MA Lighting VPU

By: Richard Cadena

Sometimes we fall into the habit of using the same gear that we've always used without considering alternatives. In North America, that often means that when looking for a media server, we sometimes overlook the MA Lighting MA VPU (video processing unit). Talking to my colleagues, I get the impression that it's more popular in Europe, and I'm wondering why it's not more popular here. It seems to be a great way to control and manipulate video, still images, and 3-D objects in real time. Given the popularity of the grandMA2 console and the fact that the control of VPU is integrated into it, I'm guessing that it will only gain in popularity.

What it is

The latest software version is 3.2, and it allows the use of the Hap codec, which uses the graphics processor instead of the CPU to decompress video using hardware acceleration. This allows you to use more layers and higher resolutions. Because Hap uses a variable bitrate, the number of layers that the VPU can handle is not a fixed number but depends on the content; however, it's an increase over what it used to be before version 3.2. The application also has a pixel mapper that can control LED displays up to 256 universes of MA-Net2, sACN, and Art-Net, and an EDID manager that can simulate a DVI output device if nothing is con-

nected to the output.

The software runs on Windows and is free to download and run, although the free version has a watermark. This version offers you a free FOH VPU system overview machine. There is also a "teaser mode," which has no watermark and gives you two layers plus one camera, but the content is limited to 800 x 600 pixels. That allows

you to practice and learn the software and perhaps do smaller shows. You can also use the pixel mapper without restrictions or a watermark.

There are three hardware models in the VPU line, including the VPU Light, VPU Basic Mk2, and the top-of-the-line VPU Plus Mk2. The main differences are the processor power and the number of layers that can be ren-
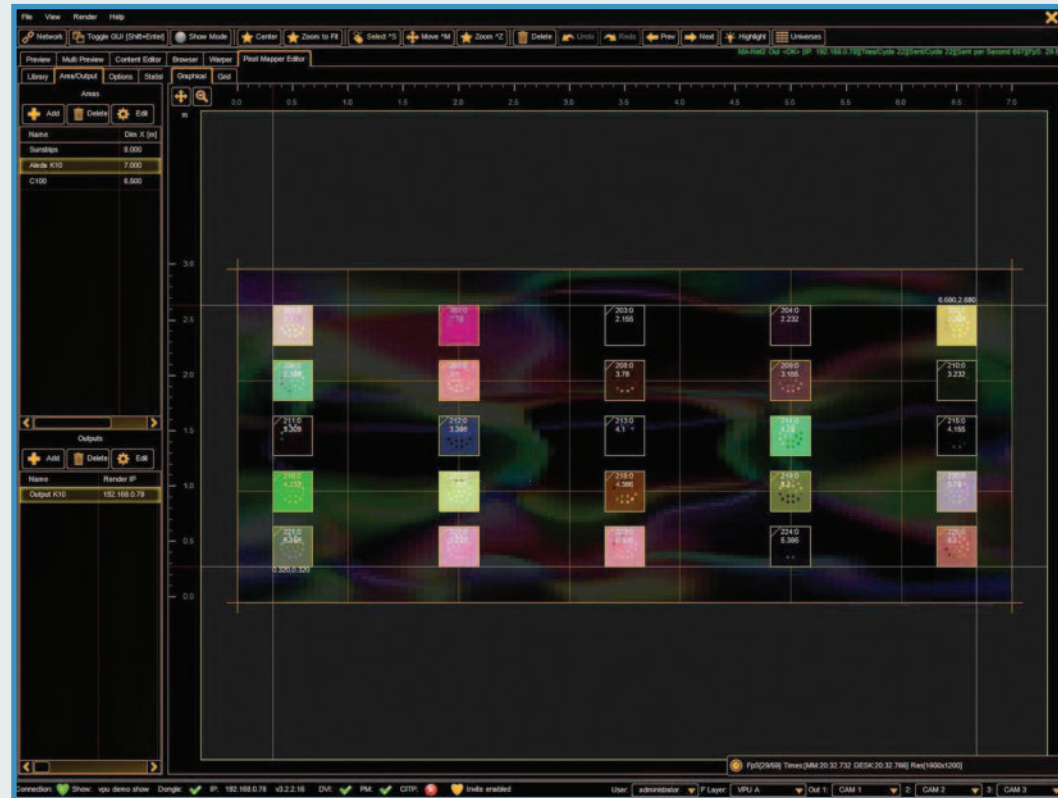

The VPU pixel mapper is part of the software that can be downloaded free of charge and can be used without restrictions.

dered simultaneously, although that's also dependent on the size of the file on each layer and the complexity of the content. The Light has one single-link and one dual-link DVI-D output, while both the Basic and Plus have one DVI-D dual link, one DVI-D single-link, and one DVI-I dual link output. All of them also have stereo XLR outputs to output audio from video, WAV files, or MP3 files. There are also USB ports for content management and two Ethernet ports, one for MA-Net and the other for Art-Net or sACN, which can be used for pixel mapping.

What it is not

There are many media servers on the market, and many of them can run as stand-alone units. The VPU is a bit different in that it's designed as a component of the grandMA2 system architecture, to be run from the grandMA2 console or grandMA2 onPC. It's another system component, just like a node or NPU. The control surface is the grandMA2 software, so you don't ever really use the VPU GUI because all of the parameters are controlled from the grandMA2, just as if it were a lighting fixture. The VPU only provides the video output ports. And if you need more video ports, you can simply add another VPU and the software treats them both as part of the same system, as in one shared brain.

VPU runs in a session, like any grandMA2 show. In the console settings, you can configure the graphics cards, set the resolution of the outputs, the number of frames per second to output, and more. The VPU is patched by adding VPU layers, onto which the graphics are displayed. A layer can be a 2-D surface of a 3-D object like a sphere, box, pyramid, etc., and the number of layers that you can patch is not limited by the software, although the performance is limited by the hardware and the complexity of the content. Since the grandMA2 console is limited in the number of parameters that can be used for a
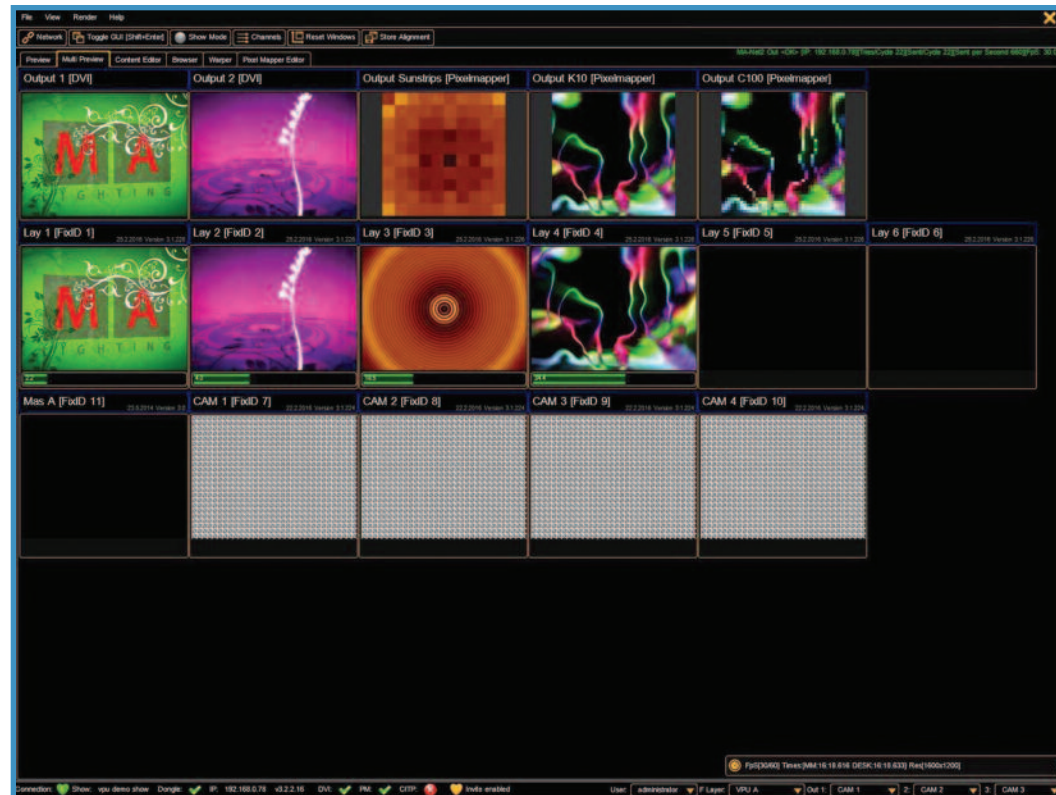
The VPU comes with a library of stock media.

given system, it's important to note that because the VPU is an MA Lighting product, it doesn't count against the parameter count.

After patching layers, you'll need to patch one or more cameras, up to a limit of 16. The cameras become the point of view of the rendering, and you'll have the ability to move them around in 3-D space to change the perspective of your render. You can link the output of the camera to a pixel mapper or to an output port. You also need to patch a master channel as well. Finally, you have to set the patch layer in the network configuration.

Once it's patched, you can select a layer and when you bring it to full…nothing will happen…yet. The output of the camera will be blank until you select a folder and assign content to a layer. You can then change the position, rotation, scaling, tiling, add effects, correct for keystoning, do edge-blending with multiple projectors, warp your projections, and more. You

can use up to four effects channels per layer, and even four effects channels per camera.

What it will be

I remember sitting in a hotel meeting room at PLASA one year and watching Ralph Wezorke, of MA Lighting, do a presentation of VPU. I think it was new at the time, and I remember thinking that was a shoo-in for so many lighting designers and programmers, since the grandMA is the preferred console for so many of them. And VPU caters to those people because the setup and syntax come straight from the grandMA2. Based on my conversations, it seems that there are those who are loyal to the system, but there are many more users who will be delighted when they step up to the plate and give it a go. 🔊