

EXHIBIT 1013

TELEVISION PRODUCTION

Ron Whittaker

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Video Control and Effects

production switcher: Standard control room switcher that enables the TD to put any video source or composite picture on the air.

A *production switcher* (Figure 9.1) is to video what an audio console is to audio: a master controlling and mixing device. Production switchers serve two production phases. First, they are used to switch (edit) a production in real time when decisions on shots and effects are done by the director as a show is recorded or broadcast. Second, they are used in postproduction when the a video switcher and all its effects capabilities are tied in with the videotape editing process.

Today's production switchers go far beyond the simple switching and mixing of video sources. They commonly include a SEG (special effects¹ generator) or DVE (digital video effects) unit² which can shrink, expand, flip, spin, wipe and combine images in a multitude of ways. In fact, it seems impossible to envision a visual effect that can't be done with one of today's most sophisticated SEGs. Unlike film, where visual effects, or *opticals*, take days or weeks to complete, in video, effects can be set up and examined immediately. With digital video a sequence of highly complex visual effects can be slowly "built" element by element, electronically memorized and then played back at a touch of a button. Because of video's advantages in doing visual effects, many of today's film effects are created in high-resolution video and then transferred to film.

1. Since special effects are not all that special any more, many feel that the term *visual effects* is more appropriate.

2. It is difficult today to make a clear distinction between *production switcher*, *postproduction switcher*, *special effects generator*, *digital video effects unit*, and *digital video manipulator*. All of these terms are used to describe switching/visual effects units. Facilities that require elaborate visual effect capabilities commonly have one or more separate video effects units designed to supplement the basic production switcher.

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