LAPIS Technologies, Inc.
1100 Marina Village Parkway, Suite 100 Alameda, CA 94501
Phone: 510-748-1600 FAX: 510-748-1645

Fri, Apr 17, 1992 **page 1**

from Stephen Beck

TO: WOODY VASULKA FAX: 505-473-0614
RE; ARS ELECTRONICA

WOODY-

NICE TO SEE YOU AND TO MEET PAVEL. THANKS FOR COMING BY TO RECORD/COPY - YOU ARE NOW IN POSSESSION OF MANY SECRETS NEVER BEFORE PUBLISHED! I ONLY REGRET THAT WE DIDN'T HAVE MORE TIME TO SPEND. NEXT TIME! ENJOYED ART GOSSIP TOO.

DID YOU GET A COPY OF THE EARLIEST PAPER I WROTE SUMMARIZING RESULTS OF 1969-1970 VIDEO SYNTHESIS WORK? IT IS TITLED "DESIGN CORRELATES OF ACCOUSTICAL SIGNALS DISPLAYED ON TRI-COLOR, SCANNING RASTER CRT" IF NOT I WILL SEND YOU. I WOULD LIKE VERY MUCH FOR THIS TO BE CITED AS AN EARLY DOCUMENT. IT WAS WRITTEN AT UNIVERSITY OF ILLINOIS, WHEN I WAS A STUDENT THERE.

THE PHOTO YOU FAXED IS CIRCA 1980. I'M BUILDING MY "CHROMATRON" BOARD FOR APPLE II COMPUTER. THIS WAS TAKEN AT MY BECK-TECH STUDIOS IN THE CLAREMONT HOTEL IN BERKELEY.

FINALLY, I HAVE ABOUT 30 COLOR SLIDES OF THE INSIDES AND CONSTRUCTION OF THE DIRECT VIDEO SYNTHESIZER. NICE SHOTS OF CIRCUITS, HAND BUILT BOARDS; ALSO SOME TOP SHOTS FO THE OPERATIONAL SET-UP, AND SOME WITH ME. I HOPE YOU WILL BE ABLE TO USE THEM IN CATALOG. LET ME KNOW AND I WILL HAVE A DUPE SET MADE AND SENT TO YOU NEXT WEEK.

ALSO, THERE IS A SHORT LIVE VIDEO SEQUENCE FROM 1972 SHOWING ME PLAYING THE SYNTHESIZER LIVE ON KQED. PERHAPS THIS CAN BE USED ALSO.

I ASSUME WE WILL BE IN TOUGH REGARDING THE TAPE PROGRAM FOR THE EXHIBITION, ETC. SOON. CAN MALIN ARRANGE TO SEND ME THE $3000 RESTORATION BUDGET SO THAT I CAN COMMENCE WITH WORK? THANKS A LOT FOR YOUR INTEREST AND EFFORTS.

STEVE BECK.

Steve

national center for experiments in television
at KQED, 1011 bryant street, san francisco
california 94103, 415/864-3760

A few words about the Beck Direct Video Synthesizer ...

The Direct Video Synthesizer represents my most recent attempts to obtain a precise means of controlling light for expressive and communicative purposes. An individual operator or videographer (who may be computer assisted) manipulates control transducers on the instrument to precisely generate color images which are displayed in "real- time" (virtually instantaneously) on a color video monitor and which may be recorded on video tape. Representing a departure from conventional computer graphics, the Direct Video Synthesizer consists of image element generating modules each responsible for varying particular aspects of the total image. The hardware modules are controlled by external control voltages, much like electronic music synthesizers, and thus releive the computer from having to store the image componenets directly and relegate it to the role of directing the image generating modules, under the guidance of the videographer.

The image generating modules accept control voltages from a wide variety of sources and may freely be controlled by the videographer in a wide variety of manners. Keyboards, joysticks, footpedals, biological transducers, as well as simple knobs and switches may be assigned as desired to control aspects of an image. In addition, images which originate from black and white cameras or video tape playback may be fed into the Synthesizer to be modified and combined with the electronically generated imagery.

The approach which I have used for structuring images is based on considering image elements drawn from the following four independent catgories:

Form- including the establishment of geometrical contours, the order of geometry,(that is points, lines, planes, or elements of perspective) angles, curves, and general orientation with respect to the monitor scan axis;

Motion- the time rate of change of the elements of form in a variety of ways;

Color- specifying hue, saturation, and value of image elements;

Texture- the color gradients over the image;

These categories are not necessarily rigid but are of great use in constructing actual circuitry and also serve as a base for developing compositional and manipulative techniques.

I should point out that direct video accepts the scanned raster nature of television displays as a given factor and does not use random access cathode ray tubes as do many computer graphix terminals. This results in tradeoffs between display mode (real- time color) and the ability to easily perform certain manipulations on the image (i.e.,rotation). However, the image generating core of the Direct Video Synthesizer itself is independent of the particular video format selected for use and thus provides great flexibility in choosing a display mode. NTSC, PAL, SECAM, or other video formats may be used by simply sending the appropriate synchronizing signals to the synthesizer and encoding the synthesizer outputs appropriately.

"Historically", direct video instrument Ø was constructed during the autumn of 1969 at Urbana, Illinois. This instrument, constantly in flux, was used in several performances with electronic composer Salvatore Martirano at the University of Illinois, School of the Art Institute of Chicago, and the University of Wisconsin. One composition for live performance, Prextyphia, utized imagery derived from computer generated audio tapes. Since arriving at the National Center in September, 1970, Direct Video Instrument 1 has been under design,, construction, and use. Two videographs have been completed which utilize the electronic imagery of direct video: Point of Inflection (1970) and Cosmic Portal 2 (1971).

Future research should be oriented to both developing playable performing instruments and to aquiring computer assisted interactive videosystems. Exploration of electronically using image sources from other media (film, texture sources, data pen tablets) should be considered. Finally, investigation of extending these techniques into three dimensional space through laser holograhic synthesizers should begin.

Why ? Why not?