DISPLAYS ON DISPLAY

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Generated on the Ramtek 2020 display system, this image of a parking lot was created by a computer program rather than by interactive drawing. The image makes use of faceted shading techniques. Although the mountains and building look relatively smooth, they are actually made up of thousands of flat surfaces. The color of each facet depends on how the light hits it. In the pools of light from the lampposts in the parking lot, for example, the brightness of each facet is based on the angle at which the light strikes it and its distance from the light source. To create the image, the 2020 display generator ran with a DEC Vax/780 host. The modular, software-based display generators can be configured to provide a wide range of performance characteristics—from a fast display box using host applications software, to an interactive peripheral with local functionality. The 2020’s graphics architecture is based on parallel pipelined processors, with up to five dedicated processors to handle display list, coordinate transformations, vector-to-raster conversion, peripherals, and host communications.