

**SIGGRAPH 1990**

**17th International Conference  
On Computer Graphics and  
Interactive Techniques**

**Dallas Convention Center  
August 6th—10th**

## **COURSE NOTES**

# **22**

**VIDEO TECHNOLOGY FOR  
COMPUTER GRAPHICS**

*Chair*

**Dean M. Winkler  
Post Perfect Inc.**

*Lecturer*

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VIDEO TECHNOLOGY FOR COMPUTER GRAPHICS

Siggraph 90

Course #22

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Please note:

An NTSC VHS videotape has been supplied with these course notes. It contains many of the videotapes presented in the course as well as additional videotapes, which time did not permit us to view in the course. The copyrights to the material contained on this tape is the sole property of the contributors. Under no circumstances may these VHS cassettes be duplicated, edited, cablecast or broadcast! The contributors to this tape have been very generous in allowing us to give you copies of their work. Please do not violate the trust they have placed in you by violating this copyright agreement.

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Course description: This course is designed to give computer graphics professionals a thorough understanding of the theory and practical applications of video technology. It will be broken into four parts, as follows: Part one: video theory. This will start with scanning theory, describe the monochrome video signal, the NTSC color video signal, color encoding techniques, signal measurements, and review all current video formats including D-1 and D-2 digital video and HDTV. Part two: contemporary video production and post production techniques. This will include: video special effects hardware, combining CGI and video special effects, video compositing/layering, combining CGI with live action and other related topics. Part three: criteria for evaluating 3-D graphics systems. This will present a quantitative approach to evaluating 3-D animation systems, developed from the perspective of video users. Part four: will present examples of video art and commercial production from around the world.

Who should attend: This course is designed for computer graphics professionals who anticipate having to use video technology, or who have been using video and wish to have a stronger technical background and better understanding of current video production and post production techniques.

**Chair Biography:**

Dean M. Winkler holds B.S. and M.S. degrees from Rensselaer Polytechnic Institute. He is one of the founders of Post Perfect Inc., a \$15 million electronic special effects facility, located in New York City. Winkler is also a computer/video artist and has created over five and a half hours of video art, which have been shown internationally. Winkler's art work has been shown at every Siggraph, from 1982 through 1989, in either the electronic theater or art show. His interests span art and engineering. He holds a U.S. patent, has been the recipient of numerous awards in the television industry, and lectures frequently in the United States and abroad.

SCHEDULE

	<u>TIME</u>
I. Introduction	8:30 - 8:45
II. Monochrome Video Theory	8:45 - 9:45
BREAK	9:45 - 10:00
III. Color Video Theory	10:00 - 11:00
IV. Video Image Processing and Special Effects	11:00 - 12:00
LUNCH	12:00 - 1:30
V. Current Production and Post Production Techniques	1:30 - 3:00
BREAK	3:00 - 3:15
VI. Criteria for Evaluating Three Dimensional Graphic Systems	3:15 - 3:30
VII. "Frames Per Second" - collection of recent video art from around the world	3:30 - 4:30
VIII. Open Discussion/Questions	4:30 - 5:00

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\* Courtesy Grass Valley Group Inc.

\*\* Courtesy Tektronix Inc.