CATALOG OF MATERIAL FOR WOODY VASULKA 30 MARCH 1992

G series:

1. Eric Morey - Metacolor brochures (CVI equipment)
2. Wyndham Hannaway - off screen photo of computer image variations
3. Glen Southworth - computerized family cat (Boo Boo)
4. Bernd Kracke - "Media Games" brochure (CVI slow-scan TV)
5. Glen Southworth - "Video Portrait Systems" (paper presented at the First Annual Gametronics Conference 1977
6. Ken Rubin - Video Art flier
7. Lance Casino et al - Meta Image brochure (CVI equipment)
8. Voyager recording session
9. Glen Southworth - first computer portrait system March 1976
10. List - Selected users of the model 606 Video Quantizer
11. Handout - "Instruments for Video Art"
12. Poster - Video Art Hardware
13. Photograph - Early CVI video digitizing system
14. Photographs A & B - Images from current CVI system at the Artist`s Proof gallery in Boulder, Colorado
15. Glen Southworth - Template for a 3-D portrait of Jennie (final work in collaboration with Ron Southworth)
16. Glen Southworth - Self portrait (computer SOBEL program)
17. Glen Southworth - Via slow-scan television
18. Glen Southworh - Self portrait times two (created with the use of a CVI model 493 Video Peak Store)
19. Ron Southworth - "Fingers" made with CVI model 493
20. Eric Somers - "Television`s Creative Palette" text of article published in BM/E, June 1973

21. Patty Nettles - "Video Art: New Visions"

~~22. Wyndham Hannaway - Second cover art, PHOTOMETHODS ?~~

23. Wyndham Hannaway - poster

24. M.I.T. - hard copy of video art slow-scan TV transmission

25. M.I.T. Visible Language Workshop - Program for TRANSMIT 1983

~~26. Artist unknown - cover of Modern Electronics, June 1978.~~

27. Eric Morey et al - Metacolor brochure (composite 606 and photographic techniques)

28. Metacolor - Services & price list

29. Glen Southworth - Self portrait with first experiments on direct CRT copying with original XEROX color machine

30. John Fitzgerald - portrait of woman made directly with XEROX color copier (equipment: TV camera, disc frame grabber, 606, sequencer, and XEROX machine)
NOTE: John was the originator of this concept.

31. Metacolor - Video art client list as of January 1977

32. Norman Southworth - Abstract image (493 peak store & 606)

33. Metacolor - "lips" (35mm slide from 606 image)

34. Glen Southworth - 35mm slide of same

35. Glen Southworth - short resume

36. Glen Southworth - self portrait with original 606

37. Glen Southworth - U. S. Patent #4,713,693

38. Colorado Video - photograph of early computer portrait system

39. VIDEOTAPE: Patty Nettles & Mark Peterson - "WARP FIVE"

COLORADO VIDEO INC (CVI) - VIDEO QUANTIZER

4/20/92 Jeff Schier

The CVI Model 606C Video Quantizer was a commercial example of a threshold based colorizer. It processes a monochrome video input signal and can "achieve radical alterations in output linearity or ... synthesize color signals from different shades of grey" (From CVI 606C manual). One of the uses is to identify intensity regions in color, to make them more visible. X-ray, Medical and thermal analysis are some examples where regions are tinted with color to identify bones or heat.

A monochrome video signal is input, thresholded into 21 grey regions. The output of the "grey slice" generators are run to gain control potentiometers which are then combined and routed through a patch panel, for assignment to Red, Green and Blue levels. A patch panel for keying is used to assign the overlap of the colored regions, and to isolate the quantized regions from overlapping each other. A quantized regions can be patched to KEY OFF or inhibit other regions. Without "key inhibiting", the intensity of the region's dialed R,G,B values will add together. A monochrome mix can be added to the red,green and blue values to give the impression of adding color contours to a black a white image.

30 March 1992

Woody Vasulka
Rte #6, Box 100
Santa Fe, NM 87501

Dear Woody,

Enclosed is a funny package of materials related to video art produced by myself and others with Colorado Video equipment. Wish that it was more coherent, but it goes back over 25 years and I didn`t keep very good records.

A few historical notes:

1966 - model 201 video to computer converter (1 bit greyscale)

- model 401 Video X-Y Plotter (accepts wide range of data rates and converts to TV format)

1969 - model 606 Video quantizer

By rough count we`ve designed over 40 instruments that involve video image manipulation, storage, or transmission (that`s a collective "we", by the way.)

If you really want it, I`ll try to organize more detailed information and generate a Southworth video art bio, though, as I mentioned, I`m more of a technician than an artist.

Hope that things will go very well with your project. I`d like to visit you and Steina this summer if I get a chance.

Best regards,

Glen Southworth

P.S. Unfortunately all of the old CVI equipment seems to be gone. * I do have a personal model 274D that I might let you have.

* except for some slow-scan equipment.

THE CVI DATA CAMERA

4/20/92 Jeff Schier

Colorado Video Inc (CVI) circa 1974 developed an externally lockable video camera called the CVI 502 Data Camera. It contained a one inch pickup tube and was intended for use in laboratory research and to the scanning of non-standard video formats. To permit operation with slow scan television, provision was made for input of external horizontal and vertical sweep signals and a beam blanking signal. Control of Focus, Beam, Target, Horizontal and Vertical Center controls were accessed through knobs on the Camera Control Unit. The video gain could be externally voltage controlled or corrected with the twist of a knob.

CVI had foreseen unusual scan patterns to be used when driving the camera deflection yokes: radial, circular as well as pseudo random patterns. But by modifying the sweep signals with analog processing modules, the inverse of the CRT based scan processor was formed. The camera scan processor has the advantage of directly developing the intensity information from the surface of the camera tube, without the need for re-scanning a modified raster off a CRT screen.

The camera can be pointed at graphics or images, while it's horizontal and vertical ramp signals are modulated. No matter how crazy or distorted the sweep patterns that drive the camera, the resulting output is a monochrome video signal. An external sync adder is used to convert the camera intensity output into a composite video signal. External H and V drives are supplied to form blanking of the camera tube.

A disadvantage of the camera scan processor method is the source image needs to be present for pickup. Otherwise, the desired source image is "re-scanned" with the camera pointed at a monitor driven from a video tape. Correction for shading error, lower brightness with small scanned areas, and beam protection to prevent "burning" the pickup tube surface, need external correction circuitry for the data camera.

RESUME OF GLEN R. SOUTHWORTH

Name: Glen Rae Southworth

Address: 852 11th Street, Boulder, Colorado 80302

Phone: 303/443-6373

Birth: September 18, 1925, Moscow, Idaho, USA

Marital Status: Married, 3 children

Current Employment: Chairman and Treasurer of Colorado Video, Inc.
Boulder, Colorado

Registered Professional Engineer, State of Colorado

EDUCATION

University of Idaho 1945 - 47
U. S. Army Southeastern Signal School 1954 - 55

PROFESSIONAL SOCIETIES

- Acoustical Society of America
- IEEE
- Instrument Society of America
- International TeleConferencing Association
- PSSC
- SMPTE (fellow)
- SPIE
- SPSE
- USDLA

AWARDS & HONORS

- National Academy of Television Arts & Sciences
  Engineering "EMMY" award 1990
- PSSC, H. Rex Lee award
- TeleSpan Professional of the year
- ITCA Hall of Fame
- TeleConference Hall of Fame
- Utah State University Life Span Learning

PATENTS

- Narrow Bandwidth Television System	3,284,567
- High-Speed Digital Phase Modulation Encoder	3,384,823
- Scan Converter & Television Scan Conversion System	3,478,164
- Television Bandwidth Compression & Expansion System	3,683,111
- Automatic Means for Remote Sweep Scanning of a Liquid Level and for Controlling Flow to Maintain Such Level	3,842,894
- Bandwidth Compression System & Method	3,950,607
- Color Slow Scan TV System and Method	4,400,714
- Spectrum Conservation in Encoded Color TV Signals	4,514,753
- Composite Single Video Image System & Method Utilizing Video Peak Storing Memory	4,713,693

Instruments for
VIDEO ART
by Colorado Video, Inc.

- Linear Patterns: 101, 120, 121, 122
- Computer Input: 201, 201A, 260
- Computer Output: 261A, 404A, 404D
- Hard Copy: 302-5
- Video Discs: 401A, 410
- Camera: 502
- Split Screen: 603
- Grey Scale Modification: 604
- Color Synthesis: 606, 606A, 606C
- Shading: 608
- Markers: 610C, 621

Paper and pencil are wonderful inventions, water colors and oil are cheap. But let's look at it closely — these techniques are millenia old and we're in an electronic era. Video image creation and manipulation is fast, fascinating, and capable of effects never dreamed of by daVinci or Michelangelo.

Our business is primarily the design and manufacture of video instruments for research laboratories, but now and then we come up with a device that is sheer fun. Maybe we'll start a new division someday. But in the meantime, we enjoy talking to artists (engineers and scientists, too).

ABSTRACT PATTERN GENERATION VIA TELEVISION TECHNIQUES

A number of interesting and aesthetically pleasing patterns may be produced on a television screen in black and white or in color by pointing the lens of a television camera at the monitor screen. With a standard, unmodified television camera, this would result in an image similar to that produced by two parallel mirrors, with duplication of the image seen to infinity, depending upon the camera angle and proximity.

By introducing certain distortions in the video signal before it is applied to the television monitor, a much wider variety of interesting and pleasing effects may be achieved. The basic operation involved is the translation of the continuous range of grey scale values from the television camera output to a black or white only signal through means of a device such as a high-speed Schmitt trigger. In this instance, the sensitivity of the television camera is very greatly increased to small threshold values of video signal, and when the camera is pointed at the television monitor, a different form of regenerative process can take place when monitor brightness, contrast, and camera sensitivity exceed a certain threshold. The high gain of closed-loop operation can cause the reproduced television signal to assume a number of unusual configurations, including slowly changing patterns on the television monitor as influenced by factors which will be discussed later.

Two or more Schmitt triggers or slicers set to different amplitude levels will generate more complex patterns, and the outputs of such slicers or quantizers can be fed to the inputs of a color television monitor or color encoder or produce colored images. Color greatly enhances the beauty of the patterns. A block diagram of a typical system, usable with either black and white or color, is shown on the other side.

Pattern generation is influenced by the following factors:

1) Camera distance and lens focal length as compared to the diameter of the picture monitor.

2) Angle of the camera position as related to the monitor screen.

3) Angular rotation of the camera scanning plane.

4) Optical and/or electrical focus of the television camera.

5) Lens aperature and/or video gain of the camera.

6) Setting of quantizer thresholds.

7) Introduction of secondary light patterns on the television monitor screen by optical means.

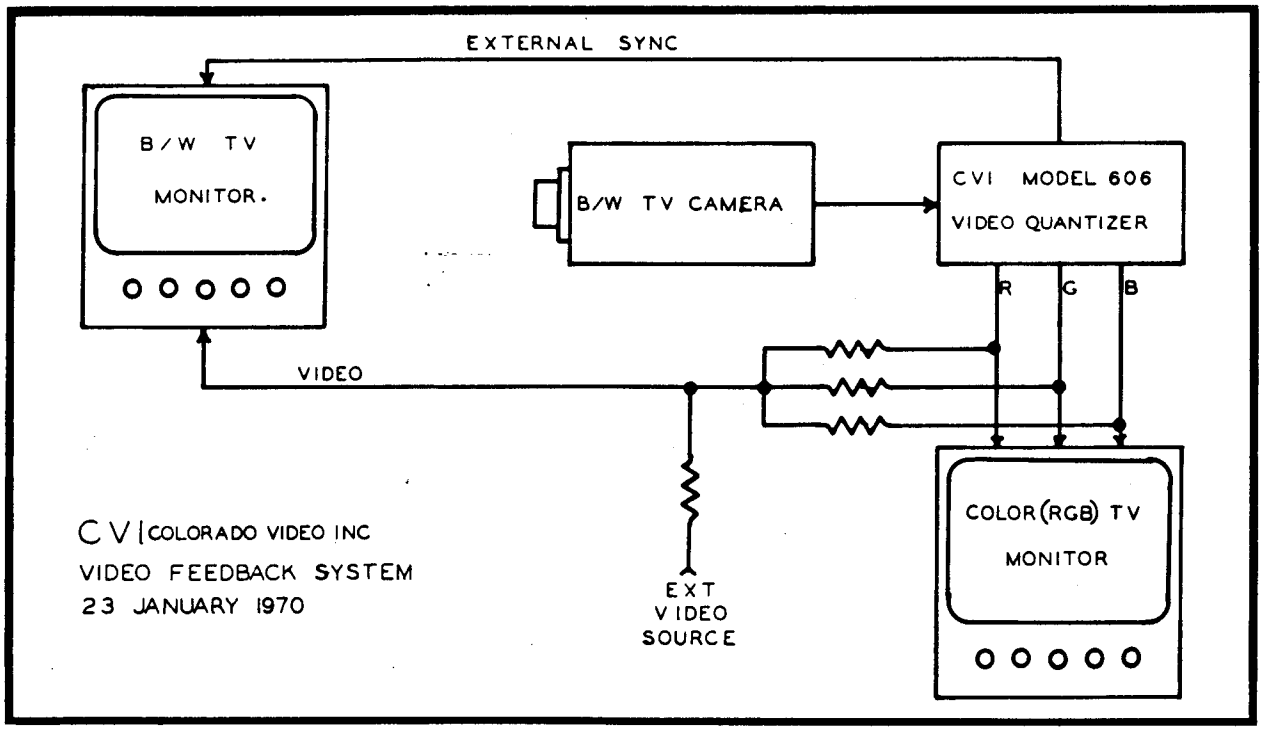
8) Introduction of secondary video images on the monitor screen through electronic mixing.

9) Modulation of the feedback path by external signals such as might be derived from an audio source (music, speech, etc.) as applied to any element in the chain, including brightness modulation of the television monitor screen, changes in gain of the television camera, changes in quantizer threshold levels, etc.

10) Utilization of vidicon or other camera pickup tubes having substantial target "lag" characteristics which tend to produce more slowly changing patterns.

11) Secondary modulation techniques involving variations in color intensity or hue shift.

The Colorado Video Models 606, 606A, and 606C Video Quantizers may be used to create the above effects. The 606 incorporates 16 slicing channels, the 606A 8 channels, and the 606C 21. All units have provision for very flexible programming, including interaction between slicing channels.



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