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Vectorworks 2024

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Unlike your C-wrench or a hammer, software tools can be upgraded, gradually growing more powerful, flexible, and better able to adapt to our changing technology. Try that with your multimeter or saw. Vectorworks, the design and BIM (building information management) software that includes Spotlight entertainment light design and drafting tools, is on an annual upgrade schedule and the 2024 version of Spotlight has some nice developments.

I have a story coming in next month's issue about working on a gig and running out of longer Socapex cable; as a result, I was faced with the choice of re-running it, which would put us behind schedule, or accepting the fact that there might be Socapex connectors hanging in mid-air, putting stress and strain on them. The article is about the tools we use to avoid these issues by planning properly and having good information. One of the upgrades in Vectorworks 2024 is related.

The software has a new feature, Equipment Lists, that can generate a unified equipment and inventory tracking process based on the symbols used in the drawing. The previous version has a report generator that allows you to create an instrument schedule along with a channel hookup, dimmer hookup, circuit hookup, and/or color schedule. But I've always used a third-party app (Lightwright) to generate fixture counts for creating shop orders. The new equipment list allows you to edit the properties of a symbol to add "virtual parts," such as safety cables and clamps, that otherwise might go unaccounted for in a shop order. Most big rental houses that I've dealt with are very good at making sure that all the accessories are included when they send out equipment, but this might be a great feature if you are a production company generating your own shop orders. Or if you need to customize equipment with gobos or extra fog

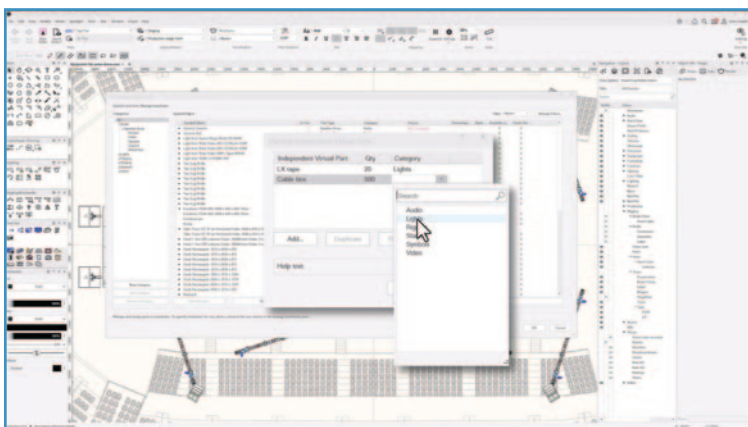
fluid, for example.

You can also add "independent virtual parts" like gaff tape, electrical tape, Sharpies, tie line, or cables, which are not linked to any equipment. This could help refine your estimates of expendables and other items based on the size of a show and, because they can be saved for use in future projects, you can refine them as you gather more data. If you take the time to document your shop order, the inventory and equipment list helps you keep track of which vendor(s) you have ordered each item from or which items you have in-house. Once your design and data are complete, you can generate customized reports using filters.

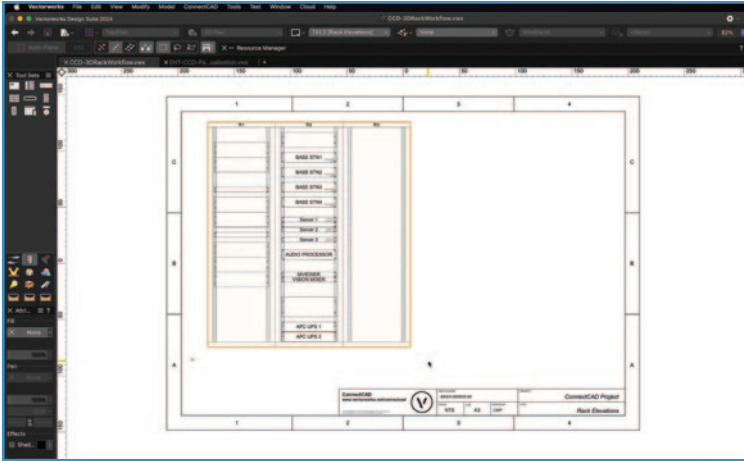
ConnectCAD is a plug-in that can be used to create signal flow and electrical connection diagrams for networks, audio/visual systems, and lighting systems. Although these items may or may not be required for one-offs or touring shows, they are commonly used in new construction, theatre renovations, and other projects. ConnectCAD has been available as a third-party plug-in to Vectorworks since 2009 and, in 2019, Vectorworks acquired ConnectCAD, which makes sense, given that signal flow and electrical connections are an integral part of the design workflow.

New in Vectorworks 2024 is ConnectCAD Share Reports, which allows you to upload your project files to Vectorworks Cloud Services as a configurable worksheet. Users can then view them in a web browser on any device like a tablet or smartphone.

Also, the new 3D Rack Workflow Panel Visualization allows you to design equipment rack layouts in 3D; it will automatically create a 2D layout as well. You can use a schematic diagram to guide your rack design and then create a custom panel connection layout. The equipment is represented as a three-dimensional object with correct dimensions in the properties. You can place individual pieces of gear in the virtual rack either from the front or from behind, or you can use a 2D representation to drag and drop the equipment in place. There are a few different virtual racks, including four-post, two-post, console, or an enclosure, and you can also create a "layout room," which is a representation of the world location of one or more racks using X, Y, and Z coordinates. In the 2D representation, you can use the Create Rack Elevation command to automatically make a front and rear drawing on the sheet layer, which can then be annotated and labeled. From there, you can use the Make Rack Equipment Worksheet tool to create a formatted equipment worksheet with custom columns. If any of the equipment has optional modules, you can use Adaptor Slots to represent modules that can be placed in the 3D profile of the equipment. The Panel Builder helps you create accurate panel depictions with the correct connectors. They can be created from the schematic or from the



The Equipment Lists feature allows you to add independent virtual parts like gaff tape, electrical tape, Sharpies, tie line, or cable ties to help keep track of what was taken to a show and to help refine your estimates on the next show.



The new 3D Rack Workflow Panel Visualization in the ConnectCAD plug-in allows you to design equipment rack layouts in 3D, guiding your rack design using a schematic diagram to create custom panel connection layouts.

object info palette. The resulting 3D model is a beautiful representation, and I can easily see how it would help minimize errors in building racks.

Another improvement in this year's upgrade has to do with Vision Projectors. You can now control color tempera-

ture, four-corner keystoneing, check projector positioning, and focus during previz. You can add the projectors in Spotlight and then use the Replace Selected tool to replace them with the projectors in Vision, or they can be added directly in Vision using the Projector Insertion tool and then linked to a media source, including NDI streams or capture devices. In Vision, projectors can be focused on any object, including screens or scenery.

There are many other new features outside of Spotlight and they include UI updates, improvements in Viewport styles, improved shaded rendering with unlimited shadow casting in real-time, faster rendering section generation, improved Excel referencing, DWG import and export optimization, and a lot more. Since many architects use AutoCAD, Sketchup, and other CAD programs, the last improvement is very much welcomed.

I started out by mentioning an issue I had on a gig that could and should have been avoided had I used the Cables and Power Planning tool in Spotlight, but what I didn't mention is that we saved huge amounts of time using Vectorworks for all the design and planning. It's the right tool for the job and it keeps growing and adapting to our changing technology. 📶