



# Character Generator

## Combined 3D graphics, video clips playback, integration of live video sources and embedded audio in one

As more and more information needs to be displayed on screen, Character Generators (CGs) are taking a more prominent role in today's TV production. Not only does more information need to be displayed, but it needs to be displayed quickly and with up to the second accurate information.

Operating the CG has evolved, from a single operator typing in text, to today's CG, which is a product of a complete workflow that includes different content contributions from across the TV station. While traditional CG's are based on a flat 2D graphics, CG's are now expected to offer a far richer 3D display, which in addition to conventional graphics, will support playback of video clips, integrate live video sources and be able to embed audio.

### Powerful 3D graphics

Orad developed a range of CG solutions specifically to meet these challenges. Orad's CG solutions are 3D based: 3D models along with their geometry, lighting, textures and animations are created in modeling software including Maya, 3DSMax and Cinema 4D, and are imported into the system. In a similar manner, Photoshop files are imported on a layer basis so that each Photoshop layer automatically becomes a layer in Orad's CG solution. Orad's CG also goes far beyond the traditional text display.



Courtesy of REDE Record, Brazil

### Playback of video clips

The solution offers the playback of multiple video clips in different codecs and resolutions; it also integrates live video feeds into the system and supports embedded audio. Based on Orad's unique video to texture mapping technology, videos are easily assigned and mapped to any object in the graphic scene. Any animation that is applied to the object will automatically affect the mapped video and thus allow complete freedom in creating 3D and 2D DVE effects. Equally important is that regardless of the number of videos used, the system retains a constant two frame delay.

### Free flowing workflow

In the design of its CG solution, Orad recognized that the CG is no longer an isolated element in the production workflow but needs to integrate with many other systems in the production chain. Orad's CG solution seamlessly integrates to newsroom systems based on the MOS protocol. It supports all commonly used newsroom systems including AP ENPS, Avid iNews, Dalet +, Octopus, Norcom NCPower, Annova OpenMedia, Sobey, Dayang and others, allowing multiple journalists to add Orad's CG graphics into their stories from within their newsroom client. In a similar manner, the solution offers the ability to integrate to Non Linear Editing (NLE) systems. This functionality promotes the concept of sharing the graphic templates between real time and edited stories, and therefore increases the production's efficiency while sharing the same graphic look between post and real time environments. The NLE integration is available for Apples' Final Cut Pro, the Avid range of NLE's, and for Grass Valley Aurora's solution.



Courtesy of Phoenix TV, Hong Kong

### Easy to use

The solution is based on a smart logic concept. It allows creating logical condition between the different graphic elements in the graphic templates so that the behavior of one element automatically affects the other. In addition, multiple databases can be easily connected to the system and feed it with real time information. Both the system's logic and the linkage to the databases are based on a wizard style user interface, negating the need for programming and scripting.

### Additional effects

A rich library of plugins such as shader library, text effects, line graphs, pie charts, particle effects, power primitives and others are also available as part of the solution to address each specific production's needs. For those customers who wish to write their own controllers, an SDK is available that provides direct access to Orad's Render Engine.

