / data supplies and Ethernet Data Enablers) via KiNET™ Ethernet, the network protocol engineered by Philips Color Kinetics for high-performance lighting system control.

This KiNET™ integration allows you to use all the advantages of the lighting controller MADRIX for architectural lighting, the entertainment market, club installations and bar applications with the Philips Color Kinetics LED product range. Featuring Ethernet-based control, MADRIX dramatically simplifies the configuration, installation and the controlling of LED applications.

With its scalable design, MADRIX offers the ideal controller for your upcoming LED project. Installed with standard Ethernet cabling and network hardware, MADRIX can manage up to 131,072 Philips Color Kinetics LED nodes or 43,690 Philips Color Kinetics RGB LED nodes in a very easy way.

The KiNET™ protocol also allows a data sync. The result of this sync with MADRIX and KiNET™ is a perfect matching image on huge LED installations.

### *Integration of the INSTA and ROBE protocol:*

Additionally, the developers of MADRIX 2.6b have integrated the INSTA protocol for the instalight® 2022 and the ROBE protocol for the ROBE StageQube 324 to extend the market share. The ROBE StageQube 324 and the instalight® 2022 are new-generation LED panels. The resolution is 18 x 18 pixel at a size of 80 x 80 cm (pixel pitch 4.44 cm). And MADRIX can easily manage up to 134 x instalight® 2022 or the ROBE StageQube 324. The INSTA and ROBE protocol data sync with MADRIX also allows for a perfect matching image on very large LED installations.

### *wysiwyg driver*

***wysiwyg*** is an Emmy and Gemini award-winning software suite that continues to be the top choice of entertainment lighting design professionals worldwide. With the release of MADRIX 2.6b you now get a driver that allows you to plan, design, and program your production in ***wysiwyg*** for up to 131,072 DMX-channels using MADRIX and LED fixtures. This association between inoage, the developers of MADRIX, and Cast Software - the developers of ***wysiwyg*** increases the field of application of MADRIX; especially for the professionals.

The new MADRIX truly is the next generation of LED lighting control. The developers of MADRIX spent countless hours considering things like simplicity and user interfacing…… and once you begin using your new MADRIX version, you’ll discover the incredible benefits.

inoage trade GbR - Herr Christian Hertel
Fetscherplatz 5 - D-01307 Dresden - GERMANY
Tel: +49-351-4820563-0 - Fax: +49-351-4820563-1
http://www.madrix.com
http://www.youtube.com/user/inoageDOTcom
http://twitter.com/madrix

inoage
innovation not average

# EUROVISION 2009: THE BIGGEST PRODUCTION IN HISTORY


EUROVISION 2009 - Moscow

EUROVISION 2009 - Moscow

In our last issue of The Plan (May 2009), CAST gave you a sneak preview to The Eurovision Song Contest in Moscow, where ***wysiwyg*** was helping the crew prepare for an elaborate production. The show indeed proved to be the biggest and best in history, breaking records in everything from number of production days, number of viewers and even roof load, with everyone agreeing in the end – "this one can never be outdone."

The event was broadcast live from Moscow's Olimpiysky Arena in front of a live audience of 18,000 to an estimated 200 million television and internet viewers, second worldwide only to the Olympic Opening Ceremonies.

Procon Event Engineering GmbH of Hamburg, Germany provided all technical crew and equipment for the colourful array of 42 songs, 3 opening acts, and 3 interval acts packed into 3 live broadcasts. Production Manager Ola Melzig oversaw the Procon crew of over 70 throughout their 52-day stay in Moscow.

EUROVISION pre-progamming studio in London

Here's the schedule: May 12, Semifinal 1. 18 countries perform their original song live with a 32-second break between songs to change sets. At the end of the 18 songs, the public votes live via televoting during a 15-minute interval act (although countries are not allowed to vote for themselves). The top 10 countries go on to the finals on May 16. May 14, Semifinal 2. Same schedule as Semifinal 1 but with 19 new countries. May 16, Finals. 25 countries – 10 from Semifinal 1, 10 from Semifinal 2, plus last year's winner, Russia, and the "Big Four" countries – UK, France, Germany and Spain. The voting for the finals is based on points and the country with the most points wins the contest and will host the show next year.

In addition to a rigorous schedule, this year incorporated some of the most complex opening and interval acts in Eurovision history, including Cirque du Soleil and Fuerza Bruta in the final, involving everything from trampolines and bungee jumpers to water-filled swimming pools lowered from the arena ceiling with performers swimming and splashing over the heads of the audience.

Award-winning Lighting Designer Al Gurdon, along with the team from his company, Incandescent Design, was contracted to

Cirque Du Soleil swims over the audience during the interval act

## *Eurovision 2009- Continued*

provide lighting design & front of house services for Eurovision. Gurdon handpicked over 750 moving lights, 250 LED lights and 100 conventionals to compliment a mass of LED. “The goals of the organizers were ambitious, but everything they aimed to do was achieved. We had to design a huge variety of looks in a relatively short time period, but it all worked,” said Gurdon.

EUROVISION 2009 - Moscow

The rig included 72 PRG Bad Boy luminaries, 400 Martin MAC 2000 Washes, 76 MAC 600 washlights, 135 Clay Paky Alpha Spot 1200s, 10 Syncrolite SX 10K fixtures, 13 Vari*lite VL3000 and 112 Martin Atomic strobes with colour changers, to name a few. The roof load stood at an astounding 140 tons and the total stage area was over 100 metres wide, covered in over 21,000 square feet of LED.

EUROVISION 2009 - Cirque du Soleil performing on stage

All of the stage and audience Lighting was controlled through one Vari*Lite Virtuoso and one Grand MA Fullsize, controlled by Andrew Voller and Ben Cracknell. Voller and Cracknell used ***wysiwyg*** for the pre-programming as Essential lighting. The original plan was for the entire team, including video, to use one single ESP Vision system on a video projector. The problem was that with the number or lights they were using it was too slow, taking up to 20 hours per song to render in some cases. They instead moved to independent ***wysiwyg*** systems to get the best performance and enable them to get a lot more work done. In addition, very little of the video content was prepared while the team was in London so it made no sense to previsualize these elements. Voller explains, “***wysiwyg*** was a huge timesaver for us, which was crucial for a show of this magnitude. There were 42 songs, plus 3 interval and 3 opening acts to be prepared for the live broadcasts. ***wysiwyg***’s advanced visualization enabled us to get the bulk of the songs pre-programmed in London to a point where they only required focus updates and tweaks on-site in Moscow. We could not have delivered such a large and complex show as the Eurovision Song Contest without the capabilities of ***wysiwyg*** for pre-programming.”

Once all the votes were tallied, Norway’s song “Fairytale”, written and performed by Alexander Rybak took home top honors, meaning the contest will be held in Norway 2010.

*Looking back* at our sneak preview, did anyone notice that we had posted the photo of the winner before the votes were even tallied?

Now that’s pre-visualization!

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Sneak Peek at Eurovision 2009
by Joan Lyman Melzig

*Photo Image of Eurovision 2009 set from Moscow, Russia*

*EXCLUSIVE:* ***wysiwyg*** at Eurovision Song Contest in Moscow

# wysiwyg showcase

Reading the email inbox at CAST Software is always fascinating. We constantly receive designs from Members all over the world, sharing their ideas and designs. We look at them all. Whether it's a design used on a project or just trying some new techniques, we're interested to see what you're doing.

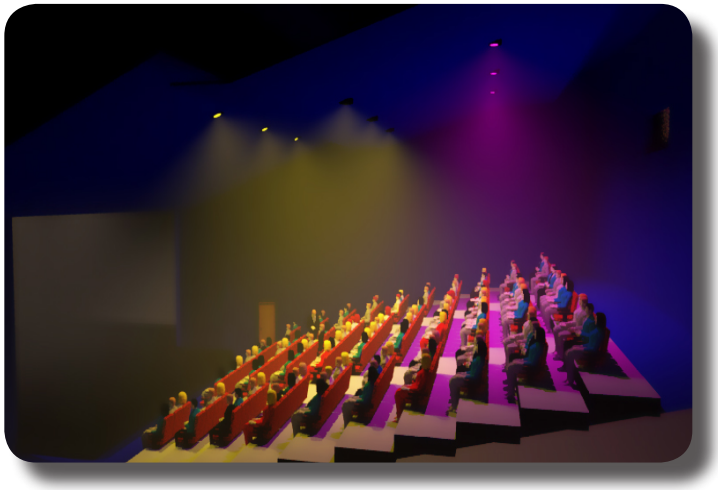
We encourage everyone to email your samples and stories to info@cast-soft.com. If your design is selected, you will receive a free 3-month extension to your Membership, and your work will be shared with more than 15,000 Members via The PLAN.

In this issue, we'd like to feature some renderings from **Richard Goode at Thomas Lighting Canada**, illustrating some very different, yet very helpful ways to use ***wysiwyg***.

1) **Strand Selecon at work**. Two level theatre lobby area with small temporary stage for corporate function.

2) **Small school stage**. Proof of design that 6 fresnels and 4 ERS can light a stage with the correct products and placement. Previously this was all guesswork with 2D electrical plans.

3) **Theatre House lighting**. Proof of concept using 8100 lumen CYM downlights architecturally. White light is necessary but add color for theme or special events.



4) **Office lighting plan**. Example showing how ***wysiwyg*** does architectural lighting. Used live to demonstrate load shedding for energy saving either by occupancy sensing, daylight or astronomic events.

Just more proof that ***wysiwyg*** can do almost anything and this is why it is the industry standard.

Keep those great ideas coming -- your designs and ideas on the pages of The PLAN.

Remember that any time you send creative work to CAST we need your full permission to use it. Be sure to include your writen permission in your email — the date, your name and email address; — as well as any restrictions or special uses, and any special instructions.

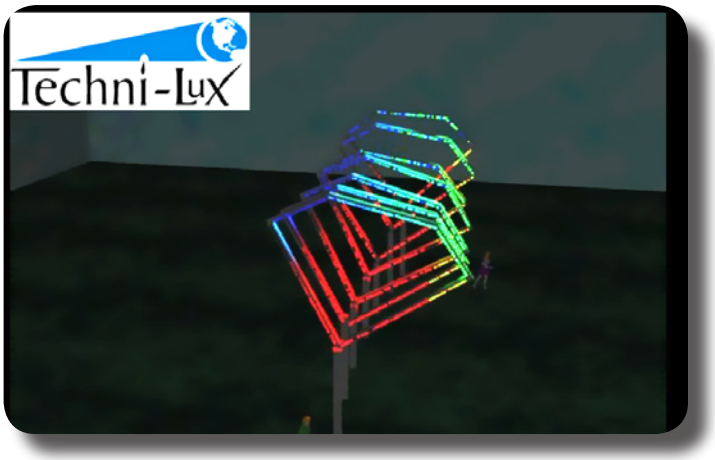
# *wysiwyg* BRINGS BIZARRO TO REALITY

***wysiwyg*** design has reached new heights at Six Flags New England on the recently remodeled roller coaster, BIZARRO. This newly-enhanced roller coaster offers high-speed thrills combined with high tech special effects in a unique story-telling adventure.


**Bizarro Roller Coaster at Six Flags**

Six Flags is the largest family theme park and waterpark in New England, with 235 acres and 46 attractions. The park dates back to 1840, originally under the Riverview Amusement Park name and re-branded Six Flags New England in 2000.

Lighting Designer and System Consultant Tony Hansen of Techni-Lux in Orlando, Florida created an electrifying lighting scheme for the thrill ride using ***wysiwyg*** and a CSP video to prove the concept and help illustrate the animation possibilities. Techni-Lux was approached for the project based on recommendations of their expertise in themed attractions. Hansen says, "***wysiwyg*** was the tool we used to help demonstrate the ability of our design concept and ultimately gain the trust of the client that our concepts were feasible in their environment and requirements."




**Rendering of the Bizarro Roller Coaster Project**

The ride is themed around the DC Comics character Bizarro, best known as a strange Superman-like creature from a parallel Earth known as Htrae where daily life is the exact opposite of Earth. Htrae's superhero, Bizarro, possesses traits and powers the opposite of Superman, such as freeze vision, heat breath, and x-ray hearing. Six Flags ride designers not only wanted to design an exciting coaster, but also wanted to take travelers through Bizarro's world.

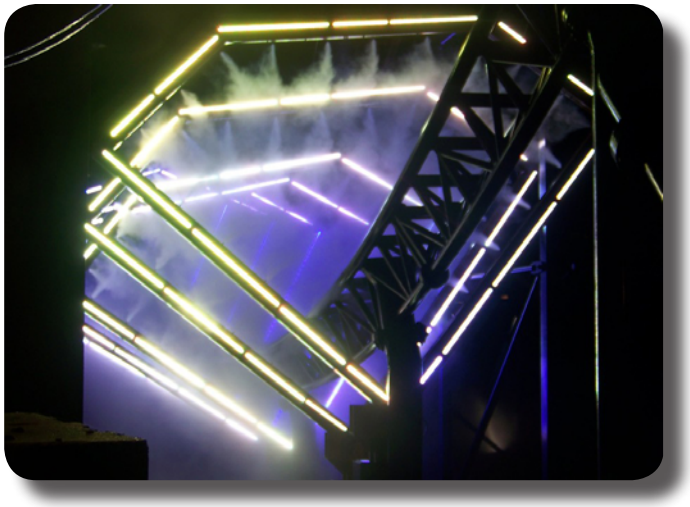


**Photo of Bizarro Roller Coaster**

The coaster is floorless, giving riders the sensation of flying as their feet dangle above the track. The three minute and fifteen second adventure takes riders through a 146-foot (48.5-metres) climb and speeds up to 61 miles-per-hour (100 kilometers-per-hour) through Bizarro's freeze vision "cool zone." The rush continues through seven loops — including 114-foot (35-metres) vertical and 96-foot (30-metres) dive loops — blasting past bursts of Bizarro's fire breath and racing by bizarre scenes and illusions.

The mind-boggling 3,985-foot (1.2-kilometer) twisting journey of storytelling and high-tech elements ends by sending riders head first into a spiked-shaped Auger of Doom, set inside interlocking corkscrews. Throughout the entire journey, riders experience the adrenaline rush with special effect lighting and heart-pounding, on-board audio taking them to a whole new level of imagination.

The project required the use of high-powered LEDs to be visible in full sunlight and still be durable enough to withstand the constant vibration caused by the coaster train passing at over 60mph (100kph) every few minutes. Hansen designed an "un-Earthly" tunnel using 105 Pulsar Chromastrip X3TC units to create a colorful passageway. The lighting concept took quite a bit of

## Bizarro - *Continued*

design and testing to convince the client that LED technology was up to the requirements for daylight viewing. Once the project was approved, all of the pre-programming was done on ShowCAD Artist using the ***wysiwyg*** plug-in to previsualize the animations and coordinate the sequence timings. Hansen concludes: "As they say 'A picture is truly worth a thousand words' and an animation is worth a job."

This is far from the first project where Techni-Lux and Hansen have used ***wysiwyg***. Other projects include the Castle at Walt Disney World Florida, Brainwash & Disco H2O rides at Wet-n-Wild Florida, Jungle Boogie Ride at Chula Vista resort Wisconsin Dells, WI, as well as theme rides all the way to Copenhagen and Belgium. It was also used on the Parnelli Awards 2005-2009. More information can be found at www.techni-lux.com

Bizarro is just another one of the variety of jobs that can be accomplished, and won, using ***wysiwyg*** as your tool of choice. Great job, Tony!

*Photos of Bizarro*

A video of the thrill ride can be viewed at http://www.techni-lux.com/default.aspx?tabid=106.
Additional videos are available at www.seetheride.com.

# *wysiwyg* RAVES IN GERMANY

*Photo Image of Mayday Rave 2009*

Martin Kuhn Lighting Design in Berlin, Germany recently used ***wysiwyg*** to deliver a cutting-edge design to MAYDAY Massive Moments in Westfalenhallen Dortmund, Germany, north of Cologne. The event, held 30 April 09, was hosted by "imotion", the producers of the MAYDAY which is considered the "mother of all raves", the massive techno parties started long ago and are gaining popularity every year. Popular indeed, with Massive Moments seeing attendance over 25,000 and including 54 DJs and live acts with a massive lighting and sound scene that you just have to see to believe.

Kuhn used ***wysiwyg*** to figure out the 3D proportions of all the architectural elements in the set, as well as the LEDs, plasma screen and the relationship to all of the lighting behind the stage. "I like to build with depth, and it just makes my job so much easier if I can preview this," explains Kuhn. "The venue is quite large and the audience seating surrounds the dance floor in the rafters, up to a height of 50 feet (15 meters), so it's important to check the view from many angles to be sure the design works." He adds, "If it is difficult even for me, without a preview/render to really work it all out, how would the client be able to grasp it? He doesn't understand drawings. He wants renders shortly before the event and they then go online. So they better be decent!"


***wysiwyg*** *Rendering of Mayday Rave 2009*

Kuhn didn't use ***wysiwyg*** for preprogramming as much as for completing massive amounts of paperwork and, most importantly, for the renders. "So I was happy to be able to do it with R23," he said. Kuhn also points out that it is possible to adjust how the render appears in ***wysiwyg*** (especially useful for printing really high quality output), or to export it for touching up or adding special effects for eye-popping images.

***wysiwyg*** *Rendering of Mayday Rave 2009*

Tip: Sometimes, especially up close, "sawtooth edges" can appear in a render or picture. In order to smooth them out, before starting the rendering be sure to ENABLE Anti-aliasing in the last step of the Render Wizard. Remember that, if taken to the extreme, anti-aliasing can smooth "sawtooth edges" to the point where the edges become too blurry and unsightly. Rule of thumb — the higher the resolution of the rendering the higher the Anti-aliasing setting should be. Look for further tips on using Anti-aliasing in the next PLAN!

Additional background information photos and videos on MAYDAY Massive Moments can be found at:
http://www.nature-one.de/2708.0.html (in German).

Photos: Copyright Amanda Holmes
Kuhn's website www.mkld.de

# MUCHMUSIC VIDEO AWARDS

**MuchMusic Award Venue on Queen Street - Toronto**

The hugely popular MuchMusic Video Awards, which was held and broadcast live to millions worldwide on Sunday, 21 Jun 09 from a very crowded Queen St in Toronto, Canada. With more than 35,000 fans in the street, this is one of the premier fan-based events in the world, giving fans the experience of a lifetime by putting them as close as humanly possible to their favorite artists and celebrities at both live concerts and a red-carpet special beforehand.

**MuchMusic Video Awards Stage**

At the MMVAs, the audience is the priority, with many fans seated as close as one foot from the stage. This year featured top celebrities including Lady Gaga, Jonas Brothers, Kim Kardashian, Blackeyed Peas, Nickelback and Girlicious, among many others.

Lighting Designer Dave Fairfield of MuchMusic worked with Chris Newkirk from SCREAM!Lab consulting on this years MMVAs with an eyepopping lighting scheme all about LED's. Since the team would be beta testing ***wysiwyg*** R24 on this momentous event, CAST made sure that every one of the LED fixtures that Fairfield and Newkirk wanted to use was rebuilt ready for R24 beta to use. MuchMusic does all their drawings with ***wysiwyg***.

Newkirk, AKA "Dr. DMX", was responsible for the creation of the DMX data system, console links, routing, etc. They used 14 primary DMX universes from GrandMA/NSP's, as well as an additional 8 universes coming from media servers. Fairfield at MuchMusic built the ***wysiwyg*** model with all fixtures.

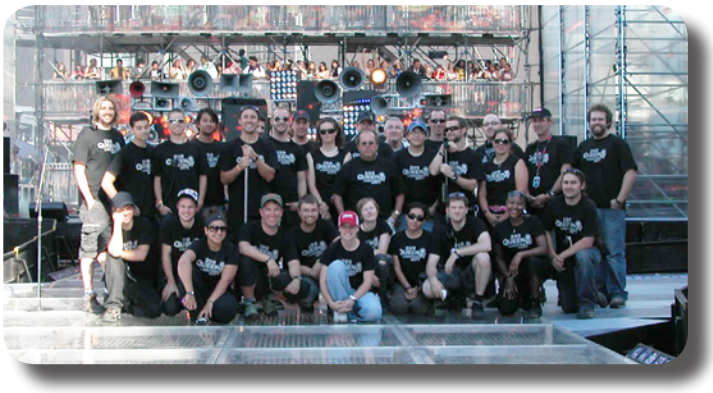
Newkirk received the file and patched all the fixtures in ***wysiwyg***, which generated the master patch list. It was sent to Christie Lites, so all fixtures arrived pre-addressed and labeled. Also, as there were small changes along the way, Newkirk had his machine running ***wysiwyg*** at his primary dimmer area and updated ***wysiwyg*** and his console patch as he worked.

"It's saved me HUGE amounts of grief," he said, "I'll be running ***wysiwyg*** in tandem with the system as a digital check, so I can see if I have data bus problems or system issues, should any issues arise. And the show is live to air, so the whole data system is redundant with A/B switches to switch over."

**Black Eyed Peas Performing on Stage**

The fixture list included 30 Martin Mac 2000 Wash, 20 Martin Mac 300, 104 Martin Mac 600NT, 47 Martin Mac 700, 144 Color Kinetics Color Blast, 12 Altman Focusing Cyc 1, 12 Atomic 3000, 22 Color Block M9, 350 OctoStrip, 68 76-inch Ministrip, 6 Par 56 Borderlight 6', 74 PAR 64, and 78 Source 4 750, for a total of over 960 fixtures.

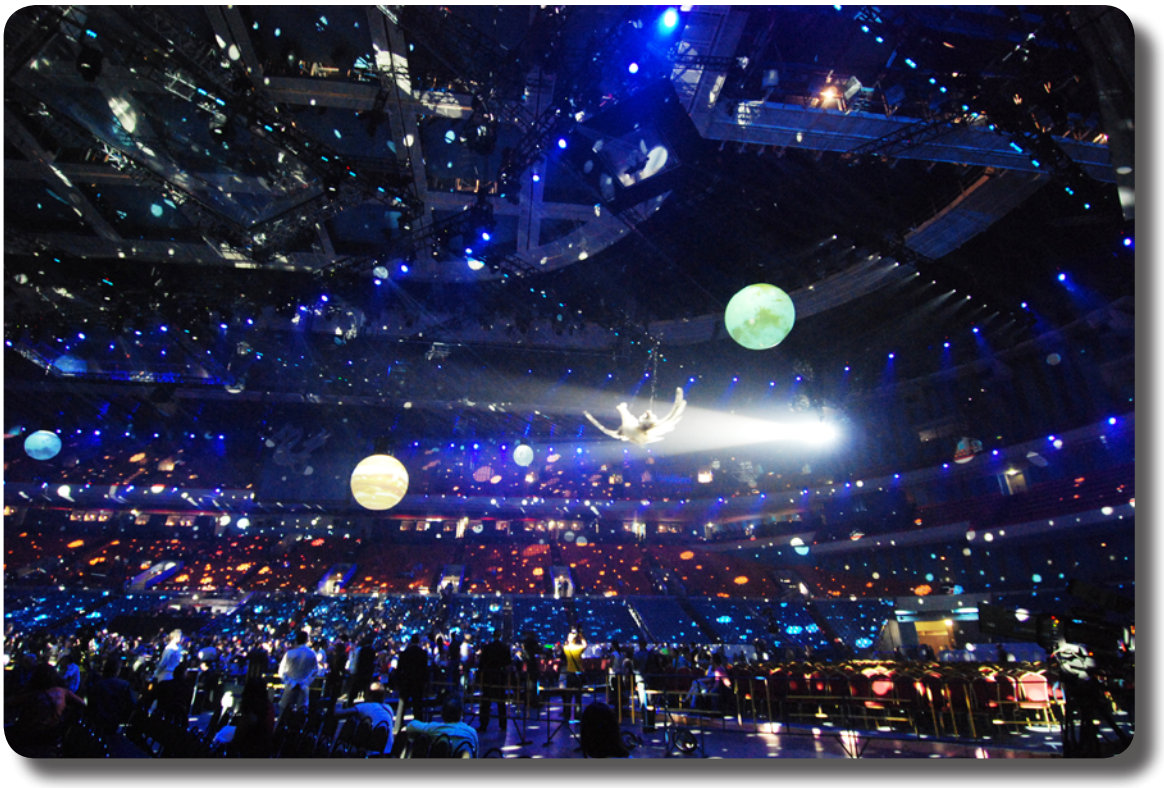
The lighting and staging were a perfect backdrop to watch Nickelback nab three trophies in front of thousands of frenzied fans, alongside other show highlights such as Lady Gaga shoot pyro out of her costume and see Twilight actors Taylor Lautner and Montreal's Rachelle Lefevre.



**MuchMusic Video Awards Production Crew**

More behind-the-scenes action http://mmva.muchmusic.com/

# BLACKBOX IS COMING - ARE YOU READY?



**Eurovision 2009 - Moscow**

# BLACKBOX

**- the first live, realtime 3D — 6D positioning and communicating hardware/software, plug-and-play technology solution**

As regular readers of The Plan, you're all aware of the advances and achievements of ***wysiwyg*** and also our pre-visualization and design software, Vivien—Event Designer, spawned from ***wysiwyg*** and launched in Apr 05, for venues, event planners/designers, and those producing meetings and special events (galas, awards, conferences, weddings, training sessions, etc.)

Last year, the entertainment production market place began to talk about a new CAST innovation – BlackBox. We even gave a few sneak previews last year at PLASA and LDI.

By leveraging our 15 year development history and knowledge of pre-visualization in 3D, CAST designed BlackBox (US Patent pending) to use a new ***wysiwyg***.bb proprietary "CAD-type" software which defines the parameter (to establish "0"0"0") and any fixed objects or geography in the space, calculate of the absolute position of moving and stationary objects, and communicate in/out data in realtime.

## Our Core Technology

From the beginning, ***wysiwyg*** made it possible to pre-visualize (virtually) the set and stage lighting designs before installing any real hardware, lights or even occupying the venue, which increases productivity and reduced production costs for End Users (production professionals → productions). Green-responsible production professionals and venues also know that ***wysiwyg***'s powerful pre-cueing and pre-visualizing capabilities can be used offsite on a PC and that delivers significant energy savings and reduces the carbon footprints of venues/productions.

***wysiwyg*** previsualizes the plot in 2D, 3D wireframe and time-of-day Shaded View, and automatically generates the lighting plots, equipment schedules, pipe-tapes, colour cut lists, gobo lists and anything needed to make the show happen. ***wysiwyg*** has been morphed into a comprehensive software production design suite

## BLACKBOX IS COMING - Continued

of tools which incorporates virtual realtime pre-visualization of lighting, motion, and media content used primarily for pre-show work, and that processes data and communicates with controllers of lights, moving and static, as well as listening to motors that move scenery and replicating streaming media content (for coordinating with lights and other controllers). Via CAST's developer program, ***wysiwyg*** is used by a continually growing number of hardware manufacturers and entertainment control systems for adding visualisation to hardware, as well as for testing new conceptual lighting fixtures, robotic/automated hardware and new production technologies.

Just a few samples of ***wysiwyg's*** work: The Queen's Jubilee at Buckingham Palace, numerous Olympics ceremonies, multiple Cirque du Soleil and Disney shows, concert productions (including U2, Elton John and Eurovision 2009) and gala events like the 2008 Nobel Peace Prize Ceremonies/Banquet. ***wysiwyg*** is used by many large theatrical venues like the Royal Opera House in Covent Garden, the new Four Seasons Centre for the Performing Arts in Toronto, and the Sydney Opera House. As well, wysiwyg is used extensively by major film productions such as the Harry Potter series, Spiderman, X-Men, and Charlie and the Chocolate Factory, Alexander the Great.

## BlackBox -- New Technology|

BlackBox will use a new proprietary file type ***wysiwyg***.bb (128 bit encryption) and utilising our proprietary 6D positioning protocols defining the parameters (to establish "0"0"0") in relation to any or several moving or fixed objects, or geography in the "space" (as uploaded in ***wysiwyg***.bb). BlackBox will run on a high-speed communications server-type computer likely using XP (64 bit embedded) or other viable OS. It will be an all-in-one positioning and bi-directional communications and data distribution system that enables all technologies of all control or robotic devices to be connected together (plug and play – open systems architecture) through BlackBox.

**Cirque Du Soleil - "O"**

Live realtime tracking data from wireless and/or wired sensor Input Devices like RFID, SONAR, RADAR, Infra Red, stereoscopic cameras (with or without thermal imaging), or any other 3rd party sensing device, as well as programmed streaming positioning data from any controller or sensor operating moving objects, or programme controllers for any electromechanical device (operated either automatically or manually), is received in BlackBox which then calculates the absolute positioning of stationary and moving objects in the space and then distributes this data to whatever 3rd party technologies/controllers want it. All of this 6D spatial moving information between all devices is being translated/specified to run at a minimum of 50MHz.

For the highly automated, hi-tech entertainment industry, using BlackBox means that formerly autonomous hardware/controller technologies can interact and cue off each other in live realtime, or trigger pre-programmed commands (in one or several dependent devices), based on the dynamic positioning of moving or stationery objects, to instruct moving lights, robotic cameras, automation systems, multi-media servers – even to deliver positional information for spatial audio.

**Cirque Du Soleil - Fuerza Bruta**

The software can be used for decision aid/support to identify/predict for intrusion detection/prevention and to warn about intrusions, unexpected movements, or potential collisions (virtual/augmented reality) in the designated area within the prescribed boundaries, and to exempt or prevent a collision of objects by using anti-collision boundaries set in BlackBox to trigger pre-programmed avoidance alerts to all connected technologies if something isn't right or working as expected.

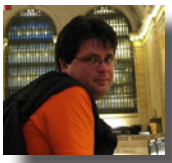
While early days, entertainment production professionals claim that BlackBox will revolutionize the industry. CAST believes that in the future, BlackBox will also have additional important, vital uses for military, aeronautic, security (perimeter, border, internal), safety, medical, health, construction, and logistics applications.

BlackBox will be a powerful, fast, and robust (new code + the proven proprietary intelligence of ***wysiwyg***) to which, with the right DLL, any or several sensor, tracking, hardware/controller technologies and electromechanical device can connect/interconnect (Input or Output) to share live, realtime positioning and other data.

### *CAST seeks Partners*

CAST is always interested in discussing opportunities to collaborate on R&D projects with big vision partners with significant strength/prominence/dominance in their industry segment. For more information, please contact either : gdensham@castgroupinc.com or bfreeman@castgroupinc.com

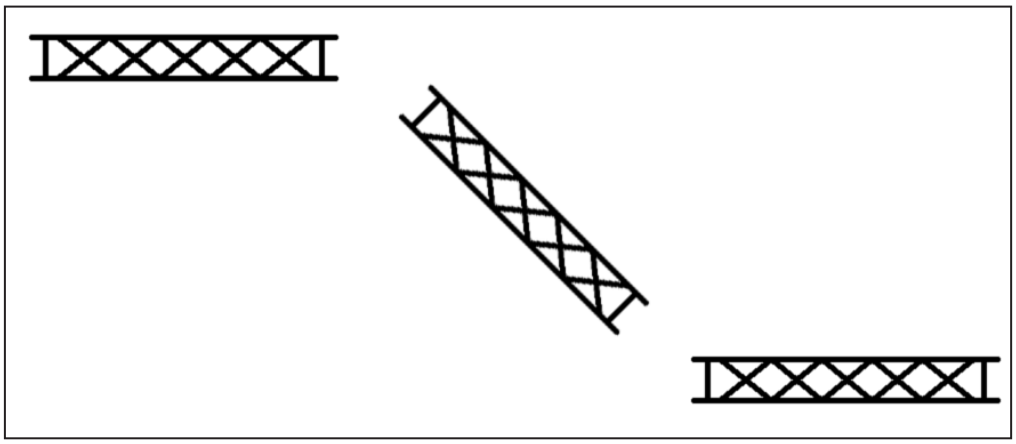
# *wysiwyg* TIPS & TRICKS
by Dany Tancou


Dany Tancou

## TIP 1 - An in-depth look at simulating truss movement in *wysiwyg*

** All the pictures that illustrate this article are from **wysiwyg** Release 24, your project might look a bit different if you are using Release 23.*

In this month's tip, you will learn how to simulate the movement of a length of truss that would be hung from two motors in real life. Since the motors are controlled independently, they can be used to raise/lower the truss, as well as tilt it around its center point.



The key to simulating this movement is to attach the truss to a Rotation Axis, which is then attached to a Linear Axis. Note that if this is lighting truss, you must hang the fixtures on it and focus them (in the case of conventionals) before you attach the truss to any axes.

### *Truss details for this example*

In this example, we will use truss that has the following properties:

- length: 16'
- minimum trim height when horizontal: 20'
- maximum trim height when horizontal: 30'
- at any time, the truss will be able to tilt up to 45º clockwise and/or counter-clockwise; when fully tilted, either end of the truss will be able to "dip" below the minimum horizontal trim height of 20'
- it will hold two moving lights and two conventionals. (The two conventionals will be used to light the subject (a 6' ladder) when the truss is horizontal at minimum and maximum trim respectively. The two moving lights can be used at any time, since ***wysiwyg*** has the ability to "track" static focus positions and update fixture positions automatically.)

### *Before you begin*

Before you start, perform the following general setup or create something else entirely. For details on any of these steps, see the ***wysiwyg*** online Help or Reference Guide.

1. In CAD mode, start a new file and insert a Black Box venue.
2. Insert a 6' Ladder from the Library a few feet up from the middle of the venue, on the floor.
3. Draw a focus position in the middle of the ladder roughly 3' off the floor.
4. Assemble two sections of truss (for example, two 8' sections of Christie 12" Box Truss) at a trim height of 20'.
5. On the truss, hang two ERS fixtures (for example, 14º and 19º ETC Source 4s) and two moving lights of your choice (for example, Martin Mac 500s).

### *Focusing the fixtures*

Once you hang the fixtures, you must focus the ERS fixtures as per the requirement set above. The 19º fixture will light the ladder when the truss is horizontal and at minimum trim, while the 14º fixture will light the ladder when the truss is horizontal and at maximum trim.

## *Tips & Tricks* - #1 *Continued*

**To focus the 19º fixture**

1. Select the Focus Position that you drew in the middle of the ladder (step 3 above).
2. **Click Tools > Quick Focus**.
3. Click on the 19º ERS fixture.

**Result:** The fixture now points at the Ladder.

**To focus the 14º fixture**

Before you focus the 14º fixture, you must temporarily move the truss to the 30' trim height. The easiest way to achieve this is with an Absolute move, as described below.

1. Select the truss.
2. Click **Edit > Move**.
3. Without clicking, type ***@0,0,10'*** and press ENTER.

**Result:** The truss moves up by 10'.

Focus the fixture:

4. Select the Focus Position that you drew in the middle of the ladder.
5. **Click Tools > Quick Focus.**
6. Click on the 14º ERS fixture.

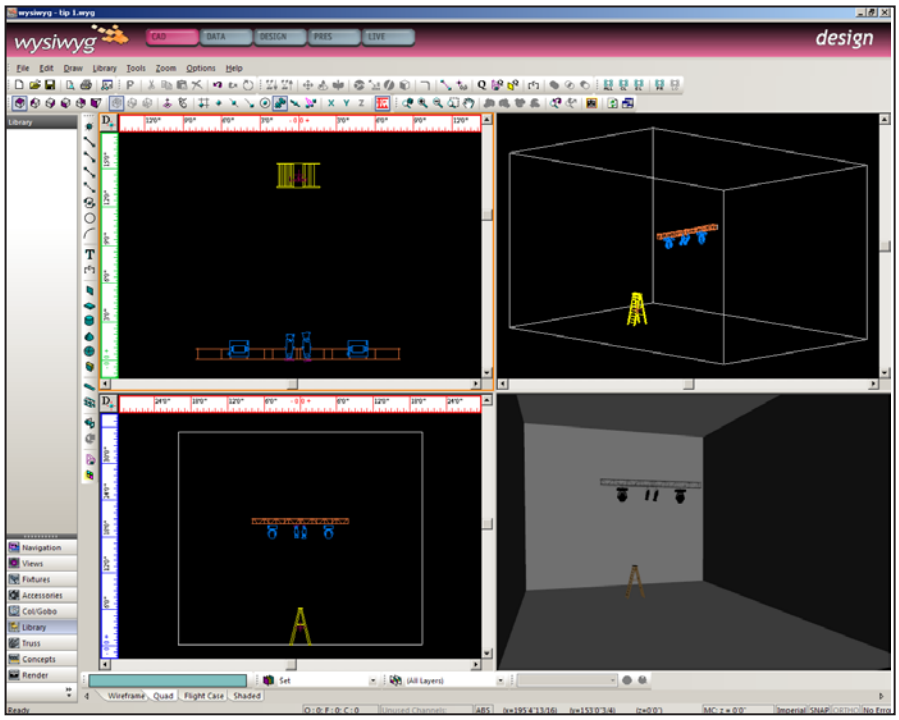
**Result:** The fixture now points at the Ladder.

Move the truss back to its minimum trim position:

7. Select the truss.
8. Click **Edit > Move.**
9. Without clicking, type **@0,0,-10'** and then press ENTER.

Note that these steps (i.e. focusing conventional fixtures with the truss at different heights) replicate those performed in real life. Since these fixtures can only be focused manually, they must be focused from the position at which they are going to be used.

Your setup should now look something like the following screenshot:



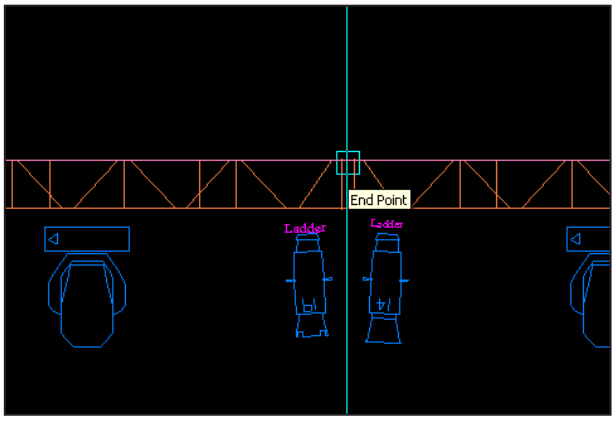
## *Tips & Tricks* - #1 *Continued*

### *Drawing the Axes*

Now you must draw the two axes used to simulate the truss moving and tilting. As noted above, to simulate this movement, the truss must be attached to a Rotation Axis (which simulates tilting), which is then attached to a Linear Axis (to simulate the up/down movement).

**To draw the Rotation axis**

1. In CAD mode, switch to Front View.
2. From the Draw menu, select **Axis > Rotation Axis**.
3. Type a name for this axis (for example, “Truss_Tilt”).
4. Click **Tools > Snap > Endpoints**. (Endpoint snap ensures that the “Tilt” Rotation Axis is placed at the exact mid-point of the truss, where the two pieces meet.)
5. Hover your cursor at the top edge of the truss, where the two pieces meet, and wait for it to snap into place, as shown below:



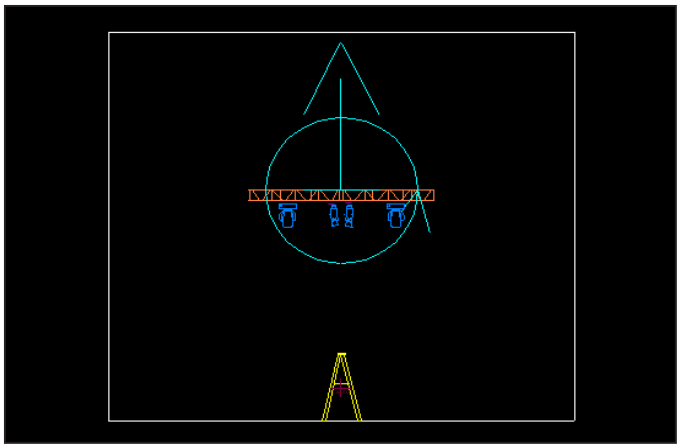

6. Click to place the Rotation axis.
   **Result:** The Rotation axis appears in your drawing.

**To draw the Linear axis**

1. Still in Front View, from the Draw menu, select **Axis > Linear Axis**.
2. Type a name for this axis (for example, “Truss_Move”).
3. Click **Tools > Snap > Endpoints**.
4. Again, hover the cursor at the top edge of the truss, where the two pieces meet. Wait for it to snap into place, and then click to begin drawing the Linear axis.

5. Before clicking again, click **Tools > Ortho > Z Axis**.
6. Move the mouse towards the top of the screen (a line will begin to extend upwards), and then type **10’** and press ENTER.
7. Right-click and select **Finish Axis.**

**Result:** The Linear axis appears in your drawing, as shown in the graphic below:



## *Tips & Tricks* - #1 *Continued*

### *Attaching the Truss to the Axes*

Before attaching the truss to the axes, you must make sure that the truss is able to tilt both ways, as per the requirement above. When working with a Rotation axis, the rotation of anything attached to it begins at the tip of the arrow and continues counter-clockwise until it reaches the tip of the arrow again. As such, if you were to attach the truss to the Rotation axis in the position shown above, the truss would never be able to tilt clockwise.

Therefore, you must rotate the truss by -43.2º around the same end point where you inserted the Truss_Tilt axis. If you do not perform this step, due to the way in which ***wysiwyg*** uses axes, you will only be able to rotate/tilt the truss counter-clockwise.

**To maintain the fixture focus position**

There is one last thing left to do before you rotate the truss to set its rest position: you must make sure that the two conventional fixtures maintain their focus position even after you rotate the truss. Failure to do so before the truss is rotated will result in loss of the fixtures' Pan and Tilt information.

1. Select **one** of the fixtures.
   IMPORTANT: Do not select both fixtures at the same time.
2. Right-click and select **Properties**.
3. Click the **Fixture** tab.
4. On the **General** sub-tab, from the Focus Position drop-down, select **None**.
5. **Without touching anything else**, click **OK**.
6. Repeat steps 1–5 for the other fixture.

**Result:** Even though you removed the association with the "Ladder" Focus Position, the fixtures have maintained the Pan and Tilt values that were assigned to them when they were initially associated with this Focus Position.

**To rotate the truss**

1. Still working in Front View, select the truss.
2. From the Edit menu, select **Rotate**.
3. Click **Tools > Snap > Endpoints**.
4. Hover the cursor at the top edge of the truss where the two pieces meet. Wait for it to snap into place, and then click to set the base point for the move.
5. Type **-43.2** and press ENTER.

**Result:** The truss rotates clockwise. The conventional fixtures are no longer lighting the ladder, which fine because the requirement is that they only do so when the truss is horizontal. They will light the ladder once you start setting up Looks in Design mode.

Now that the truss has been rotated and you are about to attach it to the axes, it must remain in this position otherwise it will not move properly. This should not present problem, except when printing the plot. Printing with the truss in this position would make the plot hard to read, to say the least. Therefore, it is recommended to set up the truss for movement only after the design has been finalized (and the plot was printed). Alternately, you could keep two copies of the file, one for previsualization and one for printing.

**Why use the -43.2º angle?**

It is known that wysiwyg's Scenery Designer Tool (in Design mode) only uses whole numbers, from 0 to 100--it does not use decimal values. Therefore, to use this Designer tool effectively, you must "translate" the rotation angle (0º to 360º) into numbers that the tool can handle (again, 0 to 100).

If the Scenery Designer Tool could use decimal values, you could start with the truss's rest position at -45º, and, to tilt it to a perfectly horizontal position (i.e.to 0º) set the position for the rotation axis in Scenery Designer tool to 12.5. Since this cannot be done, another solution must be devised.

It is known that a 45º rotation is equal to one eighth of a turn (360º / 45º = 8) and that one eighth of 100 is 12.5 (100/8=12.5). Since a position of 12.5 is not achievable on the Scenery Designer Tool, you must compensate in the angle of the truss's rest position.

To determine what this angle is, use cross-multiplication (to solve for X): since you know that a position of 12.5 on the Scenery Designer Tool would rotate the truss from -45º to 0º, what angle do you need to start at to get to the same end angle with a position of 12 on the Scenery Designer Tool?

In other words, 12.5 is to 45º as 12 is to Xº. To solve for X, multiply 12 by 45º and divide by 12.5:

X = 12*45º/12.5 = 43.2º

Hence, making the truss's rest position -43.2º and giving it a position of 12, will bring it to a perfectly horizontal position.

## *Tips & Tricks* - #1 *Continued*

**To attach the truss to the axes**

Finally, you attach the truss to the axes, so you can start to play with the moving truss in Design mode!

1. Click to select the truss, and then right-click and select **Properties**.
2. On the General tab, from the **Attach to Axis** drop-down, select the Rotation axis you created (for example, “Truss_Tilt”).
3. Click **OK**.
4. Click to select the Rotation axis, and then right-click and select **Properties**.
5. On the General tab, from the **Attach to Axis** drop-down, select the Linear axis you created (for example, “Truss_Move”).

Click **OK**.

### *Creating Looks in Design mode*

Now that you have set things up, switch to Design mode and create a few Looks to prove that the truss can move as required above. For details on creating Looks, see the ***wysiwyg*** online Help or Reference Guide.

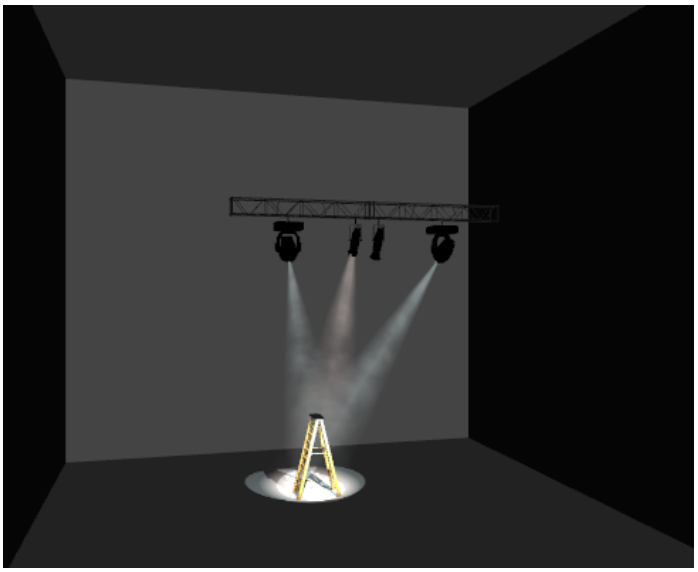
Before you begin, from the Design menu, click **Intensity Tool, Focus Tool, and Moving Scenery Tool.**

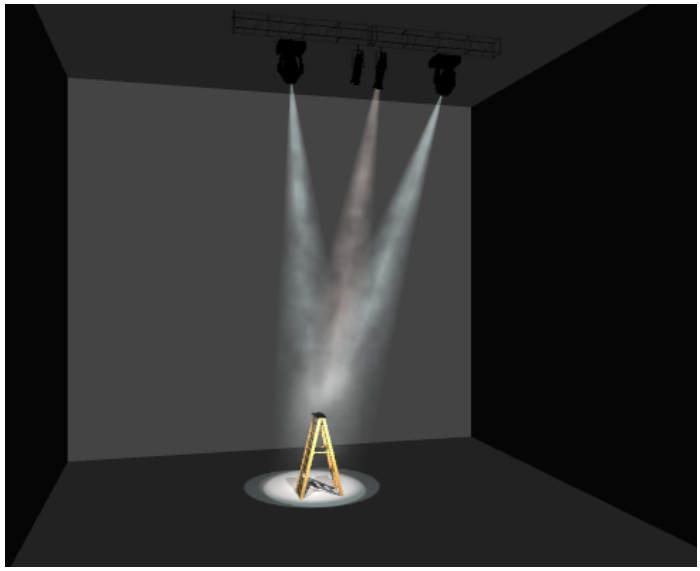
**Look 1- Low Horizontal:** Start by creating a new Look called “Low Horizontal” with a Fade Time of 10 and the following parameters:

- Intensity: Movers @ Full, 14º ERS @ 0, 19º ERS @ FULL
- Focus: Movers @ Ladder
- Axis: Truss_Tilt @ 12, Truss_Move @ 0

**Look 2- High Horizontal:** Create a new Look (do not Clone the previous one) called “High Horizontal” with a Fade Time of 10 and the following parameters:

- Intensity: Movers @ Full, 14º ERS @ FULL, 19º ERS @ 0
- Focus: Movers @ Ladder
- Axis: Truss_Tilt @ 12, Truss_Move @ 100





**Keeping the Ladder Lit**

As you move between these Looks and the suggested Looks below, you will notice that the moving lights drift away from the ladder, and only fully lock back on it when the truss has finished moving. This is not a problem with wysiwyg, per se, but simply the way it works. CAST’s new product, BlackBox, will enable you to constantly keep the ladder lit by moving lights even while the truss they are hanging from is in motion!

## *Tips & Tricks* - #1 *Continued*

**Test the Looks**

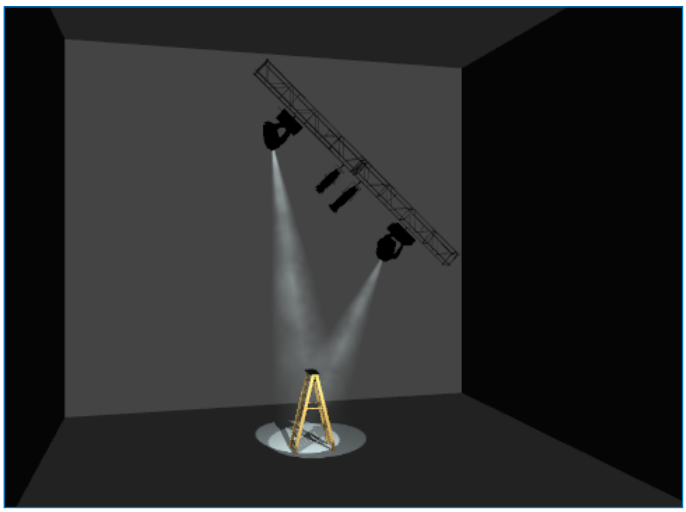
Click on the "Low Horizontal" Look. The truss should begin to move down, while the moving fixtures stay more or less "locked" on the ladder. The two ERSs crossfade, so that the 19º fixture is at full (and focused on the ladder) when the transition/move completes.

### *More suggested Looks*

Here are some ideas for a few other Looks, all with a Fade value of 10. (Naturally, increasing this value will create slower moves, while decreasing it will create faster moves.) When creating new Looks that contain motion, it is recommended to always create a new Look, as opposed to cloning an existing Look.

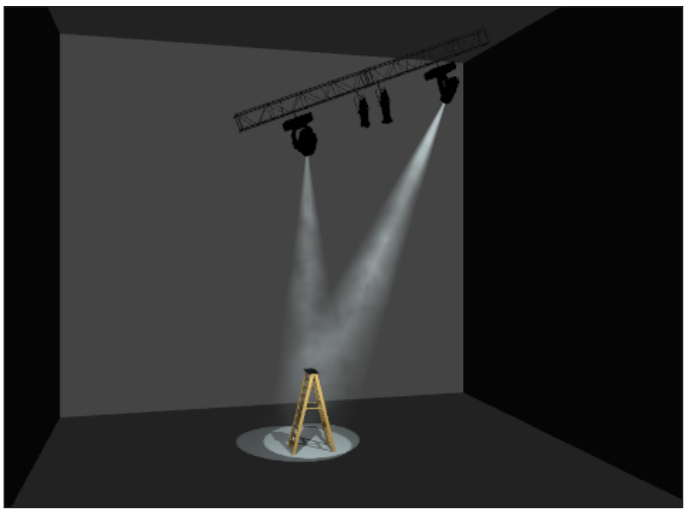
**"Low Full CW Tilt":**

- Intensity: Movers @ Full, 14º ERS @ 0, 19º ERS @ 0
- Focus: Movers @ Ladder
- Axis: Truss_Tilt @ 0, Truss_Move @ 0



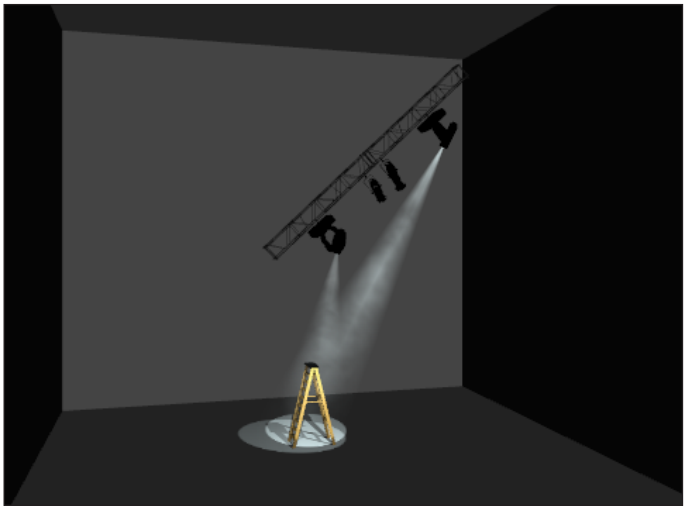
**"Mid Half CCW Tilt":**

- Intensity: Movers @ Full, 14º ERS @ 0, 19º ERS @ 0
- Focus: Movers @ Ladder
- Axis: Truss_Tilt @ 18, Truss_Move @ 50



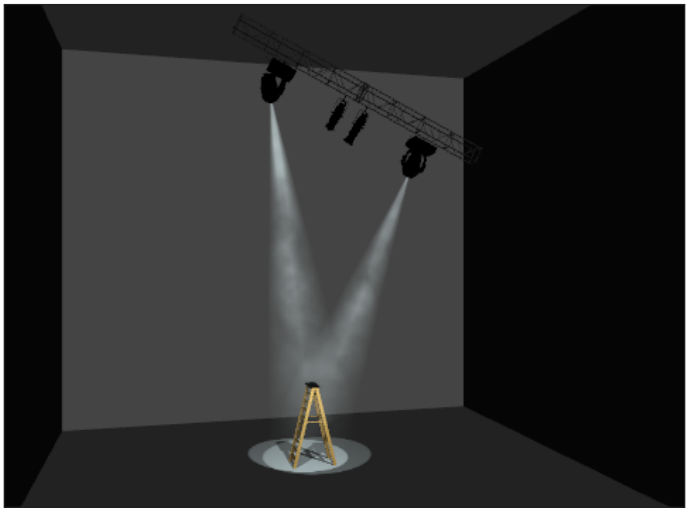
**"Low Full CCW Tilt":**

- Intensity: Movers @ Full, 14º ERS @ 0, 19º ERS @ 0
- Focus: Movers @ Ladder
- Axis: Truss_Tilt @ 24, Truss_Move @ 0



**"Mid Half CW Tilt":**

- Intensity: Movers @ Full, 14º ERS @ 0, 19º ERS @ 0
- Focus: Movers @ Ladder
- Axis: Truss_Tilt @ 6, Truss_Move @ 50



To download the sample file for this tip, please click here.

*Tips & Tricks- Continued*

## TIP 2 - In-Depth Look at Release 24's Consolidate Mesh Feature

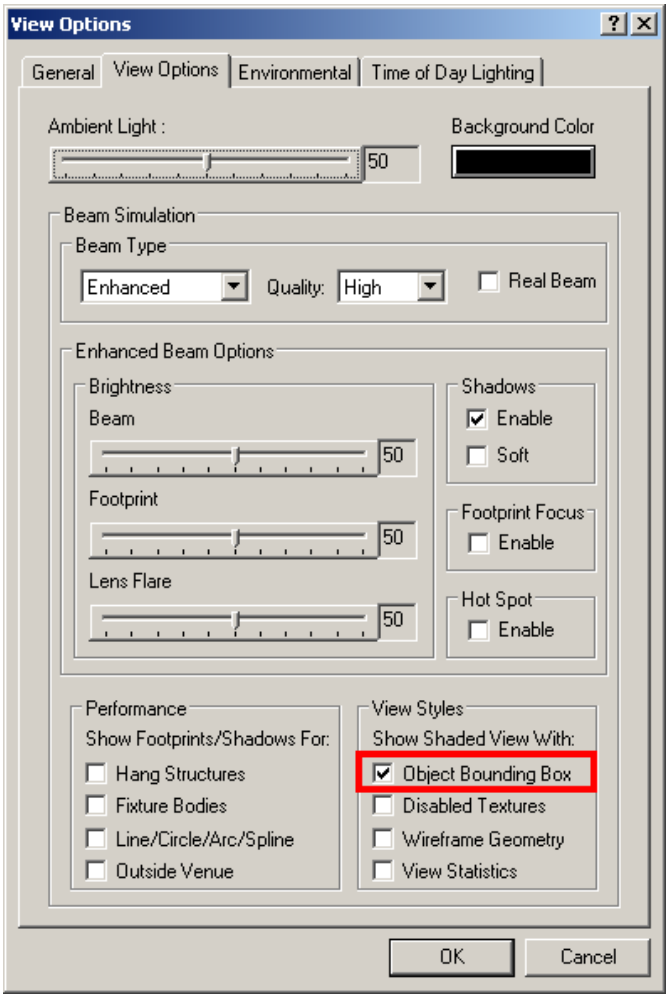
In the May issue of The Plan, the second tip described how to optimize performance in files by creating new Library Items. At the time, we promised that Release 24 would feature a new and even more efficient way to optimize files called **Consolidate Meshes**.

While the two methods are similar in what they achieve, consolidating meshes has a very large advantage over creating new Library Items: the size of your file does not increase.

To help you use this new feature, Release 24 also offers a new Visual Style (Bounding Boxes) that enables you to easily determine which objects need to be optimized and which do not.

The Consolidate Mesh feature helps increase performance in Shaded Views by enabling you to "transform" complex objects made up of multiple polygons into objects that behave as a single entity. ***wysiwyg***, like AutoCAD and all other similar applications, handles single objects comprising many components much better than it handles each of the components separately. In other words, a file that contains twenty risers each made of six surfaces is less efficient, and thus slower, than a file that contains the same twenty risers combined into a single object.

The easiest way to determine which objects in your scene to consolidate is to enable the new **Object Bounding Box** visual style (available in Release 24) on the **View Options** tab, as shown below:



## *Tips & Tricks* - #2 *Continued*

Once enabled, bounding boxes appear around all items in the Shaded view. Those objects with a high number of bounding boxes are all candidates for having their meshes consolidated.

To optimize your file by consolidating meshes, it is best to work in Quad (CAD mode) because it is much easier to look at what needs to be consolidated and have the ability to select and consolidate the object(s) right away, than to flip back and forth between Shaded and Wireframe views.

Once you determine which objects to consolidate, perform the procedure below.

To use the Consolidate Mesh feature

1. In a wireframe view, select the object that you want to consolidate.
2. From the Tools menu, select Consolidate Mesh.

**Result:** A message box appears, confirming that the operation is complete, and displaying the number of polygons that have been removed from the file.

3. Click OK. The item is now consolidated into an object, which ***wysiwyg*** "sees" as a single entity.

Consolidated Mesh and Improved Shaded View Performance

Once you have consolidated various objects in your file, you will immediately notice that the Shaded view has become faster. To test this, click and drag within the Shaded view.

Another way to see the improved speed is to enable View Statistics on the View Options tab. If you do so before you start optimizing, there is a good chance that the View Complexity will read 'High' or 'Very High'. Once you've consolidated a few objects however, not only will the View Complexity drop to 'Medium' or 'Low', but the Number of Objects will also decrease dramatically while the FPS counter will

**Helpful Tips**

It is important to learn to use this feature properly. Let's take as an example a theatre that includes audience seating comprising chairs from the ***wysiwyg*** library. Since these objects are already optimized (i.e., ***wysiwyg*** sees them as single entities, not as separate components made up of armrests, backs, legs, and so on), there is, seemingly, nothing left to consolidate.

However, all these seats were placed in the theatre individually, whether they were copied & pasted, arrayed, and so on. As a result, ***wysiwyg*** still considers them to be individual entities. To optimize this file, therefore, you could select all the seats (or, if more control over overall placement is required, select all the seats within a seating section) and Consolidate them into one large object.

A similar example involves seats that were created in AutoCAD or SketchUp and imported into ***wysiwyg***. In such a case it is recommended that you consolidate a single seat, copy and paste it around or array it to create the seating sections, and then consolidate the sections (or all the seating at once) to further optimize the file. If, on the other hand, the imported AutoCAD/SketchUp file contained all the seating in the theatre, I recommend consolidating the sections (or all the seating) directly, instead of consolidating individual seats.

Since objects to consider for consolidation can be virtually anything, it is pointless to provide a list of what to look for. The best practice is to always turn the **Bounding Box** view style on once the venue/set in your file is nearing completion (and before you start defining hang structures and hanging fixtures), and then optimize as much as possible.

**Even More Noteworthy Tips**

Objects that have been modified with wysiwyg's Boolean tools need not be consolidated since all Boolean operations perform the consolidation automatically.

Objects that have been consolidated cannot have Boolean operations performed on them. This is by no means a flaw or a limitation of wysiwyg's Boolean tools, but simply the way in which 3D models work: when an object is consolidated, its underlying geometry is modified in such a way that no further geometry changes may be performed on that object.

If an object to which a texture has been applied is consolidated, the texture will most likely not behave correctly. This is, again, due to the object's underlying geometry having been altered in such a way that it cannot support textures properly. To maintain proper texturing AND have the file perform well for pre-visualization, the only thing to do is create a copy of the final file, optimize the copy, and then use the optimized file for pre-programming purposes and the original file for screenshots and/or renderings