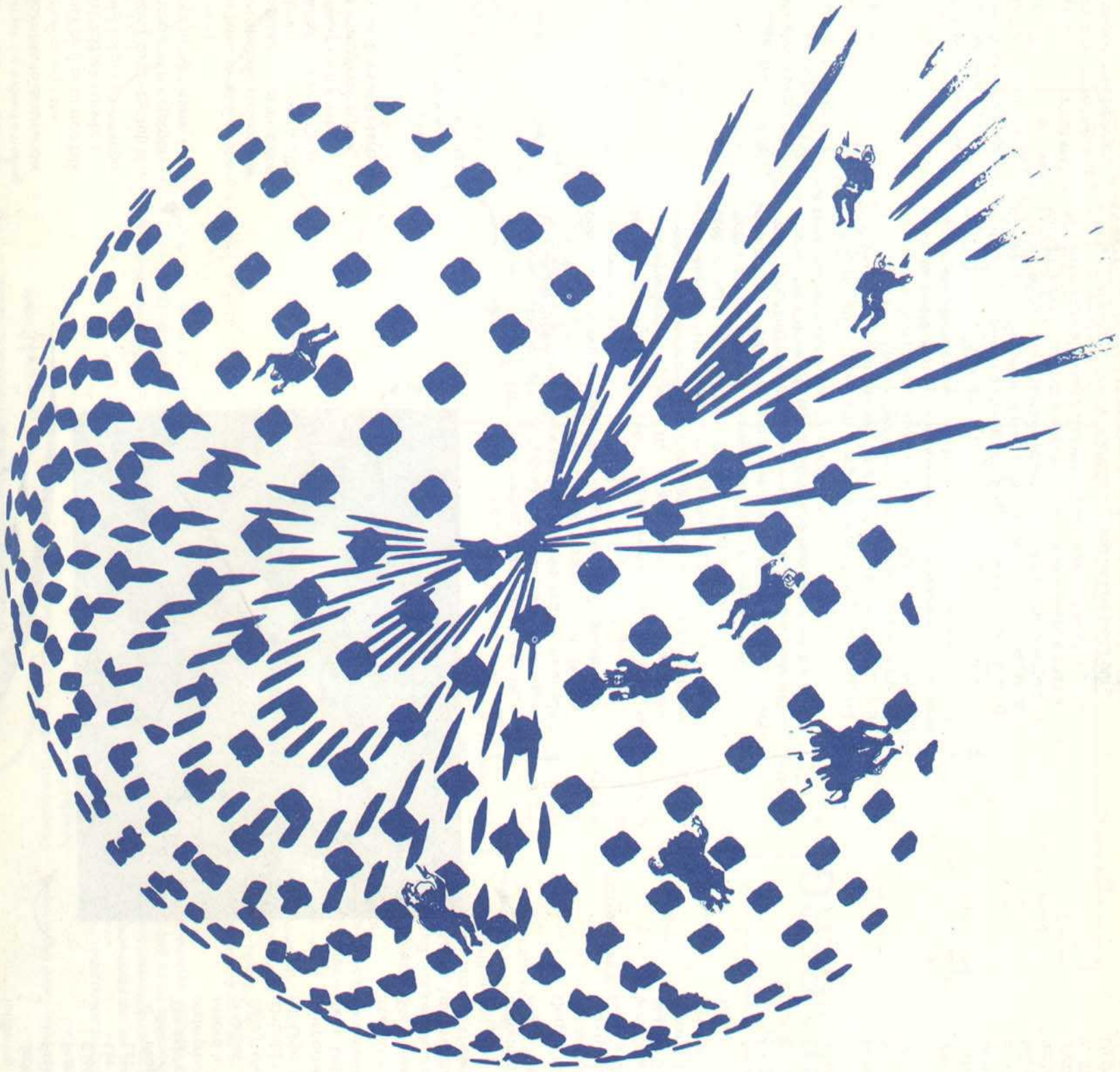
RADICAL SOFTWARE



The ELECTROMAGNETIC SPECTRUM

NUMBER 2

1970

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CONTENTS

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RADICAL SOFTWARE

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The first edition of *Radical Software*/Summer Issue was printed in July, 1970. It was reprinted with a few changes to its cover as *Radical Software*/Number One in September, 1970. 2000 copies of the first edition were printed for a total cost of $1650; $550 for typesetting, $1100 for printing, materials and layout for a cost per copy of 83¢. 632 copies were mailed out free at a mailing cost of 39¢ per copy, 570 copies were handed out free; in response to requests by mail 349 were mailed out for a charge of $1. *Radical Software* incurred a 29¢ cost for mailing, 22¢ for postage and 7¢ for envelopes (West Coast and European mailings cost $.60-$1.00). 125 copies were mailed to Buffalo State University; 324 were sold at 18 bookstores in New York City for $1 a copy (Bookmasters accounting for 9 stores). *Radical Software* received approximately 70¢ on a consignment basis from the bookstores after the copies sold.

The three thousand copies reprinted in September, 1970, for printing, materials, and layout, cost $860 or 29¢ per copy. Prices were raised to $1.25 at bookstores; $1.25 post paid for mail orders, and annual subscriptions were offered, four issues for $5. 800 post cards were mailed for $65 informing people interested in *Radical Software* of the availability of subscriptions. To date (October 23, 1970) 369 copies of Number One have been placed in the same 18 bookstores in New York City, purchased outright for 75¢ per copy instead of loaned on consignment. 180 copies have been placed in 7 bookstores in Boston on consignment, 82¢ per copy going to *Radical Software* upon sale. (We have just received word that the copies have moved well, somewhat better than our New York experience, and Boston will be refilled shortly.) 218 copies have been mailed, 182 from single order requests and 36 as subscriptions beginning with Number One. It costs 21¢ to mail one copy. 100 subscriptions have been received that will begin with Number Two.

The initial $1897.70 it took to print and mail the Summer Issue of *Radical Software* came from Raindance Corporation. Two people worked full time to put out the first issue. They received no salary. Raindance paid a portion of the rent for the apartment in which the Summer Issue was published as well as telephone, mailing and sundry expenses. The $860 to reprint also came from Raindance. At the time of reprinting, three people were working full time on *Radical Software,* two on editorial work and one on circulation. Both editors were paid $40/week and the circulation man nothing. At this writing only one editor is being paid, $30/week to cover the cost of a babysitter. We are increasing our readership in New York and Boston and will go into a few more cities on the East Coast. We can handle that because our circulation manager goes about in his microbus distributing the issues, refilling orders and collecting money. We are attempting to get to the West Coast but have yet to connect with either a distributor or person who will do a careful job of getting the magazine out and a conscientious job of refilling orders and collecting money. A member of Media Access Center, of Portola Institute, has volunteered to distribute 400-500 copies of issue Number Two. We will pursue distribution in Chicago and the Midwest after we gain experience on the West Coast. At this writing the second edition of *Radical Software* is going to press. If you are reading this you will know we solved the financial problem about to unfold. Raindance has $150 in the bank and will receive $1900 from monies owed about three weeks after the typesetter and printer want their down payment money, about $1200. Receipts from Number One *Radical Software* should start coming in since they just reached Boston and recently refilled the New York bookstores. Probably $400 will come in by down payment time from that source and perhaps another $250 from subscritptions. We are attempting to get a bank loan against the $1900 owed since it is from a reputable source but preliminary returns indicate it will not be easy.

For issue Number Two typesetting and printing costs have gone up. We would like to print 10,000 copies based on our first experience and likely West Coast distribution. 10,000 copies @ 28 pages will cost $4240; $760 for typesetting, $3480 for printing, materials and layout; or 43¢ per copy. 5000 copies @ 28 pages will cost $2908 or 58¢ per copy. The amount of cash we can obtain and terms we can work out with the printer will determine how many copies are printed. After the results of Number Two come in we will have some solid information on our circulation and subscriber potential and distributor interest.

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WE EAGERLY SOLICIT INFORMATION AND INFORMATION ABOUT INFORMATION WHICH READERS FEEL WE SHOULD INCLUDE. ANYTHING FROM PRACTICAL AND EXPERIMENTAL VIDEO TO COMMENTS ON THE CURRENT POLLUTION OF THE INFORMATION ENVIRONMENT TO CURRENT DATA ON CABLE TELEVISION LEGISLATION AND USE AND BEYOND TO DESIGNS FOR ALTERNATE COMPUTER NETWORKS AND OTHER SOFTWARE SYSTEMS.

CABLE

WHAT IS CABLE TELEVISION?

Cable television or CATV is a superior way of receiving television pictures. Broadcast signals received on sensitive antennae at a specially selected site, are fed through a network of coaxial cables to the homes of individual viewers.

FEES: Persons who wish to enjoy the service pay an installation charge to have their set hooked to the cable, and a monthly service charge. The installation fee usually runs from $10 to $20, and the monthly service charge is about $5.

SIZE OF INDUSTRY: There are approximately 2400 community antenna or cable television systems operating in 49 states and the Virgin Islands. These 2400 systems serve about 3900 communities. Estimated annual revenues are approximately $300 million and plan investment exceeds $600 million. Approximately 60,000 people are employed in the operation of CATV systems, service, and equipment supply.

AVERAGE SYSTEM SIZE: 1900 subscribers.

PEOPLE SERVED: Estimating 3.3 persons per home, (service to 4,500,000 homes) CATV systems relay television signals to almost 15 million viewers, or about 7% of the U.S. television audience. In addition to the approximately 2400 operating CATV systems, there were as of January, 1970, approximately 2100 additional communities where CATV permits had been issued but no known construction started, and approximately 1400 communities where CATV applications were pending before local governing bodies. Industry leaders have estimated that, assuming reasonable regulation, the CATV industry will in 10 years serve 30 million homes via 7500 systems, have annual revenues of $3 billion, have a building investment of $5 billion, and will directly employ 750,000.

(The above information taken from *NCTA* News Release, 3/25/70).

U.S. CATV SYSTEMS—BY SUBSCRIBER SIZE (As of Feb. 7, 1969)

Size by Subscribers	Systems
20,000 & over	8
10,000–19,999	50
5,000-9,999	144
3,500-4,999	123
2,000-3,499	279
1,000-1,999	423
500-999	427
50-499	730
49 & under	46
Not Available	260
Total	**2,490**

TV Factbook No. 40

CHANNEL CAPACITY OF EXISTING CATV SYSTEMS (As of March 1, 1970)

Over 12	86
6-12	1,720
5 only	459
sub-5	61
Not available	164
Total	**2,490**

TV Factbook No. 40

THE FIRST CABLE STATION was founded by Robert Tarlton who ran a radio sales and service shop in Lansford, Pa. . . . When TV sets became commercially available in the late 1940's, Tarlton had trouble selling them because reception was abominable. The nearest stations were in Philadelphia, 65 miles away. The signals reaching Lansford were very weak, and further blocked by a mountain that overshadows the town. Tarlton experimented in 1949 with installing individual antennas for set owners on the mountain. That worked fairly well, and he quickly got a better idea . . . he and several friends pooled their resources and set-up a firm called Panther Valley Television Company.

Panther Valley built a tall master antenna atop the mountain to spear the faint Philadelphia signals. These were fed into an amplifier to bring them back to full strength, and then into a coaxial cable that was strung on poles down the mountainside and into town. The company offered to hook customers up to the cable for an installation charge of $125 and a monthly service charge of $3. Television-hungry residents of Lansford immediately began buying sets from Tarlton's shop and "going on the cable." They received three Philadelphia channels with greater fidelity and clarity than did a lot of people living within 10 miles of Philadelphia—or even in the city itself.

"Today, with its system modernized and rebuilt, Panther Valley Television provides 12 channels to 2,900 residents of the Pennsylvania hill towns of Lansford, Coaldale, Havto and Lake Havto, who would otherwise have little or no TV. Tarlton remains president of the company, and also of Titusville Cable TV in Titusville, Pa." (*Nation*, 5/18/70, Smith)

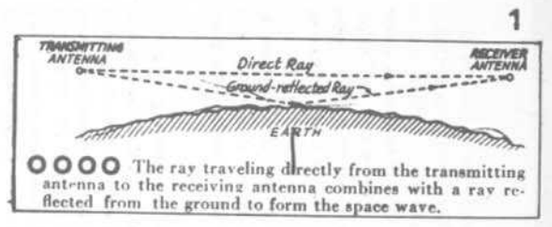
THE MODERN CABLE SET-UP CONSISTS OF:

1. Tower selected for good reception,
2. antenna system so that there are separate antennas for each channel to be received, (sometimes distant signals are relayed to the tower by 1 or more microwave transmitters),
3. "headend", a small control station at the foot of the tower where signals are brought up to maximum strength and clarity. (Here, some of the signals may be rechanneled—i.e. cable systems put UHF stations on empty VHF channels),
4. amplifiers, placed at distances of 1,500-2,000 feet along the trunk line into town to keep signals strong,
5. "feeder" lines, "tapoffs", and "house-drops" which carry the signals from the main cable to individual streets and subscribers' homes. (*Nation*, 5/18/70, Ralph Smith)

COAXIAL CABLE CONSISTS OF:

1. Copper wire in the center like lead in a pencil,
2. insulated by polyethylene foam (the major part of the diameter in cross-section), and,
3. coated with a tubular shield of braided copper or seamless aluminum sheath. (*Nation*, 5/18/70, Smith)

When a current or signal is introduced into the cable an electromagnetic interaction takes place between the center wire and the surrounding sheath. The interaction prevents currents from radiating off the cable. This is the secret of the cable's key characteristic—its immense capacity for carrying electronic signals, data and information." (*Nation*, 5/18/70, Smith)



The ray traveling directly from the transmitting antenna to the receiving antenna combines with a ray reflected from the ground to form the space wave.

MEDIA OWNERSHIP OF CATV SYSTEMS

Of the 2,490 systems operating as of March 1970, following is by media ownership:

Media	Systems	%
Broadcaster	910	36.5
Phone	146	5.8
Newspaper-publishing	207	8.2

TV Factbook No. 40

CATV'S ORIGINAL PURPOSE AND STILL PRINCIPAL FUNCTION is to provide the viewer with better reception and a larger selection of existing TV stations than he can get from the air since Broadcast TV discriminates against large parts of the population beyond the clear signal range of a few metropolitan areas.

CABLE TV—MORE CHANNELS, LOWER COST OF TRANSMISSION

". . . One of Cable TV's great potentials is its inherent ability to end the economy of scarcity on which the power of the present TV broadcasting oligarchy is solidly based. Many new CATV rigs are being built for twenty-channel reception, and San Jose, Calif. is installing one for forty-two channel capacity. Experts believe that the cable could carry as many as eighty channels with present technology. If more were ever needed, they could probably be tacked on by using more sophisticated input equipment. . ."

"Since in a CATV system it is possible to transmit directly over the cable without receiving any signal from the air, the high cost of building and running an over-the-air transmitter is eliminated. In addition, while a commercial over-the-air broadcaster derives his entire revenues from his programming, a cable system does not make its money on what it transmits. The cable runs on the profit from the subscribers' fees, whether or not the system is used for cablecasting."

BROADBAND . . . "there can come into homes and into business places audio, video and facsimile transmissions that will provide newspapers, mail service, banking and shopping facilities, data from libraries and other storage centers, school curricula. . . In short, every home and office will contain a communications center of a breadth and flexibility to influence every aspect of private and community life." (*Nation*, 5/18/70, Smith)

CABLE GROWTH

"In the first stage of the CATV boom, most of the activity has been in those cities, towns and communities that do not qualify as heavily concentrated markets, and which have therefore not been regarded by the FCC or the broadcasters as deserving full TV service. About 45% of the population lives in towns and cities ranging from 2,500 to 50,000 population, and few of these communities have their own TV stations. . ."

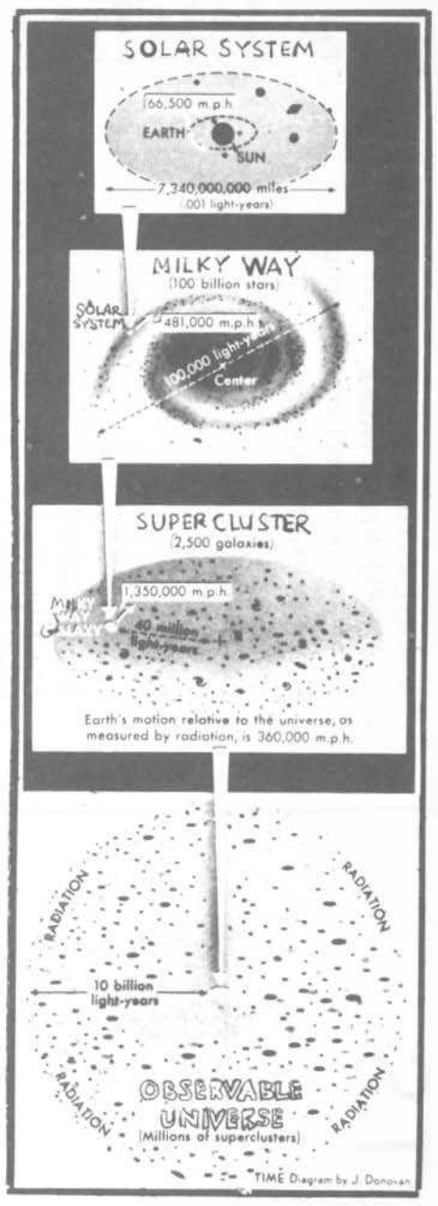
"Most cable systems are still small, the average set-up having about 1,500 subscribers, and the largest, in San Diego, having 28,325. Restrictive policies of the Federal Communications Commission, developed in response to urgent requests from the broadcasting industry, have retarded the growth of CATV systems in metropolitan areas. Nevertheless, cable installations are now coming to heavily populated urban centers, and it is here that the next big growth stage for CATV will occur. Irving Kahn, President of the TelePrompter Corporation, one of two companies franchised to build cable systems in Manhattan, predicts that within ten years 85% of TV reception in the United States will be by cable." (*Nation*, 5/18/70, Smith)

BROADCAST TV—FEW CHANNELS, HIGH TRANSMISSION COST

"Television is a colossal hog of the electronic frequencies. The elbowroom required by each channel is what makes the over-the-air very high frequency (VHF) TV spectrum the scarcest of our natural resources. No more than 12 channels can be carved out of this choicest part of the TV transmission spectrum. When additional allowance is made to avoid overlapping and interference, and for the further restrictions imposed by the economics of a commercially based broadcasting system, it works out that 75% of all American viewers get no more than three or four channels. . ."

"A year ago, President Nixon, under sharp prodding from Rep. Torbert H. Macdonald (D., Mass.), chairman of the House Commerce Committee's Subcommittee on Communications, finally released the text of a Johnson administration Task Force report on national communications policy. Among other things, the report concluded that money, even more than lack of space on the spectrum, was a major barrier to the expanded use of TV. The cost of building and running over-the-air transmitters, and programming costs, which are rising at a rate of about 8% annually, make any expansion of the present system almost prohibitively costly." (*Nation*, 5/18/70, Smith)

PRESENT LOCAL PROGRAMMING CONCEPTS began, in order to make the CATV service more attractive, by filling one or more empty channels on their viewers' sets with such simple fare as weather reports, stock market quotations, and views of an AP or UPI news ticker. Such "programming" costs little, and is easily provided by even a very small system. Soon, a few systems went a step farther—they began to transmit live local material. Today 5-10% of cable systems offer live programming of local origin, usually transmitted for a few hours a day, or irregularly when events of interest take place. These include newscasts, religious programs, school activities, county fairs, fund-raising drives, sports, cultural events, political debates, public hearings, school board meetings, children's programs, and daily variety shows featuring local persons and events. (*Nation*, 5/18/70, Smith)



The first direct intercontinental television link between two schools was made on 31 May 1965 through the Early Bird satellite. It established communication for 50 minutes between the West Bend High School, Wisconsin, in the United States of America and the Lycee Henry IV, Paris, in France, some 4,000 miles apart.

. . . On the American side, the West Bend students collected in their ordinary classroom. When called on by the teacher in charge, they left their places and spoke in front of the camera as if facing an interviewer. On the other hand, the Paris students were gathered around a large table in the library, with a teacher standing among them. On the French side, the actual classroom setting was lost and the participants appeared merely as a group of young people, but this was offset by the gain in freedom.

. . . The programme lasted 50 minutes and took the form of a dialogue. To begin with, it was rather stiff (each speaker occupied the screen for a fairly long time and then formally handed over to another). The discussion soon became more lively.

. . . A striking feature of the experiment was the eagerness of the young people to contact their opposite numbers. They were all careful to speak in each other's language, although they had the right to go back to their own language when in difficulty. The broadcast took place in an atmosphere of great good humour, with a certain amount of facetiousness on the part of the French students and the Americans more earnest but also extremely efficient. Both sides seemed to adapt themselves immediately to this new mode of human relations. The actual course of the discussion bore witness to this, as it shifted very simply from the adult themes which had been laid down to subjects of genuine interest to adolescents (to the great displeasure of the French headmaster, who deplored the flippancy of the conversation).

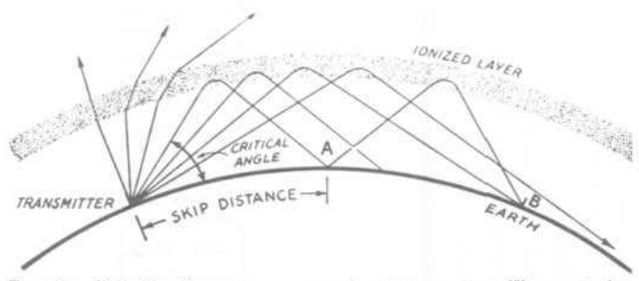


Fig. 1-8 — Behavior of waves on encountering the ionosphere. Waves entering the ionized region at angles higher than the critical angle are not bent enough to be returned to earth. Waves entering below the critical angle reach the earth at increasingly greater distances as the angle approaches the horizontal.

Moreover the ability of the ionosphere to reflect radio waves varies throughout the day, causing a fading in signal strength. Experience during the past thirty-five years has enabled diurnal variations to be forecast and the best frequency for use to be selected, but in practice this means that several widely different frequencies must be allotted to each transmitter, thereby restricting still further the number of transmitters which can be used. Even with a choice of frequencies, communications between some points may fail for several hours. There is also a possibility that sudden and unforeseen disturbances of the ionosphere may disrupt all radio-communications. For example, in 1960 an ionosphere storm, associated with a large sun spot and solar flare, interrupted almost every radio telephone and telegraph circuit to the United Kingdom for the three days.

The inadequate number and the unreliability of high-frequency radio circuits has long impeded the transmission of news throughout the world.

Ivor Ray—*copyrighted UNESCO 1968*

2 CHANNELS

Any transmission of intelligence by means of radio involves the use of a specific frequency of radio energy, known as the carrier frequency, plus other adjacent frequencies (sidebands), which become involved when the carrier is modulated. The group of frequencies used by a given transmitter is called a channel, and the amount of information it is possible to transmit through a given channel depends on the width of that channel, that is, the total number of frequencies available within the channel. Since there is an ever-increasing demand for "space" within the usable radio frequency spectrum by the many different radio communications services, each service must be content with the minimum channel width and minimum number of channels compatible with the needs of the service. Television is relatively demanding both as to channel width and number of channels. Its 6 megacycle (6,000,000 cycles per second) channel is, for example, 200 times as large as the channel used in the United States for standard (AM) radio broadcasting.

In countries which do not have competitive television systems, the problem of allocation is much simpler since a relatively few strategically located stations can blanket the population with one, or even several, program services. When television was first authorized in the United States it was assigned to a small group of 6 megacycle channels within the very-high-frequency (VHF) portion of the radio frequency spectrum. After some changes, the number of channels stabilized at 12, and no more room could be found for additional channels in the VHF band. The FCC sought to solve this problem by adding 70 channels in the next higher band, the ultra-high-frequency (UHF). A Federal law requires, since 1964, that all new TV sets must be equipped to receive UHF channels.

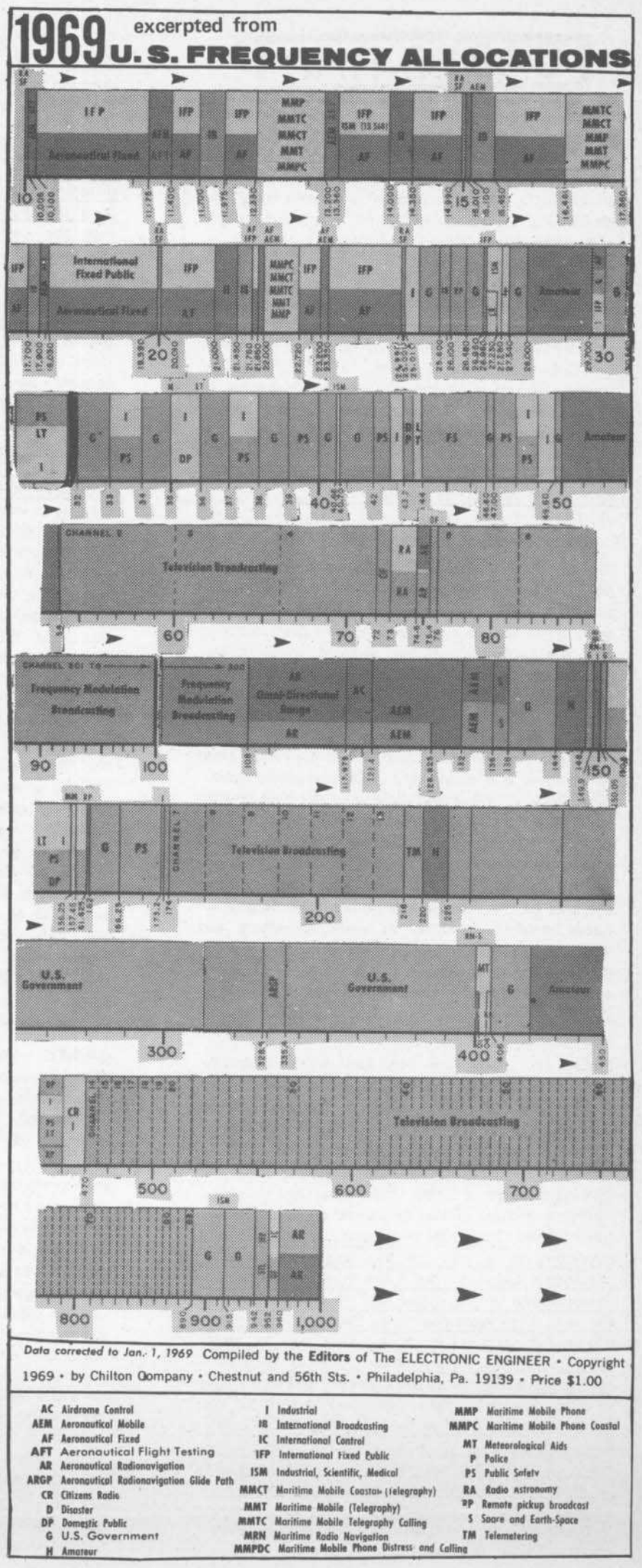
Though all 82 TV channels are the same size, 6 megacycles, their position in the frequency spectrum profoundly affects their relative usefulness. It is characteristic of radio waves that the higher they are in frequency, the shorter the distance that can be propagated with a given amount of power. While low and medium frequency waves tend to follow the curvature of the earth beyond the horizon, as one moves up the spectrum into the VHF and then the UHF regions the waves tend more and more to behave like light, that is, to travel in straight lines to the horizon. Furthermore, the higher the frequency of a transmission channel, the more easily its signals can be blocked off by objects in their path such as buildings, trees, mountains, or even rainfall. In terms of the usefulness of the television channels, this means that the higher the channel number the less desirable the channel from the point of view of obtaining maximum geological coverage. The UHF channels, because they represent such a jump in frequency from the highest of the VHF channels, are markedly inferior to the VHF channels in their ability to provide reliable distant reception and to cope with obstructions in the path of the signals between transmitter and receiver. UHF stations cannot compete on even terms with VHF stations. (*Americana Encyclopedia* vol. 26)

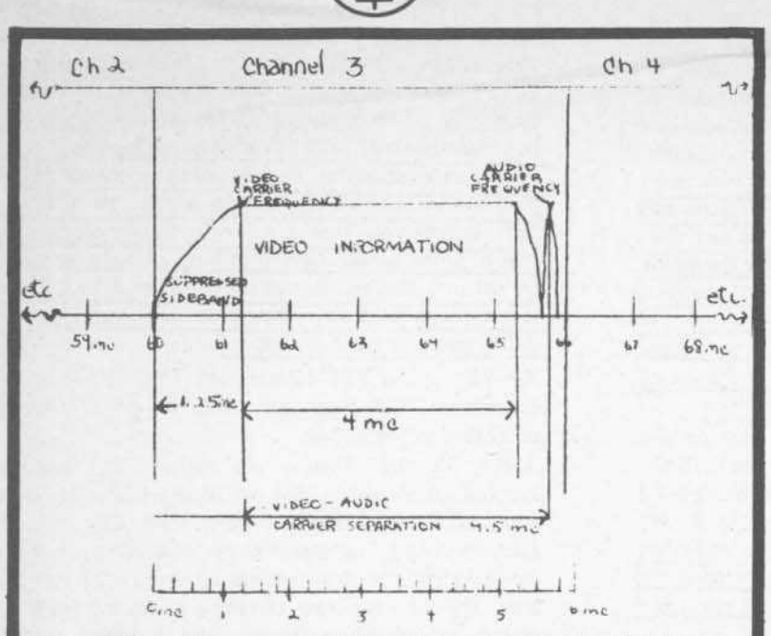
UNITED STATES TV CHANNEL ALLOCATIONS

Channel #	Band	Location within band
2-4	VHF (30-300mc)	54-72mc
5-6	VHF (30-300mc)	76-88mc
7-13	VHF (30-300mc)	174-216mc
14-83	UHF (300-3,000mc)	470-890mc

(American Encyclopedia, vol. 26)
Single television channel = 6 megacycles

Channel	Frequency Range	
Sub 1	6-12mc	Six channels can be carved out of the electromagnetic spectrum below channel 2. These channels are not used for over-the-air broadcasting because they have inferior carrying qualities, but they can be carried on the cable with no significant signal loss of strength or clarity. *(Nation,* 5/18/70, Smith)
Sub 2	12-18	
Sub 3	24-30	
Sub 4	30-36	
Sub 5	36-42	
Sub 6	42-48	
Sub 7	48-54	
Ch. 2	54-60	
Ch. 3	60-66	
Ch. 4	66-72	
Unused	72-76	Normal VHF "Low Band"
Ch. 5	76-82	
Ch. 6	82-88	
FM Radio	88-108	
Air Navigation	108-120	must be vacant on cable to avoid interference with aircraft navigation
A	120-126	For technical reasons, this range is avoided by over-the-air broadcasting, but can be used without difficulty by the cable. *(Nation,* 5/18/70, Smith)
B	126-132	
C	132-138	
D	138-144	
E	144-150	
F	150-156	
G	156-162	
H	162-168	
I	168-174	
Ch. 7	174-180	
Ch. 8	180-186	
Ch. 9	186-192	
Ch. 10	192-198	Normal VHF "High Band"
Ch. 11	198-204	
Ch. 12	204-210	
Ch. 13	210-216	
J	216-222	
K	222-228	
L	228-234	
M	234-240	Extended VHF Band
N	240-246	
O	246-252	
P	252-258	
14-83	470-890	Normal UHF Band





This drawing symbolizes a portion of the radio frequency spectrum in which some of the VHF channels fall. The standards indicated for channel 3 apply to all United States television broadcasting, whether UHF or VHF. Note that although the sideband to the left of the video carrier frequency is suppressed, room must nevertheless be left for vestigial energy, (the video carrier frequency being located 1.25 mc from the lower end of the channel). As can be seen from the lower scale, of the six megacycles available, only four are devoted to actual video information. Modulation of the carrier produces sidebands on each side of the carrier but in TV the sideband to the left is suppressed and only the right hand sideband is used (which is possible because the two sidebands are simply images of each other in opposite phase). Near the upper limit of the channel, separated slightly from the upper limit of the picture information, is a second carrier frequency for the sound component of the signal. (Not drawn to scale. Americana Encyclopedia, vol. 26.)

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FEDERAL COMMUNICATIONS COMMISSION REPORT

ISSUE: CATV PROGRAMMING ORIGINATION

MEMORANDUM OPINION AND ORDER

Adopted: June 24, 1970; Released July 1, 1970

1. We have before us a number of petitions for reconsideration of our First Report and Order herein, released October 27, 1969. . . In that decision . . . we dealt with certain aspects of community antenna television (CATV) service. **We determined that the public interest would be served by program origination (cablecasting) over CATV systems, and accordingly adopted a requirement for such cablecasting after January 1, 1971 by systems with 3,500 or more subscribers, leaving to further proceedings the question of whether the requirement should be made applicable to smaller systems.** We also authorized advertising on cablecasts, limited to the beginning and end of each program, and to such "natural breaks or intermissions" within programs as are beyond the control of the CATV operator. . .

2. The joint petition for reconsideration of Cablecom-General, Inc., Communications Properties, Inc., Pennsylvania Community Antenna Television Association, Inc., Service Electric Company and Texas CATV Association, Inc. supports the Commission's objective promoting multi-purpose CATV operation combining the carriage of broadcast signals, program origination and common carrier services. However, it urges that a compulsory origination requirement, limitations upon advertising and the possibility of a dual Federal-State regulatory system are undesirable. With respect to the origination, or "cablecasting" requirement, it is urged that to compel cablecasting by systems not adequately prepared to undertake it will not advance the Commission's aims, but rather will retard their realization. . . The petition urges that there is no valid basis for assuming that CATV systems not now originating programs do not have a valid reason for failing to do so; uncertainties over copyright legislation and state public utility regulation as well as economic problems related to capital requirements are referred to as obstacles to effective cablecasting. . .

3. We have carefully considered these contentions, but are not persuaded that either the public or the CATV industry would be better served by deleting the cablecasting requirement. As the petitioner's state, there is no disagreement about the value and importance of cablecasting. **Since many systems are now originating, the general feasibility of origination is no longer in doubt, and we believe that we adopted a reasonable cut-off point in limiting the applicability of our rule to systems with at least 3,500 subscribers.** The first Report and Order covers this issue in detail, 2/ including available data on costs, and the initial rule adopted in that document is very broad, permitting great flexibility in cablecasting operations. **We have been given no data tending to demonstrate that systems with 3,400 subscribers cannot cablecast without impairing their financial stability, raising rates or reducing the quality of service. We recognize that there are some uncertainties, but these uncertainties have not prevented the inauguration of cablecasting by many systems.** 3/ Innovative arrangements are also possible, such as agreements with educational institutions under which a channel is made available for the use of the school which, with its own studio and other facilities, will produce educational, cultural and other programming. The CATV of course would be expected to see to it that local political and other affairs are covered on that or a different channel, but the costs of origination to it would be sharply reduced. We do not see, therefore, why a reasonable requirement for cablecasting should produce less quality origination than would otherwise be produced. 4/ **The rule adopted is minimal in the light of the potentials of cablecasting and, on our own motion, we are postponing the date when origination must commence to April 1, 1971 to afford additional preparation time.**

4. Indeed, we recognize that there is a question of whether we should not go beyond the minimal rule and specify a minimum number of hours for local live origination (as against presenting primarily film). **We adhere to the judgment . . . namely, that it is appropriate to afford a period of free experimentation and innovation by cable operators.** However, there is one development which does require consideration. It has come to our attention that some cable operators simply lease their origination channel to a local radio station, which in turn presents its disc jockey shows over this channel for virtually the entire broadcast day. **While the cable operator is perfectly free to enter into arrangements with local broadcast stations during the period of experimentation. . ., the main purpose is to provide an outlet for local expression.** As we stated in the First Report, the very existence of "available facilities for local production and presentation of programs. . ." is a most important contribution to the public interest, since it means that the mayor, the local political candidates, those willing to discuss controversial issues, etc. have a means of access to the television viewer. However, if the channel is unavailable for such presentation because it is leased out to a local broadcast facility for television presentation of its shows, the above purpose is frustrated. **We therefore . . . make clear that the CATV may not enter into any arrangement which inhibits or prevents the substantial use of the cable facilities for local programming designed to inform the public on issues of public importance. . .**

5. Several parties 5/ urge that the Commission, in encouraging cablecasting has embarked upon a new course with respect to CATV, which was previously limited to the role of a supplement to broadcast television service. They say that CATV, still founded upon the carriage of broadcast signals, but now encouraged to originate programs independently, will be a greater threat to the public's continued reception of "free" programs than either previous CATV operations or subscription television broadcasting. . . The adoption of rules similar to those preventing siphoning television programs from free television broadcasting to subscription television broadcasting will serve to insure that cablecasting does not merely force the public to pay for what it now receives free. They are additionally warranted here because of CATV's inability to serve the same audience reached by a television broadcast station, and they serve the same purpose of protecting those who do not wish or cannot afford to pay for television. Finally, we believe that as is the case with subscription television, advertising should not be permitted where the public pays directly for the programs. . . However, **we do not believe that cablecasting unaccompanied by per-program, or per-channel charges, presents a substantial threat of siphoning, or that such cablecasting, which we wish to stimulate, should be restricted to one channel or limited to sponsorship by local advertisers in small communities. . .**

7. We note also other requests by several parties that we deal with CATV on a more comprehensive basis at this time, covering such issues as licensing, whether origination by the CATV operator should be permitted on more than one channel, regulation of common carrier operations, reporting requirements, and technical standards. We are not persuaded that all of these questions need be resolved before we proceed with the basic determinations made in the First Report and Order of October 27, 1969. CATV originations are still in their infancy, and, so far as we know, common carrier operations are still in the future. These various issues are not being forgotton. . .

Federal Communications Commission, 1919 M Street, N.W.; Washington, D.C.

CABLE RAP®

The following is a discussion on cable, representative of a number of points of view, which took place in the offices of Source Associates, N.Y.C., on Sept. 24. The participants were Jeff Casdin and Art Anderson of Source, a private investment and consulting firm specializing in the problems of interfacing people with technology, Theodora Sklover, consultant on urban communications to the Bedford Stuyvesant Restoration, Corp., the Sloane Commission, the Center for Policy Research, Forum Communications, Fordham University's Center for Communications, etc., Barry Steigers, Director of Program Origination for Columbia Cable Systems, a publicly owned company based in Westport, Conn., with systems in Florida, Texas, Washington, Oregon, Arizona, California, Colorado and New Jersey, Beryl Korot and Phyllis Gershuny, the editors of *Radical Software* and Steve Katz, who had been visiting Source Associates prior to the start of the meeting.

JEFF: Thea, maybe we should start by your outlining for us your involvement with cable.

THEA: Well, I've primarily been into developing different uses of media that have to do with urban needs for a variety of projects—some are in the cable area, some are in broadcasting. I've been working with the Bedford-Stuyvesant Restoration Corp., trying to help them to develop an application for cable franchise as well as ways of developing programming concepts in terms of community input . . . John Hay Whitney has made a donation to Restoration to help them get this franchise, and they in turn have hired an attorney and myself as a communications consultant. Prior to this I had worked in the Two Bridges community trying to help them organize around the concept of cable, trying to see if we could work something out with the existent system There is already a company in Manhattan that is franchised in the area of the Two Bridges community, Manhattan Cable-Sterling. We tried to work something out whereby there could still be some sort of a community set-up, set-up within Two-Bridges which the community could get access to and control over.

JEFF: How many channels are available now in that area?

THEA: I think they only have what is presently available which is twelve, and only two others, 6 and 8. The New York City contracts that were signed stipulates that by July, 71, seventeen channels will be made available. Actually, my plan was a little premature and a lot of the concepts that we developed there I think have now fed into the contracts and could now be picked up by individual communities. One of the things that's stipulated in the city contract is that the two franchise operators, Manhattan Cable in the lower half of Manhattan, Teleprompter in the upper half, will have to within the next three years sub-divide their systems into ten sub-districts giving access to each one of those sub-communities, setting up some sort of origination facilities in each one. *So the concept I was developing in Two Bridges is now inherently a part of the contract.* However how that is going to be implemented is another question. Who's going to pay for the origination facilities? What kind of training will be made available? Will the sub-districts really have programming of their own?. . . . *Let me give some further background to the New York situation. There were hearings held on July 23. They were to determine whether the two companies I mentioned before, Teleprompter and Sterling, would indeed be awarded these two franchises and given the exclusive rights to operate cable in Manhattan. I think they were originally given three year franchises, which were extended, but this was to see whether new contracts would be awarded. These were 20 year contracts which was one of the very big issues.*

JEFF: Do you know how much money Teleprompter had invested in New York up until that time?

THEA: No.

JEFF: Well, I don't have the exact figures, but I know it was millions of dollars. That's a lot of money to be sunk into Manhattan on the risk that they were not insured the franchise renewal. They must have felt fairly guaranteed they'd get it.

THEA: Yes, the argument that was given on behalf of the franchises being granted for 20 years is the fact that they have already expended this enormous amount of money, and who would really come along and buy them out? Also the rationale that they had acted in good faith.

JEFF: It's interesting that Howard Hughes owns half of Teleprompter—that's as much money as everyone has all together.

BARRY: There's no question that it's going to take a great deal of money not only to construct and operate the cable stations, and operate them properly, but to provide a service that must be provided. . . We all know that no matter what business you're in, if you don't provide the service you lose the faith, and once you do that then the whole premise for being in business becomes questionable, and this more so than any business I've ever seen. In broadcasting, sure you can get hurt, but there's a direct relationship here of providing a 24 hour continuous service that demands a great deal of expertise and money—particularly, money. It's not money that you can hope to get by having tremendous sales. You build this plant and you maintain it from day number one, regardless of how many people are connected with it. You definitely must have capital first, then the sales later to pay back that capital or that investment goes down the drain, which is a little different from some other businesses.

JEFF: But there is enough history in the cable industry to tell one that the risk of sales not following investment are low.

*BARRY: Except in the major markets. . . , and even the medium markets are not the same as the small hometown markets and it's all based on formulas we, the industry, have been able to formulate over the years—*a particular market gets no television, cable television brings it, the demand is great, everybody wants television. They want adequate service, at least, and this is why cable television was born.

ARTIE: How would you describe the service as you are delivering it today?

BARRY: Basically a reception service. It's becoming a program service—the new rules are going to turn the industry into a programming service, but it is basically a reception service, has been and will probably have to continue to be.

THEA: This really brings up a very important question which I guess is the thing that really splits the cable operators as well. The FCC ruling saying that all cable operators must start originating programming if they have over 3500 subscribers, (what was it, moved up now to April 1), is now a whole different ballgame. And then you get the theoretical question—should the industry evolve in such a way so that the cable operators become the leasers of channels and operate the hardware, allowing other people to assume the programming responsibility of utilizing the channels, and, thus, giving up control and liability for what is carried?

BARRY: I think the commission has this in mind. I think they feel that the cable tv operator is going to become the community channel. In your major markets you may get 3 or 4 or who knows how many community channels. The cable operator himself who up to now has been running a reception service is faced with the dilemma of now getting into the programming business. *That's why I suppose I have my job. I was a programming person and now I'm a cable person with programming background. My job with the companies I've been with is to program the systems. The amount of money, the amount of talent, the amount of knowledge that it takes to program one of thse things is extensive. It runs in all directions. Take a small, medium market. Start with a complete local concept. Everybody doesn't do this. We think this way. And I think eventually it evolves to this. Start with local news, some in-depth news, and weather and sports and things that we know are acceptable to the viewers in the community—things that they want to know.*

PHYLLIS: How do you go about finding out what they want to know?

BARRY: I personally run a marketing survey. I happen to go to a segment of the community and point blank I ask them, and I ask them in 15 different ways which is the same thing I would do if I were marketing anything else. Because I know I can ask somebody and not get an answer, and I can ask them a point blank question and they'll tell me what they think they want me to hear.

JEFF: You have the national broadcast format to kind of clue you in to what they want to see. . .

BARRY: Well, that's true to a point, if that can then be brought down to the local level. I'll give you an example. Weather in Texas is so vital to everybody's daily life that they'll go out and watch the river run like I would go to the state fair. Now that sounds ridiculous but they want to know when the storms are coming. There are homeowners who know that when they get their two inches a year, it could all come at once and absolutely wash their land clean, and also down there storms are terribly, terribly destructive. Loving, Texas, as you know, was completely wiped off the map with a storm that all of a sudden came over the hill, so that weather plays a major role. All right, this is a role that cable in that particular part of the country can play. It's a dominant role and it must be. The obvious thing is to offer the facilities and to go to the weather bureau to get some kind of warning service. Granted, in Levittown, Pa. weather is no big deal, but there are things there that do interest the programming person and it's up to the programmer to find out.

JEFF: Can you describe the kind of programming you're doing now which we've talked about before. Granted it isn't revolutionary, but it is informative.

BARRY: There are three communities I've been actively involved with on a day to day operational basis. The first programming concept which we've tried to come up with is to provide, if only a half hour a day—I know that sounds ridiculous since on radio we did 18 hours a day, 7 days a week. Cablecasting, you can't really do that.

JEFF: Can you say why?

BARRY: We're not really equipped to do it. First off the equipment is not reliable enough to allow you to provide it. Somebody has to bear the cost of doing it. The cable operator can't really do that even if we have the permission, which the Federal Commission says we do, to go out and get commercial revenue to help support this kind of programming. It costs money to go out and do that. Up to this point we've been a reception service, a Monday through Friday over the counter business, with men who work 24 hours a day if need be if equipment breaks, or to keep it maintained, but not to take cameras and tape recorders and go out and do simple programming. The nature of the beast at this point is a limited service.

JEFF: Which is not to say that it might not work. It's just to say that that's the status quo.

BARRY: That's correct.

THEA: A rationale to everything. . .

BARRY: Well, to some extent, but if the cable station is bringing in 9 or 10 or 11 channels, that's an awful lot of programming you would either be duplicating or competing with which I'm not sure makes a lot of sense. Why have the same type of programming or the same national delivery type of programming that the other 11 stations have. If it isn't local why do it?

THEA: That's the point. In other words, you've been talking about importation, which means that you'd be bringing in more of the national type of programming. But why not do real local programming? *It makes no sense to put on canned things, but it makes a tremendous lot of sense to really do a community program.*

JEFF: How do you change the fact that the cable systems, by and large, are profitable? Once you put up your equity, borrow money—and a lot of times the equipment supplier will lend you the money—you build up subscribers fairly rapidly, you break even after 2-3 years, the cash starts to come in, you pay off your debt, you pay for the investment, and at the end of that period of time, 50%, roughly, of what you take in in revenue goes to profit before taxes, and really the business becomes one of bill collecting. You don't promote any more subscribers, you just have a bookkeeper who writes out the bills once a month and makes sure they get paid, a maintenance crew that sees that everything operates properly. What is the motivation to spend any more money to do anything? The guy is happy. He's making 5 times as much money as he ever intended to make. He was like the average guy, not a large system type, a middle class guy who didn't have a hell of a lot of money, maybe ran the radio-TV repair store or was a local businessman or an accountant, maybe he had some political connections, got the franchise, got some money from the bank. He just has no motivation to do any more.

BARRY: I think in all fairness to what you're saying, let's back it up a little. That could have been true at some point. I don't think the business today is revolved around that fantastic money machine theory. Maybe it appears that way.

JEFF: Our influence and your influence, that is bigger money, bigger companies, the impact of capitalism on this thing, the impetus to make even more money. . .

BARRY: Well, anyone who is in business is in business to make money. How much money, I guess is how good a management you are with the investment you put in.

JEFF: If you're a public stockholder you want to make more and more. If you're a local one man owner you could be happy at some point.

BARRY: It's all well and good to yell and scream about profits but let's get back to the programming considerations and what the cable industry must do at the local level, and the programming from the cable operator's point of view must do one of two things. One, it must serve the viewer or he won't look at it, *and the cancellations of what I considered in some cases to be great shows have gone down the drain because viewer responses through some measurement has not worked. The other 11 channels on there are what the majority of the people in the town are looking at.* Now if the cable operator, with a programming staff and camera crew goes to a local programming concept of doing nothing but local programming you have to go into the community to find out what that local programming can be. Well, it's limited to the political type of area, a news-in-depth type of area, an educational area, your sports area, or an entertainment area. *Out of those five areas every town has certain amounts of these things. How do you take these from the town and turn them into meaningful programming so that the viewer will watch this, and will watch it compared to the Beverly Hillbillies, Bonanza or NFL? You're up against a big thing here.*

The second question is do you program to get the masses away from NFL or do you aim directly at the 10 or 12 people that really care about it?

JEFF: Well, let's say you have something on the sewer construction of Ridge Road, but there are going to be fifteen Ridge Roads so that you've touched quite a few people.

BARRY: Well, that's true, but, when you talk about the neighborhood programming concept, forgetting about the money, it takes people and time to put together meaningful programming in addition to running a normal business. We in cable television do this in addition to running a normal business. *In some cases, it is very easy to do this. We can go to the Junior Chamber of Commerce, who are very active people. They're young, aggressive, they have divisions which make it their business to know what's going on in politics, new ballfields, what have you. And we must give both sides hearings, whether it's the JC's on one side or the League of Women Voters on the opposite side. This is one way to do it. We do involve these people.*

THEA: There are a few points I'd like to make. Everything you are saying is traditionally the way most people have thought of television. You're talking about the "we", meaning "we" the cable owners, "we" the people who make the programs, rather than letting the people themselves state it from their point of view without the editorial "we". Now according to your line of thinking, I think you're right—if you're going to use this as your means or your staff. It's very difficult. You need a great deal of money. If you look at any local broadcaster, and you can see his revenue, and what he puts into programming, it's quite high. However, when you start thinking of the concept of cable, and opening up, and really providing accessibility, I think you can start thinking not so much in terms of "we" are doing the programming, but that we are going to, by lending some of our expertise to other people within the community--the technological expertise that they could utilize—allow them to make the decisions of how or what the information to be presented is.

BARRY: Let's bring it down to my day to day reality. Effective in the next few months the commission says we're in the business. And that becomes a now business program. We now must do this. We must create it. We must do something. I'm saying "we" again but I'm saying the cable operator has the responsibility to get it done. It isn't that easy. My finances show there is no way.

ARTIE: Let's say there is no financial return, can you satisfy the FCC local origination requirement by saying we're going to dedicate to the community a channel? We're going to have someone here who knows the equipment, who can get you technical advise, but here, it's yours, and let's use it.

BARRY: Yes, I think it's going to come to that, and yes, I agree that way. In fact, we are actively looking at the channel for education, give it to the schools, we'll give you the transportation of the system. You do everything.

JEFF: Giving it to the schools is different from giving it to the community.

BARRY: That's a very good point.

THEA: Getting back to a point Jeff was making before, you can supply information that would be available to other communities, since similar kinds of needs exist in many communities. One of the ways to look at the new system, the new use of this technology, is that it really can become an exchange of information between communities. *What you can help people in one community do is provide the information in such a way, that that pieces of programming, if you want to call it programming, could then be utilized somewhere else.*

BARRY: There's a New York firm experimenting with this. They're taking 10-20 communities, tackling a problem, whether it be fluoridation of the water or air pollution, they go to these communities that are in local origination and ask them to go out to their people and get back answers to certain questions. . . All the information is then funnelled here to New York, to a common source, put into a common programmer, and sent back out.

PHYLLIS: That's almost unfair. People don't know what they're being asked.

JEFF: Remember, Radical Software is putting a 100% hypothetical grid on top of reality. Right now as things exist, someone is going to hold the camera. Someone is going to keep the tapes in some central places.

THEA: I think what Phyllis means is that you're making arbitrary decisions of what the problems are, as opposed to saying to people this is your community, etc. what are your problems, what are the issues that you consider to be important? I understand that the cable operator has the problem of worrying about whether a program will be usable in many markets, but there really is another way of going about this.

BARRY: What if profitability weren't even a question? I've known many broadcasters in small communities that have had a terrific stake in the community, not the broadcast property, or the cable TV property, but had a real burning desire to promote the community, to get business in the community, to make it a better place to live, to fight air pollution. I know many guys like this all throughout the United States. I've also known in these communities the League of Women Voters, who spend a great deal of time working on issues, and to counteract them you've got JC's who work very hard to do the same thing and when you've got a really hot issue you have groups banding together getting mad, holding meetings, and they're worth listening to.

THEA: But even in your choice of those people you have already made a statement of what is representative of community. There are a tremendous number of community groups that I think should be heard and listened to, and I don't just mean the Panthers and the Young Lords, either, though of course them, too, but young people, old people, people who you don't necessarily categorize,—where are they at, how do they feel about decisions that are being made, where is their input?

JEFF: I think to some extent that as technology develops and broadband opens up, some of these problems will resolve themselves. *There are 54 channel systems that are now going in, 24 two-way and 6 left open. There's one going into Riverside, one to Worcester, Mass., my hometown, and there's no conceivable way that that guy can fill up half of those channels with anything. . .* Within five years, with the microwave link-ups and satellite link-ups, there's a lot of hardware accessible that has no software to go into it. A lot of cable stations are going to say, "take it, here's a $1500 portapak that you can rent for $10 a day, come over, stand on line, and we'll put this over 10 channels." The conflict will no longer be profitability. The conflict will be who's going to control the information, and the power of the information is now going to be something to resist. The practical problems of today, which are high cost of equipment and scarcity of equipment, and problems of profitability to the local cable operator, and the physical, technical expertise of doing programming are going to disappear as technology advances.

THEA: One of the reasons that broadcast TV has taken the form it has is that it has a limited spectrum. It can only carry so many channels through the air. The beautiful thing about cable is that it is unlimited potential. You're talking about a system which can have 54 channels. Potentially it could even be more. But then there's the reality that there are those places where more channels are not going in, or where they're limited, New York City being one.

BARRY: Please remember that five years ago there were only five signals.

JEFF: Thea, space out 5 years.

THEA: Even, indeed, if there are 54 channels there are a lot of other things. A cable operator isn't installing that without some thoughts of profit making relations to those other channels, and we know that there are potentially many other uses—computer hook-up, facsimile, reproductions, etc. Theoretically, idealistically, I agree with you. It should mean this is now open. Anybody, everybody, come, say it, do it, it's yours. However, how will this be implemented? Will it be utilized for more computer usage, cassettes, or is it going to be utilized so that the average person, maybe with some qualification, maybe you have to come in and be representative of some group, have that kind of pure access to utilize that channel to put on there what he believes is his point of view, valid, produced, put together. Who's going to let that happen?

ARTIE: The FCC I think will. They've been quite explicit in that they want one or more channels dedicated to the public.

THEA: OK. This is the nitty gritty, not the technological aspects, but the legal implications of it. Let's take New York. The New York City contract stipulates, and I believe it is the only contract at this point in the country that has any stipulation of this sort, that it have two channels made available for public use, public channels, not common carriers which is really what we're talking about, but public channels, meaning the cable operator still has control of, and liability for, what goes over those channels. Therefore, if you are worried about obscenity, profanity, if you are worried about bringing in issues—Black Panthers, Jewish Defense League—the cable operator still is the guy who has to make this decision. He is legally responsible. This is the crux of the issue. How do you construct channels that actually allow people to come and utilize it for free flow of information if you have this problem of liability?

BARRY: The commission does go into this area. I think they are going to say that common carrier will become a part of the system. Maybe not in Bellow Falls, Vt., but I think the commission is trying to answer the questions you're raising here today. There is the problem of getting the voice of all concerned on the air. They've tried it with the Fairness Doctrine which is reasonably satisfied by bringing up the opposite points of view.

BERYL: But that goes back to forcing the public to think in polarized terms.

BARRY: Well, that's an issue I can't debate. I enjoy debating with the FCC. But if you bring it down to this individual level—this is what we're asking isn't it, this is what I feel when I've spoken in groups like this—that there must be an individual accessibility to this communications wire that goes to the group on the other end with a receptacle. Is that really what we're saying—that it has to be easy enough that an individual can get access?

THEA: The ultimate is that every individual can have access.

BARRY: Then you're very right. Then you get back to the other point—the minute you make an individual, a businessman, reliable for what the individual is going to say, there is the bottleneck, there is the problem that must be solved.

ARTIE: Is this really a problem? What if the FCC were to say that there are to be public channels and on a common carrier basis?

THEA: Then the liability falls to the individual and the individual can only be liable if he has final say in what is carried.

BARRY: Do you think that the phone-in concept, participating over the airwaves like open mike shows on radio stations, does this take care of what you're talking about?

THEA: You're talking about feedback now. I think that the fact that radio stations are utilizing this now, and are doing well, which they are, is a statement about what people are asking and wanting in terms of media, just as they're asking for more participation on every level of society. However, to go to the extreme—it is still not total control. It's still somebody else programming the show and making decisions as to whether the show should continue to be carried. Usually the phone calls are pre-screened, again maybe for good reason, but it does bring up the issue of professionalism and that the ultimate control and choice is still in the hands of the operator.

BARRY: A common carrier would not do that. In the current proposed rules the common carrier will be encouraged on CATV. Maybe this is the answer to it. From our point of view, the cable tv point of view, is honestly to try to do a job at the community level and see as many different points of view are put on the air as possible. And so far in communities we've worked with it does work fairly well, and I've got as far as getting pros and cons in four ways on vivisection, which was a very touchy situation. It got very wild for a few hours, and I wasn't sure I'd get out alive because I was the programmer and the people were pretty violent when they got done with the program. But I personally felt that as the programmer in that community, that particular program did do the very things you're talking about.

BERYL: Specifically, what does common carrier mean?

BARRY: A common carrier is that your lines, your transportation system, is open to any persons that want to lease that facility and you have no right to dictate or alter in any way, shape or form what that is. The input and output are none of your business. You are the common carrier getting it from point A to point B, like the telephone company. Let's take the UPI as a case in point. They sit in New York and they report and type the news in New York. They put their information together and lease common carrier lines, in this case American Telephone Telegraph, the phone company, and they in turn cannot alter news nor can they do anything with the information as it goes through the wires. In regards to CATV a person would buy accessibility to our video lines.

JEFF: The telephone company to some extent has flexibility as to what they can charge for access to that common cable. In the case of UPI they can afford to spend the money to pump it through the system. But there are few individuals, groups, whatever, that can afford that.

BARRY: Why can't it be looked at from another point of view—that if it takes this kind of money and that type of organization to reach that large a segment of the population, shouldn't it be more difficult than touching a button somewhere?

JEFF: Barry, maybe this says how big cable is going to become. If the demand is there for the information, and if information is a primary commodity like food, and necessary like food, and people finally express this to the powers that be, this thing could become a monstrous system. And in fact the technology may provide that.

BARRY: Don't forget that the cable tv situation itself still stops and starts in every neighborhood.

THEA: But that's not going to last for very long. Look at the merger between Teleprompter and H&B. How many systems throughout the country do they own now?

ARTIE: And think about when they have microwave and satellites on a common-carrier basis.

STEVE: I've never heard this CATV stuff before, but it seems to me you can draw distinction between information that's going to be put across networks like this that's going to be **compatible** with the existing communications systems—structure as it exists in this country, and other kinds of information that are going to be **incompatible** with the existing structure and systems of this country. If you don't have something that goes beyond the common carrier notion you're going to have the private citizen accessing common carrier, who is a part of the system, let's say the private entrepreneur who put up the system to begin with, who is at least going to be monitoring the same way the greyhound bus monitors who comes on the bus and who doesn't come on the bus, in the area of information. So isn't it really necessary, if you're going to have a full interchange of ideas, if you're going to make this viable in a sense that you're going to present viewpoints and information that have never been presented before, to totally take it from the hands of the guy who is putting up the capital, and functioning in the profit making mode, or any monitoring mode? Don't you need the FCC to say you can't keep the Weathermen out because you think their views should not be presented for whatever reason, or anybody else? Don't you have to build in legal restrictions on that guy doing the monitoring in the first place? Don't you have to take the power away from him?

BARRY: As long as the guy who owns the bus is protected from who drives the bus.

JEFF: What you're talking about is complete cultural freedom. I don't think the culture can handle that. That amount of information, of free access, will bust apart the culture. It could. That's what the resistance is—"Let's do it slowly." Otherwise the whole thing may go zap.

BERYL: How do you insure that free access is implicit in the cable system? How do you avoid the power grab so people can determine what they want to see?

THEA: There is the concept now that media in this country—thanks to Mr. Agnew—is the most powerful way of speaking to the people. It is the way that information is passed and processed. Television as opposed to print is that much more powerful. I think in answer to Beryl's question that one way to deal with this is legally.

JEFF: But I think there has to be some kind of valving system. Otherwise a lot of people won't be able to handle this, whether it's the federal government or people who can't accept seeing themselves.

THEA: Take the constitution for example, you know what is guaranteed. It has all been written. But the translation from that, from print into this new form of giving information, has not been written. And it has to be more than a rediscovery process. It has to be guaranteed or else I don't believe the choice is really there, as indicated by the way that the FCC and the states and the cities are going about constructing the rules by which cable systems will be governed. Unless there are certain guarantees of open access it seems as if the system will develop according to who is the most powerful right now, or in the immediate future, and not taking into consideration drastic changes going on in our society that are becoming more and more a reality.

BARRY: Who is to guarantee this—the FCC?

STEVE: I think what I was saying is that freedom of the press, first amendment rights are still in existence to the point where you can write about certain things that are antithetical to the system, that are self-destructive to the system, because they're self-revelatory about the systems' weaknesses, but it's one thing to see that on the level of abstraction of print, which people are used to—and say, oh gee, and that sort of thing—and it's another to drop down levels of abstraction so that you see it happening in the real world. If those guys who are making the decisions about what you can read and what you can see and do are tuned into the view of reality as being destructive of many rigid systematized things that they are functioning in, I'm not sure you're going to get people dropping levels, no less broadening out into new areas of what you can and can't see. For example, Agnew might say—ok, keep it in the New York Times because we know how human beings in this society function on that level of abstraction—they'll deny it, or it'll shake them up a little bit, but if you put it on television or CATV it'll present major problems because that's shaking somebody and saying that's the real world.

THEA: You see what I'm saying in addition to this—you say project, go ahead—is that if you begin to realize the impact that the visual has now in terms of television as opposed to the print medium, it will indeed change drastically in the next five to ten years. Then if you do open up and have free access and allow people to experience all these different things, I think what begins to happen there too is some leveling process; that it will not be as earth shattering as we think of it now. The individual will adjust and acclimate.

JEFF: I also think that a new impact on the scene is the home cartridges and cassettes, video recorders. If it's successful, and there's a tremendous amount of capital being poured into it to almost force it to be successful, if a couple million recorders reach the homes in the next few years which seems likely, the amount of video programming, software, that's going to be around will be immense compared to what it is today, and the broadcasters have no possible way of putting this over the air, and the cable guys do, because they have all these available channels—it'll make cable grow faster because you can't get the information any other way, and people can't afford cassettes in any great quantity compared to the information that's around. And also it's going to change the broadcasters much like Hollywood has changed as a result of the movies. I think you're going to see that happen, which again is that gradualism, and that as the broadcasters change, people will begin to watch television a little differently so that they can handle the kinds of information you're talking about better.

BARRY: I think what you'll find is that television, cable television, is going to play an extremely in-depth role in this thing.

BERYL: How are you going about creating these changes in Bedford-Stuyvesant?

THEA: the Bedford Stuyvesant project would be owned by the Restoration Corporation which is representative of the community, and the profits which are made off the venture would feedback into providing additional services for the community. It is going to have more community ownership because profits are going to feedback. The thing that's really new about the project is that no television outlet in this country has ever had black ownership, and very often we know that those who own do control. Before, we were talking about a very different kind of system, but given this present system, as it exists, ownership determines control, so therefore, the whole concept behind the Restoration's proposal or hoped for actualization is to have ownership and control within a Black community so the Black man's needs would be better represented. He would have programming that would speak to the needs of that community. Black people in the community would have more access to the system than they do now. The reality and the problem of the system, however, is who's going to buy it? You've got to come up with all that front end bread, an adequate amount of money to put the system in—it's tremendously expensive—and you have to give people something if you want them to purchase and subscribe to your service. Traditionally, the cable companies that have made money have provided better reception or else they have provided importation of distant signals. In Brooklyn you don't have either one of those problems. There is not a reception problem in Brooklyn so people are not going to subscribe to cable to get a better picture, and also in the entire New York market you have a tremendous number of channels available to you now. So you're going to have to provide some kind of a service if you're going to have people pay you. Conceptually, the way this has been set up—first of all I want to say they don't have many things yet, there's been no franchise given out—this is all conceptualization. The Board of Estimate has not begun to entertain bids for cable in Brooklyn. I'm talking about this from a traditional point of view—this is the way a businessman would look at this market. He would also look at the other aspects of it, once you get the cable system in there, there are many other ways of utilizing it to make money—computer uses, facsimile, reproduction—the myriad things that people think are at the other end of a cable system, cable operation. Really, the reason the Restoration is interested in it is the service it can provide the Black community which they do not feel regular television is now providing, and they do not feel that if a traditional company comes in there and owns it, it will provide to the Black community.

PHYLLIS: How can a Black community go about getting access?

THEA: One way is to go about what they're doing, and that is, to own it. Because the feeling is very strong that if you don't own it then you're always the guy on the outside banging on the door asking for it, which is what we were talking about before—someone else is the "we", someone else is in control, and what they're attempting. . .

PHYLLIS: How do they get to own it?

THEA: Right now, the proposed project at this point, is to find a financial partner to go hand in hand with the Bedford-Stuyvesant Restoration Corporation, the Bedford-Stuyvesant Restoration Corporation trying to proceed right now according to the way things have always been done, the way they've been done elsewhere, the way cable franchises were allocated in Manhattan. However, let me digress. The City of New York is in the process of setting up an office of Telecommunications which will come out with specific guidelines for bids for cable franchises in the boroughs that have not been given out as yet so in actuality there really is no blueprint as yet. The blueprint is in the process of being created. On the other hand, the Restoration Corporation feels there are steps that should be taken along these lines which would most likely or most probably be helpful in securing the franchise.

JEFF: Changing the subject a bit, from a straight financial point of view we do not think that the top 50 markets, in the short term, are going to provide as financially successful as some investors feel today, whereas, those cable systems composed of fairly good size small, rural towns of 25-30,000 populations, and the bottom 50 market, cities that don't have multiple network and all the available programming, in terms of cash flow they are going to be the more successful ones. They have the least amount of problems for developing reasons for people to look at cable for other than reception or more of the same standard fare of broadcasting, as would, say, New York City. The reasons for this are two-fold: the research and development and management expertise necessary to come up with practical cable services to attract **large** numbers of subscribers is going to take a longer time and be more expensive than people think, and secondly, the amount of capital, legal and political maneuvering, to reach all those people who want to subscribe to the services, is expensive and time consuming. Those smaller systems which I categorized before, while they have fewer of the kinds of problems which keep people away from cable, they are on the other hand **not taking the longer term** risks, but rather, capitalize on those traditional reasons of why people subscribe to cable, i.e., poor reception and lack of complete large city-type, network programming.

BARRY: I've got to leave. Is there anything I can add before I go? I hate to feel like I'm ducking out.

JEFF: Well, one last question—about Aspen. Aspen's on the verge of going to the hands of the freaks. They almost elected a freak mayor; they're about to elect a freak sheriff; they're taking over control of the town. The power of the town is now going into nonestablished interests. What are you guys going to do? Are you aware of what's happening?

BARRY: I can't answer that. I don't really know. I will say this—the cable system there is one that provides a needed service to the people because it's well accepted, beyond that point I can't honestly tell you what is happening at the city level. It's hard to say at this point whether they can or not. At this point in that particular system it will fall beneath the required programming level of the FCC—the 3500 level of subscribers, but that's being talked about to be changed to 5000—but what I'm not really sure about is how accessible do we all want this to be. We want to say it's so available that one individual can go in front of it and expound a view. From an operating point of view it poses a very large problem. How is this all to be accomplished?

THEA: And do people really want it?

JEFF: The technology is becoming more and more accessible so we have to come to grips with that. A guy now stands up in Union Square, but with technology the impact of one individual on a lot of people is becoming greater. . .

BARRY: The cable television idea is that you've got 12 or 15 or 27 or 47 or however many channels and technically, going back to the wire itself—it will handle any frequencies. . .The more channels there are, the less control to any one person, which I guess is what we're all yelling about here or talking about or thinking about is all going to evolve.

THEA: I guess I'm pessimistic, that it'll get to evolve that easily.

(Barry leaves)

BERYL: Well, what steps can people take in order to access cable? Right now many of us are originating our own programming. Paul Ryan is going up to a cable conference. What's he going to do there? What is he opting for?

JEFF: Barry Steigers represents the kind of guy who will talk about anything. But a lot of your cable operators aren't even at awareness level 1. First you should differentiate between Multiple Systems Operators (MSO's) and Single System Operators (SSO's). The single systems operator is the kind of guy I characterized before—a local middle class guy who wants to make some money, and chances are he's in a community that doesn't have good reception. He got the franchise from the city. He probably had a contact to the city councillor or he had a lawyer who knew. . .

ARTIE: And it's on a non-exclusive basis, so someone else can come along and get a franchise too.

JEFF: Then you've got the **multiple systems operator** who has a corporation; stockholders who are very heavily into the scene of making a lot of money and getting big. A **multiple systems operator** looks at local origination as a way to make more money. From what we can see, he probably sees it as a way to add more subscribers to his station, perhaps over the possibility of getting advertising on the local channel. And that's what Barry said. No matter how you run through the economics, it doesn't seem that you can ever get enough local advertising to cover the cost of local programming. The single system guy is not interested in making more money. He probably spends one day a week at his system. He doesn't want to hear about origination. He doesn't care if it makes more money or if it doesn't make more money.

ARTIE: That's a very broad generalization. The people who have been most successful in origination have been the moms and pops, the ones who care, who take pride in their systems and want to provide a utility type service.

THEA: Right. But I think the division Jeff's making is that they're not really concerned with the other implications of cable as well, the really broadband capabilities. I'm sure they're the ones who would very easily go along with the splitting off of the services—really setting up a common carrier system. All they're interested in is the hardware.

JEFF: I think that looking at this from another end, in this society a person's bread is his vote. And if he wants a certain kind of information, and he needs it, he's going to pay for it. And if he's going to pay for it, there's going to be a capitalist around who's going to give it to him because he wants to take that bread. And we are dealing with the capitalists who own cable systems and who need to be convinced that this is indeed what the people want to see.

THEA: Let's take a look at broadcast. Every broadcaster must do a certain amount of public service broadcasting, but he has control of when and where he does it, so he puts it on at all odd hours—there's a Sunday morning ghetto hour—and he does it because he's made to do it. All I'm saying is that right now when laws are being made around the new cable industry, let's try to construct it in such a way that access is guaranteed to people. I do think that the cable operator will be able to afford it, and I've discussed this with cable operators. They certainly will be able to afford it if they are left those other channels to make money from. If they are still collecting subscription fees which they will be, if you allow them to lease the other channels, etc., or maybe do programming on one channel.

ARTIE: Instead of 5% of your gross revenues going to city muncipalities, which is what's happening right now, why not make it 3% and dedicate 2% to the support of public channels.

JEFF: Let's go back to Paul Ryan, or to any group or person experimenting with new kinds of programming. You're a bunch of people who know how to handle equipment, understand that if the equipment is handed out properly and used properly the kinds of results that come from that.
The assumption has got to be right because if people indeed want it and need it then they're going to pay for it, and there are going to be people around, people who have money, who are going to respond to that by giving that to them. We're trying to reach the cable operators. Explain to them the methodology. Show them some tapes. Show them some examples of things that have happened. Show them how it might be profitable. Put them in touch with Foundations that have money, that can fund the equipment to begin with, to start doing the things. If people like it, they're going to ask for more. They're going to write in, call up, look for equipment, and it's going to start to happen if in fact it works. Laws are fine. But make the systems as fluid as possible. Allow it to happen—as much money, as much exposure, as possible, and see whether or not our assumption, our idea works.

PHYLLIS: How do we ourselves get access, and how do we influence those who already have access? They'll both happen side by side. The second one already exists.

THEA: There are many fronts you have to operate on and giving people equipment and having Paul and many other people going into communities is not going to be adequate if you're not going to have the laws to back it up. They have empty time now. They'd be crazy not to give it to you. But you've got to take people where they are. You are not going to change information systems that quickly, nor are you going to change people's ability and ways of taking information in. People now are programmed when it comes to television. You are not going to change their attitudes towards television that quickly or radically by introducing open type of programming (such as the kind of thing that Raindance would do) on a channel in a given area. That, in and of itself, will not prove to cable operators this is a great, sexy thing, and man it works. Because what they're thinking about in reality is what's sexy. What can I put on my system that's going to make people subscribe? The Knicks and Rangers, that's sexy man, that's what people will subscribe to. People look at television now as something that's programmed, as entertainment, as escape from reality. They have never experienced television in any other way. All I'm saying is that until you allow them the time for the process of controlling their information, of seeing a different source a different way, you are not going to change their viewing habits. That is going to take time.

JEFF: Are you going to legislate that they change their viewing habits?

THEA: I'm saying you do both things. You keep making it available, keep giving people the equipment, and helping people to know how to make programs, but make sure that it is backed up by the legal aspect so that when people get to the point where they say, "hey, this is what I want, I want access," the laws are there that say you must give it to them.

ARTIE: Going back to Paul approaching the cable operators. They're only listening to him because the FCC has said you must originate by April 1, 1971. If that hadn't been said I don't know how many would be listening.

THEA: This was a legal action, and it came out of the FCC.

BERYL: Why did they push it up to April?

THEA: Lobbying, pressure from the cable operators, and they may try to push it up again. . . the point I was trying to make before is I think it's terribly important to give people the expertise and allow them to utilize the technology. But people have to become aware of the fact that when franchises are granted that there be stipulation made for public access. First, you find out where cable franchises stand in your community, if indeed they have been given out, or if they haven't. Number two, in most instances, they have just been given away. They just say nothing; they're like bus franchises with no stipulations of what the cable operator must do or must not do. In this country the jurisdiction at this point is still within the local community. You as a person within the community have more access to affecting the legislation. Eventually it may end up in the FCC. However, right now the feeling is the FCC really is looking at the municipalities for guidelines, and sitting back and taking a longer view and allowing a lot of this to evolve in front of them. So you would try to stipulate at least that you have some public channels, that this is required of whoever the cable operator is, that he sub-divide these channels in such a way that they service individual communities, so it's not just two public channels that go out to the entire community, but that it is sub-divided in such a way that each neighborhood has access to do some programming for itself. This is also stipulated in the New York City franchise, and that origination facilities be made available. . . . What I did in Two Bridges with Paul as a matter of fact for a while, and with Ken Marsh, was bring that equipment into the community so people could experience it, so the people could utilize it, again not talking about the process of media, but letting the people experience the process and having the half-inch portable equipment available and letting people get that immediate feedback at community meetings, so they begin to understand what that process is. Most people really want to act when they learn about something. . .

see **RAND** report on Cable Television by Ned Feldman

CABLE SYSTEMS MOST LIKELY AFFECTED BY FCC PROGRAM ORIGINATION RULING +

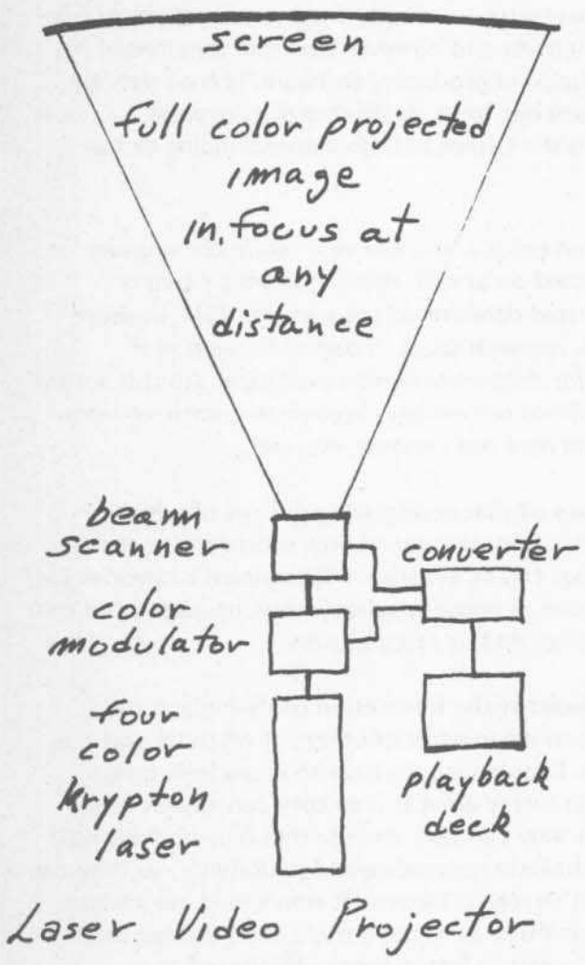
RANK	SYSTEM	CITY	PHONE	SUB SCRIBERS	STATIONS CARRIED	CAPACITY
1	Mission Cable TV	San Diego, Calif.	448-6411	35,429 *39,135*	12	12
2	Service Electric Cable TV Inc.	Allentown, Penn.	435-6727	21,680 *32,580*	12	unknown
3	Altoona Video Corporation	Altoona, Pa.	944-4648	21,500 *22,300*	7	5
4	Perfect TV	Harrisburg, Penn.	238-2593	20,707	15	12
5	Elmira Video	Elmira, N.Y.	734-2261	20,000	10	12
6	Citizens Cable Company Inc.	Williamsport Penn.	326-3384	20,000	21	12
7	Potomac Valley Television Company Inc.	Cumberland, Md.	722-6540	19,000 *18,609*	13	12
8	Florida TV Cable Inc.	Melbourne, Fla.	727-1227	16,678 *17,498*	8	12
9	TV Signal Corp.	San Francisco Cal.	771-5500	15,000	7	12
10	Atlantic Coast TV Cable Corp.	Atlantic City, N.J.	344-2868	14,550 *16,500*	10	12
11	Alabama Cablevision Co.	Huntsville, Ala.	534-4549	14,000 *12,300*	5	12
12	Kern Cable Co. Inc.	Bakersfield, Cal.	327-9671	14,000 *15,000*	12	12
13	TelePrompTer of Santa Cruz	Santa Cruz, Cal.	423-6510	14,000 *16,000*	10	12
14	Durfees TV Cable Co.	Parkersburg, W. Va.	485-7433	14,000 *15,000*	10	12
15	Cable TV of Santa Barbara Inc.	Santa Barbara Cal.	963-3644	14,000 *22,000*	12	12
16	Everett Cablevision Inc.	Everett, Wash.	259-3171	13,856 *15,684*	10	12
17	Muscle Shoals TV Cable	Florence, Ala.	764-7571	13,200 *14,000*	8	12
18	TelePrompTer of Oregon	Eugene, Ore.	342-1845	13,000 *15,000*	8	12
19	TV Cable Service Co., Inc.	Tyler, Texas	592-8251	12,950	5	5
20	Capital Cable Company	Austin, Tex.	472-5446	12,900 *12,900*	9	12
21	Manhattan Cable TV	Manhattan, N.Y.	838-6022	12,500 *19,541*	11	12
22	Buckeye Cablevision	Toledo, O.	531-5121	12,100 *14,500*	12	12
23	Empire State Cable TV Co.	Binghampton, N.Y.	723-7529	12,000 *16,211*	11	12
24	Twin County Trans-Video Inc.	Northampton, Penn.	262-6875	12,000	14	12
25	Vumore Video Corp. of Colorado Inc.	Colorado Sps.	473-6616	12,000 (pre subs)	4	20
26	Service Electric Cable TV Inc.	Mahanoy City Pa.	773-2585	11,314 *18,550*	15	12
27	Greater Lafayette TV Cable Co., Inc.	Lafayette, Ind.	447-6886	11,107	7	12
28	American Cablevision Corp.	Clarksburg, W. Va.	624-7464	11,030 *10,950*	10	12
29	Bakersfield Cable TV Inc.	Bakersfield Cal.	325-1271	11,000 *12,800*	12	12
30	Macon TV Cable Corporation	Macon, Ga.	743-9166	11,000 *11,699*	8	12
31	United Transmission Inc.	Kingsport, Tenn.	246-8851	11,000 *12,000*	9	12
32	Dubuque TV-FM Cable Co.	Dubuque, Io.	583-9171	10,930 *12,544*	10	12
33	Pottsville Trans-Video	Pottsville, Penn.	622-2161	10,800 *11,301*	12	12
34	Johnstown Cable TV	Johnstown, Penn.	535-3557	10,600 *16,500*	6	12
35	University City Television Cable Company	Gainesville, Fla.	378-2447	10,500 *12,000*	8	12
36	Cox Cablevision Corporation	Aberdeen, Wash.	532-5894	10,500 *10,500*	9	12
37	Coachella Valley Television	Palm Desert Cal.	346-8157	10,400 *10,890*	12	12
	Television	Cal.		*10,890*		
38	Palm Springs Television	Palm Springs Cal.	324-1508	10,300	12	12
39	Master Cable TV Systems	Seattle, Wash.	325-6838	10,300 *10,300*	7	12
40	Central Calif. Communications Corporation	Salinas, Cal.	422-6425	10,079 *9,027*	7	12
41	TV Cable Co.	Ft. Walton Beach, Fla.	243-8711	10,000 *10,502*	7	12
42	TelePrompTer Manhattan CATV Corp.	Manhattan, N.Y.	522-3800	10,000 *20,000*	9	12
43	Lima Cablevision Co.	Lima, Ohio	224-7045	10,000 *19,000*	9	12
44	Central New York Cable TV Inc.	Utica, N.Y.	735-7521	10,000	9	12
45	American Cablevision Co.	Rochester, Minn.	289-1611	9,950 *11,875*	10	12
46	Santa Maria Valley Cable TV	Santa Maria, Cal.	925-9504	9,740 *10,000*	12	12
47	Clear-Pic Cable TV Company	Easton, Pa.	253-3573	9,372 *15,500*	12	12
48	Community Antenna Company	Reno, Nev.	323-0741	9,000 *6,043*	7	12
49	Concord TV Cable	Concord, Cal.	687-7272	8,793 *16,031*	13	12
50	Ceracche TV Corp	Ithaca, N.Y.	272-3456	8,700 *12,000*	13	12
51	Berks TV Cable Co.	Reading, Pa.	376-6114	8,650	13	12
52	Delta Video	Greenville, Miss.	332-0518	8,551 *8,551*	5	5
53	Cable-Vision Inc.	Key West, Fla.	296-6555	8,530 *10,000*	4	5
54	Corning Community Television	Corning, N.Y.	936-6931	8,500 *8,740*	12	12
55	Capitol Cablevision Corp.	Charleston, W. Va.	343-8927	8,500 *12,000*	4	12
56	The Vumore Company of Laredo	Laredo, Tex.	722-1749	8,300	7	12
57	General Television Inc.	Salisbury, Md.	742-7181	8,200 *8,900*	5	5
58	Mountain City TV Company	Hazelton, Pa.	454-3841	8,150 *10,250*	11	12
59	Pacific Video Cable Co.	El Cajon, Cal.	448-6411	8,100 *9,000*	12	12
60	Danville Community Antenna Systems Inc.	Danville, Ill.	443-2941	8,007 *9,500*	9	12
61	Pittsfield-Dalton TV Cable	Pittsfield, Mass.	443-4755	8,000 *8,626*	12	12
62	Cable-Vision	Contra Costa County, Cal.	283-0550	8,000	10	12
63	Theta Cable of California	Los Angeles, Cal.	270-3144	8,000 *17,658*	12	12
64	Indiana Cable Television	Terre Haute, Ind.	232-5013	7,950 *8,500*	7	12
65	Wisconsin CATV Inc.	Eau Claire, Wisc.	834-3151	7,875 *8,200*	9	12
66	Kankakee TV Cable Co.	Kankakee, Ill.	939-3536	7,700	8	12
67	Imperial Valley Cable Co.	El Centro, Cal.	352-8770	7,600 *7,820*	11	12
68	Alarm Corp.-MPTV	Carmel-Monterey, Calif.	624-2012	7,572	7	12
69	American Cablevision of West Virginia	Fairmont, W. Va.	366-2880	7,505 *8,000*	9	12
70	Television Transmission Co. Inc.	Peru, Ill.	223-1106	7,500 *9,000*	13	12
71	Minnesota CATV Inc.	Mankato, Minn.	388-2966	7,500 *8,400*	8	12
72	Wolverine Cablevision Inc.	Battle Creek-Springfield, Mich.	962-6216	7,500	7	12
73	State College Television Cable Co.	State College Penn.	238-3096	7,500 *8,255*	7	12
74	TV Cable Service of Abilene	Abilene, Tex.	673-2585	7,500 *9,700*	7	12
75	South Jersey Television Cable Co.	Ventnor, N.J.	822-1174	7,480 *9,700*	12	12
76	Finer Living Inc.	Redding, Cal.	241-7300	7,400 *7,677*	8	12
77	Jefferson-Carolina Corp.	Greensboro, N.C.	272-5625	7,400 *7,400*	10	12
78	Trans-Video of Arkansas	Fayetteville, Ark.	442-2711	7,200 *8,342*	7	12
79	Marion Cable TV	Marion, Inc.	664-0701	7,200 *8,900*	12	12
80	Tall City TV Cable Co.	Midland, Tex.	682-5256	7,200 *7,000*	7	12
81	Jefferson Cable Inc.	Charlottesville Va.	296-4154	7,052 *8,000*	10	12
82	Portsmouth Cablevision Inc.	Portsmouth, O.	353-1415	7,036 *8,200*	10	12
83	Hightower Telesystems Inc.	Newburg, N.Y.	561-8222	7,000 *7,300*	12	12
84	General Electric Cablevision	Watertown, N.Y.	782-5240	7,000	7	12
85	Cablevision of Charlotte	Charlotte, N.C.	536-1161	7,000 *8,500*	10	12
86	Better TV of Zanesville	Zanesville, O.	452-5414	7,000 *8,089*	8	12
87	Bay TV	Coos Bay, Ore.	267-7061	7,000 *7,478*	5	5
88	Cable TV Co. of York	York, Pa.	845-3611	7,000 *10,300*	16	12
89	Green Mountain Television Corporation	Burlington,	864-5749	7,000 *8,098*	10	12
90	Kingston Cablevision Inc.	Kingston, N.Y.	331-1711	7,000	9	9
91	Cablevision Inc.	Gastonia, N.C.	864-8327	7,000	10	11
92	Ottawa TV Cable Co., Inc.	Marseilles, Ill.	433-1163	6,817	15	12
93	Midwest Video Corporation	Bryan, Tex.	846-8876	6,750	8	12
94	American Cablevision Co.	Lewiston, Ida.	743-2212	6,700 *6,400*	4	5
95	Missoula Cable TV Company	Missoula, Mont.	542-2123	6,700 *6,870*	5	5
96	Community Television Systems of Wyoming	Casper, Wyo.	234-7171	6,700 *7,800*	7	12
97	Carbon Cable TV	Lehighton, Pa.	377-2550	6,700 *8,600*	13	12
98	Tower Communications Inc.	New Philadelphia, Ohio	364-6634	6,600 *7,500*	10	12
99	Meadville Master Antenna Inc.	Meadville, Pa.	335-6288	6,550	9	12
100	Alpine Cablevision Inc.	Alexandria, La.	442-4471	6,536 *6,800*	6	11
101	Televents of California	Martinez, Cal.	228,0600	6,500	11	12
102	Jamestown Cablevision Inc.	Jamestown, N.Y.	487-1905	6,500 *7,500*	12	12
103	Continental Cablevision of Ohio	Findlay, Ohio	423-8515	6,500 *7,000*	14	12
104	Multi-Channel TV Cable Company	Mansfield, O.	529-5555	6,500 *9,000*	12	12
105	Telecable of Bellingham Inc.	Bellingham, Wash.	734-5522	6,500 *7,000*	9	12
106	American Cablevision Co.	Winona, Minn.	call opr. can't dial	6,450 *6,600*	10	12
107	Columbia TV Co.	Kennewick, Wash.	586-6177	6,440 *6,600*	9	12
108	Gulf Coast Television	Naples, Fla.	642-6131	6,434 *7,500*	6	5
109	Penwire Television	Lewiston, Pa.	248-0913	6,401 *6,565*	9	12
110	Tele-Vue Systems	Antioch, Cal.	432-3538	6,400 *10,700*	9	12
111	Lompoc Valley Cable TV Inc.	Lompoc, Cal.	736-6824	6,400	13	12
112	TV Cable Cocoa Rockledge	Cocoa, Fla.	631-0600	6,300	9	12
113	Tele-Tenna Corp.	Victoria, Tex.	443-2722	6,300	8	12
114	Sierra Cable TV	Chico, Cal.	342-4242	6,200 *6,950*	10	12
115	B.K.P. TV Systems	Sunbury, Pa.	286-5951	6,140	8	12
116	General Electric Cablevision	Logan County, W. Va.	752-1727	6,006	5	5
117	Fetzer Cablevision	Kalamazoo, Mich.	344-0141	6,000 *10,000*	11	12
117a	Alpine Cable TV	Pleasantville, N.J.	641-6700	6,000 *6,600*	11	12
118	TV Cable of Waco	Waco, Texas	752-1601	6,000 *8,225*	9	12
119	Ft. Smith TV Cable Co.	Ft. Smith, Ark.	782-8941	6,000	7	12
120	Newport Beach Cablevision	Newport Beach, Calif.	642-3260	6,000	17	20
121	Florida Cablevision Corp.	Vero Beach, Fla.	567-3444	6,000	5	5
122	Northwest Cablevision Inc.	Seattle, Wash.	633-3344	6,000	9	12
123	Clear View Cable Systems Inc.	Fairfax, Cal.	454-4605	5,900	11	12
124	Quincy Cablevision Inc.	Quincy, Ill.	222-5388	5,900 *5,800*	8	12
125	South Jersey TV Cable Company	Wildwood, N.J.	522-0103	5,850	12	12
126	Iron Range Cable TV	Marquette, Mich.	225-1151	5,796 *8,659*	4	12
	TV	Mich.		*8,659*		
127	American Cablevision Corp.	La Crosse, Wisc.	784-9200	5,736 *6,000*	8	12
128	Bradford TV Cable Co.	Bradford, Pa.	368-6991	5,685 *6,031*	11	12
129	Blue Mountains TV Cable Co.	Walla Walla, Wash.	525-4962	5,650	8	12
130	Cablecom-General	Denison, Tex.	465-7419	5,640 *3,809*	5	5
131	Alabama Cablevision Co.	Gadsden, Ala.	547-6821	5,626 *7,719*	10	12
132	Continental Transmission	Barstow, Cal.	256-8911	5,600	8	12
133	Streater TV Cable Co.	Streator, Ill.	672-2183	5,600 *6,000*	8	12
134	Hoosier Telecable Co.	Wabash, Ind.	563-5616	5,581 *7,754*	11	12
135	Logansport TV Cable Co.	Logansport, Ind.	753-6341	5,505 *5,800*	10	12
136	Flagstaff Television & Cable	Flagstaff, Ariz.	774-4791	5,500	5	12
137	Great Falls Community TV Cable Company	Great Falls, Mont.	454-3439	5,500 *6,800*	8	12
138	Allband Cablevision	Allegany, N.Y.	372-5220	5,500 *5,900*	10	12
139	WEOK-Cable Vision Inc.	Poughkeepsie, N.Y.	471-7440	5,500 *7,200*	11	12
140	Waycross Cable Company Inc.	Waycross, Ga.	283-2332	5,500	8	12
141	TV Selection System	Meridian, Miss.	483-5356	5,400 *5,400*	6	12
142	Cable Television Company	Ponca City, Okla.	762-6684	5,400	10	12
143	Storer Cable TV	Laguna Beach, Cal.	495-8595	5,320	12	12
144	General Electric Cablevision	Alpena, Mich.	354-4921	5,300 *5,500*	5	5
145	Wonderland Ventures Inc.	Flint, Mich.	742-9222	5,300 *8,000*	12	12
146	Antenna Systems	Massena, N.Y.	764-0244	5,240 *6,100*	9	12
147	Antenna-Vision	Ilion, N.Y.	895-7704	5,218	10	12
148	St. Joseph Cablevision	St. Joseph, Mo.	279-1234	5,100 *6,500*	10	12
149	Texas Cablevision Corp.	San Angelo, Texas	653-5000	5,100 *6,200*	5	12
150	American Cablevision	Morgantown, W. Va.	296-4431	5,100 *6,000*	12	12
151	Total Television of Santa Rosa	Santa Rosa, Calif.	544-7337	5,050	6	12
152	American Cablevision Co.	Escanaba, Mich.	786-2244	5,035 *5,200*	5	12
153	Valley Telecasting Co.	Yuma, Ariz.	782-2581	5,000 *5,700*	11	12
154	Delaware Teleservice Co.	Dover, Del.	674-3440	5,000	11	12
155	Telerama Inc.	Shaker Hts., Ohio	464-1800	5,000	16	12
156	Warren TV	Warren, Pa.	723-7900	5,000 *5,239*	12	12
157	Brownwood Television Cable Service Inc.	Brownwood, Texas	643-4366	5,000	5	12
158	Southwestern Cable Co.	San Diego, Calif.	274-7262	5,000 *5,400*	10	12
159	Tower Antennas	Coshocton, Ohio	622-3513	5,000	10	12
160	Cable TV Services	Lancaster, Pa.	393-9763	5,000 *8,000*	14	12
161	Berkshire Telecable	North Adams, Mass.	662-2792	4,918 *6,896*	8	12
162	Midwest Video Corp.	Clovis, N.M.	763-3300	4,900	6	12
163	Comtronics Cable TV	Grand Junction, Colorado	242-8615	4,887 *6,450*	6	12
164	Western CATV	Sauqus, Cal.	252-2318	4,825 *4,500*	9	12
165	Del Rio TV Cable Corp.	Del Rio, Tex.	775-3567	4,780 *5,147*	5	5
166	American Cablevision	Keene, N.H.	352-6421	4,756 *5,061*	10	12
167	Oil City Cable TV	Oil City, Pa.	645-3701	4,736 *5,000*	12	12
168	Susquehanna Valley TV	Lock Haven, Pa.	748-8048	4,732 *4,827*	7	5
169	General Electric Cable vision Corp.	Hattiesburg, Miss.	582-1981	4,659 *4,625*	6	5
170	Midwest Video	Paris, Tex.	785-1327	4,556	5	5
171	Pacifica Cable Co.	Pacifica, Cal.	355-4833	4,500 *6,300*	14	12
172	San Bernardino Community TV Antenna System	San Bernardino, Cal.	882-2024	4,500	10	12
173	Clearview of Georgia Inc.	Valdosta, Ga.	224-4400	4,500 *4,500*	6	12
174	Bannock TV Co.	Pocatello, Ida.	232-1784	4,500 *5,000*	7	12
175	Junction City TV Inc.	Junction City, Kansas	238-6165	4,500 *5,100*	9	12
176	Jackson TV Cable Co.	Jackson, Mich.	787-2000	4,500 *6,100*	10	12
177	Tri Town Video Inc.	Endicott, N.Y.	754-2530	4,500	9	12
178	Chillicothe Telcom	Chillicothe, Ohio	775-4300	4,500 *5,058*	12	12
179	Total TV	Janesville, Wisc.	754-2881	4,500	12	12
180	Oneonta Video	Oneonta, N.Y.	432-0500	4,475 *4,746*	12	12
181	Port Huron TV Cable	Port Huron, Mich.	982-0147	4,450 *5,300*	10	12
182	Florida TV Cable Inc.	Ormond Beach, Florida	677-1232	4,410 *5,300*	7	12
183	Rentavision of Brunswick	Brunswick, Ga.	.....	4,400	8	12
184	TeleService Company of Wyoming Valley	Wilkes Barre Pa.	823-2107	4,400 *7,282*	13	5
185						
186	The Dalles TV Company	The Dalles, Ore.	296-2060	4,332 *4,335*	7	12
187	Richland TV Cable Co.	Richland, Wash.	943-9012	4,320 *4,300*	9	12
188	Marion CATV	Marion, Ohio	.....	4,300 *5,600*	14	12
189	Lubbock TV Cable Co.	Lubbock, Tex.	792-4401	4,300 *5,000*	11	12
190	Twin City Cable	Centralia-Chehalis, Wash.	736-9933	4,238 *4,600*	10	12
191	TelePrompTer of Tuscaloosa	Tuscaloosa, Ala.	752-0446	4,200 *7,120*	8	12
192	Farmington Cable TV	Farmington, N.M.	325-5511	4,150	5	5
193	Cablecom General	Ardmore, Okla.	223-9600	4,100 *4,800*	11	12
194	Cox Cablevision	Astoria, Ore.	325-6114	4,100 *4,261*	7	12
195	Allied Video Transmission	DeKalb, Ill.	758-3401	4,100 *4,360*	9	12
196	Tele-Vue Systems	Dublin, Cal.	828-2424	4,100 *4,753*	12	12
197	Columbia TV	Pendleton, Ore.	276-2821	4,096 *5,173*	9	12
198	Bend Community Antenna Co. dba Bend TV Cable	Bend, Ore.	382-5551	4,069 *4,288*	5	5
199	Mission Ridge Cable TV	Wenatchee Wash.	663-4608	4,039 *3,850*	9	12
200	Rutland Cable TV	Rutland, Vt.	773-2755	4,030 *5,648*	10	12
201	Central Cal. Communications Corp.	San Luis Obispo, Cal.	544-2618	4,008 *4,410*	10	12
202	Cablevision Co. of Anniston	Anniston, Ala.	236-4422	4,000 *5,076*	9	12
203	Manhattan Cable TV Services	Manhattan, Kansas	776-9391	4,000 *5,000*	8	12
204	Western TV Cable	South San Francisco, Calif.	583-9484	4,000 *8,000*	14	20
205	General Electric Cablevision	Walnut Creek, Calif.	933-1212	4,000		12
206	Sarasota Central Antenna Network	Sarasota, Fla.	958-3955	4,000 *6,000*	7	12
207	Louisiana CATV	Monroe, La.	387-0276	4,000 *4,400*	8	12
208	Antietam Cable TV Inc.	Hagerstown, Md.	731-3289	4,000	10	12
209	Fayette TV Cable	Uniontown, Pa.	.....	4,000 *6,000*	9	12
210	Lower Bucks Cablevision	Levittown, Pa.	949-2700	4,000 *6,000*	13	24
211	United Transmission	Chambersburg, Pa.	263-8591	4,000 *4,700*	12	12
212	Clearfield County TV	Clearfield, Pa.	765-5617	4,000 *4,158*	7	12
213	SO Cable TV	Klamath Falls, Ore.	882-5533	4,000 *4,724*	13	12
214	Southern Cablevision Inc.	Ft. Myers, Fla.	.....	3,979 *3,979*	4	5
215	Decatur Telecable Corp.	Decatur, Ala.	353-1199	3,950 *4,728*	9	12
216	Valley Cable TV	Harlingen, Tex.	423-8308	3,914	8	12
217	All Channels TV	Lafayette, La.	232-6323	3,900	8	12
218	Corvallis TV Cable Co.	Corvallis, Ore.	.....	3,817 *4,629*	7	12
219	Panther Valley TV Company	Lansford, Pa.	645-5511	3,800 *3,950*	15	12
220	Telecable of Thurston Thurston County	Olympia, Wash. Wash.	357-3364	3,800 *4,600* *4,600*	10	12
221	TV Cable Merritt Island	Merritt Island, Fla.	631-0600	3,800 *3,600*	8	12
222	CATV of Ohio Valley	East Liverpool, Ohio	385-4854	3,800 *4,700*	10	12
223	Tahoe Cable	South Lake Tahoe, Cal.	544-2723	3,750 *4,454*	8	12
224	Seven Hills Cable Service	Tujunga, Cal.	352-4447	3,750 *4,450*	10	12
225	Hill Country Cablevision	Kerrville, Texas	257-4700	3,746 *4,420*	5	12
226	KBC Corp.	Killeen, Tex.	634-4402	3,712 *6,702*	7	12
227	Beckley Telecable	Beckley, W. Va.	252-7309	3,700 *5,090*	10	12
228	Madisonville Cablevision	Madisonville, Kentucky	821-6777	3,700 *4,320*	8	12
229	Valley Cable TV	McAllen, Tex.	682-3111	3,670 *4,595*	8	12
230	Jepko's CATV System	Mt. Carmel, Pa.	339-3360	3,620 *3,620*	13	12
231	South Jersey TV Cable Co.	Cape May, N.J.	522-0103	3,600 *5,300*	10	12
232	Continental Cablevision of Ohio	Tiffin, Ohio	447-6885	3,600	16	12
233	Vestal Video	Vestal, N.Y.	754-2530	3,500 *5,066*	1	12
234	Florida Antennavision Inc. dba Clearview Cable TV	Panama City, Fla.	763-5386	3,500 *4,025*	7	12
235						
236	Lawrence Cablevision	New Castle, Pa.	658-2501	3,500 *4,110*	11	12
237	Cox-Cosmos	Charlotte, N.C.	523-7933	3,473 *8,500*	10	12
238	Natchez Cable TV Company	Natchez, Miss.	442-2071	3,400	7	12
239	Cabletron	Rome, N.Y.	337-1120	3,400 *4,364*	10	12
240	Blue Ridge Broadcasters	Stroudsburg, Pa.	421-0780	3,300 *3,900*	12	12
241	Greenville Cablevision	Greenville, Tex.	455-0012	3,300 *3,800*	10	12
242	Tower Cable Systems	Beaver Falls, Pa.	843-8733	3,300 *3,800*	8	9
243	Cablevision	Sedalia, Mo.	826-0933	3,300 *3,500*	9	12
244	Lebanon Valley Cable TV	Lebanon, Pa.	273-8511	3,205 *4,907*	11	12
245	Salina Cable TV System	Salina, Kan.	827-9601	3,200 *7,000*	8	12
246	Massillon Cable TV	Massillon, Ohio	833-4134	3,200 *4,200*	12	12
247	Palos Verdes Cable TV	Palos Verdes Peninsula, Cal.	377-9551	3,177 *4,250*	12	12
248	CATV of Pa.	Rochester, Pa.	774-2803	3,100 *3,484*	11	12
249	Community Cablevision	Lakeland, Fla.	688-5539	3,000 *4,500*	9	12
250	Beacon Cable	Beacon, N.Y.	.....	3,000 *3,900*	11	12

+ If two numbers for subscribers, the first one is from 1969, Factbook No. 39, the second is from 1970, Factbook No. 40. If only one number there has been no change.

LASER

A SHORT HISTORY OF THE LASER®

by Lloyd Cross



On any Planet, proposing, conceiving, designing, building, demonstrating, using or "inventing", the laser is possible only after the discovery of the quantum theory. A laser could have been built on this planet by the scientists of the 18th century IF (and only IF) they had known the quantum theory. On this planet, a laser (or optical maser as it was called by pre-laser physicists) was built first and demonstrated by Ted Maiman at Hughes research laboratory in June of 1960, 30 years after the discovery of the quantum theory. It is interesting to note that a good percentage of the scientific community did not quite believe Ted Maiman's first report of his incredible results with a small cube of ruby crystal, highly polished, silvered and subjected to a high intensity electronic flash bulb, from Hughes Laboratory in June of 1960.

In the early 1950's, several scientists published the concept of amplification of high frequency electromagnetic energy by stimulated emission of radiation from atomic and/or molecular sites in a properly prepared material.

In 1954, Charles Townes, working at Columbia University in N.Y.C. demonstrated the application of this concept by designing and fabricating a microwave amplifier and oscillator (called a maser) using hot ammonia gas as the material.

Chihiro Kikuchi, working at the University of Michigan, first demonstrated maser action in a ruby crystal in December of 1957. (I was there the day it happened.) This was the first practical maser material and led to a tremendous influx of money and effort into the field.

It is not completely coincidental that Ted Maiman also used ruby (prepared in a much different way) to achieve laser action, since in the few years between 1957 and 1960, an incredible amount of information on the electromagnetic properties of ruby and associated materials was compiled and published by dozens of laboratories.

And here is one final piece of information concerning the history of the laser . . .

A United States Patent was issued to Townes and Schalow (subsequently purchased by A.T.&T.) in 1958! They did not demonstrate a working laser, but they received a patent by a neat legal process which is called constructive reduction to practice, which means that the fact of the U.S. Patent Office issuing a patent is equivalent to an actual demonstration of a conceived device. (U.S. patent law was written in the late 18th century and has undergone little or no revision, even after the quantum theory, the atomic bomb, microelectrons modern chemistry and the laser.)

The reader is left to his own devices to figure out who invented the laser and how he came about it. But one important fact is that each of these men had intimate working knowledge of the quantum theory, there was not a "crack pot inventor" among them. The most energetic and enthusiastic Rube Goldberg or Thomas Edison would not achieve laser action, without instruction, in a million years of intensive screwing around, given the best equipment in the world, if he didn't know the quantum theory.

The proper mathematical solutions to this equation describe the energy states and configurations of any atom or molecular system known (which includes a lot of material, including our entire physical being). Get to know it. Look into lasers, and beyond, into the infinite and completely comprehensible universe.

THE POTENTIAL IMPACT of the LASER on the VIDEO MEDIUM®

by Lloyd Cross

The laser is the highest frequency coherent source of electromagnetic radiation. Using laser radiation as an information carrier, 10% bandwidths of 10^{13} cycles per second (ten thousand, billion cycles per second or approximately ten billion telephone circuits or approximately one million video circuits or approximately one hundred thousand holographic video circuits) could be transmitted via optical transceiver stations, using a single laser beam.

In other words, since the discovery of the laser in 1960, the capability of virtually free information transmission is ours. The problems of designing, fabricating and operating the optical transceiver stations are large and require many years and considerable technical and financial investment to solve, but there are no basic problems remaining to essentially unlimited information transfer since the advent of the laser.

Prior to the laser, the highest frequency coherent oscillator had a capability of a 10^9 cps bandwidth, which reduces all the above numbers by a factor of ten thousand which brings information transmittal back into the problem area of carrier frequency assignments, interference, limited number of channels and all that bullshit we presently have to contend with. The existence of the laser at least lets us know that that particular bullshit will be gone forever, with the advent of the first economical optical transceiver equipment.

> Consider, for example, a possible future in which millions of low cost mass-produced optical transceivers are available operating on one optical laser wavelength which, when pointed to the sky, day or night, rain or shine, anywhere in the world, would pick up scattered optical carrier waves from a few syncronous satellites which could potentially contain the equivalent of one million continuous open video channels. (A tiny computer would be required for fine tuning.)

(Since there are extensive, but not insoluble, problems in the area of optical cabling and atmospheric optical transmission, there will probably be an intermediate period of microwave transceiver equipment in the near future.)

In terms of information transmitted by stored information, tapes, cassettes, holographic cassettes, etc., the laser will again supply the technology to reduce the cost and volume of storage equipment to a level such that those materials can be considered to be virtually free.

> Consider, for example, a possible future where in a small holographically coded plastic coin, say the size of a quarter, would be dropped in a slot in a small black box and play back video programs for one hundred .
>
> HOURS

The above examples are complete fiction, without laser technology. Of course, it goes without saying that the above linear projections will probably not evolve exactly as stated, but some equivalent thing can happen with the use of the laser. The laser comes from beyond the year 2000. We have the laser N O W.

But what can we do with it NOW?

Well, even if the problems of information transmission were solved today, via the laser, the equipment limitations of camera pickup, recording, editing, replaying and displaying video would still keep us oscillating around our various thresholds of frustration whenever we really tried to achieve mass information transmission, which is necessary to or equivalent to free or low cost information.

In fact, from a free information point of view, the video medium today, with the tape and cassettes now available, is primarily limited by the peripheral equipment (pickups, players and monitors) and not the information carrier or storage medium.

(I guess I should say a little bit about what I mean when I use the words free information. I mean very low cost, non-programmed no-hassle to get, keep or play back, information, whether live or stored.)

Concerning the problem of video display. There is no reason why (given, say six months and $100,000.) a prototype full color laser video projector couldn't be built and installed in a convenient central location in New York where anyone could go and see video tapes displayed in bright, high resolution format on a 6' x 8' screen along with hundreds of other people in a comfortably lighted environment. Similar units could be installed in other locations around the planet for a fraction of the cost of the first device ($15,000. Or $20,000. each). Whether or not such a financial investment would return a respectable percentage to the financier depends on the charge for and rate of attendance, but regardless of that consider the effect of that kind of facility on the video medium and community today.

That kind of facility would mean that (providing the charge for admission was really nominal, say $.25/hr.) hundreds or perhaps thousands of people per day could get access to the tapes now stored in Central Data Bank and other archives, as well as the tapes now being made or planned.

Further, that facility could provide funds for people making tapes on some kind of percentage basis from attendance receipts.

Now I should explain why I believe that a laser projector is the best way to go about this project (assuming it's a desirable thing to do in the sense that it would at least experiment with some kind of mass information transfer on a low cost, no hassle, non-programmed basis). A bright projected image, 6' x 8' in size in a room 50' x 100' (5,000 sq. ft.) in dimension would have the same aspect, angle of view and resolution for viewers located in the middle of the room as a normal 18" monitor would have for a viewer sitting six feet away from it. A viewer at the end of the room would have a totally equivalent view to someone twenty feet from a normal monitor.

A four color krypton laser would produce a bright, total color image in which line resolution could be reduced to that of the finest commercial monitor, if desired. Further, the direct laser beam could be scanned at lower rates to achieve visual effects completely impossible with a conventional video projector pack, as in the laser projection of sound currently being exhibited at the Laser Theater at 131 Prince Street, New York City. And still further, the krypton laser could run for thousands of hours, maintenance free, which is a problem for state of the art T.V. projectors. The problem of brightness is important since a comfortable lighted environment would permit reading and writing by the viewer as well eliminate hassle in coming and going. The advent of the four color krypton laser, the world's most fantastic light source, makes this possible, N O W, within the year. In fact, I'm going to do it, when I get the cash together, if someone else doesn't do it first.

There are a few other places in the video process where laser technology could eliminate or mutate present restrictions right now.

Consider for example:

A reasonably priced laser video camera which would be virtually independent of environmental lighting conditions. The Perkins-Elmer Corporation has built an experimental prototype of such a device which can record bright video in complete darkness, but it is far too expensive for the typical video artist. A development and design project could produce low cost laser camera within one or two years, again the questions of time, cash and return on investments need answers, but it could be done-----NOW.

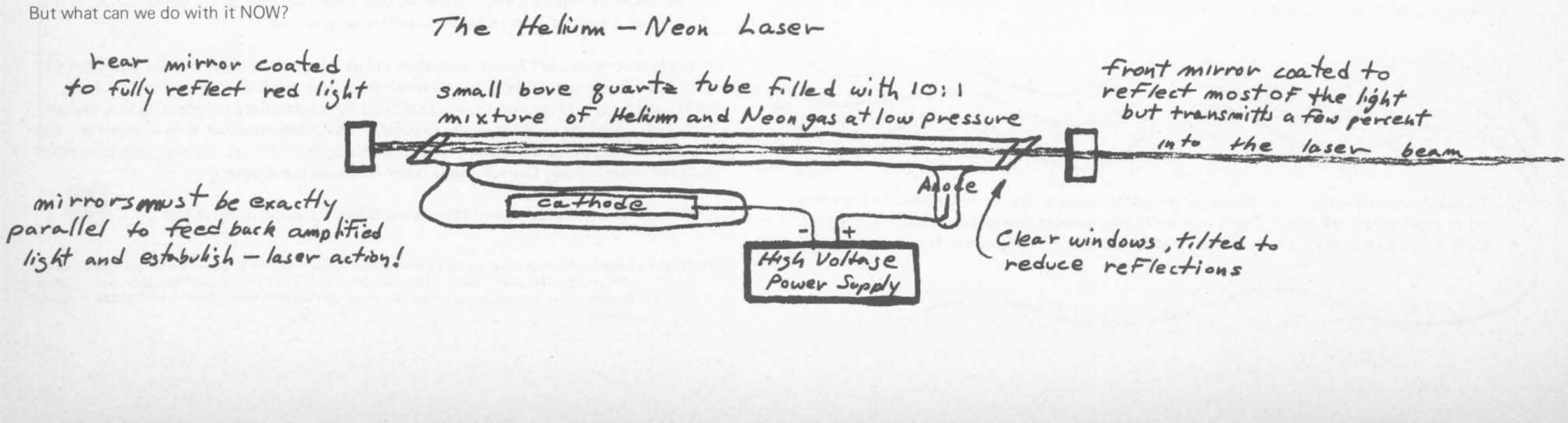
Consider also:

Given stereo information from two conventional video cameras, it's possible that a laser projector in combination with a holographically etched screen could produce 3-D stereo projection video without the use of poloroid glasses or other physical encumbrances. This technique, again, is really feasible only with a laser projector and it is possible NOW.

And, consider still further:

Using a 360° pickup system with a conventional Vidicon camera system, and a 360° overhead laser projector scanning the recorded video onto a circular wall, viewers would receive a complete 360° view of the camera's environment over a vertical angle of 60°. The viewer would be standing or seated in a large circular room seeing in all directions and having difficulty determining the reality of their environment. Again, given a laser projector, this is possible N O W. Cost, may be one year and another $200,000. Why not, should video stay in the tube forever? I say, let's get it out of there, man, let's see what it can really do for us.

Considering such things as holographic television, mass transference via laser beam, projection in free space without screens and stuff like that, either forget it forever as a totally fucked up idea or maybe wait ten or fifteen years, if we last that long, for some kind of holographic 3-D video. That's all I've got to say about that, right now. I will be willing to discuss these or other applications of or questions about lasers with anyone. *Write Lloyd G. Cross, P.O. Box 60, Prince Station, New York City 10012.*



FREQUENCY AND FORM

by Vic Gioscia

What I'm doing with my life is building a set of generalizations comprehending how time works. I call the comprehension of the time laws of any process "chronetics".

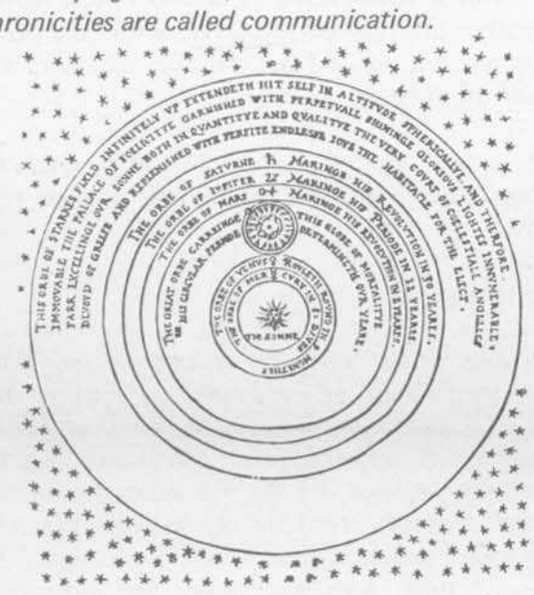
I've been working at it a "long" time and have done it in some strange places. Like, a dissertation on Plato's theory of time, which started in '58 but didn't come till '63. Like, in '65 getting a videotape system installed in a family therapy agency so families and therapists could play back their sessions during their sessions. Like getting headaches trying to transform the laws of general relativity into classroom sociology since 1953, though I hate the math. Like trying to figure out acid time expansion during acid time expansion. Etc.

This rap is about the chronetics of software, in other words, *some thoughts on the time forms of current communication events.*

As everybody knows, Universe is not a very large expanding balloon with galactic light bulbs interspersed at varying distances. Einstein told us Universe is not a simultaneous assembly of things. Universe isn't *there*—in fact—man's invention of the concept reveals his terror crouching behind a facade of omniscience. Currently, our mythos is that Universe is "really" atoms, (i.e., waves of energy spiralling at light velocity) arrayed hierarchically (i.e., a few is a gas, a lot is a planet, a very lot a galaxy, etc.). Whitehead said the *only* philosophical mistake you could make (hence the error of *every* philosophical mistake) was thinking you could simply locate anything anywhere. This "fallacy of simple location" is the intellectual form of man's wish to evade the terror which would flood him were he to admit the Heraclitus vision that all is flux. The emotional form of this saving illusion is hubris—pride—the myth of individual autonomy. Freud once wrote that the human central nervous system is to be compared to the osmosis process of the cell wall, whose main function is to keep some fluids in but most fluids out. Fuller suggests the inside is the inside of the outside—the outside the outside of the inside. Laing ponders why some people who spit in a glass of water can't—*can't* drink it. Others can. Recent experiments by Italian physicists, who ran electrons going "one way" against positrons going "the other" both "at" the speed of light, lead them to believe there's another whole realm "underneath" quantum atomics which is continuous, i.e., not "composed" of quanta, but of processes.

So, in my view, there is no Universe anywhere, "at" any instant, for there are no instants. Better—*there* isn't. Time is. What seems to be happening is a myriad of energy-rates dyssynchronously modulating. Nobody seems to know why there are different rates, or how they change. Recent speculations include a realm on the "other side" of the light velocity barrier wherein "particles" only go faster than light, and, if they slowed down to light velocity would annihilate as in $E=mc^2$ (Feinberg). Others, at the Princeton Center where Einstein thought, wonder if there isn't a realm under the atoms where time "goes the other way, or not at all."

What I'm trying to show, in mosaic, is a Universe of varying frequencies, in which occasional synchronicities are called communication.



Now, some frequencies, after million year evolutionary periods of interacting dyssynchronously, have come into a harmony which we call sensation. Air waves and ear vibrations in synch result in our experience of sound. Light velocities in harmony with retinal photochemistry result in vision. Rates of neural transmission, when exceeded or unreached, do not result in experience since there are limits within and only within which nerves fire. Overload or underload, outside certain limits, result in nothing. No experience. No communication.

Hence, Fuller says, human "sensory equipment can tune in directly with but one millionth of the thus far discovered physical Universe events. Awareness of all the rest of the millionfold greater than human sense reality can only be relayed to human ken through instruments devised by a handful of thought employing individuals anticipating thoughtfully the looming need of others."

This is probably an overestimate. There is no reason to believe that the tiny region of human synchrony with Universe frequencies which is our band of experience is as much as a millionth, because it well may be that the range of frequencies goes from $-\infty$ to $+\infty$. I have no quarrel with Bucky's adorable naturalism, but the range of options for synchronicity may be vaster than he has said. So far.

Even if the spectrum is not that large, it serves as a perspective on which to map the tasks of software design. Like Huxley's remark that any good plumber could have done better than god-evolution with the human appendix, it seems to be the case that the human sensory channels are fairly crummy samplers of the range of Universe frequencies. *Hence, any software system which sets the outer limits of its responsibility as fostering the synchronicity of present human wavelengths could be guilty of a reactionary nostalgia.* Filling in the gaps of the sensory range now is a tactic worthy of admiration, but it shouldn't be confused with the grand strategy, which, minimally, in my opinion, must include not only the design expansion of the realm of human experience, but the design expansion of the range of synchronicities in our local region or universe. *Man may be negentropy, but there's more to Universe negentrophy than man.* How to tune in on that is the larger task. To say nothing of feedback.

It will be objected—this is visionary—idealistic—there are many more pressing urgencies presently at hand. To which a good reply might be if you're unaware of the spectrum you're working in, you're working with unnecessary blinders.

To put the matter differently—the larger the generalization, the more significance (meaning, value, importance) the event. That's why we're interested in Cosmology. That's why we fly space ships. That's why we seek Atman, Buddha, Satori, enlightenment, trip.

Software, therefore, results whenever dyssynchronous frequencies are mediated, i.e., related in some form of temporal harmony. It is not very far from the Platonic vision that the music of the planetary spheres is in proportion to the ratio of string lengths on a lute, to the view which reveals that the fundamental units of software are the chords and rhythms of perception. It is utterly banal to hold that the "bits of digital information" metaphor comes any where near the kind of planetary orchestration man is beginning to compose. This vision can be ecologized by the recognition that software results not simply from passing items of perception around among human sensors, but whenever and however Universe frequencies are proportioned. Man is not the only Universe function producing software. It is an entirely common event in Universe, and may in fact turn out to be its fundamental process, i.e., how it basically moves, so that, to do it is to be like the Druids at Stonehenge dancing to the rhythms of the cosmos. Groovin', as it were.

But there's more. Recent evidence suggests that brain waves can very easily come under deliberate control, that alpha highs can be turned on at will, that autonomic nervous system—endocrine interactions can be accelerated-decelerated consciously, that, in short, electronic yoga is now an increasingly popular research sport. *It begins to seem as if experience, not surgery, is the design avenue for deliberate human evolution.* All this *before* the mass availability of mini-laser communications technology, holographic environments instead of rooms/walls of plaster, liquid crystal read out systems, etc. etc.

So, it's time to ask—what are the chronetic laws of that accelerating process of which electronic software is the current mode? By this I do not mean" how soon will the matter transmitter be invented" or "will lunar language finally substitute Einsteinian categories for Aristotelian ones". Such inquiries are an exercise in linear prophecy only, necessary but not sufficient. I'm more interested in temporal design and its prerequisites.

For example, sociologists have unwittingly placed at the foundation of their game the notion of "expectation", by which they seem to mean what Eliot meant when he said the human mind can stand very little reality—raw. People seem to have to know how long a thing will be what it is to know how likely it will stay what it is so they can expect it to remain what it was so when it comes by again they can say—ah yes—that big—nothing new (terrifying) there. They want to be able to anticipate recurrence and periodicity, so they can generalize, and say, oh yes, it's one of those—I've seen it before—it won't hurt me because none of them ever did before. When things (societies, cultures, groups, etc.) change fast, faster than they can be generalized, people experience future shock—they need to experience and generalize faster than they can. When they repeatedly fail, they conclude (generalize) I can't know what to expect. This hopeless condition is known as despair. Are there ways to accelerate the formation of generalizations which can stave off this despair. Does acid do it? will videotape? How? It will be perceived that these questions are special cases of the more general question: how to mediate discrepant frequencies—that is—what forms of software (generalization—culture) do we require in this temporal myriad we call home.

Surely, a beginning is the creation of a new global network of communications hardware and software, so those who now dance to vastly different drummers can come together in the first planetary synchronous civilization ever to steer spaceship earth's evolution consciously deliberately joyously, freed of the fetters of national political (i.e. humanicidal) idiocies.

More important, I think, is the work heretofore left to mathematicians, physicists, philosophers, psychiatrists, and other intellectuals—that is—identifying the waves and frequencies of which our experiences are the result, intuiting the laws which govern them, and designing better freer forms in which to live.

For example, a friend of mine set up his hardware so his five year old son could

1) watch Sesame Street broadcast
2) watch himself watching Sesame Street on a second live monitor.
3) make a tape of himself, watching his tape while watching himself on a live monitor watching himself on tape.
4) tape himself with a 5 second delay loop on 1 monitor and try to mimic that so that the second monitor was in synch with the first.
5) play with variable delay loops on both monitors (2 decks).
6) play with multiple variable delay loops and live monitors.
7) varying recording and playback speeds while doing any/all of the above.

Not surprisingly, the boy began asking his father to help him do things that went beyond the design limits of the hardware. To explain why he couldn't, his father began drawing diagrams of multiple feedback loops with variable time loops, which the kid dug on the basis of his experience. Then, this 5 year old started wondering how to design hardware so he could have the experiences he wanted. He had found the limits of the temporal rhythms built into the hardware available to him, and imagined himself beyond them—i.e., temporal design. He wanted more software than there was in his world. I pass over the obvious corollary that he also immunized himself to the information pollution belching from commercial TV. What interests me about such experiments (which we occasionally do at the Center) is the experimental immersion in complex time pools which are not only exciting but architecturally motivating.

A question which bothers everybody in software—Will enough of us get our hands on enough hardware to produce enough software to sustain a new (global) culture *in time?* That is, can we do it well enough fast enough?

The first half of this question involves ecological recycling—*there's an awful lot of good information around which we could share better if only those maverick data banks were set up.* After all, it's chronetically silly to shoot tape at light speed then air mail it to friends in London. And, since *they* own the satellites, all they have to do is charge prohibitive rentals so *we* can't move our information as fast as we shoot it. So far. They are not gonna rent *us* time to create alternatives to them.

So, it seems to me, we are going to have to come up with software which is not only good for us but good for them too. That's what global means. We have no choice but to take them with us—i.e., turn them on to the benefits of our way. We're gonna have to go beyond the hip ethnocentrism we built to defend ourselves against them. We can't any longer enjoy being so "far out" that nothing happens. This could turn out to be a fatal *underload.*

The only choice we have, in my opinion, is to produce software which mediates their (slower) frequencies and our (faster) ones into those which harmonize both of us with the (much faster) vibes of a really global synchronous system. To put it crudely, we have to show the satellite-computer people how our way is better for all of us, that a planetary form is better—for all of us—than a cartel.

I guess my own naturalism is unmasked in the following optimistic statement—somehow the people always recognize a masterpiece, so that's what we have to do. Which is not, in the strict sense, a political, but rather a cultural—aesthetic task.

The dilemma—you can't have a revolution unless your head's together—but you can't get your head together unless you have a revolution—here arises. *I'm suggesting that both tasks—solidarity and revolution—are facilitated by broadening the collective imagination* with such questions as: What is that process of which industrialism, then automation, then cybernation are the acceleratively appearing moments? What are the unknown time rules such processes follow? Can we design other frequencies and forms?

I think so. But, as Fuller says—"This means things are going to move *fast*".

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excerpts from

TECHNOLOGY AGAINST TECHNOLOGY=ANTI-TECH

by TAKIS

If the Greek revolutionaries had organized an individual communications system, most of them by now would have escaped the CIA organized colonels and would probably be fighting in the mountains of Greece. It was known to everybody that each Greek had his own file in the NATO organized offices. Though the Greek revolutionaries knew this, it didn't enter their minds what they should do to eventually escape. The first thing the colonels did, of course, through the instructions of the CIA and NATO was to occupy the radio stations and to cut-off the telephone lines. The next step was easy—they got practically every revolutionary asleep in his bed. With the same system they will eliminate all revolutionaries all over the world. It works perfectly, so why not use it?

What would happen if the revolutionaries created an Anti-Tech (Technology Against Technology) movement? It would strongly counter the technologists and would paralyse the establishment. For instance, create an Anti-Tech network, Anti-TV network, personal telephone lines, information bulletins to translate the existing news media—i.e., when Nixon said he was not going to attack Cambodia, it should be translated: Nixon will attack Cambodia. Two weeks before the colonels took over in Greece, the New York Times published an article saying that there was no other way for the king to save his throne than to declare a dictatorship in Greece. This should be interpreted by underground media to mean that the Americans are preparing the public to accept the dictatorship in Greece. It's very clear that the progress of electronics and technology has changed the way of fighting enormously.

If technology helped in the fight against disease to diminish the deathrate, it also gave enormous power to the ruling classes. It's very evident that exploring the moon doesn't only come from human curiousity. The scientists, collaborating with the ruling classes, offered them enormous power. And it's clear that, unless part of this power goes to the revolutionaries, their existence is just a joke to the ruling powers. For instance, if we had seduced some scientists in the electronic fields they could have created an Anti-Tech machine—let's say that this machine could distort the information on the stockmarket, it's evident that it would have completely disrupted it. The same is true for a machine that could distort the magnetic waves in important TV speeches of the chiefs of governments . . . And for the sake of instant communication, electronic instruments like tape recorders and TV and personal telephone lines should be in the hands of revolutionaries and sympathizers of the movement. Until now, the only instruments that were in the hands of the revolutionary were some primitive polygraphs and some free radio stations.

It's absurd to think that the revolutionary has tried to get modern munitions and didn't think that technology itself is one of the most important munitions to get hold of . . .

. . . Due to the population growth, space diminishes everyday and people in big cities already have very little space to live in per person so that it is more necessary than ever that small spaces be better organized for living. In the near future even the possibility of weekends in the country may be cut-off entirely. What remains for people to do is to organize their homelife more and more. Certain objects can help to create a pleasant environment. But we shouldn't leave room for illusions here. Big technology is in the hands of government. They will only use it for their own benefit. They will not give a damn about air pollution until it affects their own personal interests and for the time being this is not the case. The same is true for space . . . which also does not seem as if it will be solved in the immediate or near future. Therefore, limited living spaces must be organized as well as possible. They should be equipped with all necessary electronic equipment—possibly independent telephone lines, independent telex-systems, closed-circuit TV sets, tape recorders, and esthetically unlimited editions of works which carry revolutionary messages.

To come back to the Anti-Tech we are obliged to analyse the situations and facts. In the last decade more and more artists have been inspired by technology and aimed to use technology to express their ideas. Unfortunately, though some of them touched the bone of the problem only very few started using technology to fight technology. For instance, Stan VanDerBeek used the teletape to transmit photos, but unfortunately the meaning of those photos is far from fighting the establishment. The only group of artists whom I can mention here who took a stand against technology are the TV artists who exhibited last fall at the Howard Wise gallery. One of them explained to me his idea of using videotapes of subjects concerning the revolution and any other events which usually are not shown by the mass media. This way of using videotapes could permit the communication of the real events in the underground, and in the meantime allow the artist to make his living through selling those tapes. Of course, this would only be effective provided that the underground would have TV sets available and videotape machines in order to circulate the documentation . . .

How can an object or an edition of an object carry a revolutionary message? First, the editor should be the right person, one who does not try to brutalize the object. The conception of the artist is aimed to keep production cost down. The artist should probably express his idea from the outset in a simple way, choosing the cheapest possible means of production so he doesn't create attrition with the editor (or distributor) of the object. The editor should ask the public or the revolutionary community to finance the object. The object should circulate at the lowest possible cost, the profits going back to the community with some minimum rights to the artist. There should be no special publicity for the artist, and it should be known to everyone that the object exists and circulated in places where everyone can see them.

Some words to the scientists—During the last few years some of the scientists, though they are as much a minority as the artists, started getting radicalized and wondered if they should continue to give their services to create deadly weapons and poisonous gases, especially in America where the establishment is at war with Vietnam. Those scientists should be seriously approached by the revolutionaries and their help asked, especially those scientists involved with electronics. Of course government will react to this violently once they become aware of it—that the revolutionaries are equipping themselves with electronic Anti-Tech instruments. Governments already have an eye on electronic equipment and in most countries the public use of walky-talkies is forbidden, but with new, lower cost elecronic equipment on the market in the next few years the revolutionary will get hold of such instruments. However, existing inventions and technological instruments alone are not sufficient to create an Anti-Tech network, and for this reason the help of the top radical scientists is needed as soon as possible. For the time being, the radical scientists have a rather confused attitude towards the establishment. It's not enough that they pull out of the destructive plans of the governments by reminding them of the danger of pollution. They should take an active position and help the revolutionaries invent Anti-Tech instruments which would serve as deadly threats to existing establishments.

Paris, August, 1970

excerpts from

NEURONE CLUSTER GROPE

by Don Benson

. . . The technology exists today to provide every person on earth with a direct electromagnetic audio-visual communications channel to every other person. IT&T is technologically ready to produce fully-computerized, battery powered, hand-held, touch-tone video-phones for a cost of somewhere between five dollars and ten cents each, depending upon production volume. The necessary satellites were initially scheduled to be up by February 1969. The procedure required to initiate a call with one of these devices automatically alerts the local billing center. The cost of a three minute call via stationary overhead satellite to anyone anywhere in the world, whether on icy mountain top or in steaming jungle, will be one dollar. The basic charge for one of these wireless video-phones will be about fifteen dollars per month. The video portion of the call will be presented on a thin plastic screen containing microscopic bubbles of three different gases (one for each of the basic colors) which will provide a high definition color picture according to the variations of electrical potential across each bubble. This is being called a "plasma screen."

The technology has also been developed to plug these wireless videophones into film printers, AV tape recorders, xerox and linotype machines. Thus, for a cost comparable to a bottle of beer and a pizza, a person could transmit the copy for an underground newspaper from the East Village in New York City to the West Village in Prague. A young film-maker could notify the world that by touching a specified number anyone can get prints of his latest underground films. The possibilities are endless. Everything ever published will be available at our finger tips, with the result that people will read much less and comprehend much more. The world's computers will be available as public utilities for solving routine problems, and each of us will be able to draw on the collective intelligence of billions of fellow human beings in conducting our artistic activities, much as each nerve cell in the human cerebrum draws on the collective intelligence of billions of fellow nerve cells.

. . . Despite the immediate profit-making potential in hooking up the world brain, certain establishments are hesitating. They have no idea of the full consequences of what they are on the verge of doing, but they have enough idea to suspect that the consequences will be difficult to control. For this reason, IT&T will be very slow in making the new communications capabilities available to the people other than members of the various establishments. There will be elaborate techniques for blocking and monitoring unauthorized communications.

Nonestablishment systems scientists should begin immediately, therefore, to develop ways of producing and distributing unauthorized video-phones and ways of relaying unauthorized messages. . . . Our problem for the next few years is to establish the basic structure of a healthy world mind which can cope with the coming cultural metamorphosis.

Excerpted from *Neurone Cluster Grope.*

EQUIPMENT

X-RAYS

by Don Ward

". . . *To protect the public* from exposure to dangerous x-ray levels, Congress has charged the Department of Health, Education, and Welfare (HEW) with the task of formulating regulations influenced by the recommendations of the National Committee in Radiological Protection. For color television receivers, *the recommended limit of permissible radiation is 0.5 milliRoentgens (mR) per hour, when integrated over an area of 10 square centimeters and when measured at a distance of 5 centimeters* from any portion of the television receiver cabinet.

Before discussing the possible dangers, remember that it is almost the unanimous opinion of the various investigating committees, that there is no dangerous radiation from any current model receiver when it is correctly adjusted, in good operating condition, and operating on a normal voltage power line.

Many scientists share the view expressed by S.P. Wang of the Rauland Corporation. He states: "The radiation level from assembled receivers has been measured both under normal and abnormal operating conditions, *the exposure dose rate level is close to the background due to the natural environmental radiation.*

". . . X-rays are electromagnetic energy, differing from other forms of electromagnetic energy mainly in frequency or wavelengths. All X-rays are characterized by their ability to ionize air or other gases and tissues. This is the characteristic that makes them dangerous to humans. Radio waves are measured in meters or centimeters of wavelength, while the light wavelengths are more conveniently measured in angstroms. But the wavelength or frequency of X-rays is more conveniently designated in terms of "electron volts."

Radiation dose is measured in terms of "Roentgens." *A Roentgen produces a specific amount of ionization in a certain volume of air under standard conditions.* The dose-rate of radiation is therefore, indicated in Roentgens per minute or hour. . ."

. . . How are X-rays produced?

Energy is proportional to the product of mass times the square of velocity. When an electron leaves the gun of the cathode ray tube, it is accelerated to a very high velocity by the ultor voltage (25kV) and has greatly increased energy. When it strikes the face of the picture tube, its velocity is reduced to zero and, therefore, it must give up its energy. Part of that energy is converted to visible light by the phosphors illuminating the raster. Another small part is converted to heat which is absorbed by the glass, while most of the remaining energy is converted into X-rays.

Obviously, the quantity of X-radiation should be directly proportional to the magnitude of the beam current and the value of accelerating potential; and you might expect the greatest X-radiation when there is a full white raster on the face of the cathode ray tube. Later we shall see that this is not quite true. About 80% of the electrons entering the electron beam never reach the phosphors, but strike the shadow mask, where their energy is converted into heat energy and X-radiation.

(As previously indicated, X-radiation is proportional to both the magnitude of the beam current and the value of the accelerating potential. This high voltage is obtained from the flyback transformer and high-voltage rectifier. This system has a dynamic resistance which may have a value ranging from 13 megohms in some of the early color receivers to less than 8 megohms in more recent designs.)

This means that as beam current varies with changes in picture brightness, accelerating voltage also varies. As beam current increases with increasing picture brightness, tending to increase radiation, ultor voltage decreases, tending to reduce radiation. Tests indicate that radiation from the face and shadow mask is at a maximum with an average picture brightness of a light gray value.

"There are two distinct philosophies used in high-voltage power supply design." (High voltage regulation and no high voltage regulation.) . . . ". . . there are three sources of X-radiation in the modern color TV receiver. They are (1) the picture tube, (2) the regulator tube, and (3) the high-voltage rectifier tube."

". . . As long as the high-voltage regulator is correctly adjusted and in good operating condition, and as long as the power-line voltage is normal, there is no danger of excessive radiation from the picture-tube face. . ."

. . . observe the 6-foot viewing distance whenever practicable. Check the power line voltage. Radiation increases when the receiver is operated on high line voltage. The high-voltage power supply increases about 300 volts with each 1-volt increase in line voltage. Thus, an increase of a little more than 3-volts in line voltage can produce a 1000-volt increase in high voltage along with the accompanying increase in radiation emitted.

Check the adjustment of the 25 kV setting. Remember, the most likely cause of excessive X-radiation is abnormally high voltage. Tests indicate that radiation from the picture tube face is greatly multiplied by each 1000 volts above 25 kV. The Pinellas County (Florida) Health Department reports that of 149 color television receivers surveyed at owners' requests, 23 sets were emitting excessive radiation. Nineteen of these cases resulted from excessive high voltage. Replace all "weak" high-voltage rectifier tubes and regulator tubes, since gas and/or poorly aligned electrodes in the rectifier greatly increase radiation from the rectifier, and since reduced emission and/or transconductance of the high-voltage regulator increases radiation from both the regulator and the picture tube.

Check all components of the metal high-voltage cage. This cage not only protects against accidental shock hazard, but shields X-radiation emanating from the regulator and rectifier.

". . . Surveys conducted by several interested agencies have found hundreds of receivers emitting radiation in excess of the established "safe" limits. In almost all cases, the situation could be corrected by restoring the receiver to its original condition with the replacement of substandard tubes and components and the correct adjustment of high-voltage controls. While there is little difficulty in guaranteeing that the receiver leaves the factory in "safe" operating condition, there is at present no method of insuring that this condition will be maintained in the owner's home during the set's useful life.

Manufacturers are, therefore, turning their attention to the development of "fail-safe" circuits. . .

". . . Radiation is produced when electrons at high velocity strike a target and give up their energy as X-rays. It follows that the energy or wavelength and frequency of the resulting X-rays are determined by the voltage that accelerated the electron. The resulting rays are then measured in terms of "electron volts." This unit is the energy required to move an electron through a potential of 1 volt. Thus, the primary radiation generated in the TV receiver has energy values peaking around 25,000 electron volts (25kV). Unfortunately, our situation is not quite as simple as it might at first appear. When X-rays penetrate a material, some of their energy is absorbed by that material being penetrated by the radiation, an interesting situation occurs. *Regardless of the energy level of the X-rays entering a material, much of the emerging energy peaks around a discrete energy value that is characteristic of the particular absorbing material. . ."*

". . . Since *the danger of radiation comes from its ability to ionize air or tissue*, the energy distribution of a particular flux becomes important. The most direct and accurate means of measuring the ionizing ability of any particular flux of radiation would be to measure the current flowing from a calibrated ion chamber located in that radiation beam. Unfortunately, this requires the accurate measurement of currents as low as one millionth of a microampere. Obviously, this type of instrument is both delicate and expensive. . ."

". . . It is hoped that such instruments will be available in the near future" (for taking readings).

excerpted from a copyrighted article which appeared in *Radio-Electronics* Magazine April 1970.

STANDARDS

by Eric Siegel

After studying the ½" videotape situation, I have come to the conclusion that the Sony AV New Standard series is the best direction for people to go at this time. Although there is some doubt if this will really be accepted as the new standard among all ½" manufacturers, Sony and Phillips of Hollywood will probably dominate the market. The major thing holding us back is the lack of exchangeability of tapes among ourselves. If we all agree on one system and get other people to join us on the same system, we could start what we have to do. The hardware manufacturers have been screwing us and will continue to. We must make the most efficient move. Sony seems to have us, as well as other hardware manufacturers, up against the wall. We are confronted with a "if you can't fight it join it" situation for now. Our aim is to force all ½" video tape manufacturers to adopt the same standard around the *world*. This brings us to a more desperate problem, the fact that Sony and Phillips will be selling another standard for Europe—this fucks everything up. I for one urge all our friends overseas to adopt the American 60 cycle 525 line standard. This is not an imperialistic move—it's just one of practability so that we finally can have the independent worldwide communications. I admit that the European standard is technically better, but what good is that if we can't exchange? If anyone has a more realistic, better idea—please speak up.

Concerning 1" and 2" standards. There are no 1" standards and there won't be any in the foreseeable future. The only 2" standard is quadruplex 4 head system—completely out of our means. I advise that if you choose to use non-standard equipment, don't try to distribute these tapes—copy them down to the New Standard. The advantage of using 1" non-standard is better picture quality on the master, also these larger tape width machines have other features not found on ½", like clean editing, slow motion, color, etc. etc. But I stress after you've made your program—copy it down to the New Standard. If we all cooperate on the Hardware Hassle we can get over it and get the work done which has to be done.

- What is considered to be a "safe" radiation level?
- What are the results of unsafe levels? and of constant exposure?
- What happens to you when your tissues are ionized?
- What is the level of radiation in the used portion of the electromagnetic spectrum or what is the background level?
- What are some of the interested agencies?
- What portion of the radiation level (We exist in it) is man-made?

TIPS FOR USING PORTABLE HALF-INCH EQUIPMENT®

(The equipment referred to directly in most cases is Sony AV Series.)
Information from Parry Teasdale, Videofreex, New York City

THREADING

Threading is the first step toward making a videotape.

Make sure the machine is turned off and there's no whirring sound coming from the heads.

Make sure your deck is in the STOP position besides being OFF—those are two different things. If you leave it ON—in a motor position—you'll have a chance of threading wrong.

The heads spin at a high rate, if they're still moving when you're threading, the tape can become caught and damage the heads and/or tape.

Check the threading diagrams.

Watch tape coming off and going on to take up reel to see that it's moving smoothly and regularly. If something goes wrong put machine in STOP and wait till heads stop spinning and then try to correct error.

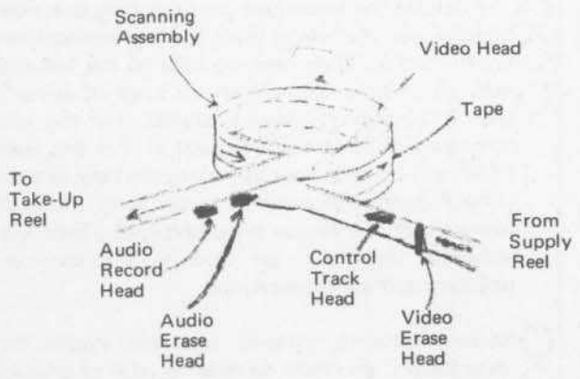
A lot of times the tape will sit on the edge of a roller—you've got to watch and see that it's moving smoothly.

The last thing to check your threading is put it in play—watch the tape path. Look to see that it's moving smoothly.

Put machine in play—the AV machine is marked Forward FWD—the CV and any portable deck without playback put into record or "Standby" and Record.

These machines are fairly tolerant so that you don't have to worry a lot if you make a mistake as long as you correct it fairly soon.

The first thing you should check when something goes wrong is the threading.



TAPE

Most manufacturers make reels so you can only put them on the deck one way.

There is only one side of the videotape you're supposed to record on.

There are two different types of helical scan tape in the market now.

1. *Oldest type—is shiny on outside and duller on recording side.*
2. *New type—called "dull back" tape is extremely dull on outside and shiny on recording side. The difference is a lot clearer.*

(Unconfirmed) There is soon to be (not presently available) a third type made by 3M. A chromium dioxide tape which will cost the same but supposedly has no drop out and the signal to noise ratio is very low. Older machines will have to be adjusted to accept it because it requires a different recording current.

Computer Tape:

Don't use computer tape. Computer tape isn't hard enough to withstand the pressure of impact of the video heads. (What happens to the tape?) Nothing. But an oxide builds up on the video heads. They get very dirty and will break if enough residue gets on them.

Tape is Sensitive To:

1. *Moisture—can cause dropout*
2. *Magnetism (like power supply from Electric Generator, voltage regulator, top of monitor)*
3. *Heat*
4. *Touching recording surface at all with your hands causes grease deposits.*
5. *Mutilation—getting caught in machinery or twisted. Remove portion that is wrinkled.*
6. *Dust*

Problems:

The most common problem is dropout.

The recording surface is coated with an Iron Oxide. As long as the continuity of the oxide isn't broken the tape is intact and won't show any defects. If the oxide is disturbed (grease, scraping, crumbling, moisture, etc.) then dropout, which is lack of Oxide on the Tape, results. This shows up on the Monitor as a white line at bottom of screen and moves rapidly to top. There is no way to replace lost oxide—can't recoat. There are commercially produced dropout compensators which hide *but don't* replace *dropout.*

Any sudden momentum change other than motor function to STOP can cause problems: 1. Tape gets caught under lip of reel—chips oxide. When played will hear a buzzing sound. Should be physically edited out of tape. 2. Can get off tape path and become enmeshed in mechanism of machine. Damaging tape and machine.

Handling:

Don't handle the parts you want to look at. Make sure your hands are clean. Handling the leader is OK as long as you don't put it across the heads as it would deposit a layer of oil.

However, the tape is essentially rugged and strong and responds well to strain and tension, and can be rerecorded.

BATTERIES

Check by putting record lever into record.

They usually last 30 minutes. You can count on good strong power for no longer than that.

The battery meter does not register in rewind.

Old batteries from CV can be adapted to work with AV series.

The instruction book is very clear about how to insert the batteries in the back of the pack.

If they're charged simply put the machine in play.

The AV model has two batteries that put out 12 volts. The old deck (CV model) uses the same batteries but in a different configuration.

There are two ways to tell when the batteries are going. One way is the battery charged meter on the deck. The other is when you can see the picture start to flutter (in the camera), then it starts to be impossible to focus. If these two things happen, your batteries are low. Change them or recharge them.

All decks, when purchased new, come with a charger which also acts as a power supply. The deck and camera run off DC power. If you want to use wall current, which is AC, use the power supply/adaptor.

Cine 60 Battery Belt will supply from 2-4 hours of power for portable tape recorder from 12 volt source output. Rechargeable but expensive.

Sony claims to have new more efficient batteries.

*Creeping Crud *tends to get on terminals of batteries and on deck preventing batteries from making contact—you get partial power or no power. Take emory cloth or sandpaper and scrape or brush till shiny.*
**corrosion*

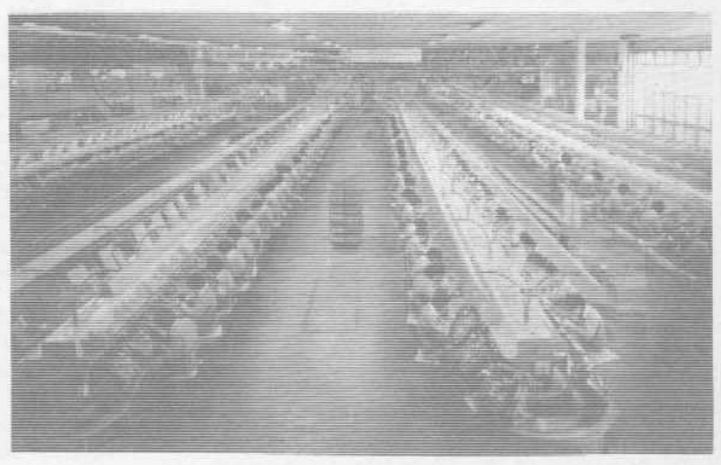
CONSUMER ELECTRONICS SHOW DAILY

Magnetic tape will be unaffected by nuclear radiation until the dosage approaches a 100 megarep level, 200,000 times greater than the fatal dosage for 50% of the exposed humans. Radiations of this level tend to increase the layer-to-layer signal transfer or "print-through," but normally would not be serious enough to prevent information retrieval. This very high radiation level will also have some physical effect on the tape coating and backing, which will show significant embrittlement, and can reduce the wear life by as much as 60%.
Under proper storage and handling conditions, magnetic tape has the ability to retain intelligence for an indefinite period of time. The most important consideration is to preserve the medium so that adequate head-to-tape contact can be maintained when the tape is used again.

—from *Educational Television* May 1969

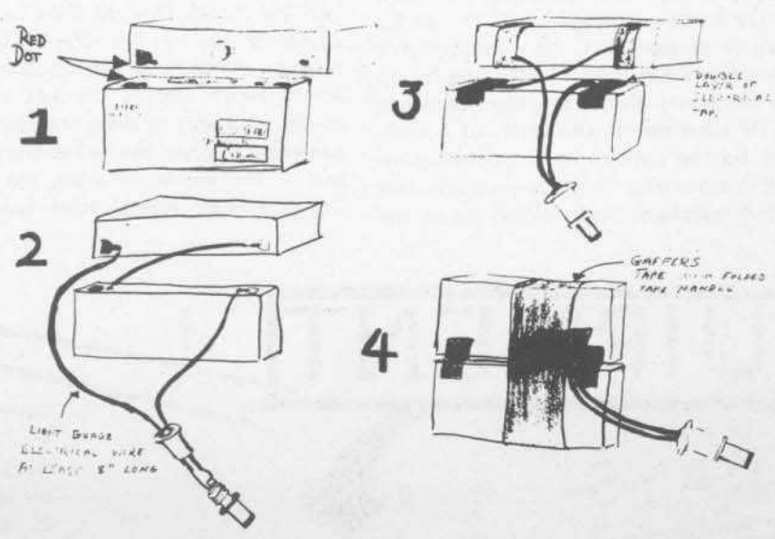
MICROPHONES

The microphone that's built into the camera is an adequate low impedance omnidirectional microphone for unharried rooms. Basically what happens is you get all the background noise which sometimes drowns out the voice you want. You can bypass the camera mike by plugging another mike into the deck with a minijack. (Sony uses these for all audio connections on half inch and can be purchased in any hi-fi store.) When you plug a microphone into the mike input on the deck, it cuts off the mike in the camera. You can't use both. If you want to use more than one microphone, you need a microphone mixer.



Source: Scientific American, March 1970

Diagram: Adapting old "gel cell" batteries



MAINTENANCE OF DECK

Keep the heads clean.

Cleaning Video Heads: popsicle stick with chamois cloth glued to one end dipped in alcohol. Don't use cleaning stick for cleaning video heads when it becomes visibly dirty.

Other Heads: use cotton swabs with rubbing alcohol.

Tape Guides: clean strongly.

Degaussing (demagnetizing): a degausser can be bought commercially to demagnetize the heads. Cover metal tip with one layer of plastic electrical tape.

Not wise to oil the deck. Squeeks are usually caused by something else.

Handling: Pick deck up with two hands. Don't pick up by strap which causes banging.

The video heads sit on a bar and spin very quickly. On the tips there are very brittle pieces of metal which can break easily. Don't slam anything on them.

Track: is a control for playback only. When playing back you'll see that there's some undesirable type lines that pop up in the picture—a small horizontal snowstorm which you can get rid of by adjusting the tracking knob (basically a head positioning mechanism).

CAMERA: DON'T POINT THE CAMERA AT A DIRECT SOURCE OF LIGHT

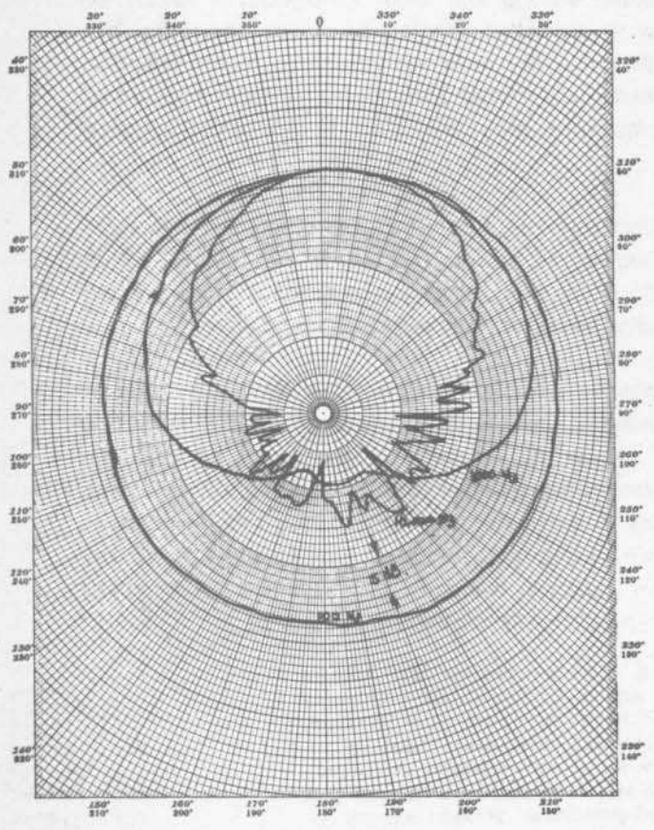
Maintenance: Put the cap on the lens. If you've lost the cap, put the lens in the case.

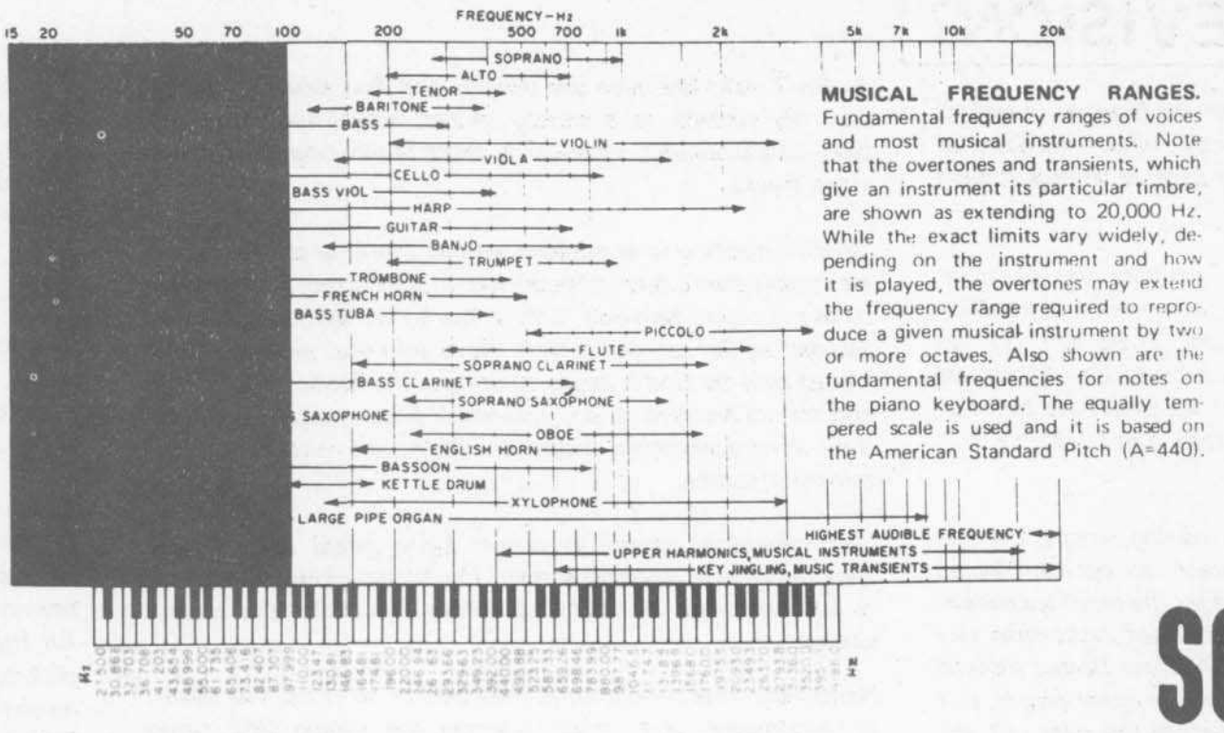
Storing: Don't store it pointing down. This would cause a residue to fall on the face of the vidicon. There's a very delicate phosphorus grid and phosphorus screen coating on the front. If the residue falls on that it can score the vidicon. It shows up in the picture as a dark spot. There's no way to correct it. So, store the camera tilted upward or level, on its side, or upsidedown, as long as you don't point the lens down.

Though the camera is pretty rugged, treat it with care. There are components inside that can be broken.

All the cameras come with stops that block dirt or anything that can get on the face of the vidicon.

Flickering: means the horizontal frequency is off and needs adjusting.
Someone said the cameras won't work in the Subway.





MUSICAL FREQUENCY RANGES. Fundamental frequency ranges of voices and most musical instruments. Note that the overtones and transients, which give an instrument its particular timbre, are shown as extending to 20,000 Hz. While the exact limits vary widely, depending on the instrument and how it is played, the overtones may extend the frequency range required to reproduce a given musical instrument by two or more octaves. Also shown are the fundamental frequencies for notes on the piano keyboard. The equally tempered scale is used and it is based on the American Standard Pitch (A=440).

SOUND

MICROPHONES

Much of the information here was obtained from the *Sennheiser micro-revue* 69/70 and friendly assistance from one of their personnel at Sennheiser Electronic Corp., 10 West 37 Street, New York 10036, Tel. LO4-0433.

SOUND in physical terms means vibration of air particles, small fluctuations of air pressure which spread like waves from a source of sound. A space in which this is occurring is referred to as a sound-field. It is the purpose of a microphone to convert sound-waves into electrical energy. The quality of a microphone is its ability to effect this conversion accurately.

DYNAMIC CONDENSOR
omnidirectional
cardioid
unidirectional

A DYNAMIC microphone is basically a small loudspeaker designed to work in reverse. It consists of a magnet, a coil and diaphragm. The coil moves and produces an inductance; therefore producing a signal that can be fed directly into an amplifier. It needs no current and has a narrow frequency range. Sensitive to Sound. Good Fidelity. Relatively Low Cost. Can withstand high sound pressure levels. PROBLEM: Any microphone has frequencies at which its diaphragm prefers to vibrate. The favored frequency in a dynamic microphone usually lies in the middle of the audio range. When the microphone picks up the favored frequency from a sound source, the resonance of the diaphragm will emphasize that frequency and the overall frequency response will be uneven. The trick is to compensate for that condition. This is accomplished with dynamic microphones with greater and lesser success.

The FREQUENCY RESPONSE of a microphone includes two characteristics: the range of frequencies the microphone can reproduce, and how evenly it reproduces them.

The QUALITY of a microphone is determined by its capacity to convert sounds into electrical vibrations equally well, over the whole audio spectrum. The pitch of a sound, its frequency, is measured in hertz (Hz) = cycles per second. The higher the pitch, the higher is the frequency. The human ear can perceive sound vibrations from approximately 16 Hz up to 15,000 Hz.

The IMPEDANCE of a microphone is a measure of its total resistance to the flow of both direct and alternating electrical current, as measured in ohms usually at a frequency of 1,000 Hz.

Low IMPEDANCE ranges from about 30 to 600 ohms. It permits a microphone to be used with a long cable—from about 200 feet to perhaps several hundred feet.

At HIGH IMPEDANCE a microphone begins to lose treble at cable lengths over about 20 feet.

You can change the impedance on most microphones by making a simple change in a soldered connection, rotating the plug or changing a pair of connections inside the microphone.

All low-impedance microphones have balanced output connections. That means there are two signal wires and one ground wire.

The SENSITIVITY of a microphone is a measure of its capacity to translate acoustical sounds into electrical impulses/ or/ a measure of its electrical output for a given sound-level input; the higher the sensitivity, the greater the output for a given input.

The purpose of a DIRECTIONAL microphone is to suppress unwanted sounds. The Directivity is a measure of the relative sensitivity of a microphone for sound approaching it at varying angles. The response pattern varies with frequency. The directivity index is related to acoustical power, and the acoustical power decreases as the square of the speaking distance.

A CONDENSOR or CAPACITOR microphone has two main parts: (1) a condensor element which receives sound waves and transmits to a coil, (2) oscillator circuit which produces high frequency. Audio is transformed to high frequency to amplifier then to another amplifier. Needs current and has a wide frequency range. It has a thin, tightly stretched diaphragm that resonates outside the major part of the audio spectrum so that no one major frequency is given a boost.

An OMNIDIRECTIONAL microphone picks up sound from all directions. Uses: Conferences, Record Music, Chorus or Orchestra. However, it may pick up unwanted sounds in some locations.

The UNIDIRECTIONAL microphone is more sensitive to sound from certain directions. Uses: Public Address, Pinpoint Soloists. It can minimize the pickup of background noise and tame reverberation.

The CARDIOID microphone has the acceptance pattern of a kidney and picks up direct, not too distant, sounds. It has a maximum sensitivity in the forward direction with a minimum pick-up of random sounds reflected from the walls of a room. Uses: Pin-pointing short distances—cuts out surrounding noises.

HIGH FIDELITY results mainly from two factors. (1) Range of frequency response (ideally should encompass the whole audio-frequency band—at least 50 to 15,000 Hertz). Smoothness with which the microphone reproduces the various tones.

The purpose of a WINDSCREEN is to lower the microphone's wind susceptibility and, in some cases, its pop susceptibility. Wind blowing over a microphone may produce a bassy rumble. A foam-rubber or foam-plastic windscreen will usually reduce this rumble considerably.

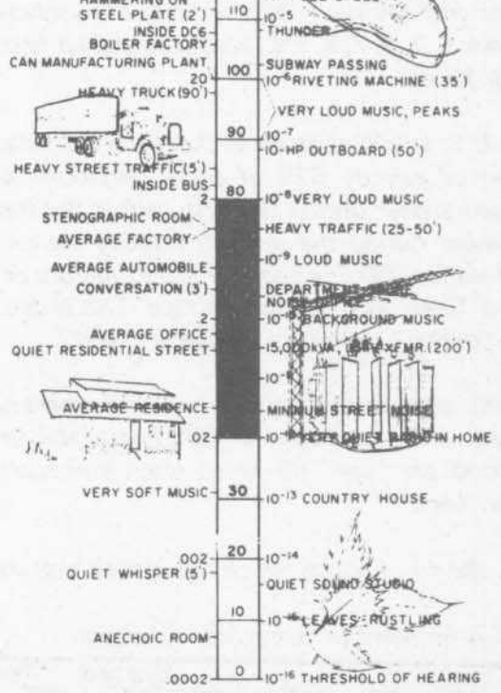
PROXIMITY EFFECT When the sound source is within two feet or less of a microphone, there may be a boosting of the bass called proximity effect. Unidirectional microphones often have that characteristic, while omnidirectional microphones do not.

CRISPNESS EFFECT A high frequency response that is undesirable for fidelity in recording music, but for speech it can be a virtue because much lack of speech intelligibility in noisy situations is due to relatively weak high frequency components in sibilants and other consonant sounds.

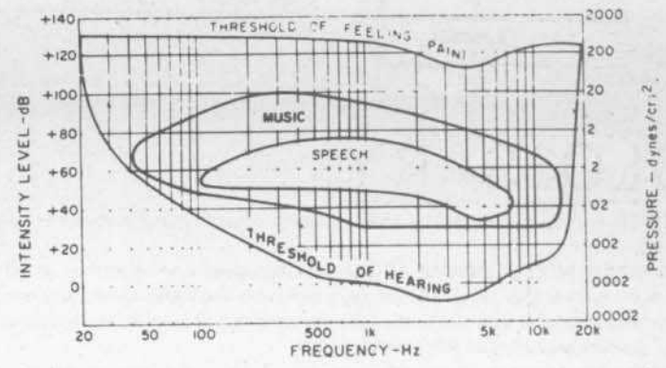
WIND blowing over a microphone may produce a low, rumbling sound that can be very undesirable, especially if you have an audio system that reproduces low bass well.

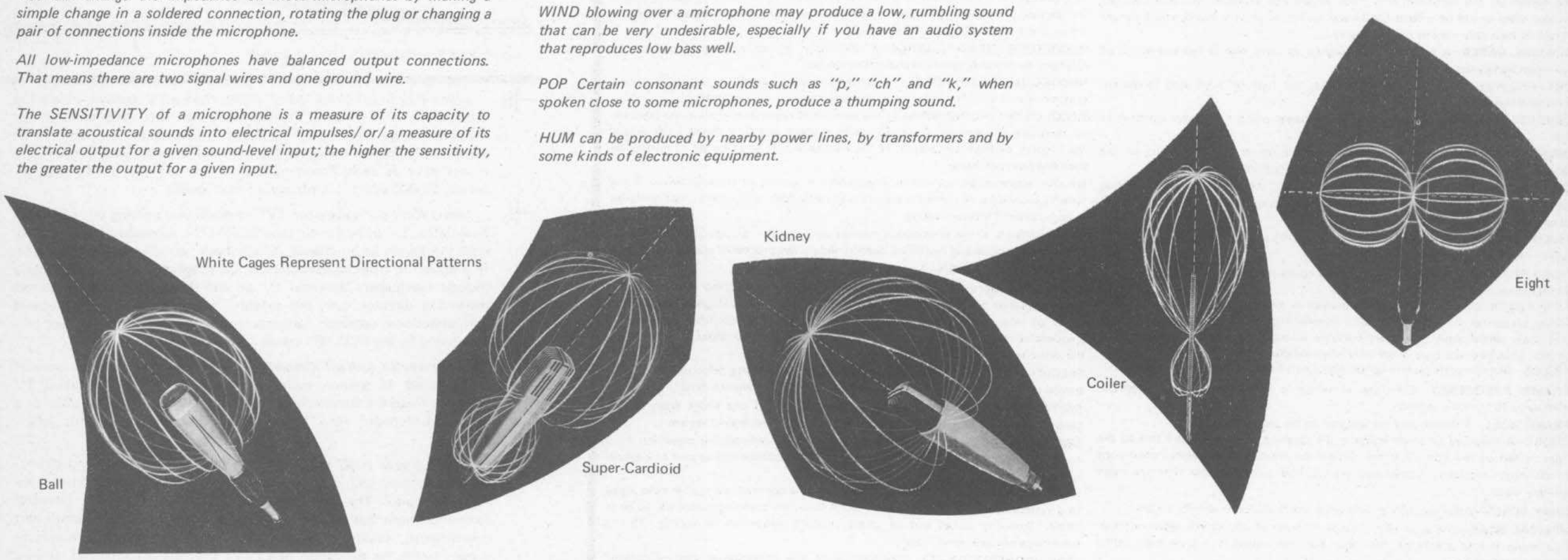
POP Certain consonant sounds such as "p," "ch" and "k," when spoken close to some microphones, produce a thumping sound.

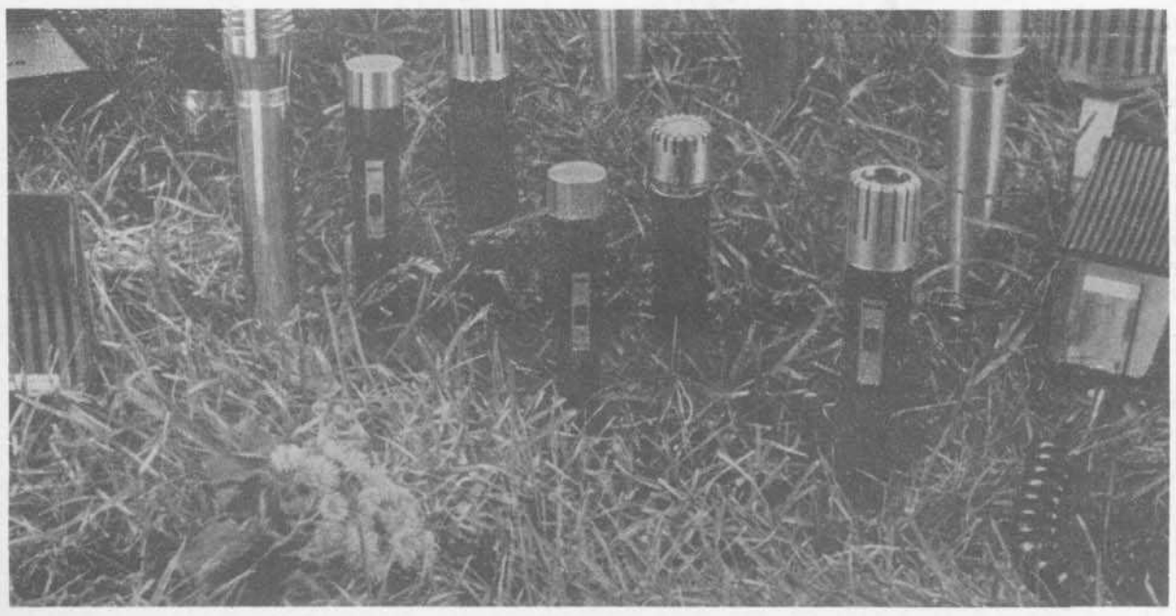
HUM can be produced by nearby power lines, by transformers and by some kinds of electronic equipment.

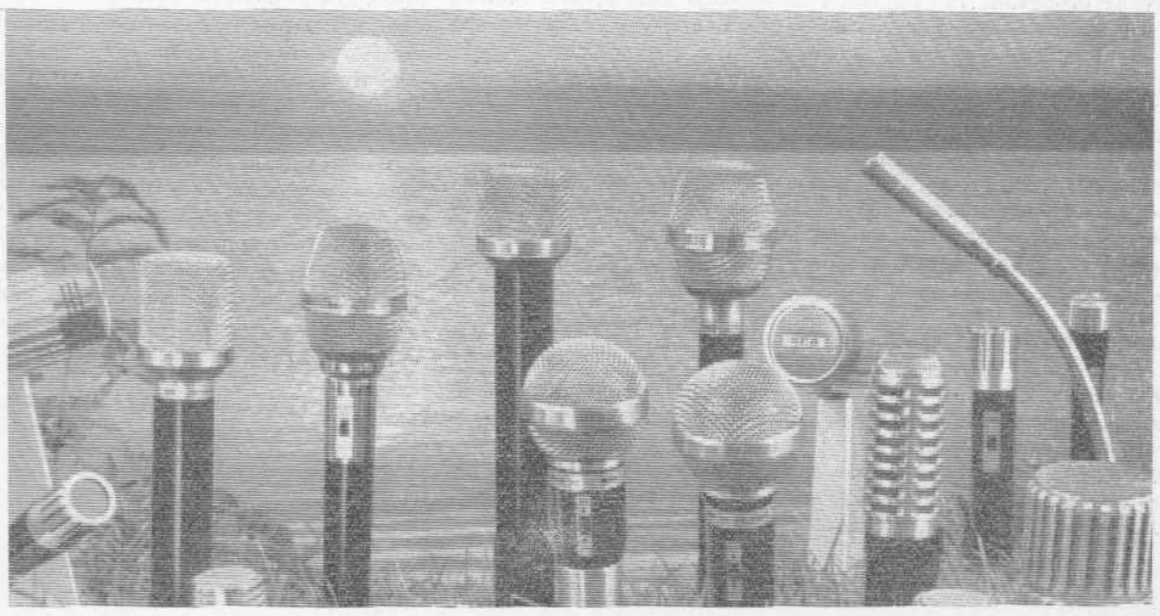


RELATIVE SOUND LEVELS Some of the most common sounds and noise—from the threshold of hearing out to beyond the threshold of pain.









WHAT IS TELEVISION?

We know that electrical impulses can be fixed on magnetic tape for later playback. But exactly what impulses or "information" actually get onto the tape in the equipment we shall be using?

When we see a television program, whether live or prerecorded (the two are indistinguishable), the receiver is handling three different kinds of information. These are: 1) the picture; 2) the sound, 3) the synchronization. If we are recording a videotape of this program we shall have to fix all three kinds of information on the tape. Let's take them in order.

The picture we see, of course. It is a moving picture; but just as with movies, the motion is apparent, an optical illusion and not real. This motion is produced by the rapid succession of slightly different still frames. In television, according to a standard observed throughout the USA, these frames succeed each other at the rate of 30 per second. In other words, in 1 second 30 individual pictures pass before the eyes. At this rate we are left with the impression of continuous motion.

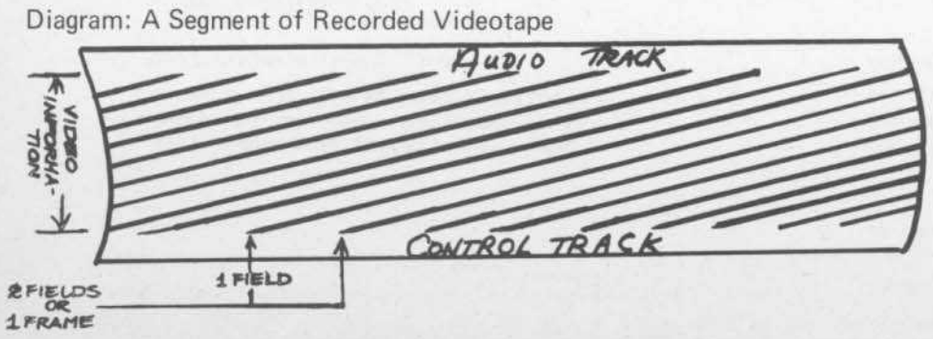
Television finds it convenient to take a further step and to divide each frame in half. This isn't difficult to visualize. If you go up close to a television screen you'll notice that the picture seems to be made up of a great many horizontal lines. Such a picture can be divided by showing at one instant every other line and the next, all the lines not included the first time. Lines 1, 3, 5, 7, 9, etc., would be shown first, then lines 2, 4, 6, 8, 10, etc.

Another U.S. standard specifies that each individual frame be composed of exactly 525 of these horizontal lines. 262.5 lines would appear during the first half of the frame and the same number during the second, totaling the requisite 525. (Just reduce for 250 line images.) A half picture or half frame is called a "field" as it appears on tape. This is due to the fact that it is "drawn" there by a magnetic "field".

During any given second of a television (program) we "see" 30 frames, each composed of 525 horizontal lines or that each second we "see" 60 fields, each composed of 262.5 horizontal lines.

On tape, the fixed pulses which represent fields are recorded.

Diagram: A Segment of Recorded Videotape



Audio Track: We hear the sound; and it is easier to record than the picture. It is merely striped across the top of the tape longitudinally, with some room separating it from the video tracks.

Synchronization is something we can't strictly see and which we usually don't hear. It's essential to the correct retranslation of the picture, however, and it has to do with the lines we noticed earlier on the screen. Have you ever pulled a loose thread only to find it began to unravel the fabric, left to right and top to bottom. If so, you won't have trouble visualizing how synchronization helps to draw the picture on the television screen.

The television picture is drawn by a beam of electrons directed at a phosphorus screen. The screen glows wherever it is hit and with a brightness proportional to the beam's strength.

Remember that a field comprises 262 or so lines. The beam, to accomplish this, must traverse the screen 262 times horizontally. A clocking mechanism is built into the various components of a television system to trigger these horizontal crossings. In figure 3, they are indicated by solid lines.

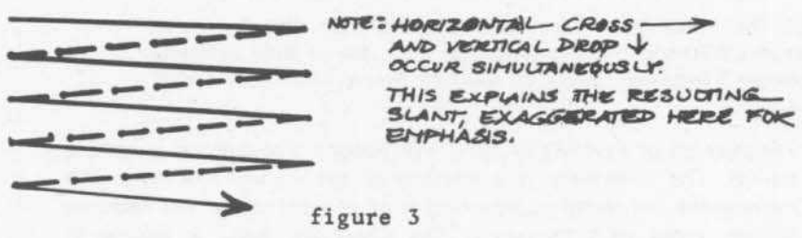
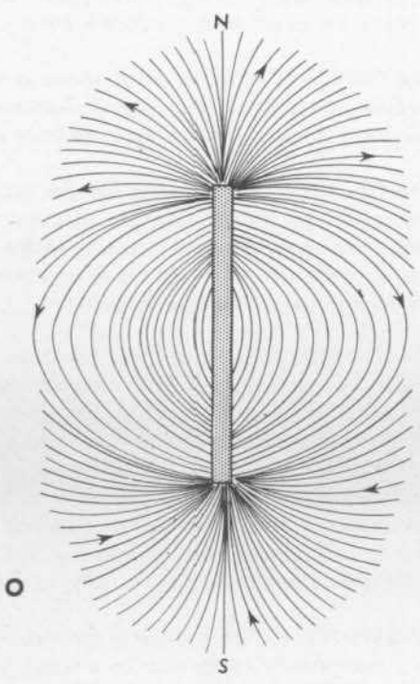


figure 3

In order to keep line 1 from being overlapped by 3, 5, 7, etc., the beam must also drop a small distance vertically as it crosses the screen horizontally. Another clocking mechanism takes care of this. The simultaneous crossing and dropping causes the resulting lines to be slanted very slightly.

During its sweep from left to right across the screen, the beam is "on"—going in the opposite direction it is "off". This is noted in figure 3 by solid ("on") and dashed ("off") lines.



Control Track: Horizontal and vertical synchronization signals are included among the video information which we already know is recorded diagonally across the tape. But because of the peculiar manner in which these diagonal stripes are made, additional information must be recorded along the bottom of the tape. This is also a longitudinal stripe.

Synchronization may be somewhat more difficult to understand than video or audio; but some knowledge of its importance is useful in operating a recording system effectively and in troubleshooting, should the need arise.

Synchronization is often given a practical definition: A part of the television system which insures that the television receiver will create the picture in the exact vertical and horizontal relationship as originally translated by the camera. All this means is that since the camera also used a beam to pick up the picture, synchronization keeps both camera and receiver beams pointing the same place on the screen at the same time. Any other relation would be chaotic.

Died. Mayo Buckner, 75, inmate since age eight of Iowa's Glenwood State School for the mentally retarded, who received worldwide publicity in 1957 when it was belatedly discovered that he was of superior intelligence and a gifted performer on eight musical instruments, but was by then so disoriented that he was considered incapable of ever adjusting to a normal life again the remaining years as a patient with special privileges, teaching music and working in the print shop; of a stroke; in Glenwood, Iowa.

Correlated Points:

1. *The three types of information recorded on videotape:*
   1) video (pictures)
   2) audio (sound)
   3) sync (synchronization)
   are fixed there by electromagnetic "heads". These heads actually contact the dull, or oxide coated, side of the tape as it passes. As a result, the heads can become fouled with oxide, necessitating their cleaning with a solution such as freon.

2. *The same heads tend to build up a residual magnetism from repeated recording and playback. (An electromagnet ideally is supposed to have no inherent magnetism, only that created by the flow of current through it, but this is not achieved in practice.) This residual buildup reduces a head's ability to record or read back electrical signals faithfully. A simple demagnetizing process corrects this problem.*

3. *Aside from the two items of "preventive maintenance" above, none is required except the occasional cleaning of the camera lenses.*

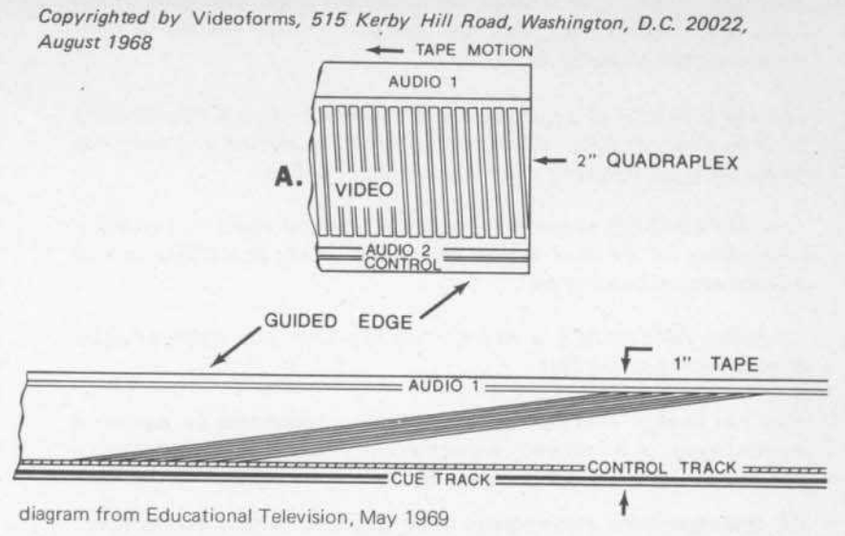


diagram from Educational Television, May 1969

GLOSSARY

AMPLIFIER—An electronic device used to boost a weak signal without undue distortion.

AUDIO-VIDEO MIXER (MODULATOR)—An electronic component of an RF transmission system that combines the separate audio and video signals into one. The combined signal is then fed to the antenna terminals of an ordinary television receiver. Sometimes called an RF CONVERTER.

CHANNEL—The segment of the RF spectrum to which a television station is assigned or to which a television camera is tuned when transmitting via radio frequencies.

CLOSED CIRCUIT—A system of transmitting TV signals to receiving equipment directly linked to the originating equipment by coaxial cable, microwave relay or telephone lines.

CONTRAST—The range of light and dark values in a picture, or the ratio between the maximum and minimum brightness values. For example, in a high-contrast picture there would be intense blacks and whites, whereas a low-contrast picture would contain only various shades of grey.

COAXIAL CABLE—A special cable designed to carry one or more channels of television signals simultaneously.

CRT—Abbreviation for Cathode Ray Tube, the type of tube used to display television signals.

DEGAUSS—To demagnetize or erase, a Degausser being the device which does this.

DISTORTION—The departure, during transmission or amplification, of the received signal waveform from that of the original transmitted waveform.

DROP OUT—A black and white horizontal "blip" on the picture tube during playback of a videotape. Caused by missing video information. Common physical cause: missing iron oxide coating on videotape.

FIELD—One-half of a complete picture (or frame) interval containing all of the odd or even scanning lines of the picture.

FIELD FREQUENCY—The rate at which a complete field is scanned, nominally 60 times a second.

FILM CHAIN—One or more motion picture or slide projectors fed through an optical system to the pickup tube of a television camera. Multiplexer is a type of film chain where many projectors combine to supply the image to a single TV camera. Uniplexer is a type where only one projector is used.

FRAME—One complete picture consisting of two fields of interlaced scan lines.

FRAME FREQUENCY—The rate at which a complete frame is scanned, nominally 30 frames a second.

FRAME ROLL—A momentary vertical roll on the picture tube.

GHOST—A shadowy or weak image in the received picture, offset either to the right or left of the primary image. This is the result of transmission conditions which create secondary signals that are received earlier or later than the main primary signal.

GRAY SCALE—White-through grey-to black shade values on the TV screen.

HELICAL SCAN—The type of videotape recorder which records video information along slanted tracks on the tape. For this reason it is alternately called slant-track recording.

INTERCHANGEABILITY—The ability to exchange tapes between different videotape recorders with no appreciable degradation of playback image. Available at the present time only between machines of the same make and model.

INTERFERENCE—In a signal transmission path, extraneous energy which tends to interfere with the reception of the desired signals.

INTERLACED SCANNING (INTERLACE)—A scanning process in which each adjacent line belongs to the alternate field.

KINESCOPE RECORDING—A film recording made by a motion picture camera designed to photograph a television program directly off the front of a television tube. Sound is recorded simultaneously. Often called a "KINE".

LINE FREQUENCY—The number of horizontal scans per second, nominally 15,750 a second. (The number of frames (30) times the number of lines per frame (525).)

MASTER—The prime or original recording.

MICROWAVE—A method of transmitting closed circuit television signals through the air on a highly directional, line-of-sight system from the originating station to one or more receiving stations.

MONITOR—A special type of receiver used specifically in video reception, rather than RF. Video monitors are not turnable to channels, and must be used with video cameras.

NOISE—The word "noise" is a carryover from audio practice. Refers to random spurts of electrical energy or interference. May produce a "salt-and-pepper" pattern over the picture. Heavy noise sometimes is called "snow".

PICKUP TUBE—An electron beam tube used in a television camera where an electron current or a charge-density image is formed from an optical image and scanned in a predetermined sequence to provide an electrical signal.

PICTURE TUBE—A cathode ray tube used to produce an image by variation of the intensity of a scanning beam.

RECEIVER—A television set, designed for tuned (RF) channel reception of sound and picture. A receiver/monitor is a combination instrument capable of receiving RF or video and sending out video signals.

RECORDING HEAD (AUDIO)—A stationary assembly used to record or playback electrical impulses at audio frequencies.

RECORDING HEAD (VIDEO)—Mechanical rotary assembly, usually a rotary motor driven device, for impressing video information onto videotape.

RESOLUTION (HORIZONTAL)—The amount of resolvable detail in the horizontal direction of a picture. A picture which is sharp and clear shows small details has a good, or high, resolution. If the picture is soft and blurred of horizontal scanning lines per frame.

RF—An abbreviation for Radio Frequency, a system of transmission utilizing tuned bandwidths of the radio spectrum to carry both audio and video signals—as in commercial TV broadcasting.

SCANNING—A single continuous narrow strip of the picture area containing highlights, shadows and halftones, determined by the process of scanning.

SECOND GENERATION—A copy of the master recording.

SIGNAL—An electrical pulse. In particular for our work, the electrical pulse which expresses the translation of light into electrical energy. Signals are noted in terms of strength (voltage) and frequency (cycles per second). Audio signal frequencies range from 20-20,000 cycles per second; video, from 20 on up into the millions of cycles per second.

SPECIAL EFFECTS GENERATOR—A device permitting selection of several special combinations of images, supplied by one or more video inputs.

SWITCHER—A control which permits the selection of one image from any of several cameras to be fed into the television display or recording system.

SWITCHER-FADER—A device permitting gradual, overlapping transition from the image of one camera to another. Sometimes incorporated as part of a special effects generator.

SYNC GENERATOR—A device used to supply a common or master sync signal to a system of several cameras. This insures that their scanning pulses will all be in phase. Scanning pulses out of phase produce distortion or rolling. This is sometimes noted as sync "loss".

SYNCHRONIZATION—The maintenance of one operation in step or "phase" with another. Abbreviated "sync".

TAPE RECORDER—A device, partly electrical—partly mechanical, for impressing electrical signals into magnetic tape. It usually operates by feeding tape off one reel and onto another (generally from left to right).

TRANSFER—To go from videotape to film, or the other way around.

VIDEO—The visual components of a television signal.

VIDEO TRANSMISSION—The picture signal applied directly to the viewing tube without use of an RF carrier frequency. As no conversion-reconversion stages are required, there is no picture deterioration. The result is a higher quality image.

VIDICON—The type of camera pickup tube used most frequently in closed circuit television. Uses Antimony TriSulfide as a photo sensitive surface.

VIEWFINDER—A small monitor built into the TV camera, enabling the cameraman to see exactly what his camera "sees".

VTR—Abbreviation for Videotape Recorder.

. . . *New way to get quick "hard" copies from a TV receiver:* a desk-top terminal contains a second TV tube and a camera to take "stills" of the duplicate image. The picture (5 inches square) is put on paper via an electrostatic process and developed with liquid toner. Cost of each copy is less than 1¢ each. Problem: cost of the terminal will be approximately $8,000 when it is introduced next spring.

. . . *New Kind of "subscriber TV"*—a prediction coming out of Varian Associates. TV over the air (not cable). The subscriber would receive only the signals he purchased. A "talk back" circuit would be available. In addition to offering special color TV programs, other services could include newspapers delivered by air and shopping by TV. A Varian marketing director calls the system "a closed-circuit point-to-point omnidirectional common carrier service"—and "unique." Product of a new ruling by the FCC. Will create a new industry.

. . . *New way to turn a TV monitor into a burglar alarm*: 2 light sensors are attached to suction cups to the screen of a closed-circuit TV monitor. When the sensors detect motion, they can trigger an alarm or a videotape recorder, etc. "Video Sensor" via GBC (Ikegami), Japan. $495.

. . . *By the year 2000* the distinction between broadcast and closed-ciruit television will disappear and, in effect, all television will be "closed-circuit." The emergence of CATV as a force in televised communications has started to bridge the gap between broadcast and closed-circuit, inasmuch as all members of a particular community system fulfill the definition of CCTV: they are a controlled viewing segment.

. . . *The end of the use of tape and film in TV is now clearly in view*: Solid state memory banks are presently capable of storing sufficient information to reconstruct the TV processing research. There are people right now who are working on a means of building a cigarette-pack sized inert memory block that will contain within it total information necessary to "play" a one-hour TV program. This will be immune to all shortcomings of today's TV recordings, give instant random access, and, weighing but a few ounces, will make custom TV truly a reality. With millions of plug-in programs.

from *Videa 1000*, October 1970, Vol. 4, No. 12.

MAILING A VIDEOTAPE

Customs Duty on videotape is .55¢ per foot. The N.Y.C. brokers fee for clearing through Customs and delivery is $15.00, or you can clear the tapes yourselves by going to the airport, signing forms and paying the Duty.

NEW EQUIPMENT

CTL: is working on electronic editing from two or more pretaped helical scan sources, with quad there is no problem. The trouble is now with the horizontal lock. You get either Information or Snow. A more precise Servo is needed.

: has modified the Sony SEG 1 (Special Effects Generator) to provide keying and matting facilities and to make possible three camera fades and wipes/with the addition of gen lock, pretaped (or off air) materials can be mixed with live cameras; the tape sync serving as sync for the cameras. $400.

: is developing a two track taping system. You don't turn the tape over but use the empty space between the signal by slowing or speeding up the video heads. The combined effect of Channel A and Channel B is superimposure.

: also has a 5" TV monitor which plugs into the VTR and needs no other current. You can have a hand held monitor. $195

: is developing an improved colorizer with controls to approximate skin tones if desired. It will add adjustable color to any video coming from a camera, taped playback or off air signal. Used in conjunction with a color VTR, e.g., Sony 5000 and color monitor, it will produce colorized tapes. Several people have developed colorizers: Eric Siegel, George Brown at CTL Electronics and Spatial Data Systems, Inc., in Goleta, California.

IBM wants a colorizer for checking microcircuits. It would work by enlarging and colorizing microscopic images.

a note on ERIC SIEGEL's color synthesizer:

Siegel's color synthesizer is a unique machine which colors videotape. The Kansas City tapes are the first to be colored by the synthesizer which Siegel only recently completed. The color synthesizer is different from color TV in that the synthesizer has a series of controls with which the artist can electronically paint the tape—that is, the machine allows the artist to select, control, modulate and change each color and its intensity—it is rather like the Moog except Siegel's machine synthesizes color instead of sound.
a world first!

: has developed a cableless camera which will send a video signal to a VTR up to 200 feet away—it sends a video only (not audio). It weighs 1 pound additional to the camera and operates on 12 volts.

It could send a signal more than 200 feet if FCC regulations allowed. A transmitter of 11 miles is available also surplus transmitters for $11,000 which transmit 75 miles and put out 5 kilowatts.

The VTR is set to a TV receiver set to any open basic frequency channel (6). Cost of modification: $400

Can build a drop out compensator on any machine.

CTL encourages new ideas. Come down and see Lui.

CTL Electronics, 86 West Broadway, NYC—Chi Tien Lui, George Brown, Al Phillips, Melvin Oscar

SERVO—is a regulating motor which generates a signal (= electronic sprocket), compares with the reference (= standard), feeds back pattern, and corrects itself. It is the Basic Feedback System: it compares and corrects.

The CAPSTAN SERVO is to control the tape speed according to incoming signal.

The HEAD SERVO controls the speed of the video heads. The existant servo detects a whole revolution.

FOR SALE

ERIC SIEGEL

Recorder—Ampex 660 2" helical scan; stereo with 2 channel sound; 350 lines resolution; up to 5 hrs. continuous recording. In very good condition—$750.00. Comes with 30 hrs. of tape and extra heads.

3" Image Orthicon Camera—400 lines resolution; 1 extra image orthicon; 50 mm lens; 8" electronic viewfinder atop the camera; cradle focus system; reversible scans; synchro-lock with any video or live camera. $500.00

Special Effects Generator—Switcher/fader; 4 inputs; 4 preview channels; geared fader arm; does not need a sync generator; horizontal wipes; box wipes; 2 camera key in; grey balance control. $600.00

For inquiries call: (415) 567-0543

PROBLEMS with SONY AV SERIES

Deck:
- Screws for latches seem to come loose—should be tightened.
- The levers break off. Be careful when you're putting the machine from Fast Forward to Stop. They easily slip from Fast Forward to Rewind.
- Tape winds around the Capstan and gets caught.

NEW AV SYSTEM COMPARED TO OLD CV

- Panasonic came out with the first AV (Standard). Sony lowered the price and came out with a model that had playback, however, with no prior field test. They, therefore, omitted things. That's why it has a bad head.
- If you have found that there's more dropout—it's because of the bad head. The head sometimes causes Black Drop Out which is a bright spot with a tail and the picture is weaker. Replace the head. You can test it by focusing on a wide Black and White bar. You will see a smudgy outline.

Problems with Sony AV camera: The eyepiece is very poorly engineered and will break off easily. There is a lens in the eyepiece and if broken off will make focusing difficult.

- 10-pin camera cables are notoriously weak. Has three set screws which inevitably come out. Put clear nail polish over them. Cable should only be able to go into deck one way—make sure it's in tightly without wiggling.

Someone said the diode is bad.

- Difficult to focus zoom lens because the casing of the vidicon forces it too far forward.

SPARKS

+ Frequency Modulation
+ Frequency is the carrier of electric oscillation.
+ Frequency is inversely proportional to wavelength; waves of longer lengths have lower frequencies.
+ Oscillation is like turning a magnet on and off.
+ Basic Oscillation produces frequency. (Just throwing energy in the air.)
+ An electric current oscillates and generates waves = radiation.
+ Modulate = Control = Changing Voltage
+ Frequency = Speed of Oscillation
+ Frequency of 1,000 cycles per second = Kilocycle
+ The wavelength of electromagnetic radiation multiplied by its Frequency is always equal to the Speed of Light in outer space (a vacuum).
+ This is true because all Electromagnetic waves always travel at the same speed in outer space (a vacuum), $2.9979250 \pm .0000010 \times 10^{10}$ centimeters per second.
+ Electromagnetic waves differ in only 2 ways:
  1. Strength (amplitude of swing - or intensity of electric and magnetic force)
  2. Frequency (number of times they vibrate - number of complete cycles performed - in each second)
+ Heinrich Hertz - generated electric oscillations that radiated waves in space. Demonstrated that waves could be reflected, refracted, polarized with rapidly varying strength.
+ Variations in the strength of electromagnetic waves is Amplitude Modulation.

EUROPE NOW: by John Hopkins, TVX London

Standardization

We're in the generation of hardware before global compatibility. This is very serious because it means U.S. tapes can't be played in European machines and vice versa. Ironically, movie stock is still world standard for TV material exchange, and 2" videotape runs it a close second. Manufacturers have got to pull their fingers out and (1) standardize on a tape width and running speed worldwide, (2) produce a dual standard playback machine operating on 525 lines 60 cycles and 625 lines 50 cycles, (3) make the whole thing cassette loaded. Then, whatever the originating hardware—and present incompatibilities will last for a few years—at least the hardware for a global network will be standardized.

Prices

"It's a well known fact in the electronics business that retail price is about 4 times cost price to the manufacturer."—Hans Heinzl, Hamburger Filmschau, September 1970. Prices have got to come down.

Information—1

There is a shortage of information in Europe about latest hardware developments. And a shortage of hardware. We got the feeling that the Sony-625 line portable is already obsolete with its 11 ips tape speed, and correspondingly greater drop-out and running costs. Akai quarter inch seems to have beaten Sony half inch AB series to the post as far as European appearance goes. Sony doesn't realize that at this stage, for individual/group use, the line system is relatively unimportant, but what is important is cost, both running and capital. I think this is because they don't understand how this hardware is actually being used, and this includes the social context. We've tried making feedback to Sony about this and the time lag in comprehension is at least twelve months, and even then, slow as a tortoise.

Information—2

How well are we, as seminal groups in the subculture, disseminating information to the people who could use it: the revolutionaries, the youth, the alternative press, the filmmakers? To all groups of people actively engaged in accelerating social change? Our recent experience with groups of newcomers at festivals in Stockholm, Hamburg, Scotland, London, shows that they often need a total introduction: the setting out, as clearly as possible, of an overview. What is familiar territory to us is virgin to them.

The Global Net

Its emerging throughout the Western World that the network of video heads is both local and international. In practical present terms, the separation between any two points on the net is the travelling time between them of a little parcel of videotape (half-inch); depending on the means of transit this can be several days. Closest analog is the global transporation system for people. It's still actual matter transfer, mechanical rather than electronic, like the distribution of printed matter.

No one has yet said much about the local configuration of software movement thru a point on the global net. Evidently some sort of further distribution—broadcast or narrowcast—would be useful in reaching more people and as a source of income. Broadcast—TV station or regular access to one. Narrowcast—videocinema.

Videocenters

Let's take a look at the sort of functions a point on the global net might have or what is a videocenter? Any manufacturer with the foresight to spend a few hundred thousand dollars setting up videocenters thru the Western World would be very smart at this point in time. A videocenter would house a production unit, a compatibility center and videocinema, a small tape library and a gang of resident video freaks. The payoff for the manufacturer is software market research and publicity—huge publicity. The payoff for the man in the street is access to the means of production and the chance to decondition all those years of one-way TV viewing.

Getting it on: hardware

Where is the hardware and who's got it? There is one Sony portable to every 20,000 people in the USA. So where the fuck are they all? Most of it needs liberating. Our particular interest is how to liberate it from schools and colleges. One way (legally) is to turn on the person in charge of the hardware to the immense possibilities of this friendly little machine. Best way is to turn it at its owner and zap him/her with immediate feedback. It works. Most people never see themselves on TV, etc. Then it's just a case of letting the guy take some ideas from you and call them his own, in return for which you get to use the hardware. Reference to previous experience with TV hardware also cuts ice. Tell a few lies.

Leasing

In England, leasing companies are uptight about long term hardware hire. And the potential sponsors wanted by them—Arts Council, TV Companies—are just as stupid. Something's got to give. Already there's a healthy scent of "Rip It Off" in the air, as potential videoheads get more ruthless with pussyfoot suppliers.

Mass Media: what is to be done?

Production. Portable video has to be established as an important input to broadcast. This has already started in Europe but hasn't got further than news flashes and the occasional interview about it, although there are notable exceptions; David Frost interviewing Ian Smith; TV Childrens program on Swedish TV, Sept 70, shot entirely by children on portable half-inch videotape.

Structural shift in network TV is already possible. England is covered by 3 networks, approximately, according to the 4-color theorem of topology. This can be broken down—perhaps on a new fourth channel in UK—so that every transmitter is linked to a TV studio, or video center. Rigging up a TV studio is not expensive. In fact there are over a hundred "ham" TV stations in the UK alone, and the universities and colleges are cram full of unused hardware. British Amateur Television Club is organization for the hams.

Software concepts

One of the reasons broadcast TV is so rigid is that the producers haven't yet got concepts to fit the possibilities of the medium. Evidently the opposites Entertainment/Documentary and Sport/Education are not the right parameters, or program concepts. We're actively pushing the concept 'Advanced Television' at TV stations. It means whatever you want it to mean, and it's what we've been doing and developing all along.

Software Markets and Types

West Germany is the healthiest TV market. They've already bought U.S. underground movies for regular programming, and some of their home grown products are very heavy, violent, exciting. There are no video makers there yet outside TV stations. All the output of the underground filmmakers is in some way political. So feed your antimatter to one of the 9 West German TV stations.

In England it is not generally realized that the legal weekly 53 odd hours does not include schools, religious, education, and outside broadcasts. Adult education is quite a good loophole here, especially for late night programs. And what is needed is a late night program for young people that isn't just pop music, trendy clothes and talking heads. We hope that our "Electric Newspaper" is the answer (see below).

The People

The movie industry and the TV industry is generally out of touch with young people. The exception are Startrek and Easy Rider. Another reason for using video as input to broadcast: it shows the people to the people. The potential is enormous. Most people never saw themselves on TV, etc. A new communication parameter: how many people in a locality can be served by one open-access TV station?

Cassette Market

No one manufacturing cassettes yet knows what sort of software will be consumer popular. Early EVR demand is for more pop music than expected (source: APB, Boston) and early video cassette use in Japan is for blue movies (source: Association of Broadcasting Staff bulletin Sept. 70).

The Electric Newspaper

This is our next step, in spite of the fact that we're broke and don't have the right hardware yet. We're putting out a regular videotape series called "Electric Newspaper", to anyone who sends us an empty reel of videotape and some bread (a few dollars), or free to anyone who sends us a full reel of videotape. During the next few months we'll be making prototype activity with the Electric Newspaper project: a pilot which is also the real thing. Inlets and outlets should be properly set up by 1971.

MASS MEDIA IS A SOURCE OF BREAD.

We need $25,000 for starters. Any suggestions?

Prediction

The first travelling bunch of freelance video heads rather like a pop group but making TV. Gigs at TV stations. Software spinoff to cassette market.

22 Sept 70

VIDEO CARTRIDGE/CASSETTE SYSTEMS—COMPARATIVE TABLE (U.S.)®

Much of the information set forth in this Table is preliminary or estimated. Please send us corrected, updated or supplemental information for inclusion in future issues of Radical Software

VIDEO CARTRIDGE/CASSETTE SYSTEMS—COMPARATIVE TABLE (U.S.)

COMPANY/ADDRESS	NAME OF SYSTEM	INITIAL MARKET	INTRODUCTION DATE	MEDIUM	CARTRIDGE	EQUIPMENT COST	MATERIAL COST/HR.	RECORD CAPABILITY	PLAYBACK	RESOLUTION-BANDWIDTH	AUDIO	COMPATIBILITY	AFFILIATIONS	
FILM SYSTEMS														
CBS Inc. EVR Division 51 West 52nd St. New York, N.Y.	EVR (Electronic Video Recording)	Industrial-institutional Home	Nov. 1970 Mid 1972	Encoded photographic system; 8.75 mm silver halide film, 3 mil thick; speed: 6 ips (60 frames/sec); program is electronically encoded on film; color occupies 2 tracks, mono 1 track; diazo-type film under development	Single reel; 7" dia., 0.5" thick; color plays 25 min., mono plays 50 min.; diazo film will give longer playing times	Industrial version $800; home version $400	Color 3, mono $23 (incl. processing, lots of 2000); pre-recorded color cassette $30/half hr., mono $14.40/half hr.	No	Flying-spot scanner	Color 300 lines, mono 500 lines; 4 MHz	Magnetic; color 1 track, mono 2 tracks	None	Motorola (U.S.) Rank (U.K.) Bosch (Germany)	
RCA Corp. 30 Rockefeller Plaza New York, N.Y.	SelectaVision	Home	Late 1972	Encoded laser/holographic system; 0.5" wide embossed vinyl strip, 2 mil thick; speed: 7.5 ips; duplicated by heat pressing method	Plays 30 min.	$400	Color $4-$6 (incl. duplication); pre-recorded color cassette $10/half hr.	No	Laser-vidicon	300 lines	Embossed	None		
Abto Inc. (ABC/Technical Operations) 1926 Broadway New York, N.Y.	ABTO	Broadcast	Now being marketed	Optically-encoded color system; standard Super-8 mono film; speed: 3 ips; can also playback color film on player			$12	No	Flying-spot scanner		Magnetic	Optical film systems		
Sylvania Electric (General Telephone & Electronics) 730 Third Ave. New York, N.Y.	Scanner Film Theater	Home		Super-8 color film; speed: 3 ips	Plays 30 min.	(Built into color TV receiver)	Film $64, processing $45	No	Flying-spot scanner			Optical film systems		
Norddeutsche Mendle 28 Bremen-Hemelingen West Germany		Home	1972	Super-8 color film; speed: 3 ips	Plays 30 min.	$560	Film $64, processing $45	No	Flying-spot scanner	250 lines; 3 MHz	Magnetic	Optical film systems		
Vidicord Holdings Ltd. 3 Wigmore St. London, England	Vidicord	Industrial-institutional		Super-8 mono film; color version planned; speed: 3 ips	Super-8 reel or cartridge			No	Vidicon		Magnetic	Optical film systems		
MAGNETIC TAPE SYSTEMS														
Cartridge Television, Inc. 1115 Broadway New York, N.Y.	Cartrivision	Home	Mid 1971	Magnetic tape; 0.5" iron oxide; speed: 3.8 ips	2-reel; 7"x6.6"x1.5" (210 min.); 5"x6.6"x1.5" (30 min.)	$800-900 (incl. color TV receiver); $400-500 player only; $200 camera-cassette	$12.50/hr. for 120 min.; $17/hr. for 30 min.; $32 for color half hr. prerecorded	Yes (records every 3rd field)	3 magnetic heads	225 lines color; 3 MHz	Magnetic	None	Admiral Corp.	
Ampex Corp. 401 Broadway Redwood City, Calif.	Instavision	Industrial-institutional Home	Mid 1971 Mid 1972	Magnetic tape; 0.5" iron oxide; speed: 7.5 ips (30 min) or 3.75 ips (60 min)	Single reel; 4.6" dia., 0.7" thick; 30 min (7.5 ips), 60 min (3.75 ips)	$800 mono playback; add $100 for mono record or color playback; $200 for color record; $350 for camera.	$26 if 7.5 ips, $13 if 3.75 ips; prerecorded color cassette per half hr. $20	Yes	2 magnetic heads	300 lines mono 240 lines color	Magnetic 2 tracks	Japan Type 1 mono VTR' (reel-to-reel)	Toamco-Toshiba (Japan)	
Sony Corp. (Japan) Sony Corp. of America 47-56 32nd Place Long Island City, N.Y.	Videocassette	Industrial-institutional Home	1971 1972	Magnetic tape; 0.75" iron oxide (also chromium dioxide); speed: 3.15 ips	2-reel; 8"x5" (90 min)	$400 playback; $100-$150 recording adapter with built-in tuner	$12.50; prerecorded color cassette per half hour: $20	Yes	2 magnetic heads	3.3 MHz mono; 250 lines color	Magnetic; 2 tracks	None		
Philips Gloeilampenfabrieken (Netherlands) North American Philips 100 East 42nd Street New York, N.Y.	VCR (Video Cassette Recorder)	Home	Late 1971	Magnetic tape; 0.5" chromium dioxide; speed: 5.6 ips	2-reel; 5.8"x5"x1.4" (60 min)	$500-$600; built-in tuner and clock timer	$20; prerecorded color cassette per half hr.: $20	Yes	2 magnetic heads	3.3 MHz mono; 3 MHz color	Magnetic; 2 tracks	Agreements with Grundig, Telefunken, Zanussi		
Arvin Industries, Inc. 1531 East 13th St. Columbus, Ind.	CVR	Home		Magnetic tape; 0.5" chromium dioxide; speed: 160 ips (high speed tape transport); long. scan; 6 min. tape cycle	Single reel; 10" dia., 0.7" thick; 60 min.	$1000-$1500 incl. color TV receiver	$10		Stationary Magnetic heads	2 MHz	Magnetic	None		
Matsushita Electric (Japan) Matsushita Corp. of America 200 Park Ave New York, N.Y.		Home		Magnetic tape; 0.5" iron oxide; speed: 7.5 ips	2-reel; 30 min.				2 magnetic heads	270 lines mono; 240 lines color 4.5 MHz mono; 3.5 MHz color	Magnetic; 2 tracks	Japan Type 1 mono VTR's (reel to-reel)		
DISC SYSTEMS														
AEG-Telefunken (Germany) Telefunken 1841 Broadway New York, N.Y.	Teldec Videodisc	Home	1972	Foil-plastic disc; mono, 625 lines; 1800 rpm	9" (5 min), 12" (12 min) discs	$140 player; $240 changer	$5 (12 min.)		Pressure transducer pick-up off densely-packed microscopic grooves	250 lines; 3 MHz	Combined with video groove	None	Decca (London Records) partner in Teldec	

excerpts from a transcript

TECHNIQUES® by Paul Ryan

When you're out with the portapak, an attitude for instance, is that of *Minimal Presence* where you try and *pick-up on the process* at hand. You understand that you have a camera in your hands and that this camera is going to change the process to a certain extent but you're aware generally of how that camera affects people and how it might be affecting people in this particular situation.

What you do is sort of go with it and not, because you have a camera in your hands, become a "power" in the situation, but become more or less an "absorber" and let the people initiate what's going on. Let them break open into things if they will and if they care to.

At the other end of the spectrum . . . What to do with it in a situation. I can call an overall strategy that of simply recording and relating. You're there to record, but to record in the sense of the term where you take it to heart. In other words, you *become part of the process* and you relate back to that process through the tape—personally as you will. There is a time to feedback tape and a time not to feedback tape. There's a time to put your camera away and talk to somebody because they want to talk to you and they don't want to talk to the camera. It's a matter of being present in the process.

(. . . The interesting thing is that once he saw that my batteries were out and I couldn't tape any more—that's when he really began to sit down and tell me about Vietnam—the kind of things that I would've liked to have had on tape. But I understand that he didn't want them put on tape, so I didn't whip out the camera and say, "wait.")

. . . And in a sense the camera induced people to try things. In some situations the camera can help to put people in sort of a good guessing way behaviorally, in the sense that they are performing, they are trying things out and they're willing to risk.

Now part of that is because they themselves know that they're going to see it back—if you let them know that they're going to get the feedback and it's not to be ripped off and used some place else to exploit them or make fools of them. When people know that they're more willing to go out on a limb and also if you're not a critical presence in terms of their behavior. If you don't come on to them like this is right and this is wrong.

The whole idea of using the portable (and this will become much more apparent now that the new portable has playback on it, in other words you can play back what you record on anybody's TV set), you can sit in somebody's home and playback the tape you shot on their front stoop.

My whole emphasis is on the Feedback Loop. It's understanding the process in terms of *possible* feedback that becomes critical in terms of how you shoot and how you are present to an event.

For instance, a happening . . .

I selected 18 minutes out of three hours to playback for them immediately when the whole thing was over. The whole point of the selection was that they would see it back—and what I picked up was people crawling on their hands up a wall, and most critically the couple that found each other with blindfolds and got into necking—right, not knowing each other. Before I played that back, I said publicly that people who were involved in this tape may not want this to be shown. And if they don't that's cool, because it's your information and you have a right to it. They told me then and later that it was cool that it was done. They didn't ruffle. The reaction on everybody else's part was—"Wow, we could've been doing that, and there we were just laying there waiting for something to happen, instead of making something happen, which was what the piece was all about.

In that situation they didn't even know I was in there with a camera, so the camera had nothing to do with structuring the event; it just decoded the situation/information in terms of what the piece was about and what kind of information would be useful to the people participating after the event was over. In other words, they were able to participate in their own audience participation. What you're selecting are things that are useful for feedback.

. . . Metaphorically, in a sense, people are blind to the process that they are involved in. To be involved in the process is not to see certain things.

You can inhibit by playing back at the wrong time, by taping too much, by boring people with their own activity. You have to be able to pick up on people that are nervous in front of a camera; those who may be pretending they want to be on and don't really want to be. You don't put those things on camera.

. . . When you're shooting tape, you have to understand what sound ambiance is. You have to understand that the microphone picks up the intelligibility of conversation, so you don't have to follow it with the camera. The camera is free to follow other things. Often it's more interesting to follow reactions than to follow the face of the speaker. Stick with the ambient sound, stick with the environment and work with that. There are a lot of things to learn about sound in terms of acoustical space.

The *camera* as it's conceived now, where you look through an eyepiece that's mounted on the camera and goes through the lens on that same box, as Carlos says "it's film, it's ridiculous," it's perspective space—C.B.S., exactly. We can separate the monitor and put it on a mount on your chest, or you can freehand the vidicon and have the mike in the other hand and be in face to face contact with people. You're more capable of being involved in the process. We're trying to redesign the equipment. As an engineer said, if they were using large scale integration instead of transistors, all right . . . the stuff wouldn't weigh 22 pounds, it would weigh 2 pounds. That's what's coming if we can get that kind of thing designed.

I hardly ever use a *tripod*, I've gotten so—I've been taking some T'ai Chi because it seems that the T'ai Chi is the most appropriate exercise for video tape. You don't, as in Yoga, go from a stop state to another stop state. You're constantly in motion with T'ai Chi. You develop your legs to such an extent that you can move your whole body in rhythms and so forth off your legs, rather than use a tripod which confines you to a fixed point of view. Also the T'ai Chi method of exercise, the Chi sense of oneself and the whole Taoist approach is very congruent with my own attitude of minimal presence, and also, I think the attitude most appropriate to tape. Where you let it happen—and go with it in most instances.

Anybody sitting down should be able to stop the tape, and they should be able to control the speed of the tape. The *viewing environment* has to be vastly improved; they should be able to flash video of themselves watching the tape—and not only video, they should have electric read-outs on their heart pulse, nervous system, that could be graphed so that they know what their real relation to that information was.

People say how many times can you infold and feedback and so forth, but after awhile the visual information of just the face is not enough. You really want a whole electric scan of how people are behaving in the presence of the activity, and you want that information available to them. So how you're watching tape and how you're seeing it becomes important. You develop a sense of information structures: where is the control point? who has control over the information, the images here, how did they get control, have they got a right to control? What is this surveillance system doing here, who runs this place?

To walk into a church with a camera will freak some people out, a police station, schools . . . especially a school watching a kid bring a videotape in and shoot the teacher and take it home to show his parents o.k.? Why can't these things happen—and they can in fact.

I wonder what the reaction would be if high school or grammar school teachers were videotaped. A teacher should have the right to practice on video. In a school situation you don't force people (and you don't force feedback—if people don't want to see it, you don't force feed them their own image) because the teacher is a public figure and their public behavior affects kids, the kids and society have a right to that information. On the other hand, teachers should have an available space where they can go self-process to get some control over their own image.

It's the whole business of where the authority is, and the authority goes with the information structure. If the authority is in books, of course the teacher has got it all over them; but if the authority is in video, it's in the hands of the kids that have video. That's another ballgame. The disenfranchised—in this case the youth—go for the new media as a power leverage in the society. You're running guns to the Indians when you give kids video and let them do with it what they want.

. . . this is a cultural weapon . . . you're trying to affect a cultural change—to build up data about culture, and to work at the level of information structures, and cultural structures—rather than on red-hot political issues. Because video can go beyond the perimeters of politics and information systems can go beyond that.

. . . We really have to begin to deal with information on its own terms and we have to understand that there's too much pre-structuring and pre-determining our information. People have a right to be their own information configurators; so if they want to rip things off the air and juxtapose them with their grandmother, they should have a right to.

The information environment is the critical environment and the immediate information configuration that a person works out really determines how well they maneuver, how well they get along, how well they cybernate in the culture. My attitude is that people can configure their own information, and be in as much control of their information and access to other information as is possible.

Just as literacy isolated the visual sense, all these moving images film and video can isolate the kinetic sense. You've got to remember that usually when people watch TV or a movie, they're sitting still. In a sense the kinetic sense is being externalized, that's why the possibility of imitating tape and slow motion, etc., is motion that people can participate in. I can't follow your motions if you're going in real time, but if I study you down to half time—I can study your motions, follow them.

Sitting still and watching tape—that's like reading a book. We need to be able to shoot tape specifically so that people can imitate it, not where you change the camera all around, etc. It's possible for somebody to program—to wake up in the morning and have an exercise routine, or have T'ai Chi pre-recorded with the master—and see themselves back in the evening. It's very important to involve the kinetic sense in the viewing process, rather than sit still for it. You shouldn't be sitting still for anything.

ENVIRONMENT/EVENTS

TELEVISION IS ⊗

by Douglas Davis and Fred Pitts

In Look-Out! we used videotape

The Manifestation-Happening-Event-Street

Look-Out! took place at the Corcoran Gallery in Washington, D.C. in July, 1970. We wanted to turn the entire city inside out. To look away from its inner concerns toward the outside. We wanted a 24-hour mass meditation, a Look-Out! The Event had nothing to do with ecological politics. We sit sideways to that. We just wanted to turn the city inside out, to feel it turning.

The score read:

LOOK OUT AT THE WORLD FOR A MINUTE, AN HOUR, ALL DAY, ALL NIGHT. REPORT WHAT YOU SEE. PHONE IN MESSAGES TO 333-6433. BRING MESSAGES, OBJECTS, DRAWINGS TO THE CORCORAN BETWEEN 8-10 PM. LATE AT NIGHT EACH REPORT WILL BE RECORDED ON GIANT CANVAS. THE CITY CAN BE ART.

Television is

In Look-Out! we

The Manifestations began with Dada, took place in night clubs, admitted audiences. Happenings got rid of audiences, made it all active. The Events of George Bracht and the Fluxus Group were personal and slight, like the Water Street Works, very cool. I began to think that whatever was worth doing had to be done on comfortable scale, that is very large scale. Where our brains are. In units of space like entire cities, states, continents, globes, planetary systems. Aristotle said no man would consider an object 1000 miles long beautiful. But in 1961 Piero Manzoni drew a line from Amsterdam to Milan. Aristotle never rode an airplane, or understood that when we look at the stars we look back millions of years in time.

Look-Out! was our second adventure in scale. The first came in April, 1970, when we went to Kitt Peak Observatory in Arizona and made through heliography the largest direct print ever made of the Sun, hanging now at the Smithsonian, in Washington. The sun's rays, interacting with chemically treated canvas, burned themselves into the picture—making possible a full, clear, non-glare image, impossible with photography. Man Ray's Rayograms are an early Dada example. Our sun is only the beginning. We are working now on the stars, out to the end of the universe and the birth of time. We will use Television to

Look-Out! ended with 1000 people bearing messages, objects, symbols, all coming together in the atrium of the Corcoran. All ages, all hangups, even the establishment politicians, the Mayor, senators, congressmen: Eugene McCarthy's office told us he would come and lay a handful of flowers on the canvas. At 10PM we began spreading the records—the results of the 24-hour meditation—on the canvas, specially treated with chemicals, like the Sun print. People spread themselves out on it, along with objects. Every light in the huge gallery out, except the arc lamps, shining down upon the canvas from above, slowly, slowly exposing every inch of the 20 x 30 foot surface. Silence. An hour passes. It is far too late already. We decide to stop now, take what comes. The objects, the people are cleared away. Into the street outside with the canvas, stopping traffic, to wash off the chemicals and look at the picture. A Dada scene in the street: police cars, traffic stretched out for blocks, the canvas in the middle, hundreds grouped around it, others manning the fire hose, water spurting across the canvas. Finally, a procession back into the museum to suspend the soaked canvas, to see the picture.

Television is

All day Don West and a crew composed mostly of artists videotape the city. All day. That night, at the Corcoran, they are there, too, recording what is said, brought and done. Most of all, they record the making of the canvas, the lights burning remorsely down, the people twitching with the soreness of their cramped legs, the spectators ringed around the canvas, shading their eyes from the intense light. Taping

Television is

Taping even the end, when the poor, epic canvas is hung, badly exposed, very few of the images printing through clearly. Heliography, due to bad conditions, fails. The Event is the victor, though; the Event, the doing of it, the city turning inside out, that gets remembered, not the work of art, the artifact, at the end. The next day we

Paul Haviland, a friend of Picabia's, said it long ago, 1915:

Man made the machine in his own image.
She has limbs which act; lungs which
breathe; a heart which beats; a nervous system through which runs electricity. The
phonograph is the image of his voice; the
camera the image of his eye. The machine is
his "daughter born without a mother."

Television is

The next day we hang the videotapes in front of the canvas. No one least of all the press, pays any attention to this act. I wasn't sure myself why we did it until days after. Then it became very important. I mean not for the act itself, for what it says about Television. Of course it emphasizes what the failure of the canvas emphasized—the ongoing, living, process. But it also says

Television is the eye in process. It doesn't stop things, fix them in a static form. It is anti-art, in the old sense. It means we must create now in the rhythm of nature itself. Electronic images, KQED is discovering, form in a pattern similar to

Vision is the eye in process. The camera fixed life, like Impressionism. Television—through videotape, vinyl, film—keeps it moving. Our canvas became the first work of art with the capacity to depict its own making.

Television is

The ultimate process medium. What began as a Manifestation ends now properly in the Television Event. It is both inevitable and pleasing. The form matches the medium point for point.

As for Fred and I, we will take TV into space and time, to the beginning/end of the universe, and make art in the rhythm fixed there by the laws of nature.

—D.D. September 1970

Look Out! An Event for the Whole City The Corcoran Gallery of Art photo: Leroy Woodson, Jr.

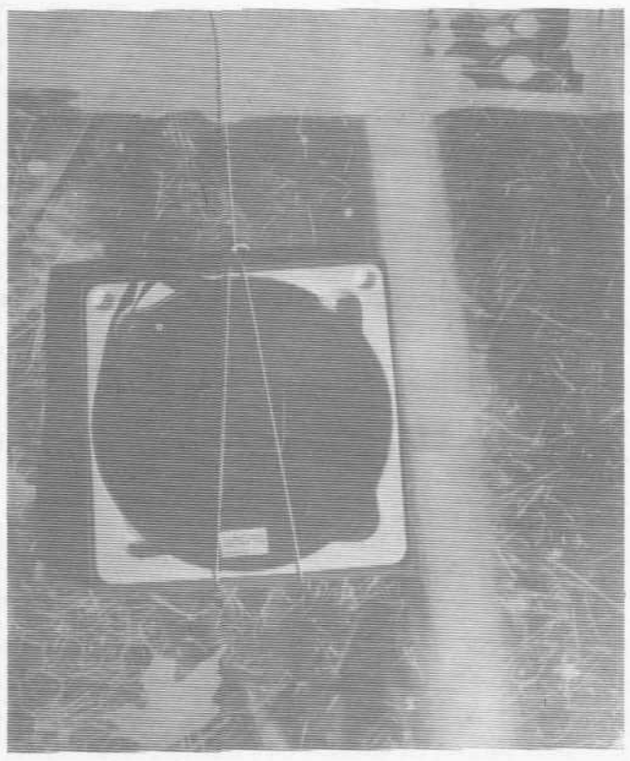


photo: Fred Pitts *Look Out! An Event for the Whole City* The Corcoran Gallery of Art

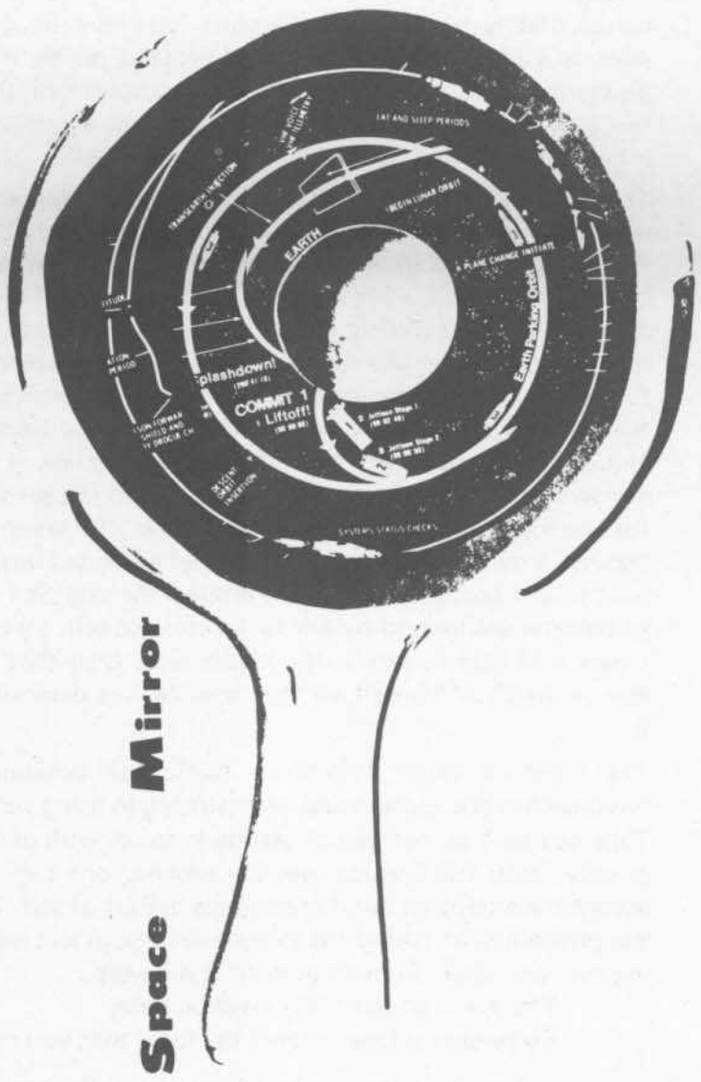


photo: Michael Shamberg

SPACE STATION ⊗

by Liam O'Gallagher

. . . The project would be known as the **Space Station**. It would be set-up in some place within easy access to the public.

My personal involvement grew out of the awareness that the **Media**, because it is having such a persuasive impact on our culture represents a potential art form which should be experimented with, and on another level, not unrelated, is the question of satisfying young people especially from the ghetto, that their energy—instead of being exclusively drained off by political anarchy—could take a creative form in challenging the new technology, thereby gaining some control over it.

The plan then is to provide the environment where these two forces can meet and explore together both the aesthetic and the social aspects of this tremendous power which so far has been left largely in the hands of commercial interests.

Where the commercial interests have placed most of the emphasis on technical ingenuity, we would put our emphasis more on creative imagination.

This might be done in a storefront downtown or in an empty room in a local museum. I have discussed such a possibility with one of the directors of the Oakland Museum of Art, whose experience with the above problem leads me to believe that such a space would very likely be made available. The area designated for the project would be called a **Space Station** where experiments with audio and video space would be carried on. In this audio-video space, levels of awareness concerning the borders and boundaries of one's body and various objects would pass through **Changes** determined by the individual which would help him and the experimentor to discover implications of the image with regard to control of the **Media**. This experience would help confirm people in their decision to take an active role in determining the **Content** of the media and to provide contexts, having provided their own, in which others can, who desire, do the same. Some of the concepts and their interrelations which might be put in audio-video space are:

1. I will decide what is best for me to do.
2. I want to control the situation in which I live.
3. I can only know the world through my own eyes and the same for everyone else/ concurrence system.
4. Conformity is not only undesirable, it's impossible.
5. A person should not follow a directive if it doesn't make sense to him.
6. Be careful—what you want, you may get.

In a group situation this interplay might also serve as a substitute for telepathy in communicating essential concepts. As a kind of personal learning it provides a visual stimulation/meditation experience for the stimulation of sensory awareness and learning. The interesting difference between this and the usual methods of gestalt and/or film, is that television being a **Constant** picture (like the mind?) can accommodate **Change** without fear of loss of image, and the viewer can make up his own mind about what he is seeing. ⊗

ELECTRONIC TUNE UP

"One total visual can make one aware of outside movement as well as being made aware of the movement within the existing environment."

Andrea Brown

The latest video piece by Andrea Brown is one entitled, *Electronic Tune Up* and will be displayed at Cal State LA, through the month of Oct 70. *Electronic Tune Up* is a totally automated multi-event video sculpture created technically for Andrea by Charles Bensinger. Three large monitors are used, structured in a vertical fashion, topped with a video camera fitted with a special fisheye lens. A modified auto-rewind Shibaden series 700 VTR is placed on a black pedestal flanking the vertical monitors. Across the room is another video camera fitted with a remote control electric zoom lens. The lens is wired to a custom circuit design which causes the lens to zoom in and out at a preselected speed continually and automatically.

Prior to the exhibition of the piece, Andrea taped continuously for 18 hours with a special variable speed VTR operated by Rick Bloom of Odetics Inc. In downtown LA and on the freeways, certain rear views of trucks were selected displaying unusual design or apparati. Traffic patterns on the freeways were recorded, along with human individuals, and events along the streets. All events were taped at a greatly reduced speed on the special time lapse control Odetics Shibaden VTR. The VTR was powered by a 12 volt car battery. When the 18 hr tape was played back at regular speed, it completed a full showing of the taped material in 7 minutes, displaying the events in a greatly accelerated fashion. The prerecorded tape was then placed on a Shibaden auto-rewind VTR which then served to play the tape continuously and automatically. This is done with a special transparent leader on the tape which is sensed by a light relay. (Made specially by Shibaden)

The truck and traffic tape is therefore being viewed on the center monitor. The top monitor displays a static fisheye picture of the crowd facing the video sculpture, while the bottom monitor displays a continuously zooming composite picture of all three monitors and the backs of the crowd watching the video piece. Thus, exterior time and physical elements are combined with interior spontaneous elements of both static and motion picture. The spectator is confronted by the technology, is entertained and involved within, and becomes an integral part of what he is viewing. The sounds of the electronic oscillation of the VTR itself are amplified providing the audio portion of the piece.

Individuals viewing the piece seem to be captivated for long periods of time by the events taking place on the monitors.

Charles Bensinger
Oct. 5, 1970

VIDEO BALLOON®

by Pedro Lujan

This is a description of a process for making a video-projection theatre which can comfortably seat 30 people inside or be used as a protected video projection screen.

Materials Needed:

1	roll of white polyethylene 20' x 100'
200'	polyethylene tape 3" wide
1	pen
13'	string
1	blower over 1500 cubic feet/ minute capacity
250'	½" manila rope
8	stakes about 2' long
1	pr of scissors
1	40' measuring tape
	&
	entertainment

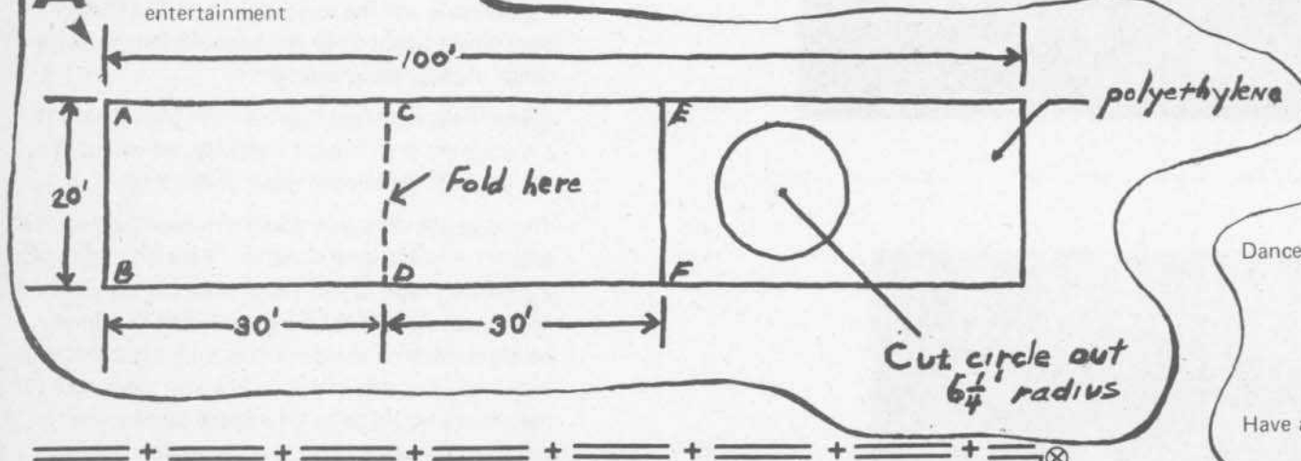
Process:

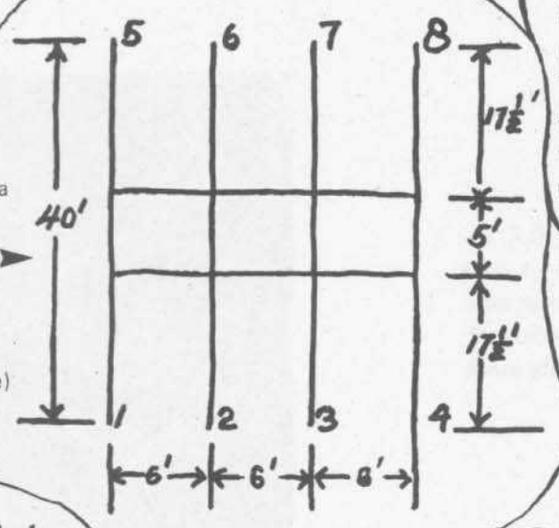
Layout the polyethylene on the floor

Cutting: Cut along E-F
Mark circle out using a pen and a 6¼' string as a compass
Cut circle out

Taping: Bring A-B over to E-F
Fold along C-D
Tape circle to E-F and A-B
Tape C-AE and D-FB

Net: Make a net of ½" manila rope (needed for outdoor use)





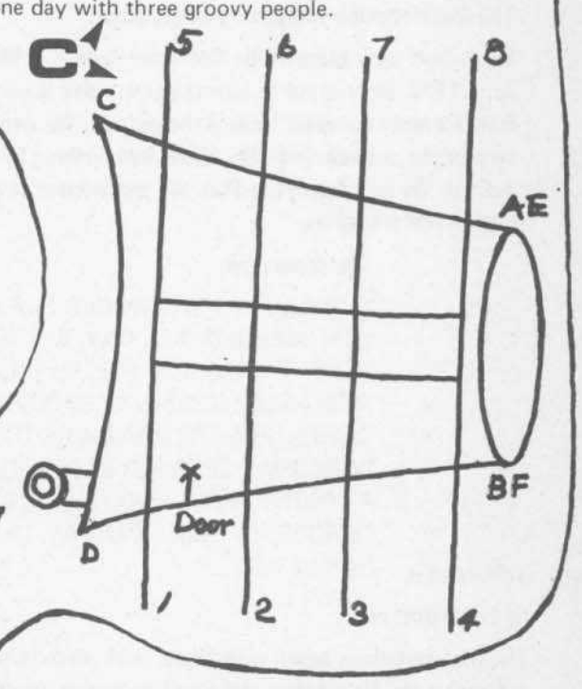
Layout inflatable structure
Put net over it and stake at points 1 thru 8

Attach Blower and turn it on
Watch it go up and celebrate

Make door out of a 4' slit cut into the side of the structure
Tape x's on the top and bottom of the slit to prevent tearing

Go inside and start the show

The time that is needed to do the thing once the materials are ready is one day with three groovy people.



Dance around it, go inside and sing:

Beeb Beeb Beeb
Boob Boob Boob
Beeb Beeb Beeb
Boob Boob Boob

and any other sound people care to make.

Blower

Have a banquet at the end

SELF-PROCESSING®

by Paul Ryan

Everyman's Moebius Strip

Your inside is out and your outside is in
Your outside is in and your inside is out
So come on come on
Come on is such a joy
Come on is such a joy
Come on make it easy
Come on make it easy
Everybody's got something to hide
except for me and my monkey.

—Lennon and McCartney

A moebius strip is a one sided surface that is made by taking a long rectangle of paper, giving it a half twist and then joining its ends. Any two points on the strip can be connected by starting at one point and tracing a line to the other without crossing over a boundary or lifting a pencil.

The moebius strip provides a model for dealing with the power videotape gives us to take in our own outside. With film, we are taking in the edited experience of others. With videotape we can pre-edit our own experience. What follows is a composition for video to be edited, directed, acted and viewed by you in privacy. Feel free to bend fold and mutilate as you wish. It is not designed to peel your own skins off until you find some fiction called the true you. Rather it is designed so that you might get a a taste of processing yourself through tape, so that you might begin to play and replay with yourself. Hopefully it will suggest ideas for your own compositions.

Your strip.
Your trip.

Technically, this is the way it works.

Using an audio tape recorder, record the following series of cues, pausing after each instruction for as long as you would want to follow it out.

Set yourself up in front of the videocamera for a head and shoulders shot.

Have the monitor off.

Roll the tape.

Follow/don't follow the cues.

Relax and breath deeply, just relax and breath deeply

Loosen up your face by yawning
stretching your neck
working your jaw

Now, explore your face with your fingertips

Touch the favorite part of your face

Close your eyes and think of someone you love

Remember a happy moment with them

With eyes open give facial responses to the following people

Joe Nameth
Don Rickels
Spiro Agnew
Your Mother
Huey Newton
You

photo: Ira Cohen

For the next twenty seconds do what you want

Now let your face be sad

Turn your back to the camera

Now face the camera

take a bow.

replay

As long as we adopt the Narcissus attitude of regarding the extensions of our own bodies as really out there, really independent of us, we will meet all technological challenge with the same sort of banana skin pirouette and collapse.

McLuhan *Understanding Media*

McLuhan understands all extensions of man as inducing a corresponding numbness and closure. Narcissus' image in the pool is a kind of self amputation brought on by irritating pressures. To counter the irritant of amputation, his image in the pool produces a numbness in Narcissus which makes it impossible for him to recognize his extended self.

This mechanism is at work with people seeing themselves on tape. The most telling instance I know of is a replay I did for a three year old girl in a family setting. She felt compelled to imitate what she saw herself doing on the screen: if her taped self was singing, she sang; if dancing, she danced. In one section of the tape she was walking down stairs—upon seeing this section of the tape she ran up the stairs and walked down again. This three year old seemed to be using real time mirror groundrules to deal with her videotape experience. It seemed she was playing a mirror part for her video image—the part the mirror would ordinarily play for her. In doing so she became a numb servomechanism of her extended image. The next time I brought the camera around she ran. She refused to become spellbound by her tape extended self. By contrast I hear a children's sensitivity leader once brag that he had seen so much of himself on tape that he was **desensitized to it.**

The moebius video strip is a tactic for avoiding both servomechanistic closure and desensitizing in using videotape. Tape can be a tender way of getting in touch with oneself. In privacy, with full control over the process, one can learn to accept the extension out there on tape as part of self. There is the possibility of taking the extending back in and reprocessing over and again on one's personal time warp.

There will be tape, there will be time,
To prepare a face to meet the faces that you meet.

It may be wise to invite a good friend to watch some of the replay with you. Yet avoid inhibiting word labels on what you're doing. The moebius tape strip is a tactic for infolding information unto a fullness. "Exuberance is Beauty . . . the cistern contains, the fountain overflows." To overflow one need be infolding. The process of infolding cannot be frozen in words. Let go the formulations and take another trip round the moebius strip.

Videotape is the "some power" that is answer to the prayer of Burns people which they instinctively quote when talking about tape.

Oh wha some power the Giftie gie us
To see ourselves as ithers see us
It would from many a blunder free us
And foolish notion.
What airs in dress and gait would lee us
And e'vn devotion.
"It would from many a blunder free us."
It would enlarge our ability to self correct.
It would extend us in a cybernetic way.

With video we can know the difference between how we intend to come across and how we actually do come across. What we put out, what is taken by the tape, is an imitation of our intended image, it is our monkey. A video system enables us to get the monkey off our backs where we can't see him, out onto the tape where we can see him. That is the precise way in which we've been making a monkey of ourself. The monkey has been able to get away with his business because he operates on the other side of the inside/outside barrier. The moebius tape strip snips the barrier between inside/outside. It offers us one continuous (sur) face with nothing to hide. We have the option of taking in our monkey and teaching him our business or letting him go on with his.

Taking in your own outside with video means more than just tripping around the moebius strip in private. One can pass through the barrier of the skin—pass through the pseudo self to explore the entirety of one's cybernet—i.e., the nexus of informational processes one is a part of. You can listen to the Beatles too much. You can turn a moebius strip composition into a merry go round of ego tripping on a single loop. In fact, we live in multiple loops. Moebius composition can touch on these loops; Agnew—mother—Huey Newton. But to confine ourselves to this use of video is to confine a cybertool to closet drama.

> **Cybernetics . . . "recognizes that the "self" as ordinarily understood is only a small part of a much larger trial- and-error system which does the thinking, acting and deciding. This system includes all the informational pathways which are relevant at any given moment to any given decision. The "self" is a false reification of an improperly delimited part of this much larger field of interlocking processes . . ."***

The cybernetic extension of ourselves possible with videotape does not mean a reinforcement of the ordinarily understood "self". Total touch with one's cybernet precludes the capitalism of identity at the expense of understanding process that the west has habitually engaged in. One's resume is not one's reality. Master Charge does not make you master of anything but involves you in an expensive economy of credit information processed by computer, your checking account, TV ads, long lines in banks and busy telephones. The Master Charge Card exploits the illusion of unilateral control over life the west has suffered with. "I am the Captain of My Soul; I am the Master of My Fate." We have yet to understand there is no master self. They are now putting photos on charge cards when they should be mapping the credit system the card involves you in. Video users are prone to the same illusion. **It is easy to be zooming in on "self" to the exclusion of environmental or social systems.** Doing feedback for others one comes to realize the necessity of taping and replaying context. I had the opportunity to do a kind of video meditation on the house of two friends while they were away. The replay served to deepen their sensitivity to their everyday surroundings.

*Bateson, Gregory *"Toward a theory of Alcoholism: the Cybernetics of "Self".* This section is an adaptation of notions developed in Bateson's paper. It is the most lucid discussion of the kind of cybernetic identity implicit in video systems that I know of.

Remarks on First Seeing Self on Tape

"I always thought of myself as peculiar, but I can see I'm put together like anybody else, like someone you'd see on a subway."

"Wow, its like making it with yourself."

"Ooh, so that's me huh, and I'm not ugly."

"I just meet a beautiful person."

Other Tactics

Take the video to your private therapy sessions. Set it up on a tripod and record. Take the session home with you.

Hang the video camera from a rope. With some favorite music playing, dance a naked solo in the videospace.

With the monitor on, compose an advertisement for yourself designed for the monitor space.

Leave the camera set up near the phone. Flip it on when you get a call. Replay it to get a better idea of how you relate to the party at the other end. Tap your body, not the wire.

Buddhist Mirror Meditation
word for mirror "dakpana" means "causing vanity"

He gazes at this reflected image in the mirror in front. The constructed colored features of his face are void of entity. The face of the reflected image looks hither; his own face looks thither. Because there is no disagreement of mindfulness, the genuine face is also void of entity. According as he manages not to be attached, the appearance of the reflected image is in his own mind. He contemplates the color of his mind, for example the manifestation of lust, thinking it to be void. He contemplates his mind to be a reflected image and the appearance of body to be his own mind. Body and mind are like the reflected images. Deny a person that way, he has become free from attachment by gazing at the reflected image in a mirror."

Maitripadas Mahamudrasiddhantopadesa

Inscription on a fifteenth century Italian mirror
"Don't complain, I only give back what you give to me."

COMMUNITY

PROJECT REPORT

by Allen Rucker and Richard Kletter

OF THE MEDIA ACCESS CENTER–
A DIVISION OF PORTOLA INSTITUTE

The following is a report on what occurred when two groups of high school students, one white and one third world, used videotape to explore their school. The resulting tapes revealed student reaction to their district's voluntary busing program, while this article relates the process which produced those tapes.

We first got involved in this project as a result of a proposed "evaluation" to research student attitudes toward a voluntary transfer plan which brought minority students to white schools but few, if any, whites to the sole black school. There was much tension in certain "whiter than white" communities and some hostility in the black community from fear that the district would shut down the one black stronghold.

The school district's research division intended to rely on formal interviews and questionnaires to judge their project's success, and hired a Stanford professor to do the work. He put us on to them and we came up with another approach.

We asked them to let us take randomly chosen groups of transfer and resident students at one school, give them ½" Sony portable videotape equipment, and let their findings stand as answers to the district's questions. The students, black, oriental and white, would then have a real voice in the issue and the board would have another source of information. For what it's worth, here is our formal proposal language.

Methods designed to evaluate social or educational programs rarely allow for the observations of the evaluated. Coded questionnaires and disciplined interviewers investigate program efficacy and potential for wider applicability but the impressions of the interviewed and observed are expunged for lack of precision.

We believe, however, that a necessary concomitant to any evaluation methodology is one permitting the participants to convey their own impressions of a program. A person's sense of his own environment, his selection of imagery, may provide the researcher and social planner with the kind of eyesight necessary to a more complete understanding of a project's human component. In short, we believe that a person should be an active participant in defining his own experiences. . .It is to this end that we employ videotape. . . .

This was putting things in their language—no video jargon, no cultural speculations, no politics—and they bought it. . . Of course our proposed budget was nothing—approximately $500—and we assumed the entire burden of equipment and production. We also had our friend, a prominent Stanford educational evaluator, backing us up.

School districts are by nature prissy and timid but their official stamp opens some well guarded doors.

The school chosen for our experiment was the very safest in the district. It was the perfect suburban cliche. During the Cambodian upheaval, while other high schools in the area were either on strike or holding all day teach-ins, the kids at this school held a cake sale in the courtyard. The open courtyard surrounded by one-story buildings in Pentagonal arrangement was the focus of school life. Well-defined cliques gathered about. As one black kid said, it was "an ocean of white faces", peppered only by 60 some transfer kids, 31 of which were black.

The principal was extremely cordial and cooperative. He literally opened the school to us, and never once asked us what we were doing or how we were doing it after our initial conversations. He is no longer so friendly or trusting. We are still wondering why he considered us so harmless in the first place.

The manner of selecting students and introducing videotape as a perceptual tool is probably the most delicate step in the entire process, and we didn't do a particularly good job of it. First of all, we were obligated to go through official administrative channels, which is not only inherently suspect from a student's view, but generally a bad medium. No one listens to the morning bulletin, and no one drops by the office to find out what's new. Most of the students who finally came to us did so by accident—they either wanted to cut a class or were cutting a class when we got them interested.

We had planned to form the groups by walking around the school with portapaks for a few days, then selecting from among those who gravitated toward us. This approach is less suspect though conducive to bias, and in this project random selection was the key phrase. We would likely have chosen all longhairs, but that would hardly have been representative of this student body. Selection really depends on your purposes.

The resident group got caught up in the CBS interview style from the beginning, and didn't begin to see their role as active cybernators until much later. Their taping consisted of long monologues by verbose friends, short stand-off interviews with the courtyard crowd, and some excellent picturesque footage of frisbee throwers, food machines, and the school landscape. This was an extremely difficult set for them to break, given the fact that they didn't want to talk much about the project to each other and they didn't harbor strong feelings which might inspire new designs. Here's how a couple of the participants felt after the whole thing was over:

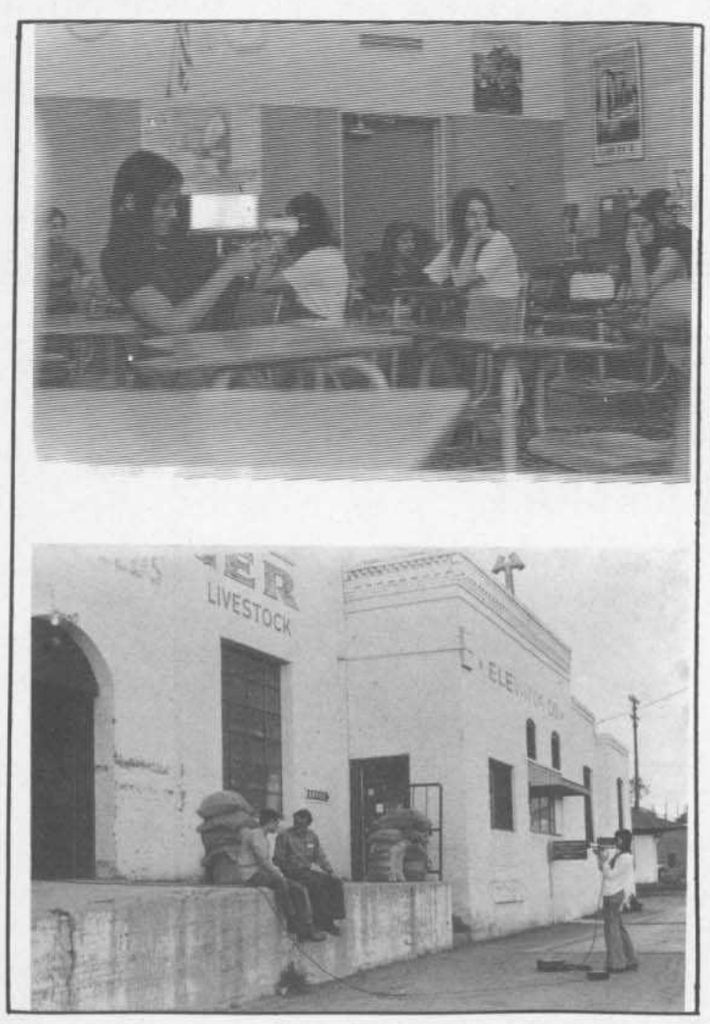


photo: Allan Frank

Ron: When John and I want out to interview, we'd go up to people we knew, you know, and. . .we'd get the people who saw us going around. . .like Apcar came up to us and wanted to talk. . .and there was someone else too. . .but mainly we talked to people we knew.

Us: Why did you do that?

Ron: I don't have a lot of nerve, just going up to anyone. . .

Us: Didn't you feel embarrassed, I mean John sounded very embarrassed when he was asking questions to people he kinda felt were going to give a silly response. . .it's our theory that if you had gone out and talked to people you really didn't know at all, you might have been more blunt and open and tried to get more information.

Ron: A couple of times, I tried going out to someone I didn't know and it was really hard to ask them questions and talk to them, because I felt that he wasn't, you know, sure, and I felt really strange.

Finally, through role playing and just sharp questions, they seemed to open up, discovering different approaches to their problem.

Roger: Well, you guys never told me what to do, I just kinda went out on my own and took what I saw, what I liked. Maybe, like, after I taped something and saw it, well, you might tell me how I might improve on it, but that's all. . . .

Us: If we were going to do that again, what would you suggest we do with other groups of kids that we didn't do with you?

Roger: Tell them more techniques of shooting. . .more about class discussions, things like that. . .even entering the community and you know, seeing what you can find.

Ron: One thing, now looking back, that I appreciate is that you didn't show us another tape. At that point, the first point, I wanted to see something else, to get some ideas, and that's when we didn't do anything, and I just started thinking about it, talked to John, and we got going. But then, I didn't know what to do. . .now I'm glad it was that way, because it was our own.

Despite their timidity and set ways, these kids produced a tape as devastating as that of the transfer group. While the black kids talked about how fragmented and dead things were, this group showed it—point blank. Most of the people they talked to either mimicked parental rhetoric, ("integration must be a slow process. . .") or, they didn't see what the problem was. (Ron: . . . As long as it doesn't affect them, it doesn't mean anything to them.) Teachers and administrators refrained from comment. (Ron: They were afraid. . .one teacher was afraid his views wouldn't agree with the people upstairs, and he might get canned. . .) No transfer student was ever interviewed. To the tune of "What a Day for a Daydream" and CSN&Y, the school was summed up by frisbee throwing and "friendly chatter" in the courtyard.

Each group spent three weeks shooting tape. The kids arranged the shooting schedules among themselves, given the liberties passed down by the principal. We stationed ourselves in a playback area, handled the equipment, and asked questions, and occasionally shot a discussion. We would attempt to generate dialogue among people who entered our domain to see themselves played back (an everyday event), but otherwise we rarely entered the process directly. One reason we think things worked out well is that the participants could fit taping into their regular school routine without much adjustment. It simply became an extension of normal daily patterns, and with the transfer group this meant the bus ride and a few scenes from back home as well as school.

The students we did attract were for the most part quiet, straight, inconspicuous kids. Only one of ten had had camera experience of any kind, and only one, a black student, could be considered a leader. We kept the groups separate and our approach to each remained fluid. *We exposed them to their own image on tape and let them put their hands on the tools immediately. After minimal instruction such as how to tell when the batteries are down, we sent them off and told them to shoot as much as they wanted for as long as they wanted.* We would keep the tapes coming.

Here some comparisons begin. The white group stayed out for two hours and shot about two minutes of tape; the black kids were back in forty minutes with a completed twenty-minute reel. Their tape was mostly shucking and jiving in front of the camera, playing with the zoom while singing and dancing, and they erased it immediately. They didn't care to learn about using the equipment or about understanding their task. They just jumped into it. We consider it now (if not then) a perfect beginning—sort of getting things out of your system. By the second day they were ready to create their own school folklore.

The resident group, those who were not bussed to school, were hesitant, almost reluctant, to accept the freedom we offered, and needed more of an initial explanation. When we asked them how they and others felt about bussing and black kids at their school, they took it as a social studies assignment. Without a direct approach and the novel hardware as a lure, we would have lost them. (We might mention that we had some fears about the success of our own project and had to resist the temptation to be pushy.)

The issue was foreign to them, since integration had but a token presence in their lives. We sensed this and adjusted the context; shoot videotape about school life in general, touching on the bussing question. If it helps, begin by talking to your friends.

The transfer kids worked well together, since they rode the same bus home everybody, lived in the same neighborhood, belonged to the same outside faction at school. The resident group broke up into teams of two and rarely came together until editing time. They were new to each other and this made it difficult to get going.

The approach of the transfer kids was bold, if not haphazard. They were practiced at roaming the school and entertaining themselves, and the camera facilitated even further explorations. The first place they toured without warning was the administration building. Three of them casually wandered from one office door to the next, off-handedly describing who and what they say. ". . .and that is Mr. , the principal. . .he looks pretty busy in their, probably working on something for the transfer students." ". . .and that is another counselor, Mr. , he generally sleeps all day."

Later in the same tape, which became a propaganda piece about "This square-ass school," they entered a girls' gym class. Panning badmitton courts filled with white coeds, they settled on the lone black girl in the class. This set them off. "They say we stick together. . .but looka here, only one soul sister in this whole gym." "Patty, how does it feel to be the only black in the class?" "Feels kinda funny." "You know, I was talking to a counselor the other day, and she was telling me about all the opportunity. . .opportunity, hell, what kinda opportunity do we have. . .down in the ghetto." "You say it, brother. . ."

"This place has got about as much soul as the bottom of my shoe. . .can I get a picture of the bottom of my shoe. Just like Larry said, this place is as white as snow." "That's right, brother, all the soul is on the bottom!"

These kids continually used the camera to their own advantage. Tempering their initial impulse to just barge into places and start popping questions, they arranged situations in which they could both perform and confront the indigenous population.

They taped two sessions between black students and the principal concerning demands for a Black Student Union. The tapes traced the dialogue from stern refusal through patronizing concession to fists clenched in victory and proud students, white and black, planning their first group activity.

Two days in another class probing white kids about their attitudes toward black people produced a stirring confrontation between Larry, the black leader, and one of the school's leading freaks. The depths and subtleties of racism were revealed in a series of really genuine exchanges.

At this point, we felt the limitations of the project. We tried feedback sessions, turning those tapes back into the class that produced them, and igniting discussions in other classes, but we had little tape and less help. Several moving moments were unrecorded. We also wanted to interface student tapes with tapes of parents and community people, but these doors too were closed.

Editing presented the greatest problem both technically and in terms of group process. Students had to travel at night to use our borrowed Ampex 5100E. Inconvenience, waning interest and fear at the prospect of so demanding a task reduced the number of participants to a dedicated five—three transfer, two resident. (The groups were still separate but each became increasingly anxious about the other's work.)

We held several brain-storming sessions examining the tapes, talking about the various points of view, and figuring out how to best present the information in editing. They made the decisions but we performed the mechanics—a necessary result of working with borrowed equipment and limited time. We assembled segments from old format Sony ½" to Ampex 1" and suffered the rollover.

Editing in this context was almost an afterthought—a function necessary to appease those who would not find time to watch the complete four hours. Perhaps it was useful for the students to work at refining and presenting their statements but we hope to limit editing in future project designs.

Energy cycles built up through student explorations and their interactions with us and their schoolmates were dissipated by the district's control of the information. Our notion was to continue feeding tapes back into the school allowing other students to pick up on the information, if not the action. At the very least we hoped the kids involved could accompany showings in the community and at other schools to give a sense of the learning process undertaken. What actually happened after completion of the final tape aborted further efforts.

We held onto all tapes, raw and edited, consenting to copy onto other formats for the school district's purposes, and to make a dub of the edited version for ourselves. According to our verbal agreement we were then to return all tapes. Copy privilege on the raw tapes was still to be decided, but our one final tape was central to the verbal agreement.

Problems began when a casual conversation we had with a school district official turned into mutual suspicion: on our end, about permission to copy certain raw tapes, and on theirs about ever receiving those tapes at all. (The raw tapes were not covered in the written agreement signed by the school district and the Stanford professor.) His "superior" called ours—instant delivery of the tapes resulted.

They received no other format copies and we were denied our one copy. We kept a few "white Albums", i.e., tapes made by the students on our own tapes after the project allotment had run out. We then climbed the rung to the next higher official and told him about the "white albums", told him that they had no machine in their district capable of playing the raw tapes (4 months later, they still have not been seen), and that the edited version was made on a mal-alligned Ampex so they would never get it to track properly. Finally, but most important, we told him we had undertaken the project, understanding that little money was involved, because an experiment, a process, which we believed valuable would be attempted, and we expected a copy of that effort. He was impressed by our dismal portrait of affairs, offering cautiously, "perhaps something can be worked out."

Prior to our next conversation, several weeks later, the final tapes were shown to school district administrators, including the principal of the high school involved. They liked it—began to spin off a variety of possible uses—until the principal spoke.

He said the tape portrayed "his" school unfavorably, that it reflected the bias of a few kids, that we had an inordinate influence over the outcome, that parents who saw it outside the proper context might hedge on intergration and that therefore the tape should not be shown again. He offered to write a script and help produce a new tape, "a real tape."

The principals objections prevailed. At present the final tapes will be used only in teacher training in the black and minority area and the raw tapes will just sit.

The higher official squirmed about the regrettable situation and deemed unlikely our hope that his boss would contravene his principal and release the tapes—"Perhaps in time, when things have cooled down."

He said our only access to the tape, even for a single restricted showing was to have a Phd, preferably but not necessarily in education, formally request its use, stating that he would be present at its showing.

photo: Allan Frank

A REPORT FROM CANADA: TELEVISION AS TOWN MEETING

by Dorothy Todd Henaut

A TECHNOLOGICAL TOWN MEETING

Television has the potential for being a technological town meeting, an important instrument in re-democratization.

To give a concrete illustration: A handful of people starts organizing around an issue—let's say pollution, which is an ever-present problem nowaways. They need numbers. They need to reach all the people who have been privately concerned; they need to educate others and instigate new concern. And they need to gather all those people together, and initiate action.

If the handful of concerned citizens has access to community television, they can make a TV program themselves—with the help and advise of someone familiar with the technology of videotape recording. But they control the program; they decide who and what to film; they add commentary; they do the editing. And they invite all the viewers interested to come to a subsequent meeting to discuss possible actions.

Then the meeting is taped, and highlights from it are shown on the community TV (or the meeting could be televised live). People who couldn't make it to the meeting are kept informed. Subsequent actions by the ground are taped and shown. Dissenters are given their chance for broadcast time. A public issue is debated in public by the public, and decisions taken by public bodies are taken before a well-informed public.

PLUGGING IN THE PEOPLE

Community television can ensure the right to be informed and the right to inform. *Communication becomes a two-way street, and feedback is built into the media. And television becomes a tool for democracy.*

BROADCAST OR CABLE?

Broadcast TV has the advantage of being in every home, today, but it also has the weighty disadvantage of being tied into network demands and commercial imperatives. Between the two, the possibility of free, open-ended, uncensored community television is damn remote.

Cable, on the other hand, has the inestimable advantage of being undeveloped. Alternatives are still possible. Cable companies, of course, are owned by private enterprise. Nonetheless, in Canada we are lucky to have the Canadian Radio-Television Commission, whose concern for Canadian content places a new onus on cable owners and broadcast owners to present Canadian television.

Cable companies also have anywhere between 8 and 24 channels available, which means that devoting one channel to community programming would not detract from the strong "priority" channels, such as U.S. networks, educational TV, or total-sponsor channels (such as a channel leased by Eatons or the A&P).

A QUESTION OF CONTROL

But who is going to control the community programming? Are cable operators to improvise a running series of Bingo games (Canadian content)? Are they to get free programs from the local church group or university media course? Or will they fulfill the role of providing a channel for community discussion and involvement? How can this be done?

A BRIEF BY RICHARD NIELSEN AND PAT FERNS

Richard Nielsen and Pat Ferns, of the CBC, presented a brief to the CRTC called *Community Television: a realistic proposal.* It is a document of great interest, and I think the best thing I can do is to print extracts from it here:

At present probably no city in the world, certainly no city on this continent, has access to a genuine community television service. TV broadcasting up to now has meant either commercial broadcasting, state broadcasting or educational broadcasting, and none of these has chosen the city or community as a basis of operation.

A community television service must be in some way responsible to the community. It must not become a vested commercial interest of any one group. It must not be committee-ridden. Such a service must be able to attract a substantial share of the audience, and some system must be found to make available to it substantial amounts of money.

It is naive to argue that amateurism in community television is an enduring virtue. Community participation is a two-way process involving the activists who appear before the camera and the viewers who are witnessing the events on the screen. Hopefully, the latter group will become more actively involved with their community; but whatever happens, it must be recognized that the audience is an important element in community television.

From these objectives it is obvious that a community television service must not be owned and operated by the cable companies in their own commercial interest. It must not be "sold" to any commercial interest other than the cable company. It must not be "managed" by a citizens' committee but by a production company with an interest in the effectiveness of its programming and the efficiency of the operations.

STRUCTURE

There are six elements in the structure that we propose for a community television channel within the cable network. These six bodies are the CRTC, the Cable Companies, the Charter Board, the Production Company, the News Service and Community Groups.

THE CRTC

As the ultimate authority, the CRTC must approve the charter of this community television venture . . . . and judge the performance of the Charter Board in its administration of the charter.

THE CABLE COMPANIES

The Cable Companies provide the necessary channel for this community television service, and they must purchase this material from the Charter Board. An instruction from the CRTC to all companies to raise tolls by 60 cents per month to pay for this non-profit-making, non-commercial service would be a realistic beginning . . .

In addition, the Cable Companies should make some commitment with regard to the provision of studio facilities, remote equipment, etc. . . .

THE CHARTER BOARD

The Charter Board would be a large committee representing community interests and responsible for ensuring that the terms of the charter are fulfilled. Representatives of the Cable Companies, the Production Company and the News Service should be on this committee, although the major representation would be of interested groups from the community, e.g. members of the business community and labor, citizens' groups, religious groups, political parties, schools, sporting associations; in fact, as representative a cross section of the community as possible.

The importance of the Charter Board is paramount: it represents the community, who are both the audience and the participants. The Charter Board will appoint the company to provide the production and coordinating services necessary in programming, and the agent to provide the news service . . . As the protector of the charter, the Charter Board is a non-profit, non-commercial body; indeed, it is the embodiment of the aspirations and ideals of this community television venture.

THE PRODUCTION COMPANY

The Production Company is responsible for coordinating community events to be cablecast, for ensuring that individuals and groups within the community have reasonable and easy access to the medium, and for the overall production of the programming for this channel.

The Production Company would operate on an annual contract, the renewal of which would be the decision of the Charter Board. The Production Company would own little or no capital equipment, and thus there would be no problems concerning the non-renewal of the contract. But the Production Company is the servant of the charter, not *the Charter Board, in that it must have independence in fulfilling its obligations to the charter.*

Community television must have the freedom to experiment and to give expression to the diversity of opinion within the community, without every decision being subject to bureaucratic interference.

THE NEWS SERVICE

The News Service is crucial to the success of the operation. It is only part of the programming, but an important part, for the duty of community television is to inform. The provision of this information will inevitably lead to a community response to what is happening. Reporting encourages participation, not only in the community, but also in community television, for it is hoped that the channel will become the arena where community business is conducted. Furthermore, the News Service will be central to the building of an audience, which is the other side of the community involvement coin.

The fullest coverage of community events has been in print, and so it would seem logical to attempt to involve one of the daily newspapers in the city in the provision of news material for community television.

(Nielsen and Ferns elaborate further on the News Service. I'm not sure that this might not perpetuate the unfortunate aspects of typical reporting, for I think a new approach to journalism has to be developed concurrently with the new approach to television. I would therefore see a closer relationship between news and programming than they envision.) (DTH)

COMMUNITY GROUPS

The strength of the structure we are proposing is that the community, represented by the Charter Board, is central to the shaping of its television channel, and Community Groups will have major representation on the Charter Board.

PROGRAMMING

The format that we propose is for the programming of news and actuality material between the hours of 7 p.m. and midnight, seven nights per week. This channel would not be programmed at all like existing television stations, and much of its appeal would be its uniqueness. Instead of program periods divided into thirty-minute and one-hour segments, which exist presently only to accommodate the demands of a television network system and are, in reality, an invitation to viewers to turn off or to turn to another channel, we suggest continuous programming—as with local radio stations.

A number of programming suggestions follow, too lengthy to print here. (DTH)

CONCLUSIONS

In this brief, we have put forward a proposal for community television that contains equal measures of idealism and realism. The philosophy that we espouse embodies the ideals to which Canadian broadcasting, in theory at least, was originally committed by Parliament on behalf of the Canadian people. And the structure permits freedom while ensuring responsibility . . .

Our best hope is to contribute to the improvement of the quality and conduct of public life in our community and in our country through a better and more responsible use of television.

PEOPLE CAN DO THEIR OWN SHOWS

I think Nielsen and Ferns place a different emphasis on the role of professional television and news people than will be necessary if people are taught to use TV themselves. Obviously, programs should not be sloppy or boring. *But the experience we have had with "amateurs" using half-inch VTR has proved that lively programs can be produced easily and well, when people have something to say.* And a recent experience in Thunder Bay, where a citizens' group, Town Talk, produced a series of half-hour shows on the local broadcast TV, has shown that the audience in the community takes a lively interest in local issues presented on TV. The program included phone-in comments from the audience during the broadcast (sometimes as many as fifty were received); very often the same topic continued spontaneously on phone-in radio the next day; and at least one organization was formed through interest generated by the program.

Community television should really try to create a new style of TV—get out of the rut of self-styled "objective" journalism, have a staff prepared to teach and support citizen groups in making their own programs, and spend time seeking out participation by groups still too timid to try it. Not quite a community-organizer role, but as close to that as to the classic TV role.

Time should also be scheduled for "practice sessions" with inexperienced groups, so they can see themselves on immediate playback, can learn and grow from that experience, and can also learn which approaches to their subject have most impact. They will lose their nervousness, gain confidence, and become better judges of what they are doing.

Half-inch VTR can easily be transferred to one-inch for cablecast, and the lightness and portability of the half-inch will mean real possibilities for supple and imaginative programs, for relatively little money.

The need for a strong core of professional staff will always be a real one, however, as many citizens willing to participate in programs will not have the time or the desire to produce them themselves. But the attitudes of professionals will have to be those of "facilitators of communication" rather than those of "experts and controllers of communications"; they will have to develop talents as teachers and animators.

THE NEXT TECHNOLOGICAL STEP

If the members of a community learn to use the tools presently available for community dialogue and debate, they will become prepared to use to the maximum the facilities that will be available in the near future, with "wired cities" providing television and film "banks" computerized for easy access. There will perhaps be more of a chance to use that technological breakthrough for useful human ends.

THERE WILL BE A BATTLE

The foregoing theory of communications has not yet been put into practice, and it will not be easy to do. It disturbs the status quo; it risks controversy; it could generate a lot of changes. The owners of the facilities are very jealous of the prerogatives of property-owners, and the impact could be so great on the established media that they too may feel very threatened. Local governments may also feel nervous about all this free debate of public issues. Advertisers may dislike the active, questioning mood of the public. There will be a lot of talk, mostly vague and self-righteous, about "responsibility". It will take some alert, determined, convinced and committed people to make it come true.

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VIDEO in EL BARRIO and the CLASSROOM®

by Elliot Glass

A few students chuckle, a few frown, but all look attentively at the monitor which flashes the Spanish lesson of the day, "La basura en el barrio." A lesson on Garbage in the barrio! "Outrageous," shout the paradigm and verb specialists who would rather see a "grammatically well rounded lesson," say "Juan en la universidad de Madrid" than a natural dialogue between two angry residents of el barrio. The fact is, however, that the unnatural "well rounded grammar lesson" is rarely if ever interesting or relevant and is most often not at all "well rounded." Verbs, nouns and adjectives, in various set patterns and combinations, put the student into a verbal straight-jacket so that he is only able to respond to a programmed set of questions.

I remember that when I taught English and German in Tokyo, the Japanese, diligent and intelligent as they are, were unable to comprehend and communicate the simplest ideas, despite the fact that they had studied English for thirteen years. Why? They had learned very contrived conversations, neatly packaged information which corresponded to specific situations. Any deviation from the input patterns would confuse and confound rather than extend the grammatical concept. If you asked, "Do you have the time?", and if they had learned to respond to "What time is it?", you would receive a polite Japanese smile and "Sorry, I don't understand."

The examples are far too numerous and every language teacher is all too familiar with the shortcomings of the pattern drills and the concocted stories and dialogues. TO THE STREETS MOLDY PROFESSORS! TO THE STREETS WITH YOUR ½" PORTABLES! GO TO EL BARRIO AND TALK TO THE PEOPLE. It is there and not in books that the language lives. By video taping natural situations, you not only inform the students of the attitudes, values and problems of the Spanish speaking community in New York but also expose them to the dialect of over a million Puerto Ricans, Cubans and Latin Americans. We are in New York not Madrid. For those who still believe in a dialect caste system, I advise a rereading of *La pronunciación española* by the renowned Spanish Philologist and linguist Tomás Navarro Tomás. There are no superior dialects. That is not to say that we should teach "Spinglish" or any of the dialects spoken in New York, but simply train the student's ear to be able to understand what is said in the streets of the city.

The video process (class → barrio → class) provides more than just exposure. With each new tape the paranoia of the middle class students lessens and finally disappears when the students themselves go to el barrio to make tapes for their class. When the latter happens, the University is supplied with an invaluable link with the Spanish speaking community. As a result of this communications flow between el barrio and the campus, tensions can be reduced and misunderstanding averted. It is probable that Spanish speaking community action groups will soon set up video theatres to disseminate information to their constituency and their software products can supply Spanish classes and, in fact, the entire academic community. I say the entire academic community because I'm sure students will also be setting up ½" video theatres—perhaps through Student Union funding—which would serve not only the local University but also the National University Community.

While the Video theatres—campus and community—are not yet a reality, video tapes of el barrio produced by professors and students alike are being used at Queensborough Community College and will soon be used at Columbia and C.C.N.Y. ALL MEDIA TO THE PEOPLE.

OLEAN, NY

. . . Cable systems are also being used to improve the efficiency of police work. In Olean, N.Y., the cable operator recently installed a monitoring system for the police department. Through a series of strategically placed cameras, 75 per cent of the city's downtown area can be kept in view by a single police officer at headquarters. In addition to serving as a crime prevention device, the hookup makes it possible to oversee traffic conditions, and to respond quickly to an accident or to unusual congestion. The cost to the city is about $6,500 a year, less than the salary of a single patrolman. (*Nation,* 5/18/70, Smith)

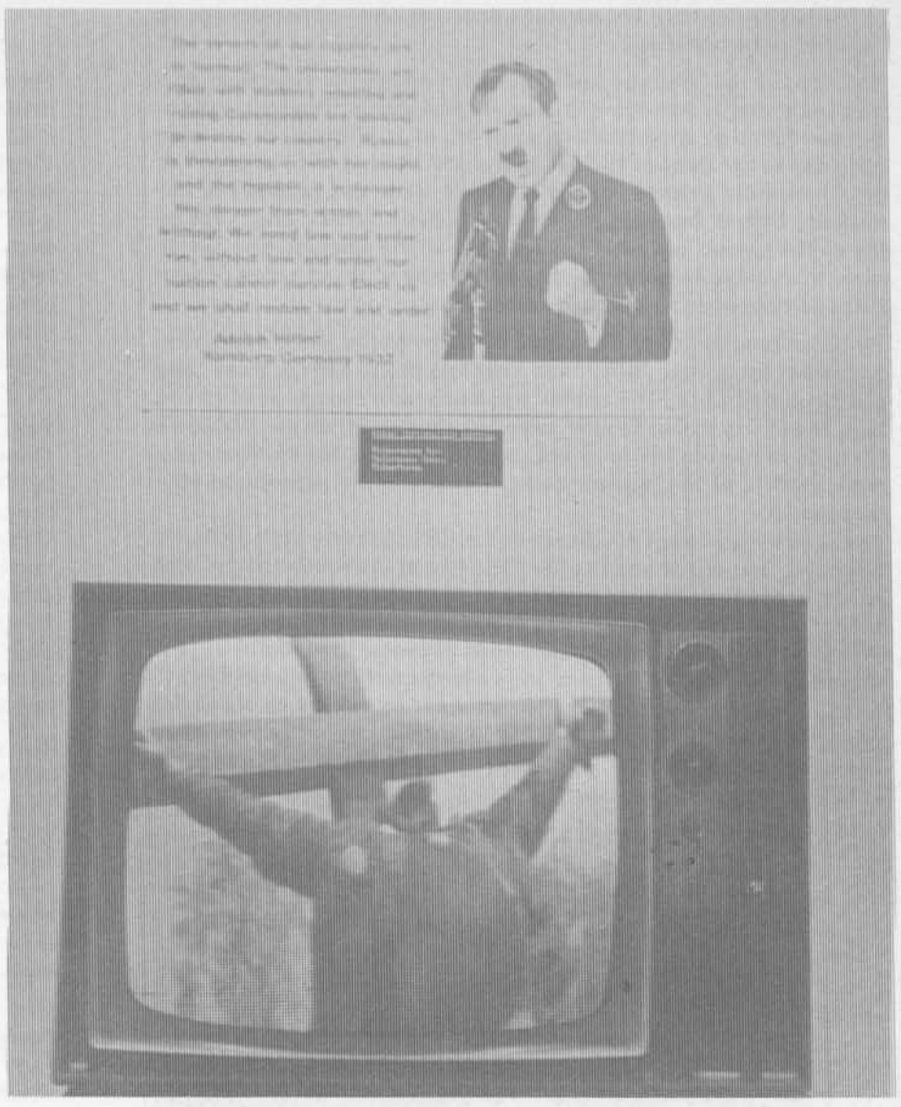


photo: Allan Frank

PIGS SURVEILLANCE CAMERAS ON BLUE HILL AVENUE IN BOSTON'S BLACK COMMUNITY.

ALTERNATIVES for ALTERNATE MEDIA®
PEOPLE'S VIDEO THEATRE HANDBOOK

by Ken Marsh

A four part view need be employed in approaching the problems of activating an information flow: 1) creation of hardware stations; 2) production of information; 3) methods of distribution; and 4) modes for integration information into the reality.

When People's Video Theatre began operating in early June 1970, specific objectives were outlined to define its aims as a model for community hardware stations (theatres) capable of sustaining themselves economically. PVT is conceived as a means for exposure of community people's ideas, goods and services to be supported by those using it. Toward the development of video journalism, PVT serves to explore more responsive handling of information in working with groups and covering their needs. The facility itself exists as a studio for groups to use. The audience participation in feedback—Live forums—has already provided a demonstration of the video process to hundreds. A video library now exists for use at other hardware stations.

The material input to create the theatre was $2000 worth of equipment, loft space ($200 a month) and tape ($10 per twenty minutes in volume purchase). The commitment of initially two people's time and energy has now expanded to three and will soon involve more. Thus hardware stations can be set up, established by any who call themselves a group and can, by servicing a constituency, develop support activities for economic survival.

During the month of August 1970, PVT began a three-hour taping in Washington Square Park which was under construction. Only one-third of the park was open to the many youths, senior citizens, bums, Italians, blacks, summer students and travellers who use the park. Out of the week long production came a fifty minute document identifying the who and what of the park. Indication of a tense situation was evident from the expressed antagonisms of each group for the others. PVT took six minutes of those antagonisms and put that together with another six minutes of people answering questions related to the park's partial closing and how that crowding condition was contributing to the overall tension. This twelve minutes was exposed to an invited audience made up of a police representative, social service department representative, local political people and some press. Responses to the tape were then collected, consisting of statements from the social services representative, members of the Washington Square Park's Council and the Chairman of the Architects Committee from the local planning board. This added to the original tape was shown to the public in the park on a Saturday afternoon during which time PVT collected feedback. The latter seeking to illicit positive input as to how the situation might better be dealt with.

This represents PVT's first attempt at video mediation. The process is conceived to deal with issues in creating lines of communication between antagonist groups whereby each can experience the information of the other without direct confrontation: therefore working for and towards a resolution of conflict through dialogue. Several types of antagonists can be identified. Establishment Agencies (EA), whether private or public, are one. Local Power Groups (LPG) whether political, cultural or commercial, are another. Thirdly, are Citizen Consumers (C-C), the people in the street, which all of us are in many cases. An issue can exist related to any and/or all of these groups or can be localized within any one: example: city agency versus senior citizens, political party versus political party or youth versus senior citizens.

The process firstly finds an initiator, the EA, LPG or C-C that will be exposed to the antagonist element(s) for response. The cycle of "statement-exposure-response" essentially defines the video mediation procedure. A group may initiate the process by illiciting from an antagonist group, the first statement to which it will respond. This might apply to EA's or LPG's that are anticipating a conflict or issue or wish to mediate a conflict as a neutral party.

Passive participants of the elements can also be identified and involved through video polls and surveys carried on in the streets. That information can be input to the principal antagonist's dialogue. PVT believes that the above describes production techniques as significant to the making of programs as the coverage of an event, packaging of educational materials, creation of entertainment tapes, etc. The function of a communications resource—a medium for idea interaction—is to put forth new frameworks for information handling being response to the process and problems of interaction.

The people are the information; media processes can reach out to their needs. Procedures for helping a group define and refine its statement, whether an initial or response statement involves utilizing the video system. Video rules of order governing debate, even within a group to get itself together, need be developed. Playback can be utilized to periodically punctuate debate for identifying points of agreement and disagreement by reviewing what has been discussed. A time structure facilitates cutting down irrelevant dialogue. The role of mediator functions best to guide interaction toward the creation of a concise, clear statement-tape, comprehensible to the antagonist group(s).

Approaching the problems of distribution brings to mind the portability of the hardware. Either via battery or AC line the equipment can be taken out on the street, into parks or to the community group meeting halls. A mobile unit might be created with the bare minimum of a car or small truck with an inverter to operate the equipment off the auto-battery, placing the monitor and VTR in the trunk. The camera can as well be operated with that power. Checking with local authorities, as to permits for street or park showing, is in most locales necessary. As to tape libraries and exchange policies between hardware stations, tape costs for copies is the essential problem. This remains to be worked out. Different relationships can develop between different groups.

The fourth and final area of concern is integrating information into the reality. PVT's thinking has produced several comprehensive proposals titled Environmental, Cultural and Campus Mediation Projects. The proposals outline procedures for setting up networks to collect and expose particular areas of information focusing on particular areas of human concern. For example, the Environmental Mediation project describes creating a number of communication districts in New York City manned by youth crews, who are given a number of tapes on environmental issues. The tapes would be produced in cooperation with the city and citizen ecology groups. Environmental forums would be conducted by the district crews within their districts, collecting responses to the various issues exposed on the tapes. This information would be fed back to the city and ecology groups and be responded to by definition of new programs for how local groups can deal with their problems related to the environment. The overall collection of information could be utilized as an encyclopedia of the NYC environment available to others for reference. It could supply the basic content of environmental curriculum for school use on all levels, etc.

The Cultural Mediation program is conceived as a state-wide mediation project. Cultural districts would be created and crews would collect the information of cultural activities within their districts. They would act to expose within their districts these activities to groups not heretofore aware of them. Upon completion of surveying each district an exchange of taped information would commence between districts all the time utilizing the feedback collection technique to involve and develop audiences. This bulk of information also would comprise an encyclopedia of the NY state cultural scene and be useful as a cultural curriculum for schools and a better roster of groups for public funding agencies who support the arts, etc.

The Campus project simply proposes establishing video theatres on all campuses, each capitalizing on their own wealth of information by producing educational and informational tapes. These could be exchanged via distribution centers that would purchase the originals from the originating campus. The center would then make copies and distribute them at low cost to other campuses. Collective tape buying because of volume needs could cut costs considerably. Even equipment costs could be cut because, again, of the volume buying. The problems of organizing this effort are immense. We feel it is important to expose this potential before the assault of marketeers pitching second-rate cassette and video package hits the universities. Students, through campus unions, have the option to select and fund the best systems which include production as well as playback abilities.

In conclusion to this section, PVT has recently begun to identify other media groups working in print, film, and on radio. And all media cooperation is obvious and necessary. Even, when possible, establishment media should be approached. The essential blood of media, information, flows in many forms. We might even say the first and foremost mediation project might be carried out on Media itself. All media to the people.

U.S.C. Piece May '70 Environmental Performance by C. Bensinger

TELEVISIONARIES versus TELEVISIGOTHS

by David Silver

Television is so bad, its vision has so much turned into zombiland, that you tend to dismiss it as utterly lost. Glen Campbell, Tom Jones and Johnny Cash continue appearing on each other's shows endlessly and the News gets slicker. Why bother?

Because television is in fact a pure medium karmically created for expanding the awareness of masses of people. It is an eye in society. It is a means of furthering the reduction of dualism in perception, alienation from Nature, and the competitive fascist disease that informs the system. Its priority use is as the medium through which to disseminate radical information: to show what's really going down. The best way to fight the ego-dominated, class-conscious, pitting one-man-against-another establishment media is with the same media used as a hipping device—that is, a way of getting TV information out that will allow people to see the truth unadulterated by the commercial consideration.

Right now we have the chance to use an advance in technology as a radicalizing, humanizing process. There are cassette machines, soon to be on the market, that will attach to the TV set a home and allow you to choose your viewing. Logically this should supply the freer kind of information flow that happened to music after the invention of the LP. Cable TV is already upon us, with the potential of opening up channels in any given area. But if the present establishment powers seize hold of these new conduits for communication there will be retardation rather than progress. There will simply be more of the same and ultimately the creation of a society with so much mind-destroying television that the utter dehumanization of the spirit will be inevitable.

Cut to 6:30, July 4th, 1984:

The family is seated around a three-feet-in-diameter space in the living room floor where exists the three dimensional holograph TV set. Suddenly a tall sexy newsreader appears in the spot in full 3D Touchicolor. He reads the News in a smooth, seductive voice.

"Good evening . . . welcome again to the Channel 73 News. Easy-going pollution warnings for Denver, Saigon, Brussels, Seattle and Melbourne . . . HAVE YOU TRIED WASHINGTON, the new Anglo-Japanese GoodVibe pill? Don't forget, HASHIHIGH brings you up by taking you down to GoodVibe country, whatever the monoxide count. You can be sure to be breathing fine with HASHIHIGH . . . Gas Mask red alerts are reported for the Boston/Washington con-urbation, for New Delhi and Bogota . . . HASHIHIGH, remember not only brings you the News, it brings you freedom from the 'air-downs' . . . Goodnight."

The newsreader drops a pill and the mother of the family drops one at the same time. He bends to his knees like a slowed down Chubby Checker twist . . . they both begin to pant . . . just as their lips are about to meet he disappears and the womanly calm returns to her previous viewing position . . .

So. While the commercial madness scrambles to get Jackie Gleason, Ringo Starr and *Oh Calcutta!* onto cassettes, we should be obtaining the wherewithall to create an alternative TV. Students were shot at Kent, but *Life Magazine* bought the truth and gave it to us as that week's Big Story. We must take the media into our hands so that there is no control or ownership of information.

Sony portable video machines are now available and in fact there are a lot of them around, lying unused in Universities that have in general forgotten what to do with their resources. These machines are easy to operate and therefore we, the people, do not have to be trained as TV producers (as if anyone can) to use them. Groups have already been formed that are free from capitalist pressures to make television whether there are immediate outlets or not—Video-freex and Raindance in New York, for instance. More groups must be formed all over the country, formed with intention of covering the immediate reality around them that the network cameras never seem to find. Then we can not only see into the beyond Amerika but allow others in on the information. *The truth isn't anybody's property.*

At the Goddard College Alternative Media Conference, several groups of video freaks opened themselves up to each other and formed a Data Bank. That is, they decided to pool their video material and create a situation where there can be swapping of tapes, coming together of different production units and, perhaps most important of all, a Collective Video Bank that anyone who needs the information can draw from. This data collective will contain all the visions, guerrilla reportages and godknowswhat that people are into and going through. It is now the job of this radical 'network' to acquire the hardware (cameras, playback machines and video tape) and make actual a system which gets the information flowing freely. Cops bullying or murdering blacks, shiny corporation buildings fronting for pollution factories, strikers being shot at, people being killed at rock festivals, AND on the other hand Buckminister Fuller, survival kits for living in an inhumane society, rock and jazz music being formed and performed, encounter sessions where we see real people going through real changes . . .

People should acquire the portable equipment by whatever means they can and start taping—then send it to the data bank, perhaps swapping that for other stuff taped thousands of miles away. Camera units must be loaned or given to ghetto dwellers, factory workers, freaks, artists, mental institutions, jails, travelling neo-Kesey bands of bus dwellers—PL and yogis both. Then we not only have television creating the vitally necessary free flow of information but acting as mind-blowers, electronic therapists for anyone who perhaps would benefit from digging him or herself on a monitor. Self awareness via TV could be one of the most important functions of the medium in the seventies; what golf pros are doing now with the equipment could be put to use immediately to help the underprivileged, the unhealthy, the oppressed in general get back into their selves. As the video bank grows so will its usefulness, in ways that are not even possible to imagine right now.

Those interested in the meaning of the word 'alternate,' some of whom were at Goddard, want to see the media opened up to everyone's eyes, thereby avoiding, destroying the energy-killing paranoia of feeling that the networks own the air. It is shortsighted to believe that the networks have all the power . . . as the technology advances, old modes of communication channelling, become obsolete: already many colleges have the equipment both to produce and play back half-inch video tape; there are video theatres like Global Village opening; the cassette home viewing scene is about to happen—it is therefore imperative that there be liberated production groups working right now on building up stockpiles of information that people can use to educate themselves and those less privileged.

The Anti-Network then creates a readily available mass of information, the presence of which in the society both freaks out the fascists and substantiates the reality of a counter-culture and an on-going revolution. The Big Eye Big Brother Kafkaland that could well happen *in toto* in America can be aborted by opening up the immensely powerful TV medium. But quickly. Before the incoming of the plastic, inordinately cruel, computerized apocalypse of soft repression takes over and erases the potentially liberated minds of modern man.

It is stupid to big-deal about circumstances brought about by a somewhat unreal conference in the hills of old Vermont, but it is a crime not to stress the urgency of the situation as regards the brainwashing of a nation by the use of media. Therefore, it is only sensible to bring our visions out into the open right now and let people know that they are realizable if we only seek alternative modes of communication. Television either will become the Eye of Big Brother or the eyes of our brothers—the former to dehumanize us, the latter to humanize us. Television unfettered stands as a witness and as a friend to truth and a powerful enemy of distortion, hypocrisy and cruelty. As TV's technology improves, so does its potential pacification, but so does its potential for jolting people into seeing what's going on.

Totalitarian, sexy fascism (the kind that needs no Hitler, needs instead the mindfuck power of juxtaposing the war dead in Vietnam with feminine hygiene spray ads) comes out of artificially created realities—the commercial media shape the minds of the public not under the weight of moral conviction but under the amoral, self perpetuating criteria of making money and having power over people under you. Truth doesn't sell Lavoris. So the newsreaders will remain calm and still tie their ties properly as the tactical nuclear weapons start being used, as laser guns start popping up here and there, as listed dissenters ('ideological criminals') are locked away or murdered, as blacks are blatantly discriminated against and enslaved anew. So Dick Cavett still tells jokes in between getting into handsome intensities with Margaret Mead or whomever.

The alternate media must give as many cameras away as posible—this is the only liberation of the media that will actually change the state of things. The real community must become the program manager. Collective ignorance cannot be destroyed by involving yourself in the pitifully ad hoc, unmotivated-except-by-profit and ego-gain machinery of corporate businesses thinly disguised as communications media. A vital TV collective doesn't need NBC—all it needs is a commitment to getting the recording equipment into the hands of the radically aware, the humane, the visionary, the man in the street.

Reprinted from *Boston After Dark*, July 7, 1970.

CULTURAL DATA BANK

BARTLETT

KAOS PIRATE TV LIBRARY

POLITICAL:

ABC CBS NBC		
Kent State · Cambodia	May 1970	2 hrs
Demetrius & The Gladiators		2 hrs
Samson & Delilah		2 hrs
½ Paths of Glory		1 hr
½ Namu The Killer Whale		1 hr

APOLITICAL:

How Life Begins	1 hr

MISCELLANEOUS:

Current Events
Riots, R. Reagan, B. Panthers . . .
3 Films in Production:

The Serpent	About the Sword
Heavy Metal	About the Gun
Outerspace	About the Rocket

All Film from Broadcast TV and about American Culture. 3 Months of Taping—Filming America's Insanity Became My Insanity & the Construction of these Films has been my Unravelling—Reintegrating—Back to Earth.

SCOTT AND FREUDE BARTLETT, 57 Harriet Alley, San Francisco

JACKIE CASSEN

PERFORMANCE:

Boston Symphony Orchestra	Video Experiment at WGBH.	2" Quadraplex Color.
Match Girl	Children's show.	1" Ampex
Messian "Quartet for End of Time"	3rd, 4th, & 8th movements. Oscilloscope patterns, sculptures, people.	1" Ampex
Crumb—12 Shades of Autumn	12 nudes choreographed.	Sony ½"
Faces	11 portraits.	Sony ½"
Wesson Oil	Satire on video underground. Three tape interface on 4 monitors.	Sony ½"

PROCESS:

Nam June Paik	Paik broadcasting at WGBH plus interviews, Participation TV.	Sony ½"
People's Video	Community service program on 14th St. Interviews with Ken Marsh and Elliot Glass.	Sony ½"
Don Snyder	Multi media "Rebirth of Planet Earth". Interviews with Jean Huston and a classmate of Hitler who happened to be there.	Sony ½"
Richard Etts	Body casting, scupture.	Sony ½"
Incredible String Band	Rehearsals of "u" at Fillmore; Stone Monkey Mime Troupe	Sony ½"
Fred Barzyk	With artists working at WGBH—Jim Seawright, Tsai, Russ Connor - et al.	Sony ½"

DOCUMENTATION:

Gibson Campaign	Newark parades, video van, interviews.	Sony ½"
Street Music	Six different groups of musicians of streets of NY.	1" Ampex or Sony ½"
Times Square	New Years Eve 1970.	Sony ½"

JACKIE CASSEN, 727 6th Ave NYC

STEVE CHRISTIANSEN

OFF THE AIR:

Jerry Rubin	On the Phil Donahue Show, April 1, 1970
Bill Kunstler	In debate with Henry L. Pitts, President of Illinois Bar Assoc. on the David Susskind Show
Eldridge Cleaver	CBS 60 Minutes
Nixon	Fairly complete set of speeches and press conferences

DOCUMENTS:

Ann Arbor Blues Festival 1970
Gary Snyder at Antioch
Panther Doug Miranda at Antioch

Dancing and Stuff	Choreography by Michael Fajans.
Omega Point Omega	Choreography by Brooke Higdon.
Where is Columbia?	Semi-documentary on Antioch's field center in Columbia, Md.

CREATIONS:

Massage Montage—Mideke, Hilton, Cohen
AutoPurge
Consumption—Pollution
La Dome est Finie A day of dome building
Shopping Center Interviews
Systems Raps (Forthcoming)
Midwest Cultural Mosaic (Forthcoming)

STEVE CHRISTIANSEN, Dept. of Instructional Systems, Antioch College, Yellow Springs, Ohio 45387 (513) 767-7331

All tapes on either ½" Shibaden, or 2" Ampex format. Most of the Originals were made on Shibaden.

TOM DeWITT

Intraview	30 min	Camera Three broadcast Sept. 28, 1969. At WCBS TV 525 W. 57th. NYC. Contact office of Merrill Brockway for viewing.	Color
Instant Apocalypse	20 min	Experiments from the Spring of '68. TV Dept., San Francisco State College. Contact Herb Zettl for viewing.	B/W

TOM DE WITT, Bedell Road, Poughkeepsie, New York 12603.

ELECTRIC EYE

Dick Gregory	2 hrs.	Speaking at San Jose State College, November 1969.
Philo T. Farnsworth III	3 hrs.	Interview with the son of the inventor of television, Philo T. Farnsworth II.
System of Teaching Reading by Color Coding Words	several hours	Work of Dr. Cattegano at San Jose State.
Alpha Wave Research at Stanford	1 hr.	Includes some of alpha's Zen and Yogi implications. Electric Zen?
Showdown in Portland Meets the Sky River Festival of Life and Lighter than Air Fair	30+ hrs.	(Hardly a Working Title) Political scene in the Pacific Northwest.

ELECTRIC EYE, 584 Park Court, Santa Clara, California 95050 (408) 244-3014; in San Francisco (415) 826-7893
Tim Barger, Skip Sweeney, Jim Mandis, Jim Murphy, Michele Newman
TELL A VISION NOT SELL A VISION

FOBILE MUCK TRUCK

NEW YORK:		
Woodstock on Broadway		Jun '70
Airplane at the Fillmore		Jun '70
Trinity Church—Business/rock symposium		Jun '70
VERMONT:		
Goddard Alternate Media Freak Out		Jun '70
Hackett's Garage (or the old fashioned toilet)		Jun '70
SAN FRANCISCO:		
North Beach, Broadway (topless)		Aug '70
North Beach, Grant Ave.		Aug '70
Talk back, Black parolees involved in art program		Aug '70
Free clinics in S.F.		Aug '70
Los Sietes, Calif. grape pickers interviews, gallery opening.		Aug '70

FOBILE MUCK TRUCK, 406 Gates, San Francisco, Calif. Dudley Dickinson, Dean Evenson, Jeanna Carroll.

PHIL GIETZEN

Palace Theater (remote) with Dorothy Combs Morrison (Oh Happy Day), Lamb, Mad River, Rad Lab Moog Synthesizer, James Smith, Demensia, James Rheinhart, MC.	4 hr. originals	1" Craig ½" Panasonic
Video LP	1 hr. Studio Mix 1 set from each of above.	
Post Palace Video	2 hr. original 40 min. mix effects over recordings.	1" IVC ½" Panasonic
Media Mind Massage		1" IVC
Upper Grant Street Fair		1" IVC
Soledad Brothers Documentary		1" IVC
Freemont Dragstrip Documentary		1" IVC
Picies are Witches		1" IVC

Additional listings on request.

PHIL GIETZEN, 47 Clarion St., San Francisco, California

GLOBAL VILLAGE

Abbie Hoffman:	
Katzman Interview on Trial	Nov '69
Press Conference	March '70
Rally-Panthers	March '70
Jerry Rubin:	Nov '69
Press Conference	March 20
Global Village with Rosemary Leary	May '70
CBS Demonstration on Censorship of Abbie Hoffman	
Peace March—18 Minute Documentary	Oct '69
Street Scenes—Bowery—Harlem	June '70
NYU Rally	April 2, '70
Afeni Shakur—Black Panthers	Spring '70
Allen Ginsberg	May 1 '70
Phil Ochs	May 1 '70
Jimi Hendrix	May 1 '70
Johnny Winters	May 1 '70
L.A. Police Riots	April '70
Pink Floyd—UCLA	April 20
Rosemary Leary at WBAI	April '70
Womans Lib March	April '70
Washington Peace March—Cambodia	April '70
Student Worker Rally	May '70
Paul Krassner	August 20
Barbara Soloman—Studio Interview	Jun '69
Rip Torn—Richard III and Others	Sept '70
Womans Lib Interview	July '70
Gay Lib Interview—Jim Fouratt	July '70
Jim Higgins—Urban Media	July '70
David Silver—Media Radical Style	July '70
Woodstock	July '70
Who	
Janis Joplin	
Richie Havens	
Jefferson Airplane	
Grateful Dead	
Sly & Family Stone	
Panther Rally	August '70
Lee Kaminski—on Electric Eye—San Francisco Video Group	
Paul Krassner	August '70
Nick Unger—NYU Radical Student Leader	
East Village Street Interviews	August '70
Kinetic Compositions:	
Faces	
Black and White Circle Composition	
Experimental Neo Compositions	
Ruby Tuesday	
Raga Light Projections	
Satisfaction Composition	
Kinetic Laser Compositions with Lloyd Cross	
Barbara Experimental Compositions	
1" Color Compositions Shot on 2" Quad Reduced to 1" IVC	
John and Samantha Making Love Composition	

GLOBAL VILLAGE, 454 Broome St., NYC 10012, (212) 966-1515
Rudi Stern, John Reilly, Joie Davidow, Laura Adasko, Dean Velez, Carimir Niedzwiedz, Henry Heinbach, Jim Sheldon.

HOMESKIN

a 3-hour Sony 1" tape (3 reels)

ATASCADERO STATE HOSPITAL FOR THE CRIMINALLY INSANE ALIVE ON THE OTHER SIDE Visit by Cleveland Wrecking Company Band, Free Family, Noel Jewkes, Food, Guards, Outmates

HOMESKIN, Peter Berg, P.O. 31251, San Francisco 94131

NCET

More than 100 hours of experimental videotape in color and black and white. Two-inch, one-inch, and half-inch including:

The Bridge	By Cinematographer Phillip Greene
Linearity	Electronic composer Richard Felciano
Trio	Electronic composer Richard Felciano
Descartes	By poet Joanne Kyger
Feedback and Tape Delay	Featuring dancer John Graham
Heimskringla & West Pole	90 minute color production for NET; both with videospace mix by Robert N. Zagone
Dawn	Experimental piece by Brice Howard Color
Growing	By sculptor Benedict Tatti / Color

Recent tapes include extensive explorations in color and black and white of light forms, largely the work of Willard Rosenquist, and of feedback graphics by painter William Gwin. The Center also holds copies of experimental videotapes produced by a number of the fourteen interns from public television stations who have studied at the center over the past year.

NATIONAL CENTER FOR EXPERIMENTS IN TELEVISION, 425 Brannan St., San Francisco, California 94107 (415) 362-4580.

PVT

MEDIATION DOCUMENTS:
15th Street Squatters
Washington Square Park
14th Street Business Survey

FEATURES:
Tour of "El Barrio" by a Minister of the Young Lords Party
Gay Liberation Day
The Brotherhood of the Spirit Commune
Puerto Rican Independence Day

VIDEO POLLS:
Should policemen carry guns?
Should cars be banned from Manhattan?
Should the U.S. be involved in Indochina?

NEWSREELS:
Washington Peace Demonstration, March 1970.
Randall's Island: Statements by participating communities and observers.
Liberated Biennale
Women's Liberation Day Luncheon with Construction Workers (E. Milosh)

VIDEO COLUMNS:
Rene Dubos: Ecology
Frank Gillette: Video
John Mandel: Art
Judith Lipfield: Education
Robert Verderosa: Music
Dr. Guinea: Lead Poisoning

MINI-FEATURES:
New York Company: Jewels
Allen Ginsberg: Mantra's and Poetry
South Bronx Community Action Theatre (Flamenco and Afro Dances)

IN PRODUCTION:
Alternative '70's. A survey of people in culture, science, politics, education, media and government service as to their view of the coming decade.

PEOPLE'S VIDEO THEATRE, 544 Ave. of Americas, NYC
Ken March and Elliot Glass.

All tapes: Sony ½" Old Generation

RAINDANCE CORP.

PART I:

Summer '68	St. Marks Tapes (street Rapping)
Jan.-Feb. '69	Antioch tapes (midwestern American subculture; interviews and experimental video entertainments)
May '69	Composite tapes for Wise Gallery show—TV as a Creative Medium (Panasonic)
May '69	Document of the Wise Gallery show
May '69	Tony Barsha bathtub sequences
July '69	Apollo 10 (11 and 13)
Aug. '69	Woodstock Tapes
Oct. '69	Abbie Hoffman tape at Conspiracy office, NYC
Dec. '69	Altamont tapes
Feb. '70	Urban ecology tapes: City Mix 1, 2, and 3
March '70	Earth People's Park meeting—Electric Circus
March '70	Locusts Attack Chicago
March '70	California trip (The Rays, and Supermarket, plus Here's to your Goiter Goat Man, Tender is the Tape, Alternate TV sub-edit pre-prototype No. 1, More, and Alternate sub-pilot)
April '70	Earth Day in New York (Uptight about Bushes, I was an Eagle—I am Extinct)
May '70	Interview with R. Buckminster Fuller, NYC
May '70	Post-Kent State—Washington DC Peace Demonstration
May '70	City Hall labor and student anti-administration demonstration
plus	News taped off TV during the week of the Kent State killings and Cambodia protest demonstrations
	President Nixon's State of the Union Message
	The Party the President threw for the Astronauts
	Keep: composition for four synchronized screens
	Loop Sketch: an abstract tape composed of feedback patterns
	Computer: document on the home computer
	Weekend at White Tank: two-part tape of meeting of video people
	Rose Art Museum show—Vision and Television documentary, Jan. '70
	Moon: off-air collage

Ira Schneider, Frank Gillette, Michael Shamberg, Paul Ryan.

All tapes Sony ½" old generation.

PART II

Mountaindale Festival (Frank Gillette)
Year of the Mushroom—Upstate N.Y. Commune at home and on stage with musical show (Frank Gillette and Paul Ryan)
Robert Schwartz—street dancer
Nam June Paik at WGBH (Frank Gillette)
Interviews with Levittown, N.Y., housewives and newlyweds about their television viewing tastes
Lower East Side Park Fair
Warren Brody—interviews and verite video of Ecological design commune in New Hampshire
N.Y. State CATV operators convention
Glens Falls, N.Y. profile of a town about to install CATV
Clinton Program's Tapes of and by Junior High School Students in Clinton Program
Tapes by Jud Yalkut
Nicholas Johnson at Raindance loft

RAINDANCE, 24 East 22nd Street, NYC, 982-5566/7
Ira Schneider, Michael Shamberg, Paul Ryan

All Tapes Sony ½" Old and New Generation

ERIC SIEGEL

Einstein	5 min.	Video exploration into the inner essence of the mind of Einstein. To music of Rimsky Korsakoff. Color.
Symphony of Planets	12 min.	Cosmic flight into the macrocosm and microcosm and finally life. To music of Tschaikovsky.
Tommaro Never Knows	2½ min.	Video abstract trip to the music of the Beatles' song of the same name.
Psychelevision II	27 min.	A program expressing the Karma of 1968 through psychedelic abstractions combined with outside reality. Featuring: Susan Berge, dance; Peter Sorensen; Columbia SDS and music of the Beatles, Stones, Cream, Korsakoff, and Procol Harum. Portions in Color.
Nineteenth Nervous Breakdown	2 min.	Eric Siegel mouthing Stones song of same name.

ERIC SIEGEL, 2852 California Street, San Francisco, Calif. 94115

All tapes available on Sony ½" New and Old

TVX

Key
/1 Sony 405 line standard ½" videotape
/2 Sony 625 ½"
/3 Rank Nivico 625 ½"
/4 Ampex 625 1"
/5 Ampex 625 2" color

BRITISH SCENE			
B1/1	Notting Hill Housing Demonstration	May 69	20mins
B2/1	Arts Council Artists Protest Event Piccadilly	Oct 69	20mins
B3/1,B4/1	Birmingham Arts Lab Regional Festival	Nov 69	40mins
B5/1	Gt George's Liverpool communit / project	Nov 69	7mins
B6/3	Art as Politics, Oxford	Feb 70	35mins
B7/2	J G Ballard's Crashed Cars, Arts Lab	Mar 70	20mins
B8/2	London Zoo, Gordon Woodside	Apr 70	20mins
B9/2	" " " "	"	"
B10/2	Watford Meet, Stan	Apr 70	20mins
B11/1	Steve & Sandra's Wedding/George Brown MP and the Cardboard Cows	Jun 70	20mins
EXPERIMENTAL			
E1/4	TVX/BBC Line Up Pilots 1 & 2	Mar 70	60mins
E2/2	TVX/BBC Line Up Pilot Program	Mar 70	40mins
E3/1	Foremost Feedback, best of a bunch	Jul 70	20 mins
HEAVY PRODUCTIONS			
H1/5	Edinburgh Combination/STV program, sound environment from Gateway series	Jan 70	63½mins
H2/5	TVX/BBC Line Up pilot Program	Mar 70	40mins
MUSIC			
M1/1	Blind Faith, Hyde Park first free concert	June 69	20mins
M2/1	Rolling Stones, Hyde Park second free concert	Jul 69	65mins
M3/1	The Band/Bob Dylan, Isle of Wight, by Lennon	Aug 69	15mins
M4/1	Plastic Ono Band, London Lyceum Benefit	Dec 69	60mins
M5/2	"U", Incredible String Band		
M6/2	and Stone Monkey, Round House,	Apr 70	120mins
M7/2	London		
M8/2	Hot Tuna and named dancer, Bath Festival	Jun 70	20mins
M9/2	Fairport Convention, Bath Festival	Jun 70	20mins
M10-13/1	and M14-21/2 Formerly Fat Harry, Kevin Ayers and the Whole World, Edgar Broughton Band, Pink Floyd, Hyde Park free concert	Jul 70	280mins
M22/1, M23&24/2	Quintessence in Concert, Guildford	Jul 70	60mins
NEWS			
N1/1	Electric Newspaper Prototype No 1, London	Mar 70	45mins
N2/1	Arts Lab Dope Raid No 1	Jun 70	15mins
N3/1	Arts Lab Dope Raid No 1 broadcast by BBC2	June 70	15mins
N4/1	Arts Lab Dope Raid No 2	Jul 70	
N5/1,6/1	Black Power versus the Pigs, Caledonian Rd	Jul 70	35mins
THEATRE			
T1/1	Tony Crerar Mime, London Docks Artist Colony	Nov 69	7mins
T2/1	Bruce Lacy Moon Landing, Birmingham	May 70	15mins
UNDEFINED			
U1/1	London from the back of a Harley Davidson	Jun 69	7mins
U2/4	Roy Sawh interview, London	Jul 70	60mins

The above is a partial list of tapes available through: TVX, Institute for Research in Art and Technology, Ltd., 1, Robert Street, London NW 1, England

John Kirk, Cliff Evans, Steve Harman, John Hopkins

STAN VANDERBEEK

Violence Sonata	1½ hr.	Simultaneous 2 channel/screen essay/drama on violence (an off-air record of the WGBH simulcast produced Jan 12, 1970 as a color program.)	b/w low band 2"
Violence Sonata	45 min.	Color excerpts of the above, to be screened as a 2 channel simultaneous event, in 3 parts, "Man," "Man to Woman", and "Man to Men"	color high band 2"*
Danceworks #2	45 min.	Unedited, meant as a background for a live dance concert.	color high band 2"*
Danceworks #3	2 hrs.	Complex video-mix of dancers and film, intended as a background for a live dance piece, intended also as a multi screen simulcast.	b/w low band 2"
O, Or, For, Form	1 hr.	Complex video-mix of actors, film, and slides meant as a multi projection.	b/w low band 2"
A Walk in the Mill	45 min.	Multi projection video-mix, meant as a dance film.	b/w low band 2"
Super-imposition	15 min.	A political/social farce.	b/w low band 2"
Newsreel of Dreams	45 min.		2" color.
One	10 min.	Experiment with graphics and film chain.	color high band 2"*

***indicates that a 16mm color or b/w kinescope exists of the work.**

STAN VANDERBEEK, Gate Hill Coop., Stony Point, NY

WOODY VASULKA

Fillmore East (with Jon Blom)	**Jan-Feb 1970**
Jethro Tull	1 hr
Jimi Hendrix & Band of Gypsies	1 hr
Voices of East Harlem	1 hr
Ten Years After	1 hr
Zephyr	1 hr
Doug Kershaw	1 hr
Bonnie, Delany & Friends	20 min
WBAI Free Music Store	**Jan-May 1970**
Peloponnesian War—Daniel Nagrin	2 hrs
Archie Shepp	1 hr
Evening of Black Contemporary Music	40 min
Hank Johnson & Steve Chambers	
Wind Ensemble Workshop	40 min
Bartok Trio	20 min
Off Broadway Theaters	**May-June 1970**
Femme Fatale—Jackie Curtis	1 hr 10 min
Space Mass—Bird Can Fly Gallery	20 min
Theatre Laboratory Ensemble	45 min
Sketches	**Feb-June 1970**
Charles Story	5 min approx
Mouth Piece	5 min approx
Nixon's Speech	5 min approx
The Rose	5 min approx
Animal's Grief	5 min approx

Experiments Some of the experiments are done with direct interaction of Sound Synthesizer (Moog & Buchla) Experiments with Moog coordinated by Richard Lowenberg; Moog by Gino Piserchio.

Structures
Single and Double Feedbacks
Distorts

Many Hours of Personal Taping **Jan-Aug 1970**

WOODY AND STEINA VASULKA, 111 East 14 St, New York

All tapes Sony C-V series ½"

VIDEOFREEX, INC.

PART I:

Industrial and Education
The Food Line—"Supermarkets for Progress"; The Group; Group Names—March '69
Easter in Spain—April '69
Smokey Bear Commercial—Sept. '69
California Experimental High School; Jessie Ritter at San Francisco State—Nov. '69
Cloisters—Dec. '69

Genre Tapes
Crawfish and Sally Bell—July '69
Chadis—May '69
Rivington Street Dope Speech—Aug. '69
Tarwater—Dec. '69
The Great White Way—Jan. '69
Eclipse and Elijah; Trippy Meeting; House Hunting I and II—April '70

Music
Buzzy Linhart—last half of '69
Incredible String Band—Nov. '69
Major Wiley; Morgan, Mason and Downs; Hubie—Dec. '69
Charlie Mariano—Jan. '70
The Smubbs—April '70
Sarod Player—May '70

Woodstock
First Aid No. 1
First Aid No. 2
Shithouse
Aqualast

Erotica
Erotica I; Enchanting Erotica II Kusama; Gallery I, II, III
Far-out Ergenous—Frolies and Excitement 3—Nov. '69
Mango Productions I, II—Jan. '70

Political
Black Panthers I, II, III; Abbie and Jerry; Abbie Hoffman in Chicago; Mrs. Seale—Oct. '69
Women's Liberation; CCNY-SDS rally (Jerry Rubin)—March '69
Junkyard—April '69
Abbie at New Haven; Soho Artists' Festival; Washington I and II; David Peel; NYU/Columbia demonstrations; Construction Workers' Loyalty Day Parade—May '69

Interviews
Claude and Denise—gallery owners—Oct. '69
Dr. Hippocrates I, II, III; Tony Pig—KSAN (body painting)—Nov. '69
Ricky Leacock; Bill Psyche (Braindeis)—Jan. '70
Hells Angels party—Feb. '70
Oddyssey House; Hells Angels at home—May '70

Artists
Aldo Tambellini—Jan. and April '70
Charlotte Moorman; Nam June Paik—Jan. '70
Salvadore Dali—March '70

Ecology
Earth Peoples' Park Meeting I, II, III—March '70

Theatre
70 Grand Taffel—Oct. '70
Prince Street Taffel I, II—Jan. '70

Events
Circus Arts in Central Park—Sept. '69
Martin's Magic Pillow—Nov. '69
St. Marks (New Years Eve)—'70
Rose Art Museum Show (Vision and Television)—Jan. '70
New School Mixed Media—Feb. '70
Musica Electronica Viva—March '70
Finch College Laser Show—April '70

Electronic Video Experimentation
MC—TV—July '69
Feedback; Chrome I—Sept. '69
Extra Special Effects I, II—April '70

David Cort, S.M. Blumberg, Curtis Ratcliff, Parry Teasdale, Davidson Gigliotti, Chuck Kennedy, Bart Friedman, Alan Sholem, Tunie Wall. 98 Prince St., NYC,NY.

PART II:
POLITICAL
Washington, D.C.
New Haven, Conn.
Blood, Sweat and Bullshit
Anti Blood Sweat and Tears Demonstration
Hard Hat Demonstration
Save Sunfish Pond Demonstration
Panther Chants
Richard Nixon ending war
U.N. 25th Anniversary Cop Banter
High School Confidential

Music
Jerome Rothenberg
American Indian Poetry
Manhattan Center Concert—Rock Music
N.Y. Pop Festival—Randall's Island
The Ruffins
Sarod Player
Ten Wheel Drive Road Concerts

ALTERNATE CULTURE INFORMATION—SURVIVAL TAPES
Ferro Cement
Building Geodesic Dome
Wild Herbs
In the Kitchen with Davidson & Una
Dr. Electron—on soldering connectors and on microphones
Using ½" Sony Equipment

EVENTS
Goddard College Alternate Media Conference
N.Y. Pop Festival Interviews
Electric Yoghurt
The Making of a Times Square Pornographic Flick
AIA Convention
Soho Artist's Benefit
Feast of St. Anthony, N.Y.C.
Hell's Angels Meet
Sussex County Horse Show
Ray Brock's Wedding
Alice's Barbeque
Phoenix House Happening '70
Astral Fair
David Peel at Columbia University
Beautiful People's Party

MISCELLANEOUS
Vermont Fair-haired Children
Hog Farmers
Joe McCord—Pantomime
Flying Above NY
Sailing up the Hudson to Sing-Sing
Windows
Money Commercials
Feedback experimentation
Officer Obie Interview

VIDEOFREEX, 98 Prince Street, NYC 10012 (212) 925-7286
Nelson Becker (Canada), M. Blumberg, Nancy Cain, David Cort, Bart Friedman, Davidson Gigliotti, Chuck Kennedy, Mary Curtis Ratcliff, Allan Scholom, Parry Teasdale, Carol Vontobel, Ann Woodward, Fat Leo

All tapes ½" Sony Old and New Generation

VIDEOGRAPHICS, INC.

1. Woodstock Tapes	
2. WNEW Birthday Party (Ten Wheel Drive/Exuma/ Van Ronk)	
3. Judith Crist	July '70
4. Earl Wilson	July '70
5. Bosley Crowther	July '70
6. "The Wedding" (High Freeks/High Society)	July '70
7. Earth Day—Margaret Mead	May '70
8. Columbia University Graduate School of Business: STRIKE!	May '70
9. Children at play	June '70
10. Bicycles	April '70
11. Folk Singers in Central Park	April '70
12. The Band—Felt Forum	1970
13. Wall Street Demonstrations	May '70
14. Earthlight Theatre	Spring '70
15. Gay Liberation Day	Summer '70
16. Tie Die: What and How	Spring '70
17. Freddy Ford—N.Y. Auto Show	April 1970
18. Village Gate Benefit for Chicago 7 and Panther 21 (Ruby Dee, Vivica Lindfors, Jerry Rubin, Gerry Leftcourt, Abbie Hoffman)	
19. Di Sant'Angello Fashion Show	Summer '70
20. Protest Against High Price of Woodstock Movie	
21. Sandy Bull	
22. Maureen Grey	
23. Ibiza Rummage Sale	Sept '70

VIDEO GRAPHICS, 308 West 82 Street, New York 10024 (212) BE3-3000 or 873-3543
Richard Rubinstein, Danny Cohn, Carl Goldberg

All tapes Sony ½" Old Generation

VIDEO VAN

Spacedreem	23 min.	IVC Black and white
Media Mind Massage	18 min.	IVC Black and white
Thunderegg	15 min.	IVC Black and white
Post Palace Video	40 min.	IVC Black and white
Palace Theatre; with Mad River, rock group; Jimmy Smith, guitarist and vocalist; Lamb; Dimensia, acting troupe; James Reinhart, juggler; & Doug McKechnie, Moog.	60 min.	IVC Black and white

VIDEO VAN, INC. Tom Martin, 280 Visitacion Mall, Brisbane, Calif. 94005.

All tapes Sony ½" Old Generation

INTERVIEWS

INTERVIEW With ERIC SIEGEL®

By Jud Yalkut

One of the youngest proponents of the television revolution, Eric Siegel, born in 1944, won Second Prize of the N.Y.C. Science Fair at the age of 15 for his home-made closed circuit TV. The next year he won an Honorable Award in the same competition for "Color through Black and White TV." After high school, he was employed by several concerns in Closed Circuit TV, and in 1966, worked in the Educational TV Department of the University of London. In 1968, he produced the "Psychedelevision" video tape program for the closed circuit TV theatre, Channel One, and designed and built the special effects TV components for Serge Bouterline and Susan Buirge's "Televanilla" at the Martinique Theater. He exhibited his "Psychedelevision in Color" at the Howard Wise Gallery's "TV AS A CREATIVE MEDIUM" and "BODY, MIND AND VIDEO" at Brandeis University's "VISION AND TELEVISION."

JUD: You entered television at 15?

ERIC: At 15 I did the first outward thing with television, building the first TV camera, and it continued from then on, building more and more equipment. J: What had you been doing before that time? E: Electronics. Pure electronics. J: You were studying that? E: No, I was just doing it. J: So you entered into television through an interest in electronics quite directly—no other art form? E: Yes, it was electronics, and then I got turned on to TV through electronics by getting hold of TV equipment, and playing with it. And since I built the first camera I've continuously been interested in it, and still am. J: When did you actually first get to work with videotape? E: About 2 years ago, someone gave me an old videotape recorder in pieces—J: A sony tape deck? E: No, a big 2-inch Ampex helical scan. And they said, if you can make it work, you can have it. Then I spent 6 months making it work. After which, I took the camera I had built and I started to make some tapes which you've seen at Howard Wise. J: That was a color machine? E: No, it was black and white. The Howard Wise tapes were black and white, and I made them into color with another electronic circuit. J: Which you built yourself? E: Yes, the first circuit was built inside of the color set, but now it's been expanded so that it's a separate thing which connnects to the back of a color monitor, and it should be out on the market soon. J: Who's going to market it? E: I'll design and build it. I don't know who's going to market it, yet. J: When did you first show your videotapes? E: The first showing was just one day at the Channel One Theater—a preview, and the second showing was continuously at Howard Wise's. J: How did you get involved in the Wise show? E: Tom Tadlock told me about the show, and Howard Wise called up, said he'd heard about me through Tadlock, came up and saw the tapes, and said please be in the show. J: Did you know the work of other people in the field, like Nam June Paik, at that time? E: I saw some of Paik's work at MOMA's MACHINE show, and it turned me on—I liked it. I'd already had some of my tapes completed then, but I didn't meet Paik until the Wise show, didn't even know what he looked like, until someone said "That's Paik." J: Would you say anything influenced your approach to TV—anything from people working in the field to McLuhan? E: No, I was doing the work before I read or even knew of McLuhan. I found out afterwards. No, I wouldn't say there were really any external influences. It was just watching TV itself, what the stations were doing, saying "Oh, forget it," and just trying to do completely different things. Basically, I was making videotapes that I enjoyed watching myself, and my friends enjoyed watching, and at the same time trying to make the tapes so I was expressing myself through them, on a certain level. And that's what I'm going to continue to try and do. J: Were the Channel One tapes the same as the Howard Wise material? E: No, the Wise tapes were different material. The Channel One tapes were meant to be paid to see, and portions of the tape were straight video—you know, a camera pointed at a person talking and performing, and you have to do this straight kind of video if you're expecting regular people to pay, because they're not going to pay to watch abstract patterns for an hour—you have to give them something else. But things are changing, and there are ways of making TV programs now where reality and abstraction can be intermixed in the right proportions so that you can hold the attention span, and keep a rhythm going so that just when you feel like you're getting bored, it changes, and the change comes just at the right time, if you feel it out as you go. But the Wise tapes were all abstraction—music and abstraction. J: What was the music on that again? There was a section reminiscent of 2001. E: THE SYMPHONY OF THE PLANETS, the last piece, had music vaguely similar to 2001, but I must stress that I made the tape before seeing 2001. It must have been in the air, or something. The Wise tapes were edited so that the Einstein section comes first, then the Beatles section TOMORROW NEVER KNOWS, and then THE SYMPHONY OF THE PLANETS. J: How would you characterize your basic orientation to videotape? E: It's a way I express myself, as an individual. J: What of its relationship to other people? E: Well, that's not with the videotapes—that's with the other experiments that I do, like the Brandeis piece. It's vaguely, but not really, a direct expression of myself—it's more an expression of how people should perceive themselves, so in this piece they see themselves in color, delayed, and there's music playing. The music is meant to trigger them off to move, to dance—and they're supposed to watch themselves moving and dancing. Usually, this is a mind-blowing experience, if they've never seen it happen before—watching themselves delayed a few seconds. But this is another kind of statement. I'm not saying anything about myself—not giving anything of myself, in this kind of thing. It's really like letting people get high on themselves—you know—get all involved in themselves, because that's what they want to do anyway. J: It's a feedback situation. And the rest of your work is feedback of your own self. E: Right, the videotape is myself into tape. Right now, I'm getting ready to design a video synthesizer, which will enable me to do live video, like in the old days there would be a concert with a piano, now there'll be a concert with a video synthesizer. And this is something that Paik is into also. And it's the next step of video. They're making new video devices, or getting ready to, in Japan, with large displays in color, possibly flat—non-projected. J: Flat tube. E: Yes, that you hang up on the wall. So that, everyone knows that TV is going to change into something new—into an expanded medium, and a few people are getting ready for it, by making the new hardware that will enable the new kind of programming—the new kind of video communications that's going to happen. J: Do you think flat tube will make TV projection obsolete? E: Oh, yes—if they perfect it.

J; In Truffaut's film of Bradbury's FAHRENHEIT 451, people have wall size color television in their homes, during an era of book burning. E: Well, video will become like books, with the advent of cassettes, so if they'd be burning books, they'd be burning video casettes. J: You don't think there would be Instamatic video cameras. (LAUGHTER) E: Yes, it's getting close to it already. Video will become like 8mm film is now. They'll have minature plumbicon tubes inside miniature video cameras, with videotape cassettes you just throw in. However, I don't think the film industry should worry yet, because video quality is still lacking. But that's the fault of the equipment manufacturers—they're only interested in making money, not in making something right. So perhaps one company will make some equipment right, and when that happens people will find out, and the other companies will have to follow or go down. Right now, they're all making crap. J: Do you think the better equipment will be made by the Japanese? E: Possibly, but they'll have to get feedback from us—we have to write telling the Japanese companies what we want them to manufacture, instead of just taking what is given us—tell them what kind of new technology is needed, because American technology is just not going to keep up with it. The Japanese are giving us all our media—supplying us with the media tools, and we have to let them know what we want in the future. J: How did you find the video situation in Sweden when you were there? E: Video is state controlled—State controlled television. They have some experimental programming, however, it was quite boring—what I would call low-key—I don't know if they plan it or not, but it's meant to keep the people tranquilized. They don't want to excite the people, get them excited, for some reason, so TV is low key—it's boring. J: More boring than American television? E: In general, Swedish TV is boring, but it's more informative than American TV, which is just insane. The first priority with American television is the commercials must go. Commercial television must end. J: Do you think cable TV is the answer? E: Some kind of alternate system where you don't have to be bombarded, buy this and buy that, every fifteen minutes. The whole consumer crap must go. J: That first step is pretty far-reaching. E: At least let's get people talking about it—first let's just say, advertising must be stopped—let's get it around. Then, once it gets around, the momentum will carry through to the end. But a lot of people aren't even thinking about it. J: Do you think a show like Brandeis or Howard Wise can help change people's consciousness mentation about the concept of television? E: It does have an effect—but not much of an effect, because not that many people come. A very small minority of people are getting exposed to what's going on. Nobody knows what's happening with TV. Nobody even knows that there's television art already—don't know the alternatives of what they're watching at home. The only effective way is getting on the networks. There has to be a network program consisting of television artists, which is broadcast across the country, so it reaches the backwoods of Arkansas. Television is the last communications link we have to change this country—the whole country is tied together with television. The only way to effect a real change in this country, to get it together, is through television. One of the major network chiefs admitted to the fact that he's broadcasting shit, and said that's what the public wants. What television artists are doing right now, is fanning the fire, trying desperately to let it be known that TV art exists, that it's a real thing, that there are people who are turned onto TV and know what and how to do with it. And when the word gets out, people will start clamoring to see it on their home TV screen. However, if they don't, there are alternatives, because the video cassette recorders will be out in about two years or less, so you won't need the networks after a while—you could rip out the tuner from your TV. J: It would have to be quite a different kind of network to implement what we're talking about. E: Right—control rooms with pillows on the floor. We have to get onto a network, not work FOR a network, because there's a certain atmosphere in network TV stations—if you come in and your mind is okay, you'll find it gets messed up somewhere along the line. Right now, we have to take the technology that exists, and exploit it, use it, for our own benefit, not for the benefit of the advertisers. I don't think there's enough time to start making a new technology—AFTER we've gotten rid of the evils, and can sit back, relax, and have a smoke, THEN we can start making the new fantastic Aquarian age technology—the pleasure technology. But we can't do that yet. J: One of the lessons I think we've learned from the Art and Technology collaborations is that the artist has to learn some of the technology himself. As Paik says, you have to make your own mistakes so you can make your own discoveries. E: It's true. I admit that I've had it easy. But, probably, individual artists will find technical people to work with them. That's an immediate solution. J: That's happening right now. Perhaps eventually the engineers will become artists themselves. E: The future trends will be art and science and technology all coming to a point at some point. (LAUGHTER) It's all going to become one—all headed in that direction. And if the scientists would realize that now, and the engineers, and the people controlling the whole formation of what's happening on this planet, if they would all wake up and say, it's all going to come together anyway, so we might as well come together right now, then we could really start correcting a lot of the shit that's fucking us all up. J: Do you feel any affiliation with the movement now? E: No, I feel as an individual. I feel totally alienated from all movements. J: Apolitical. E: Completely. I'm just concerned about the planet that I live on. The major concern that I have is mind pollution. Aside from the noise we hear in the streets, when you go home and turn on your TV set, you're getting mind pollution, and your brain is being screwed up and fucked around with—the commercials are the biggest culprit. They have scientists, psychologists, psychiatrists, all working on the staffs of the major advertising companies, knowing all the tricks, how to influence people's minds, so that they can make their millions. If I can get into TV, I'd like to try and clean up some of that pollution. Some TV programs could consist of a beautiful abstract trip for an hour, with the right kind of music—and that too can trigger off thoughts, but you're not triggering off any specific thoughts—you're triggering off a flow, a pattern of thoughts. J: In which each individual's thought patterns can take their own form. E: Right. And one of the things that will get the country back together is when people get their minds back. J: What are your immediate plans? E: To build the video synthesizer which will be the preparation, the new instrument, for television. In the future, there will be people who will learn to play it very well, like any instrument, talk through it. J: Do you see the video synthesizer making television a performing art? E: I see it doing several things. It'll enable live performances because no sets are needed, you don't have to control actors—you can present abstract visions, images, with music. It'll work especially well with music, with live groups. And then, for making videotapes, there are two kinds of tapes you can make: the documentary which gets dated, and the other kind which doesn't get dated. For making non-documentary tapes, it'll be very useful—for things which don't have to do with time—actually they do, but they don't become dated because they're not anchored to one year. J: Are you more interested in color than black and white? E: I want to go to color, and then to three dimension, and then, whatever comes after that. But color for right now. Black and white is over. J: Do you think there's any hope in working through the ETV network? E: It's been hopeless so far. J: What did you think of the NET program THE MEDIUM IS THE MEDIUM? E: It was a one shot deal—appeasement. J: What do you know about KQED-TV in San Francisco? E: Nothing right now. I'll find out when I get there. The immediate plan is to do the synthesizer. San Francisco is a better city. New York is finished—it's over. It's an over city.

Excerpts from an INTERVIEW With BRICE HOWARD®

by Sally Surpin, Richard Kletter, and Allen Rucker of Media Access Center, a division of Portola Institute

Brice Howard is the director-wizard of the National Center for Experiments in Television in San Francisco. The Center is housed in one large room in a warehouse hung with strips of acetate, newspaper clippings, abstract sculpture, picture postcards . . . The real work, however, takes place in the three-by-four unit dimension of videospace and in the heads of people much in flow with electrons.

A: How would you describe the Center to someone who's never been here? If someone asked what does your Center do or what is your Center?

B: You know something that's wrong with those kind of questions is that you are assuming in a kind of a Euclidean geometric way that anything that I might say will represent what I would feel 30 minutes from now and that is a real serious problem . . .

A: or that the place is in fact definable.

B: Yeah, I recently was invited to write an article for the M.I.T. Technological Review appropos of something that concerned me, and I did, and in a way that's exactly what I was trying to say and it took me nearly 5,000 words and about 4 weeks. But in a kind of an old-fashioned organizational, institutional way, I s'pose we're interested here fundamentally in search and discovery, and we have tried to sustain an environment in which gifted people can come and follow their heads within the context of the flow of electrons, which is the material which concerns us.

S: How did it begin to concern you? How did you realize that there was a flow of electrons?

B: Again, the when of that is spread out over a long long time. I want to be just as literal and specific and honest as I know how to and the other day something that someone particularly enjoyed asked me how long it took to make, and the honest-to-God truth was 52 years. I know that that sounds weird, but that's how long it took to make. What was your question? (Laughter)

A: How did you get into electron flow?

B: It was over a long period of time. It finally began to be clear to me that everything that we call television was a totally derivative condition.

R: Derived from what people had done with it rather than what it had done?

B: Derived from essentially 4 histories it seemed to me; the theatre, motion pictures, journalism and radio. And so, I asked myself having, I thought, discovered that, well what is non-derivative? Because is that all it is—just a representation of a whole lot of other history? And then, I began to try to understand what happens in the human organism when we try to invent something? And it became pretty clear to me which may not make it clear to anybody else or may even be true to anybody else. But it became clear to me that what television had been invented for was to transmit moving pictures through the air without any wired connections. Now in order to transmit a picture through the air without any wired connections, you had to use some kind of material that could be carried on a radio wave, cause that's the only way you can get it going. And that's what I began to get a hold of. You start to get these two, for me, clusters of energy thought going in your head, and you find a magnitude beginning to increase. And on the one hand, you're asking what is non-derivative; and you're asking how come we invented it anyway, and pretty soon you find out, at least I found out, that the only thing that was left, was the material of this means, was the flow of electrons. That was the material. Just recently, I began to appreciate that because I'd been struggling so desperately for the last 2 years to try and understand how you compose time in other than auditory terms. I have a sort of an unsophisticated, since I'm not a composer, understanding of musical components, understanding of how you could tie them together in that form. How do you put time together visually, and that's not talking about editing and cutting and all like that? And suddenly last week in the midst of the welter of this misery, it occurred to me. I jumped up and ran into the kitchen and turned the water faucet on, and it was going in my hand and I says, "that's the problem!" That's the problem! See? It's that water pouring through your hand. Now that's what we're trying to do with the flow of electrons. I mean it was an analogue, an analogue that got me much much closer. Now there's something else that began to come clear to me and that was the only possible surface upon which electronic flow could be manifest was either the surfaces of the cones of speakers or that piece of glass which has phosphur on it. And then, I began to explore that, and I discovered that the conventions of television influenced enormously by theatre, motion pictures, journalism and radio made everyone feel more or less that where it was, was in that studio and not on those other surfaces. And so to come to that kind of a feeling it's very hard to explain to you because, for me, I had to be a unit manager of the National Broadcasting Co. handling thousands and thousands of dollars and getting 1,000,000 lumps a week while you're moving 11 truckloads of scenery around, costumes around, people around, unions—9 unions involved, to really begin to realize that everybody says it was in the studio.

R: I think in your description of a director in *Videospace* that comes out beautifully. Thought there was a bit of personal sentiment in that.

B: Well, of course—there is just for me in this world no way to be objective about anything. If it ain't personal, you're in trouble. As someone said the other day, looking at some of Steven and Richard's work on the monitor: "I tell you the truth, 'I like it personally, but I don't think we can use it'." Man, you just can't know what kind of a problem that cat has when he goes home at night. Right? So does that answer it, sort of?

S: Yeah, well, now we've got another question which is in a sense a very personal question which is like how did you over a period of time having come to that realization—how did you convince some people to give you money.

B: I didn't. I am such a fortunate human being, in that respect. I didn't.

S: How did the Center come about?

A: Well, it's a more basic question than that, it's like how did you begin to deal with the notions that you've just laid out? Did you just begin playing with materials in front of cameras and monitors?

B: Well, those two questions are really all bound up together in a nice way. KQED specifically personalized by Dick Moore and then President General Manager Jim Day and the Rockefeller Foundation specifically in the person of, I think, Boyd Compton, with maybe some lovely imaginative help from people like Morton Sobotnick, maybe others, I don't know. But at any rate over a period of some time they composed proposals. That is to say, the Rockefeller Foundation was obviously interested in having some kind of work and over a period of time a proposal was made to them. The response to it ultimately was that the Rockefeller Foundation gave $150,000 and said in a year do what you can with this. Kind of generally moving around the question of what happens when you bring artists into a television studio. Although, I frankly don't think that sentence ever came out that way.

R: What made you decide to deal with the technology basically as it was rather than to try to adapt it in an effort to try to change the surface, change the space, change the set?

B: I think when you're dealing with an electron, you're always dealing with a finite material.

A: But I thought you said you were composing with water?

B: Well, don't get hung on my analogue. That analogue is just a way to get me cleared up. I'm not dealing with water, I'm dealing with, best I know how, electrons. Steven Beck is much closer to the flow of electrons by a long shot than I am because he knows how fast they go and he knows where to place them, so I think it's important to stay away from any kind of mystical thing that a lot of, particularly young people get into about electricity. I'm not putting it down. I'm just saying let's stay away from that for a moment. Therefore, when you do, you discover that as far as electronic manifestations are concerned, it's got to be finite or else you can not handle it. And it's a question merely of slowing it down. Instead of talking about an hour or a minute or a second, you start getting into milliseconds, etc., but that still makes it finite. That means that you know the quantity of time that you are dealing with . . . If you want to think in terms of fields, a conservative estimate of maybe a million images in one hour. Now I don't know any human being who knows how to deal with that, but that's something that is finite in that it's true. You can count, and what an oscilloscope or a wave form generator tells you is exactly where it's all happening. Where means like where in the flow, and if you get down to the place where you want to feel with the kind of metaphysics that has anologues like you put your hand into the river, where's the river? You can do that. But I'd rather stick around with the hydraulics of that question until I understand it before I get on to the next one, cause I know the other one. Like the way I feel about human relations, natural events that move me, etc. That's what I had in the water, and I don't want to measure that.

R: One of the things that struck me in seeing your work . . . is that sound is recognizable whereas the images are live in the truest sense . . .

B: Yes, that's the result of limitations more than anything else. For example in this video tape that I've been alluding to, Steven Beck and Richard Felciano, it is for me, perhaps not for other people, the very first time in my life I've ever seen *video* and heard *video*. In other words, what occurs in the meeting of those two individuals is video, and it's both sound and sight. As a matter of fact, you can see the sound as well as hear it. You can also hear the sound as well as see it. The greatest value it has for me at this moment is that we are there.

R: I'm not sure I know what you mean by that.

B: I don't know whether it's good or bad or indifferent or flawed or flawless or giant or midget; all I know is that we're there and man, I'm so goddamned glad, I can just hardly bear it. Not because I don't dig a lot of stuff that's going on around, but because that question kept coming up, and by golly it had to follow that question long enough. What happens if you dump the optical system and you get to the material itself? How strongly are these other histories going to be at work now? Well man, we've dumped the theatre, we've dumped the motion pictures, we've dumped journalism, we've dumped radio in that moment—not because we don't like those things, but because that was where we had to go raising the question, and we're now to non-derivative stuff. However, the human beings involved are still, I'm sure, putting in the same stuff, cause we carry that around all the time.

R: Right. That leads to the next question. How or are you interested in cutting that out, in other words turning loose a flow of electrons which will be sensitive to at least more arbitrary input, such as heat or light?

B: I think that would just be delicious, but I am fundamentally interested in aesthetics and aesthetics for me means composition, form, the human mind trying to get its inner visions out. That's what I'm mostly concerned about.

S: Are you still using the cameras around here?

B: Well, things have been kind of slow around here lately. But at the moment there seems to be some other kind of thing going on and a lot of it is the result of what's happened to Steven and Richard joining us.

R: And the shapes, I also remember again from this small thing we've seen, the shapes were in dramatic opposition to the very quick thing, and very planned subliminal things on television—various slow almost caressing forms caressing each other, playing with the depth of the surface. Is that still part of what Richard and Steven are doing?

B: Well, it's a curious thing. I wish I knew more so I could tell you what I'm trying to say. When you understand that opposite, you sometimes can find, which is to say, if I continue to press an insistence upon two dimensionality, then true other dimensionality begins to emerge. So that there is no question but what in these manifestations, this experience on this video tape you're talking about, that there's a very great sense of volume. But it's still a two dimensional surface.

R: Have you thought about it at all or do you hope to play with laser holography?

B: That takes a kind of a money that I can't let myself think about. I'll tell you the truth if it came down on us and laid on us the 1st National City Bank, we got so many places to go it'd just blow our heads. First of all we'd have about 150 more people around, and the invitations would be flying so fast, and the tools would be like spawning, but think, when you talk about lasers and stuff like that, you're talking about a huge sum of money and shit—we've got to sweat over a couple dollars. So you can take those trips, and we can have a great lot of fun with them, but they don't help any. When you're really stuck with an honest-to-God detail you're trying to understand. And for the moment, I'd rather deal with those precise details as best as I can perceive them than get into that other stuff.

R: What's the most common encumbrance that people come here with?

A; Beginning somewhere and ending somewhere?

B: Right. Aristotle—beginning, middle, end—the middle is the Golden

B: Hah! Beautiful. I'll tell you what I feel it is, it's sitting down in front of the television set and waiting for something to be given to them. And conformed as a program, and certain derisions, etc. Mean—blah, blah, blah, blah . . . Which is based upon an enormous amount of expertise that people who live around television have.

R: Which they have to unlearn, you mean.

B: Yeah. Like J'sus, people who look at television boxes are experts about looking at television boxes. I don't mean they know what's going on in there, but they spend a lot of hours. The average American housewife, 5-6 hours a day is up like that. That's a lot of looking experience. So when you come into a situation like ours, you sit down, and you are an expert in these old habits.

S: What I was going to say is that here I've been working with this stuff for awhile. I thought, I'm getting out of these sets, and we had a teacher workshop last weekend and some teachers had made a tape, and they were watching their tape back on the monitor, and it was time for lunch, and lunch was outside, and I was sitting there watching it with them, and I was thinking—I know what they're thinking cause I'm thinking the same thing. We want to eat lunch, but we want to watch the tape. All of a sudden I realized well, we'll turn it off and go eat lunch and come back and it'll still be there. It took me 10 minutes to come to that and when I told them it was a shock to them.

B: Yeah. You know it's these funny kind of enormous maturations that happen in a split second that really take us along. And I think that television and electronics have a lot to do with speeding that process up. Isn't it marvelous?

A: Do you get the same kind of feeling when people are watching your tapes that they should attend to your tape the way they attend to television?

S: Right. Cause they know it's gonna be over.

R: I find myself—if I know that something's coming up that I remember—if someone's sort of looking away, I almost grab them by the neck.

B: Year, but that has a lot to do with that old John Locke stuff, too,—property. Like this is a piece of property of yours and how come they don't appreciate its value as you do.

R: You try to put people inside the making of that, all the aesthetic decisions, all the formulation problems.

A: I guess you should just leave it there, and when they take the interest they'll pay attention.

B: I'm so old-fashioned about that, I really get disturbed if there's something I care about very deeply and I'm busting to share it with somebody, and their attention is drawn to something else in the midst of it. Whatever is drawing their attention gets to be for a split second a real enemy.

R: I think that's really natural.

B: Well, it's all natural, I don't know anything that isn't. Sept. 25, 1970

NOH PLACE

Ira Einhorn

"The convoluted wording of legalisms grew up around the necessity to hide from ourselves the violence we intend toward each other. Between depriving a man of one hour from his life and depriving him of his life there exists only a difference of degree. You have done violence to him, consumed his energy. Elaborate euphemisms may conceal your intent to kill, but behind any use of power over another the ultimate assumption remains: 'I feed on your energy.' "

Frank Herbert, *Dune Messiah*

Similar to genetic evolution, with its process of mutation, energy can be adequately described by the laws of probability.

Ecology—a new rubric—a new way to express the

that all conscious beings wish to thunder continuously as they contemplate the totality of what man is presently doing to himself and his environment. A radical evocation of horror at our present mode of utilizing the energy which is the legacy of our planetary history.

Ecology is an unsolved problem - a form of a question; something to do about how we live. It is derived from the Greek word for house, the same word that fathered economics, the management of the household. Until ecology and economics became synonymous our *Earth House Hold* will continue to be mismanaged.

EVOLUTION →

primitive state	advanced state
simplicity	complexity
uniformity	diversity
instability	stability (steady state)
low number of species	high number of species
low number of symbioses	high number of symbioses
high entropy	low entropy

←RETROGRESSION

Reprinted from *Design With Nature* by Ian L. Mc Haney

"Born under the appearance and the sign of Chance, it is only through reflective purposiveness, slowly acquired, that Life can henceforth hope to raise itself yet higher by auto-evolution, in the twofold direction of greater complexity and fuller consciousness."

Teilhard De Chardin, *The Future of Man*

"It is probably justified to say that any system formed by reproducing and interacting organisms must go on to develop a kind of assemblage in which the production of entropy per unit of preserved and transmitted information is at a minimum. The structures that endure through time are those most able to influence the future with the least expense of energy. The process of succession is equivalent to the process of accumulating information."

Ramon Margalef, *Perspectives In Ecological Theory*

Chaos or entropy is the natural pathway of energy. The tendency of things to eventually come to a stop — *"The heat death of the Universe."*

Man the organizer of chaos, creating negative entropy or information.

"At a first approximation, if to begin with we try to observe it from a purely experimental standpoint, the human amounts to no more than a particular fragment of matter brought locally to a state of extreme complexity or (which seems to be only another aspect of the same phenomenon) extreme 'corpuscularity': the effect of its elaboration being to bring about the positive predominance, on a reflective level, of the purposeful operation of individual centres of action over the workings of hazard and large numbers."

The essence of our evolutionary progress from amoeba to conscious man - can be described in three steps:

1. Learning — the ability to store and recall information - a trait that can be found far down the phylogenetic tree.
2. Reflection or consciousness - knowledge of learning - a trait that divides man from the other animals.
3. Meta-consciousness or non re/active states of mind, called 'clear' or 'leptoid' and any number of other names in systems too manifold to name - knowing how to know - total control of all the energy/information available to the being - the correct use of the human biological - computer called a brain. It is a stage of awareness reached by few in human history, but it must become the goal of everyone if we are to survive on this crowded planet.

"In this system there is only the movement of information."

The Late John Brockman

Reprinted from *Earth Week 70*, a publication of the Philadelphia Earthweek Committee.

$E=mc^2$

"The struggle between life elements is the struggle for the free energy of a system."

Energy is the basic stuff of the universe. Its use controls the history of mankind up to 1945.

"Information has to do with any a posteriori restrictions of a priori probabilities."

Only pure energy has no past

ORGANIZED ENERGY = INFORMATION

Information controls the future. Computers!! Culture is stored information, which can't be described probabilistically. Information is directed by consciousness. Man aware—a cultural mutation (invention, innovation) can't be predicted — the future of planetary evolution is now under the aegis of cultural mutation: information change.

"The old calculus of gain and loss is replaced by negative entropy in which concentrations of information reverse the trend toward disorganization. This is the path man has to take if he is both to use and to escape from his previous scientific insights. In this way, through the understanding that he acquires of the universe he lives in, man in the universe comes to be exemplar and executant of the highest exercise of negative entropy."

Margaret T. Mead, *Culture and Commitment*

Man, the leading edge of evolution, the bearer of planetary consciousness, must learn to be the enzyme of the biosphere: the protector of energy/information instead of the despoiler.

"Anything that accelerates change and energy flow in an ecosystem causes a reduction in potential maturity."

Ramon Margalef, *Perspectives In Ecological Theory*

Facing the swiftest and largest transformation in human history, we must learn to effect the change without destroying the accumulated store of energy/information that is our legacy.

Suddenly we are in a new world:

$H = -S$

H = INFORMATION S = ENTROPY

"In the old environment (pre 1970), information followed $; in the new environment (post 1970), $ will follow information, until the need for $ disappears."

Unicorn

Earning a living is out; spaceship Unicorn Earth is a global commune upon which we all must learn a living. To do this we must make new agreements. The constitution was an agreement that grew out of the first American revolution. A revolution that Philadelphia was deeply involved in, particularly in regard to financing. Now we face the second American revolution.

"Revolution is a turning; the imposition of a new head upon an old body politic. It is an old game."

Unicorn

Revolution is out. Transformation is in. Transformation involves the entire environment and includes the very form of man's being.

"You are co-opted when the adversary puts his goals on your power; you are **not** *co-opted when your power allows you to exploit his means (or contradictions) in behalf of your goals."*

Carl Ogelsby

Ecological concern is potentially the most radical mode of confronting our lives, for it forces us to totally re-think our relationship to our environment. It includes all the old linear concerns—the war, civil rights, black power—in an umbrella that will enable us to generate the critical mass that is necessary for the transformation. No conscious eco-radical is forgetting about blacks, students or draft resisters—he is just attempting to find a new way to announce the death of Amerikkka and the birth of the second American revolution/transformation.

"Evolution has shown that whenever the need arises the art develops." Buckminster Fuller

TECHNOLOGICAL LEROI

takes the whole Earth and its population as its material, not as its form.

Counterblast Marshall McLuhan

While Leroi is carrying on about Black cultural survival and other people are talking white, or revolution,

A gang I know of wolves, whales, and owls is fixing to come and eat **all** *you human motherfuckers up.*

G. S.

We must learn to *design with nature* or nature will imprint its designs upon us.

Teilhard De Chardin, *The Future of Man*

" 'There may well be limits beyond which the natural rhythms are not amenable to frequency—synchronization with new environmental periodicities.' Violence. 'Warning: the contents of this package may be hazardous to your health.' "

By The *Late John Brockman*

. . . Flea bites occur with more frequency than hurricanes. When events that normally occur with minimal frequency begin to appear more often this is an indication of an instability in the system. Environmental epilepsy.

"The association of unusual physical conditions with a crisis in evolution is not likely to be pure coincidence. Life and its environment are interdependent and evolve together."

George Gaylord Simpson

The recent wave of volcanic eruptions and man made oil spills parallel each other. They are both indicative of a crisis. Man at the crossroads. On the cross. Stretched. A tension that must shortly be resolved.

PSIONICS

Students of Za-zen, a technique of Zen meditation attain the sustained ALPHA state while meditating, as measured by an EEG. The same is true for yogic and transcendental meditators. Children up to the age of three or four years, while awake, are in the alpha state most of the time.

*E*lectronic *T*echnique for *C*entering, ETC, is a self-instructional tool which when conscientiously used may enable the student to attain the sustained Alpha State.

When "meditating" the brain electrically changes from a normally noisy, low volume signal to a high, volume, resonant pitch. This pitch, called the alpha rhythm, in advanced stages of meditation lowers in tone until it becomes the Theta rhythm. ETC, by means of pads placed on the surface of the head which act as antennae, receives these resonant pitches and changes them to an audible tone; thus the feedback occurs which is the basis for learning. By concentrating or "centering" on the presence of the audible tone one learns to sustain the alpha state. Once recognized and under self-control it can be reached without the use of ETC. ETC is ideal for group use since it is usually used only briefly once a day per person.

Two general types of feedback are available, continuous and binary. Continuous feedback utilizes an audible tone which changes constantly with any change in pitch or intensity of the brainwaves. Binary feedback uses a tone which triggers on/off at a pre-set alpha-theta threshold. As used, the threshold is gradually increased so that a stronger alpha-theta is required to trigger the tone.

ETC 101 is continuous feedback only. The others are continuous and binary.

ETC 101 Compact "transistor radio size." With earphone the student may listen to his brainwaves amplified and rendered audible by the circuitry. Alpha or Theta waves become easily distinguishable from the normal brainwave. Uses two 9-volt cells. $75.

ETC 202 A deluxe student model. All the circuitry is molded into a set of cushioned headphones which insure undistracted listening. Student may vary the controls so that the sound is heard only when the chosen amount of Alpha-Theta is present. Uses four 9-volt cells. $150.

ETC 303 Experimenter's model for increased versatility. With this model the experimenter may connect various sensory apparatus such as a light, record player or strobe to the Alpha-driven switch. These may be switched on or off and the switching on-set and off-set delay times varied. Includes headphones and output jacks for recording. Uses 20 "C" cells. $350.

ETC 404 Includes, in addition to the features of ETC 303, a built-in tape recorder and Ni-Cad rechargeable batteries with recharger. With this model it is possible to record Alpha sessions and play prerecorded tapes for use as switched stimulus. Portable. $650.

Presently, all orders are pre-paid, certified check or postal money order, with COD shipping costs and 3-4 weeks delivery.

We provide, on a special order basis, units with any of the above features designed for simultaneous operation by two or more people, or units with specially designed feedback system. Special requests welcome.

About 20% of the U.S. population has no measureable alpha rhythm thus rendering an alpha conditioning device useless. Although a continuous feedback device is still useful as a meditation aid, the binary units would be of no use to such persons. If you purchase an ETC other than ETC I, for individual rather than group use, be forewarned of this possibility. You might consider having an EEG prior to purchase to determine whether you have measureable alpha waves.

You may want to read the following:
Altered States of Consciousness edited by Charles Tart.
"Conscious Control of Brainwaves" in *Psychology Today* April '68.
"Physiological Effects of Transcendental Meditation" *Science* March 27 '70.

Contact: Psionics, P.O. Box 1919, Boulder, Colorado 80302.

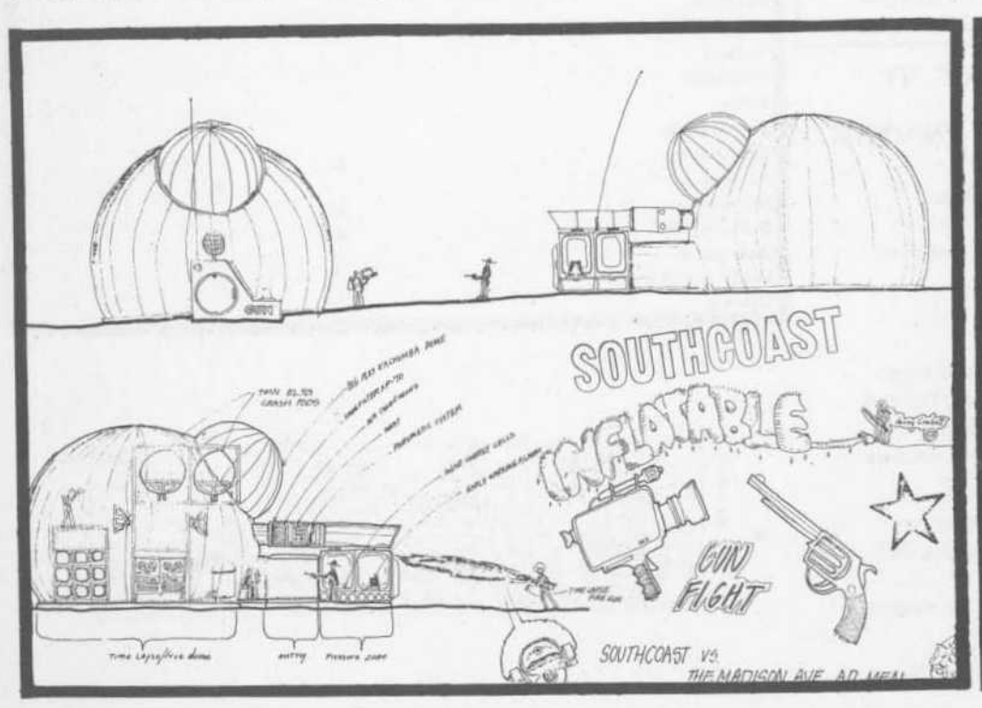
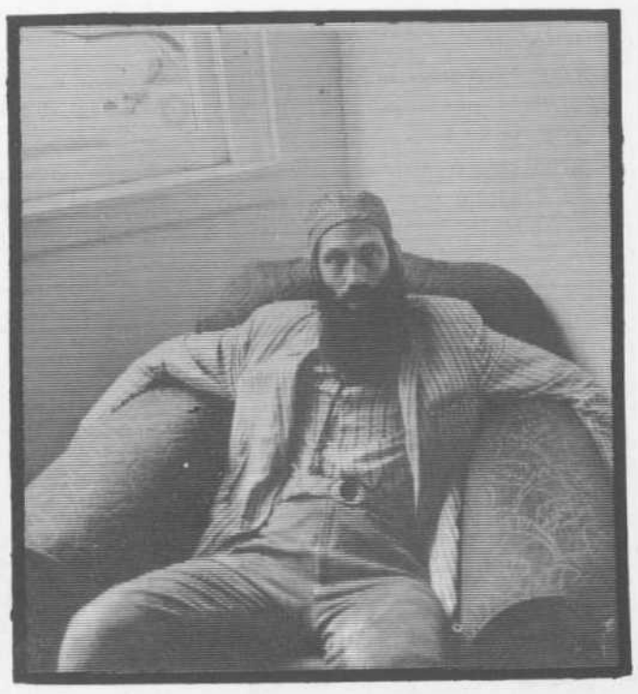


photo: Jasmina Boo



FEEDBACK

MEDIA ACCESS CENTER

A DIVISION OF PORTOLA INSTITUTE

We grew out of a kind of unending nuclear reaction of ideas which we had to put a handle on. The germinal idea, last winter, was a community video center serving the information needs of its users. We decided to set up a model center for high school students, and funding permitting, the Scripps Center High School Video Workshop will be in full operation this year as part of Portola Institute.

Working with the tools, primarily Sony portapaks, we discovered how simple, how powerful, how widely applicable, yet little known video technology is. We want to extend that technology and its concommitant power to people—in all phases of their lives. We hope to do this by integrating the tools into systems which promote the freest flow of information and greatest interaction among members of a group, be it a classroom, a school district, or a community.

We are presently working with cable stations, youth drug centers, multicultural programs, and teachers' workshops. We are learning about the electronic image with Brice Howard and his associates at the National Center for Experiments in Television.

Allen Rucker, Richard Kletter, Shelley Surpin, Pat Crowley, Box #2539, Menlo Park, California 94025

JOE HRYVNIAK

BINGHAMPTON, NY

Hello Earth People:

We've got portable video equipment and have set up an Alternate Cultures Reading Room. I'll be focusing on Alternate Media, Software, and information systems in an independent study course this semester.

Link INFO-TO-ACTION-TO-CONSEQUENCES

Contact at: State University of NY, Binghampton.

MEDIA ITHACA

ITHACA, NY

Contact them to receive a copy of *Clearing the Air: Public to Public Communication Through the Mass Media.* It is a handbook to give people "some techniques for getting past the gatekeepers to the media so that (your) message will get to the public in the normal course of events as they develop,"—specific steps people can take for accessing the public broadcast waves. Write to: Professor R.K. Goldsen, Janet Lynn, James E. Smith, M105 McGraw Hill, Cornell University, Ithaca, New York 14850.

RICHARD GREEN

URBANA, ILLINOIS

. . .We are students and ex-students at the University of Illinois who formed a film collective to make Super 8 newsreels. We chose Super 8 over 16mm because it's cheap; we can do our own processing and sound stripping, and we don't have to worry about pigs smashing our cameras since they're replaceable. As on most other campuses, we don't know exactly what is going to happen here this year but we're sure it will be worth recording. With Super 8 we hope to be able to produce sound newsreels overnight for showing to the community and in dorms and classrooms. Many of us have been interested in TV and VTR's for sometime and we did some experimenting on Shibaden ½" equipment last spring. This past summer we proposed to WILL-TV, the local NET station, that they allot us (through the student government which is in sympathy with our goals) prime time for a half-hour weekly program. We wanted an hour but decided we'd work up to that. Our proposal described a deliberately vague format which included news interviews and debates, programming on local collective and communes, co-ops, etc., experimental films, and artistic video experiments. The station originates almost no programming and is ignored by the student community. It has a broadcasting capability of a 75 mile radius which means mostly farmers aside from Champaign-Urbana, which is about 100,000 strong. The station doesn't have color but will by next year. There is no cable here, yet. We are confident that we could build a strong student audience for a student controlled program. Our proposal got a very mixed response but we are trying to meet all their objections. They claimed that we were not professional enough, that we would get them in trouble with the FCC, and that we might not be able to maintain enough involvement to sustain a series. To counter these objections, we have involved a large number of students and some faculty, all of whom have TV background or training. We have also gotten a course started designated Art 199—Experimental TV whose project will be the program in addition to research and play with ½" equipment.

At this stage, we think our chances are fairly good for getting the program. Even if we don't we will continue our study and experimentations, confident that it will have social-political applications in the near future.

We really need our own equipment. VTR's abound on campus here but most of them are locked in closets and used in very limited ways. We would especially like some of Sony's ½" videorecorders for interview purposes. The Shibaden's weren't very portable and we no longer have access to them. Any advice you might have on taking equipment from industry and foundations would be appreciated. We can use the auspices of the University of Illinois for this purpose although they won't give us any money. If we do get our program we want to train political groups to use the medium with ½" equipment since our studio time will be limited. We want to be as non-professional as possible, allowing different groups as much responsibility for the structure and content of programs concerning them as possible.

. . . This area (U. of I.) has a lot of potential—there are a lot of far-out people here in the computer sciences and electrical engineering. There is a computer system here now used for education that employs plasma screens on 4000 terminals that can be operated simultaneously over telephone cables. We are trying to bring together people in different disciplines for study of communications technology.

Some members of the film collective have been to both Madison and Ann Arbor recently. Things are going to be very heavy in both places. We'd like to see Super 8 and/or videotape groups started at both campuses so information could be exchanged for broadcasting or showing. If you know of people who are already working in these media, we'd like to know about them.

Contact: Richard Green, 1006 W. Main St., Urbana, Ill. 61801.

NYU MEDIA CO-OP

NEW YORK CITY

Students, faculty, administration, alumni, and staff-active membership, about 25 decided to stay together after the May student strike and continue the effort to make connections between the university and the community.

We started videotaping responses to free community film showings . . . are now luke-warm on film showings and very hot on using video tape to ease community tensions and expand community interaction.

Two big projects . . . One: a series of tapes on Operation Move-In, a group of urban squatters on the Upper West Side; two: programming in the West Street prison, in collaboration with the Criminal Law Education and Research Center of the NYU Law School. Both now incorporated into the curriculum of the School of the Arts with access to VTR's, tape and space.

In the works . . . a Videotheque on the NYU campus.

Contact: NYU Media Co-op, Rm. 65 South Bldg, 51 W. 4th St., N.Y.C., 212-598-3703

PHIL NOYCE

WAHROONGA, AUSTRALIA

I am pretty heavily committed to film now. I was doing a lot of video work last year—producing a regular student news service, but became disgruntled due to a number of upsets. First, our replay facilities consisted of just one standard TV converted to act as a monitor. Everything over here is 5 years behind U.S. and people just don't appreciate the possibilities of video. We don't even have color TV yet. The university administration (Sydney Univ.) has a closed-circuit network, but they wouldn't allow us to use it for replay. So about 50-100 students only would view our 35 minute tapes. Then the students' council didn't like the idea of having to continually purchase tapes. Anyway, I dropped out of the university for a while and went to work for the government making films but was sacked by mutual agreement. Our government is even more incredible than yours—if that's possible!

I'm happy making films now, with the university paying for them. People over here have at least realized the value of film.

Our Sydney University Student TV is still operating, but there's not much action.

The Sydney Filmmakers Coop Ltd., 88 Fox Valley Rd., Wahroonga, N.S.W. 2076 Australia

JAY RUBY

NEWSLETTER—PROGRAM IN ETHNOGRAMPHIC FILM

TEMPLE UNIVERSITY, PHILADELPHIA

Several people have written to us requesting information on the anthropological use of videotape recording equipment in the field. To our knowledge, portable videotape recorders (VTR) have been employed by only a few social scientists in the field—Neil Eddington (Harvard Medical School) in the "bright lights" regions of Boston, Joseph Schaeffer (Columbia) in the Bronx, and Karl Heider in New Guinea. Heider is in the field now and has written the following response to our inquiries about his VTR experiences:

". . . in short, VTR is ideal for some sorts of research, although probably no one will make presentation films with it. We (Eleanor R. Heider and I) are using it in the field (West New Guinea) to record mother-infant interaction and facial expression responses to projective tests. With Ekman's system of analyzing expressions we hope to get data which will supplement the grosser behavioral and verbal data. It is too soon to evaluate the results of these particular experiments, but there is every reason to be optimistic about the use of VTR in the field."

. . . The most comprehensive statement by an anthropologist is to be found in Joseph Schaeffer's recently completed dissertation (1970) entitled, VIDEOTAPE TECHNIQUES IN ANTHROPOLOGY: THE COLLECTION AND ANALYSIS OF DATA (Columbia). Until Schaeffer publishes this work, it can be obtained through Dissertation Abstracts, University Microfilm, Ann Arbor, Michigan.

In addition, Paul Ekman of the Langley Porter Institute of the University of California Hospital in San Francisco, has published the following articles on his work with VTR in the study of non-verbal communication:

Ekman, P., W.V. Friesen, and T.G. Taussig
1969 VID-R and SCAN: Tools and Methods for the Automated Analysis of Visual Records. Chapter 16 in G. Berbner et. al. (eds.), CONTENT ANALYSIS. Wiley & Sons, New York.

Ekman, P. and W.V. Friesen
1969 A tool for the Analysis of Motion Picture Film and Videotape. AMERICAN PSYCHOLOGIST March Issue.

STEVE CHRISTIANSEN

ANTIOCH COLLEGE
YELLOW SPRINGS, OHIO

Five years ago, Antioch was bestowed with a remote control video facility fully equipped with Ampex 2" VTR, 4 camera console, kinescope, etc., primarily for use in group process situations and making films of same. It has only been in the last year that we have purchased portable equipment, and ½" now seems to be our primary format. We have 2 portable Shibadens and 6 ½" playback units—our editing capability is semi-electronic—acceptable but not super clean.

A lot of video energy has gone into some classes using multi-media format (Future is Now) via telebeam projector, or an intracampus news program, broadcast via cable, to several places on campus. Some people have been into experimenting with tape delays, signal generators, etc. We have a lot of information shelved in our studio, the only problem is sorting out that which might be useful to people outside of Antioch.

I am specifically interested in videotape exchange and would appreciate being informed of any details or further developments.

BROADSIDE – THE FREE VIDEO PRESS

. . . for $1.00 + 25¢ for postage and handling, they will mail you a 15 minute, ½" videotape magazine for playing on standard video playback units. Write to: Broadside, P.O. Box 65, Cambridge, Mass. 02139.

". . . The idea for the *Free Video Press* originated in David Silver's television workshop at the Alternative Media Project, held in June at Goddard College (*Occurrences*, July 7). The aim of that workshop was to create an alternative television network, using the Sony reel-to-reel ½" system. The idea is to keep people—not gargantuan corporations—in control of production.

Groups like Raindance and Videofreex in New York have been doing exactly this for some time. What is unique about Broadside Free Video Press is its magazine format and its decision to produce quarterly issues.

Only 100 copies of Volume 1, Number 1 were produced . . .

. . . The two best items on this initial tape sampler are an interview with David Omar White and a piece of abstract animation by George Diemers. Both are innately visual subjects, and therefore appropriate subject matter for videotape. There is a sense of immediacy about the interview, and the animation lends itself to the texture of the television image.

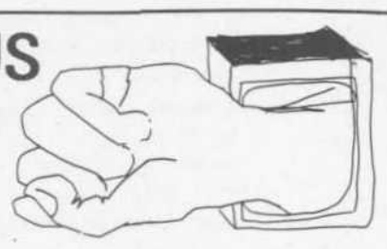
Also fine are a dozen record reviews done in a total of a minute or so, using visual "one-liners," and nine tongue-in-cheek ads, interspersed throughout the tape.

Broadside and Audion have extended "an open invitation to anyone wishing to learn more about this use of the medium of television." They also offer advice on the use of equipment and production preparation. Their phone number is 868-9788."

KEN OPIN, *Broadside Free Press*, Aug. 4, 1970.

MEDIA BUS

NEW YORK CITY



A MEDIA BUS to be funded by the New York State Council on the Arts is now in the planning stages. It will generally be a traveling videotape and film workshop, production unit, and library. The van will be used to turn people on to the media, give them initial information about using it, channel them to media resources for further uses, and connect them with others who are using the media for exchange information. It will have aboard it the necessary hardware and software to get TV into the hands of the people. Stops will include high schools and colleges, museums and cultural institutions, communes and community groups. Each stop would have workshops, shows, productions, and consultancies.

If you are interested in using the media bus or in its use or if you have information which would be helpful to this project, please contact the Videofreex at 212/925-7286.

Video Tape Recorders (VTR) CAMPUS CAPABILITIES		Office of Educational Communications State University of New York		
CAMPUS	2" QUADRATURE	2" HELICAL SCAN	1" HELICAL SCAN	½" HELICAL SCAN
Albany	X	X	X	
Binghamton	X		X	
Buffalo U.		X	X	X
Stony Brook			X	X
Brockport	X	X	X	
Buffalo	X	X	X	
Cortland	X	X		
Fredonia	X	X		
Geneseo	X	X	X	
New Paltz	X			
Old Westbury				
Oneonta	X		X	X
Oswego	X	X	X	
Plattsburgh	X	X	X	X
Pottsdam	X			X
Purchase				
Alfred			X	X
Canton				X
Cobleskill				
Delhi				
Farmingdale			X	
Morrisville		X		
Forestry			X	
Maritime		X		
Buffalo H.S.		X	X	
Downstate				
Stony Brook H.S.			X	
Upstate				

GUY PIGNOLET

ITHACA, NY

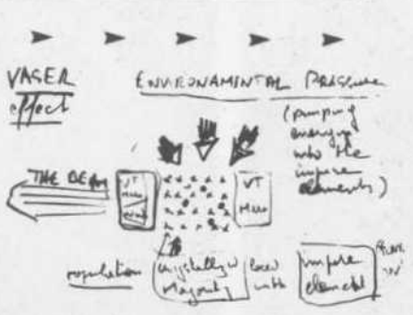
CORNELL UNIVERSITY

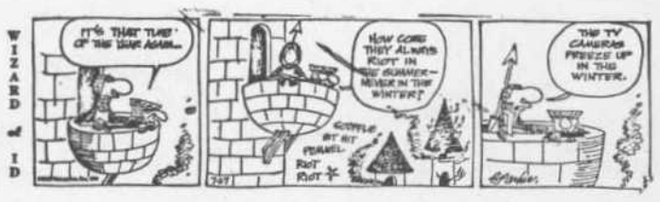
Early 60's: 30,000 miles hitch-hiking in Europe.
1963: Engineer degree Ecole Polytechnique, Paris. Korzibsky.
1964: French Navy. Hydrographic Engineer. Senegal, Mauritania, Gabon.
1965: Schlumberger. Kuwait Oman Abu Dhabi, Field Engineer.
1966: Iran winter experimental rig. Altitude 11000 feet. Dec. & Jan. 3 week in USSR.
1967: Nigeria, etc.
1968: Center Manager, VTR, North Sumatra.

VTR was coming of age (cost). Some feeling on the guts level that it might have some fantastic possibilities. Buy minimal equipment on my pwn bread. (Top manager says: will probably come some day, but too early). Wanted to educate local staff with VTR. Found VTR was educating me and everybody who was touching the camera.

1969: South East Asia. U.S. major campuses. France. Quit Schlumberger. Buy VW camper. Fantastic tripping through Europe. McLuhan, Schaefer, DCB and others.
1970: More of the same. Set-up in Ithaca for PhD in BPA, life and other research. Here I am, Where am I?

Contact at: Vega-Video Exploration Graduate Association, Video Center, Olin Library, Cornell University, 607-273-1318, 607-256-5324.





VIDEOFREEX

NEW YORK CITY

Videofreex is a dozen people who dig to make videotapes. We have a large production facility capable of producing ½ inch videotapes. We do a lot of mobile work using single and multiple camera systems. We are using Sony AV portable and studio decks for taping and an IVC 860C (one inch) deck for editing. In addition, our studio is outfitted with a gen lock (making possible mixing taped and live material on a ½ inch level), a video and sync proc, video and audio mixers, and complementary video and audio equipment.

We are presently showing our tapes at informal viewing sessions Friday nights at nine o'clock at our studio at 98 Prince Street, NYC . . . but we are interested in additional presentation outlets. For further information about making tapes or showing tapes, call Videofreex at 212/925-7286.

photo: Jasmina Boo

CHARLES BENSINGER

LOS ANGELES

Basically, what I am trying to accomplish here in Hollywood is the creation of an access route into the professional TV establishment for young artists and technical types interested in evolving the medium. The studio establishment here is of course very tight and structured, but there is a wealth of technical knowledge and equipment in the area. So in March, I founded a workshop called *Video Technology Laboratory,* in conjunction with a $3 million color facility called *Hollywood Video Center.* A series of informal sessions were held over a 4 month period of time, and some of the best professionals in the industry discussed video operations and worked with our students in "hands on" classes. Much enlightenment was gained by a very enthusiastic group of young people, and they have become permanent video fanatics. Several experimental tapes in 2 inch color were produced during this time.

Specifically, I have been consulting with the California Institute of the Arts and have persuaded them to install a color video tape system this fall. I have collaborated with two artists, Andrea Brown and Janet Webb, in the production of a videotape theatre-audio environmental piece for the EAT Art and Technology festival at USC last spring. For this event, we managed to enlist the assistance of the Sony Corp. here in L.A. A 2-way video-audio dual lecture discussion experiment was also constructed in collaboration with Allen Kaprow and EAT.

I have also been working with Computer Image Corporation of L.A. and feel the joining of the computer and video on a comprehensive scale will provide us with the ultimate tool, allowing infinite possibilities. Unfortunately, the kinds that actually work with and apply this incredible machinery know and care so little about the broader and more vital applications of this equipment. It is my task to begin closing the gap between these magnificent electronic tools and the necessary and vital functions that only they can provide for men in this time of desperate world emergency.

I am also involved in an organization called CREATIVE IDEA COORDINATION, with an individual named Joe Klamon. Together, we are attempting to open new TV markets and develop a structure for creation and distribution of video cassettes. Also, Creative Idea Coordination is an artist's clearing house which will encourage ideas and projects in all media as well as provide distribution for television.

. . .some comprehensive information on partial activities and tech machinery with which I have contact.

ACTIVITIES

Video Technology Laboratory
7080 Hollywood Blvd., Suite 114, Hollywood, Calif. 90028

We held six week workshop sessions from March to June '70, worked exclusively with 2" high band color broadcast equipment—$3 million facility called Hollywood Video Center. (Steve Allen, Virginia Graham, etc.) Much interaction took place between some of the best of the Hollywood press, underground elements, and the Ad contingent. Several experimental tapes were produced by class members under my supervision. Unfortunately, I do not have access to tapes, since they are the property of the studio until I can afford to ransom them back. The brochure, content and structure of the course breakdown is my own design and invention. I found we departed somewhat from this initial plan, since we were required to deal with an extremely wide range of people and background. Some sessions were much too technical and some not too relevant to certain student's needs. The course eventually became an 80% workshop situation, which is the only way it can be truly effective, in my opinion. We encountered extreme hassles always from the studio, technical people, especially the unions, and the Madison Ave. people also. However, it was an extremely enlightening though brief experience for us here. Some of the "hard core" members would join in the next control room and freak out on the switchers until 3 or 4 AM. Thus, it was an invaluable experience and forever ingrained in our minds what to work for and where it is. We shall return!

Viewer Sponsored Television
1939 Westwood Blvd., Los Angeles, Calif. 90024

I have met with them and they are a very hard working, extremely dedicated group of individuals trying to put a truly free controversial station on the air. I think their chances of success are fair. If they do succeed it will be a whole new ballgame for the public.

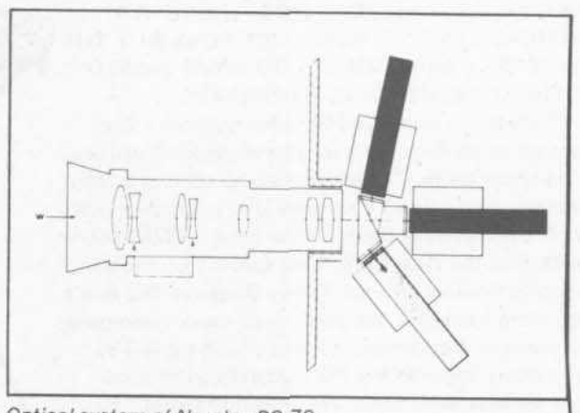
Excerpt from Prospectus:
What Is Viewer Sponsored Television?

Viewer Sponsored Television (VSTV) is a unique approach to Public Broadcasting which (1) focuses on in-depth public affairs programming that goes beyond the "safe" and popular points of view and (2) emphasizes close cooperation between socially concerned media professionals, community activists and the viewing public.

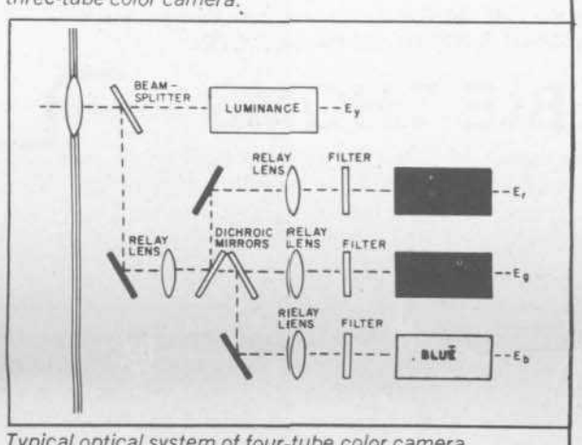
The Foundation is non-commercial, non-endowed and tax-exempt. Its Board of Directors, elected by the viewers, represents a broad spectrum of the involved community, including minority representation. It seeks a license to operate Channel 58 in Los Angeles, the last unused channel in a major U.S. city.

The VSTV concept means every effort will be made to involve the community in broadcasting and in community problem solving. Periodic scientific polls will be used to keep in contact with supporters' interests.

In short, VSTV is a means of giving the socially concerned viewer a voice and a vote in broadcasting.



Optical system of Norelco PC-70 three-tube color camera.



Typical optical system of four-tube color camera.

Technicolor, Hollywood, Calif.

. . .Technicolor's Vidtronics division, which incidentally is one of the most modern and innovative video facilities in the country. Behind closed doors in secret labs, they are carrying on research on a whole new approach to electronic photography—called ASTRIONICS—which will, according to Technicolor, forever and finally make film obsolete, especially in the making of feature films. Technicolor is spending several million dollars on the process, and expects production capability in another year or so.

HARDWARE

Datatron Electronic Editing System
Datatron, Inc.
P.O. Box 11427, 1562 Reynolds Ave., Santa Ana, California 92711.

Am scheduling personal visit to facilities in near future. This system is the most sophisticated editing means to date as far as I know. NBC, and CBS and one or two other studios have systems here. I think Teletronics in NYC has one also. Incredible system, hopefully soon we will have a low cost electronic editor for ½ inch.

Norelco Camera
Phillips Broadcast Equipment Corporation
299 Route 17, Paramus, N.J. 07652 (201) 262-7300

I have worked mainly with the PC 70, a marvelous masterpiece of a video camera, giving truly spectacular color, even under very low light conditions. It can get beautiful color at less than 25 ft. candles. Nighttime outdoor shooting is a real trip. Color is soft and beautiful. The PC 100 is highly complex but very compact, and has a very good signal to noise ratio. It also uses the new lightweight triax cable. The PC 100 costs @ $100,000.

HS 200
Ampex Corporation, Video Products Division
401 Broadway, Redwood City, California 94063

Have observed machine in use at NBC and Technicolor. It is virtually an electronic optical printer, really a trip to play with and the disc and control apparatus is a sculpture in itself and performs as magnificently as it looks. As an editing tool or device of speed manipulation it is invaluable. A version of it called the HS 100 is usually used for the Football instant replays; a sad limitation for such potential machinery.

Odetics Time Lapse VTR ½"
Odetics, Inc.
1845 South Manchester Ave., Anaheim, California 92802
(714) 530-6900

Time lapse tape was shot last week in downtown L.A. which was then used in our recent Video Piece at Cal State L.A. The Odetics unit works quite well, very good quality if power source is constant—we used battery power and sync signals which would fluctuate on replay causing vertical to roll. The unit has a series of graduated speed increments and can even be set for single frame animation. (It's primary use now is for surveillance systems.)

Excerpt from brochure: THE ODETICS APPROACH

In a typical application, a time lapse video tape recorder records one television picture each second. Later, the recorder plays the tape back at rates much greater than one picture a second, for example, at 30 frames per second. Because of the increased rate, time and motion become compressed or speeded up. Advantage lies in the tremendous savings of time for the viewer. With a time lapse rate of one frame per second, a viewer watches twenty-four surveillance hours in only 48 minutes. Or, he can replay tape at exactly the picture taking rate. Even slower, if desired. Variations are unlimited.

ELECTRIC EYE

SANTA CLARA, CALIFORNIA

Electric Eye is an experimental video group that works with half-inch, black and white video equipment. It consists of five regulars working in Santa Clara and has irregular agents in Rome, New York and Fresno.

. . .Our current offering is the Philo T. Farnsworth Video Obelisk. This effort consists of a double-tracked, eighty minute video show which is played on a stack of seven television monitors varying in size from nine to twenty-two inches. Every Thursday night the Obelisk flickers at Intersection, 756 Union Street in San Francisco.

The Obelisk is a tribute to Philo T. Farnsworth, the man who invented television at 202 Green Street in San Francisco. The actual content of the Obelisk is a lead article on Philo T. Farnsworth II as told by his son Philo T. Farnsworth III. The show continues with such portions as video feedback; an exclusive and deliberately slanted interview with Richard Nixon; Dick Gregory in his role as the "Scholar in Residence"; The Top-Ten Vibrations of the week; various juxtapositional inquiries into the state of commercial television; a look at the future of Electric Zen in America and much more. The show concludes with a touch of jolly nihilism.

FOBILE MUCK TRUCK

SAN FRANCISCO

. . .We're working on a tape involving a a talk back approach with young black parolees who have been studying art under a friend of ours. People like to have their say into a camera. It lends authority for some reason—probably because they know their words will become indelible and someone somewhere may catch what they have to say. Anyway, it's exciting to really be free with the camera and let happen what may—much better than scripts which we haven't gotten around to yet. We're also into sound a lot and have been getting a lot of good material on a Sony cassette recorder which we mix in with the video sound to get a whole audio-visual picture, not just of one time and place. Still though, there's nothing quite so immediate and "alive" as natural sound right on the tape. It is that immediacy, instant replay of life that keeps everybody so excited and has never failed to blow a body's mind when coming in contact with videotape for the first time.

PHIL GIETZEN

SAN FRANCISCO

DEJA VU

Kurt Vonnegut conceptualized in his book "Cat's Cradle" an Emersonian idea involving a kind of Karass or mind pool of mutually sympathic energy synergized by its combined and interlocking relationship. That energy now links a number of significant people together in the cosmic and selfconscious realization of man as an alien being on EARTH. In his work "General Semantics" Korzibsky describes man as a third and completely different earth bound life system—different from plants—different from animals.

Was Darwin wrong??? Can anyone believe any longer that man is an earth evolved descendent of some anthropoid? Anyone but science? Tom Tadlock mentioned to me that as aliens to the planet it is our responsibility to build structures sympathetic to our present situation rather than attempt to technotize every inch of the planet.

IS FULLER OFF COURSE? Will the World Game enlighten and enrich man's cosmic being?

Charles Ankh (strong life) is a celestial being without human form (though I have since made contact with a similar being in human form) who appeared to me shortly after my first and second experiences of self-realization. Ankh's message to me at that time was directed toward the condition of man's mental being and psychic ability. The message was a vision in the nature of that designed by Paolo Soleri (little man from the sun/little spaceman) with whom I had studied shortly during the early sixties. That vision is of an environment in harmony with man. Latent to this phrase is the semantic inference that man's origin is extra-terrestial, therefore alien to the planet where he must attempt to harmoniously adapt.

David Teske remarked to me on this subject that we are all in reality non-beings/energy which assumes the human role in an alien environment, as actors, for a short time we assume we lose our vision of the cosmic through our total involvement as human actors. As a life actor, became involved with television after having made some short films, was involved for a time with Scott Bartlett and Tom DeWitt. We worked at State College for one semester together. After that I met a number of media freaks and communications people which resulted in the formation of a foundation called Aumega. After a number of false starts and with only a handful of the original Aumega participants, including Radical Laboratory and Video Van, I decided that the time was right to attempt something never tried before.

Using new RCA equipment (one inch for the first time) we staged a rock show at the Palace Theatre and videotaped the whole show in one four hour episode . . . A second tape followed of feedback over records; then an eighty minute concerto of the Moon Walk mixed into a work called Spacedreem and an hour tape for public consumption called Media Mind Massage, after the piece originally directed by Jeff Bower. As the work in the studio progressed, we began to realize that television holds the potential for really vast change within our own culture and extra-culturally as well (propaganda) and through that realization, and under the influence of its enormous power of light, we struggled to bring the work to a level that would be beyond anything ever achieved before. On the 21st of February 1970, we showed the first results at the Warehouse. We employed eight 23" screens, four on the bottom row and four on the top, all carrying the same information. It was so powerful that only a few people, most of them television artists like Tom Tadlock, could sit closer than fifteen or twenty feet from the flashing electric sets.

After the first show we began to hear from people that we did not know before about our work, its progress and its meaning. Radical Software in New York got in touch through Eric Siegel, Tom Tadlock's friend and partner in the construction of a number of television machines and synthesizers. Lee Myers and his wife Mary, who had been friends from the beginning had moved into Jack Byar's place above the Palace using it as a gallery for the people that they represent. Lee distributes films made by Bruce Conner, Scott, Bruce Baillie and Will Nindle, and others, to museums and libraries that are attempting to build up their collections. Lee's collection of films is one of the best and represents all the significant film makers in the area. When he saw our work he agreed to help and so he went from films and two dimensional art forms to videotape.

By now the Deja vu of my living which had led me to the meeting of all these psychic travelers and seekers of enlightenment had become an anormal and significant aspect of television as a means of receiving light. That deja vu, life force that moved us for these years in the same circles, has been moving all of us. Each one of the people with whom I have worked has brought me some new awareness and has led me from an alley studio in Washington D.C. to the Palace Theatre in San Francisco. I believe that cosmic forces are at work within this mind pool and that my television experience has allowed me to look beyond what seem normal into the cosmic eye of those forces. I believe that television holds within itself a secret so vast and so cosmic that the movement of our lives seems only an illusion what really IS . . . I have come to believe that man is an alien to earth, that he is a truly cosmic being and that the light of an electron beam discharging on the retina of the TV tube at 186,000 miles per second can consciously evolve man. Tadlock made the same discovery and arrived at the same conclusions before I met him. When he finished ARCHETRON everyone who saw the machine sanctified it as an experience of intense enlightenment. It is time now to join hands across the nation and around the world; for the second coming, the Aquarian age, the manhood of man, IS AT HAND.

PEOPLEWARE?

NAM JUNE PAIK CALIFORNIA/NEW YORK/BOSTON
VIDEO SYNTHESIZER PLUS

Shuya Abe and I am stranded in Los Angeles without car. . . We miss New York's dirty subway. . .John Lindsay is a great man, who charges on 30¢ for a refrigerated ride. . .Abe-san said "We are Darma-monk" . . .Darma was so diligent for 9 years in sitting and meditating that he did not even go to men's room. . .The accumulated shit eventually melted away his limbs and Darma became to be loved as a Buddha without legs. . .this leg-less man's wireless transmission is all what TV is about today. . .and in coming carless society.

Video synthesizer is the accumulation of my nine year's TV-shit (if this holy allusion is allowed), turned into a real-time video piano by the Golden Finger of Shuya Abe, my great mentor. Big TV studio always scares me. Many layers of "Machine Time" parallely running, engulfs my identity. It always brings me the anxiety of Norbert Wiener, seeing the delicate yet formidable Dichotomy of Human Time and Machine Time, a particular contingency of so-called Cybernated Age. (I use technology in order to hate it more properly.) . . .In the heated atmosphere of TV-control room, I yearn for the solitude of a Franz Schubert, humming a new song in the unheated attics in Vienna. . . Ironically a huge *Machine* (WGBH, Boston) helped me to create my anti-machine machine. . .this is a place to thank beautiful people there. . .Michael Rice, Fred Barzyk, John Folsom, David Atwood, Olivia Tappan, etc. . .you just never know.

Let us look back to the mid 19th century. . .most people were deprived of the way for self expression in the visual art. Only the selected few had the access to tools, such as oil paints or canvas and know-how. But the invention of camera changed the scene and made everybody into an active visual artist. The size of camera industry and art business illustrates the massive desire to create an artwork, instead of watching a masterpiece on the wall. Will this process repeat itself in the TV world? Will the network program become a wall painting in the museum and we active video creators and creating machine, such as video-synthesizer etc., become as big as Kodak, Nikon, Zeiss Ikon combined? If yet, will we be able to subsidize the ailing NBC or CBS from our tax-deductable portion of income. . .Dear Phyllis: don't smoke cigarette, and live longer to see our D-Day.

Paik-Abe video-synthesizer is a humble effort for this day, putting 1001 ways of instant TV making. We gave up High Fidelity but we won the Super Infidelity. . .adultery is always more interesting than marriage.

The "attraction" of drug experience to young people lies in the peculiar "ontology" of this unfortunate medium.

Generally speaking *art* consists of three different parties. (1) Creator (active transmitter); (2) Audience (passive receiver); (3) Critics (judge or carrier-band).

Through this discrepancy, all the complicated contingencies in the art world, or art-pollution, such as vanity, school, style, intrigue, manipulation etc. come up to the scene. The dubious distinction of so-said First Class artist or second rate musician or minor poet etc., is also a result of this discrepancy.

But in the drug experience, all three parties are united into one. A kid who smokes a joint or so is at the same time creator, audience and critic. There is no room for comparison and grading, such as "first class drug taker" or "second rated pot smoker" etc. . . This ontological analysis demonstrates to us once again that drug is a short cut effort to recover the sense of participation. . . and basic cause lies in our passive state of mind, such as TV watching, etc.

Can we transplant this strange "ontology" of drug experience to "safer" and more "authentic" art medium, without transplanting the inherent danger of drug overdose???

Participation TV (the one-ness of creator, audience, and critic) is surely one probable way for this goal. . .and it is not a small virtue. . .not at all. . .

by Nam June Paik

Cybernated art is very important, but art for cybernated life is more important, and the latter need not by cybernated.

(Maybe George Brecht's simplissimo is the most adequate.)

But if Pasteur and Robespierre are right that we can resist poison only through certain built-in poison, then some specific frustrations, caused by cybernated life, require accordingly cybernated shock and catharsis. My everyday work with video tape and the cathode-ray tube convinces me of this.

Cybernetics, the science of pure relations, or relationship itself, has its origin in karma. Marshall McLuhan's famous phrase "Media is message" was formulated by Norbert Wiener in 1948 as "The signal, where the message is sent, plays equally important role as the signal, where message is not sent."

As the Happening is the fusion of various arts, so cybernetics is the exploitation of boundary regions between and across various existing sciences.

Newton's physics is the mechanics of power and the unconciliatory two-party system, in which the strong win over the weak. But in the 1920's a German genius put a tiny third-party (grid) between these two mighty poles (cathode and anode) in a vacuum tube, thus enabling the weak to win over the strong for the first time in human history. It might be a Buddhistic 'third way,' but anyway this German invention led to cybernetics, which came to the world in the last war to shoot down German planes from the English sky.

The Buddhists also say

Karma is samsara

Relationship is metempsychosis

We are in open circuits

published by Something Else Press, 1966.

ALDO TAMBELLINI NEW YORK CITY

photo: Jasmina Boo

JOE WEINTRAUB
NEW YORK CITY

INFORMATION EQUALS REVOLUTION

There exists right now the most powerful information network ever created by man on the planet. I am talking about television. It is controlled by establishment creeps, who are using it to keep the masses in a state of moronic amnesia.

But their grotesque Disneyland of the mind is being threatened by underground video, and the creeps are getting nervous. Information about a new way to live is being withheld from the masses. Information already on video tape, ready to be shown in millions of homes. Information that is useless unless it gets into peoples heads.

The pressure is building. Information pressure. The quantity of vital relevant video tape waiting to blast open the atrophied frontal lobes of the sleepwalkers is turning network programming into a cosmic joke. This is a warning ABC, CBS, NBC: THERE IS A CRITICAL LIMIT TO HOW MUCH BULLSHIT THE UNIVERSE CAN ABSORB. YOU HAVE PASSED IT. THE UNIVERSE WILL RETALIATE.

Where is our underground video network? The tapes are ready to be shown. The viewers are waiting, dying of boredom. The technology to do it at a feasible price, with cable TV or even UHF, already exists. EVEN the money is there, in the form of $250,000 in the vault at the New York State Council on the arts, and more floating around Warner Brothers. WE don't need more hardware. We don't need more video-packs and cameras. God knows we don't need more TVs. We're ready and waiting. We demand viewer sponsored underground video. We demand the right to speak, to be seen and be heard. We've got the information that can save this planet from destruction. WE DEMAND A NETWORK OF OUR OWN.

ALBIE THOMS LONDON

I left Australia about a year ago and have been on the road with my experimental feature film MARINETTI. In my travels I have met many video freaks and realise that the time is right to get back into the video scene.

I am working for OZ magazine, which has done much to liberalise printing techniques, etc. and am helping the editors start up INK which will be a weekly underground paper. It is hoped that the news that is gathered for INK will be distributed via sound & video tape as well as newsprint & we are planning cooperation with TVX in realising this objective. Our eventual aim is a weekly videonews tape as well as the paper. Anyway, you shall be hearing further from us about that. . . . Meanwhile, we are getting it together for a free news service for the community that is assembling for the Isle of Wight festival, and we will be putting out a daily paper there, as well as radio & video news bulletins. It is hoped we will be able to project our news tapes onto the 24' eidophors that are being used to televise the performances for the crowds far from the stage.

Experiments with video tape loops
Juliette Mondot

Exercise 1:
Starting from Steve Reich's **COME OUT TO SHOW DEM**

Two tape loops with the same image and sound—one slightly longer than the other are started and mixed simultaneously into a single image. They begin synchronically and as they go out of sync, the image and phrase separate and there is an increasing reverberation of sound and image. Two or more of the same tape loops can be mixed in and orchestrated into the on-going rhythm.

I want to find out what happens to the progression of image as it goes out of sync. What happens in black and white—in color?

What happens with different kinds of imagery?
Primary forms—such as circles, squares and triangles expanding and contracting from the middle of the screen
Feedback forms—with the abstract forms and strobing progressions
Realistic forms—such as a sequence from newscasts

What would happen with the repetition and mixing of an initially realistic image—would it become a more abstract form—more like pure shape or pure color?

TVX LONDON

This fall TVX will be introducing Electric Newspaper, a monthly Magazine published in videotape form. We aim to sell sufficient copies to distributors to enable us to cover production costs, and distribute a large number of copies at cost of tape stock, to colleges, arts labs, video heads etc.

We will shoot and compile the first edition, and subsequent editions will contain a large % of contributions from other people and groups working with video, both in this country and abroad. (Expected date of first edition around October, '70.) Electric Newspaper will also operate as a live information/distribution/news/message service at pop festivals and other large gatherings, using projection screens and monitor chains. This section of activity is to be run in conjunction with BIT information service and Friends Magazine.

Contact us at: 1 Robert St., London, N.W. 1, England

Patron: The Rt. Hon. LORD HARLECH,P.C., K.C.M.G. Sponsor: LORD BURGH

institute for research in art and technology ltd

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WOODY VASULKA
RICHARD LOWENBERG

ENVIRONETIC SYNTHESIS

Our concerns and objectives in working with video tape to date have involved electronic experimentation with the media and its relationship to other environetic technologies, striving constantly to present new sensorial interrelationships within human life-functions.

Current and proposed projects:

Video-Moog—dancer feedbacks (live movement creating visual, creating sound, creating movement, etc.) Self—regenerative feedback interplay.

Video Synthesizer (computerized visual analysis, breakdown, and storage for creation and recreation of images) To work on visual output as does the sound synthesizer in the creation of audio output.

"Cyborg" Cybernetic organic investigations and presentations. (Audio-video systems triggered by brain wave-alpha rhythm-readings through proper nonrandom conversions). To study human control of purely contemplative creative processes.

NATIONAL CENTER FOR EXPERIMENTS IN TELEVISION AT KQED

SAN FRANCISCO

The National Center is a unique institution conducting theoretical and applied research into television as an instrument of personal and community growth, a learning and therapeutic tool, and a fine art. The Center's main products and services are experimental videotapes made by gifted visual artists; research projects investigating psychological and cultural implications of television; an intern program which brings to the Center talented staff members from public television stations throughout the country.

The Center encourages visitors as a part of its effort to share its concepts and imagery with as wide an audience as possible. "Monday Nights at the Center" provide an opportunity for young experimentors and artists in videotape from nearby campuses to present and discuss their work with the Center staff.

The Center came into being on April 1, 1969, when the Corporation for Public Broadcasting made a grant of $100,000 to KQED for its establishment. In 1970, the Corporation renewed and increased its funding with a $150,000 grant. In addition, the National Endowment for the Arts awarded a matching grant of $60,000 to the Center to begin its fellowship program.

LEICESTER[25] COMMUNE
KENMORE, NY

The Leicester Commune is a two-culture consulting, problem-solving, and media communications group. Our focus is on communications, particularly on problems that require the interfacing of disparate cultural groups, eg. community leaders and revolutionary students, police and young blacks, etc. Our most recent work has been for a major government research laboratory and has involved planning for the effective communication of environmental research needs and problem-solving information among the various societal groups which must be involved for action to take place.

The underlying value system of the Leicester Commune affirms the dual-cultural life-styles of its members and our continued positive involvement in the basic processes of cultural change going on in America today. The next twenty years will be the most crucial ones in mankind's history, for the West a period of revolutionary cultural transition from a highly structured puritanistic and materialistic society based on production of goods and property values to a more flowing hedonistic and humanistic society in ecological equilibrium and based on exchange of information, services and software. At best the transition will be rough and involve isolated new violent skirmishes and a gradual ending of the massive violences now underway. At worst, mankind will end. We feel the extremes of violence and dehumanizing polarization must, and indeed, can be averted.

Our present societal institutions are at the same time necessary for the economic support of our society and the major impediments to required change. We feel that being responsible in the present environmental entails neither embracing these institutions as they are nor rejecting them out of hand. Where and when opportunities exist to do so, we wish to work with aware people within these institutions, helping them accommodate to, or at least develop a tolerance for, the new culture life styles and value systems. We thus wish to function within the present economic system as long as it is the prevalent mechanism of societal information feedback. At the same time, we are interested in the creation of new cross-cultural organizations and functioning idioms appropriate to the changing environment. The Leicester Commune is in itself an attempt at the latter.

Our qualifications are of two kinds, our individual skills and our synergistic capability of functioning as a group. As individuals our establishment credentials include an aggregate of over thirty years of relevant consulting and work experience; two of us have Ph.D. Degrees, five Master's Degrees; we have long lists of publications, accomplishments and past clients. . . Our areas of professional expertise include a variety of communications skills: group dynamics, interpersonal encounter and affective education; videotape, film and mixed media small-group communications; humanistic and clinical psychology; computer and library-based information systems; community dynamics; science information exchange; Gestalt awareness methods; environmental design for communications. Areas of work we have been involved in include design of curricula and programs on the elementary through the graduate school levels, management training, consulting for top management on conflict problems, use of videotape for small-group, scientific and cross-cultural communications. We also have access to an extended network of highly qualified individuals who are available to work with us in specialized problem areas.

As a group, we have had experience over a protracted period in the processes of living together, working together, playing together and being "into one another." This process, for a long time one of mutual mind-blowing, has been the source of our synergy, of our personal honesty and of our economical internal communications. It is what makes us more than the normal consulting group of thrown-together experts. It was also key to the development of our life-work style, which is 24-hour involvement of the subgroup concerned while we are on the problem. . .

Our clients, past, present and potential, include colleges, universities, research laboratories, youth groups, hotel and motel chains, banks, civic organizations, environmental groups, urban planning groups, libraries and—in general—organizations which must somehow function on the interface of straight society and the new alternative culture.

Our style of involvement ranges from the existential to the highly disciplined depending on the client's needs and how we react to them. They might include: 1. diagnosis of communications problems—what is the real problem, where is its locus (personal, interpersonal, intergroup, role or subculture-related, etc.) and what should be done, 2. design of communications environments, including use of space, time, physical setting, media technology and social setting, 3. planning and running cross-cultural communications workshops, particularly ones designed to confront generational and value system differences, 4. utilization of media communications aids for short-term feedback and small-group connection, particularly videotape, slide shows and super-8 films, 5. preparation of written, videotaped and filmed documentary reports of study projects—for broader circulation, 6. training in communications, on all levels. Our normal operating mode is to secure the maximum possible involvement of members of the client system in whatever project we are engaged in. We teach on several levels, explicitly and through exposure of the client to our life style. The latter is sometimes very painful but, more often than not, existentially free, joyful, easy but yet somehow very efficient.

As for most consulting organizations, our fees are based on the time devoted to a client's project plus out-of-pocket expenses. Our overhead rate is quite low and we provide our own videotape and media equipment. Although our original base has been Buffalo, New York, two of our members are currently in New England, one in Southern California. Our area of travel is global and we draw up a team out of our membership and associates to meet the needs of the particular problem at hand.

Further information on the Leicester Commune or a ½" Sony video documentary on it can be obtained through writing Vince Giuliano, 104 Leicester Rd., Kenmore, New York, 14217.

WEST COAST VIDEO MAGAZINE

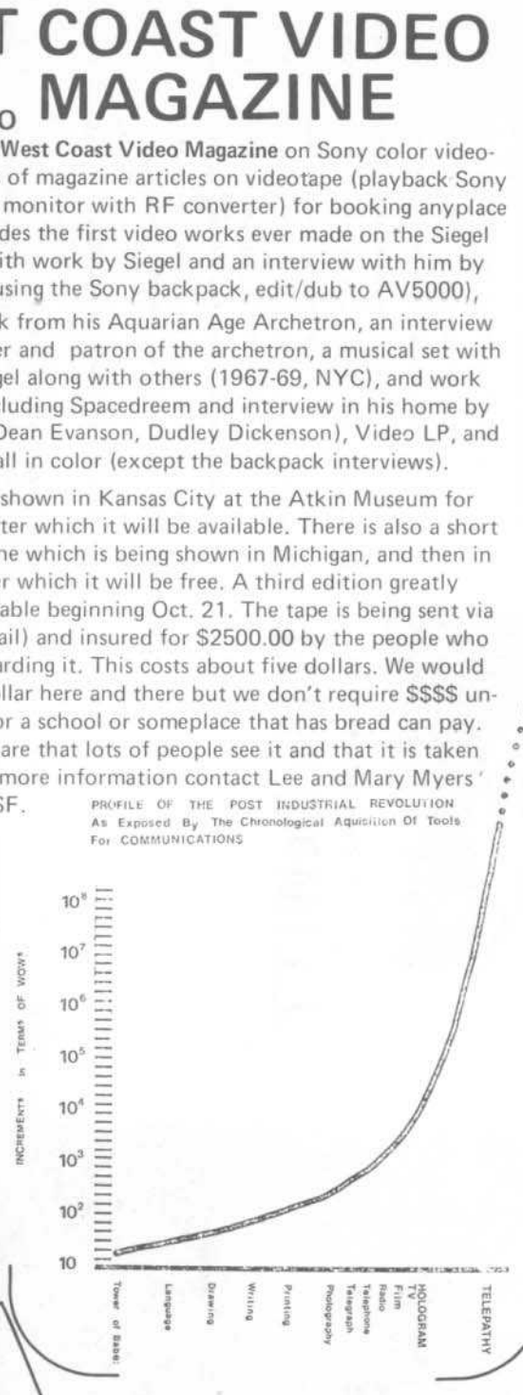
SAN FRANCISCO

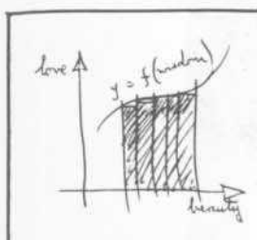
Announcing the first West Coast Video Magazine on Sony color videotape with three hours of magazine articles on videotape (playback Sony AV 5000 and a color monitor with RF converter) for booking anyplace that wants it. It includes the first video works ever made on the Siegel Video Synthesizer, with work by Siegel and an interview with him by Fobile Muck Truck (using the Sony backpack, edit/dub to AV5000), work by Tom Tadlock from his Aquarian Age Archetron, an interview with D. Witzner owner and patron of the archetron, a musical set with Tadlock and Eric Siegel along with others (1967-69, NYC), and work by Phillip Gietzen including Spacedreem and interview in his home by Fobile Muck Truck (Dean Evanson, Dudley Dickenson), Video LP, and Media Mind Massage all in color (except the backpack interviews).

The magazine will be shown in Kansas City at the Atkin Museum for two or three weeks after which it will be available. There is also a short edition of the Magazine which is being shown in Michigan, and then in Washington State after which it will be free. A third edition greatly shortened is also available beginning Oct. 21. The tape is being sent via airborne (never US mail) and insured for $2500.00 by the people who are returning or forwarding it. This costs about five dollars. We would also like to make a dollar here and there but we don't require $$$$ unless a charge is made or a school or someplace that has bread can pay. The important things are that lots of people see it and that it is taken care of properly. For more information contact Lee and Mary Myers' 603 Columbus Ave., SF.
PHIL GIETZEN

PROFILE OF THE POST INDUSTRIAL REVOLUTION
As Exposed By The Chronological Aquisition Of Tools For COMMUNICATIONS

TABLE 7

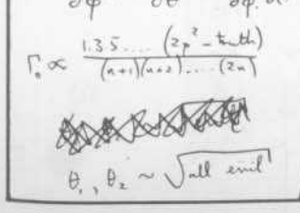




MICHAEL HASTINGS

TORONTO

. . . has written "They; Not We" a pagan fantasy sermon for television



NEW YORK STATE COUNCIL ON THE ARTS 250 WEST 57 STREET NEW YORK, N.Y. 10019	REQUEST FOR ASSISTANCE TO CULTURAL ORGANIZATIONS SECTION 3 – GRANT REQUEST	PLEASE SUBMIT IN TRIPLICATE

Page 4 of 7

1. Purpose for which aid is requested

Please explain in general terms the purpose for which you are requesting Council funds.

Television has accelerated writing as our cultural [illegible]. No medium better transforms the information and matrix of our culture. Few groups and no regions are not touched by it. Yet, until a few years ago, the only way of dynamizing television was the relatively crude method of petitioning the "networks" for better "programming."

But whole generations raised on television could not long be denied direct access to express themselves with it. Thus, in 1965 when Sony and other Japanese manufacturers introduced highly accessible (inexpensive, facile, fully portable) video tape systems, innovative members of the first television generation responded almost with vengeance.

In just two years, vast bodies of indigenous software have been generated, people dissatisfied with the sanctioned use of television but nonetheless aware of the medium's power have trained themselves in its skills, and myriad designs for decentralized, interactive television networks have been suggested, networks which maximize feedback.

At the forefront of the video movement have been tape makers and experimenters in New York City itself. Just recently several of the groups producing software began to artistic for a common pool of information--for video data bank. This, not laborious or costly challenge to the FCC, promises a quick decentralization of television.

We are requesting Council funds for a project to hasten the genesis of this movement which has until now had no basis of financial support other than the enthusiasm of the participants and the (unreliable) availability of equipment.

The project, a video environment in the Jewish Museum itself and a Video Annex in another area of the city, will be of service to the New York State community through its immense value to museums, schools and other cultural institutions which now find themselves competing with television instead of co-existing with it symbiotically in the information environment.

Besides making equipment and skills available throughout the state, the project will simultaneously set up/retain, a cultural data bank of video information produced by people themselves about their own life styles. Not only will this transference of information help the New York State cultural community identify and deal with its problems, but the resulting data bank will be of great value for export to other states.

Finally, it should be emphasized that the sum requested (xxk, xxm) to underwrite this entire information system for a year is less than the production cost of one half-year weekly "series" on the broadcast use of the medium.

2. Description of programs or services

Please outline below each of the programs or services you plan to furnish with the requested Council funds. List the programs or services in your order of priority in case your entire request is not granted. For each program or service, include estimated starting date, number of performances or duration of services, estimated size and composition of audience, estimated revenue, and other descriptive factors.

1) A permanent Video environment will be installed in the Jewish Museum as an outlet for the software and systems designs being generated by the museum's Video Annex. The Video Environment will begin in September of this year, be open during normal museum hours, and can be anticipated to draw a continuing and renewed audience of these generally indifferent to museums but engrossed by new media forms.

2) A Video Annex, located in loft space in downtown Manhattan, will service and supply portable video equipment to individuals and community groups, serve as an environment for experimental programming, maintain and design equipment, and publish a Video Newsletter (see 3). The Video Annex will, in effect, function as a "Media Center" and can be expected to attract all facets of the New York artistic community which are interested in incorporating video into their work. Individual and group stipends have been budgeted for this purpose. (A great deal of the program will be hundreds of skilled television technicians with experience in using the medium as their tool. With proper publicity, there will be no trouble attracting people who want a chance to use portable video tape equipment.)

3) A Video Newsletter will publicize and disseminate print information about the Video Annex. It will be a quarterly with monthly supplements.

4) A consultancy service will make the Video Annex's resources available throughout the state. It will include a professional director whose job will be to interface the Annex's work with the community by organizing workshops and video fairs at museums and schools, maintaining a Video Van, and training others in the use of the medium as a social tool. The Consultancy Service can be expected to reach many New York State institutions which already have video equipment but are uncertain as to how to use it, as well as community groups which need better information resources for problem solving.

5) A Cultural Data Bank will insure maximum transference of the information generated by the Annex program. The director will be responsible for negotiating with New York State cable television systems for the use of the software, along with expediting its flow to in and out-of-state interested institutions and communities. (An upstate community, for example, might want information on how a Long Island one handled its teenage drug problems. Tapes made by the teenagers themselves would obviously be the best primer).

In addition, a computerized index of tape will allow for immediate servicing of requests. It is anticipated that the sale of tapes made under the Annex program will generate income for its continuing operation.

Ira Schneider and Michael Shamber

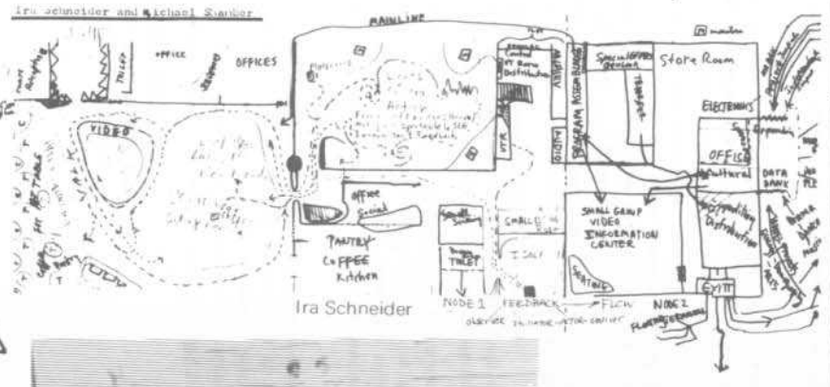


photo: Jasmina Boo

MARCO VASSI

NEW YORK CITY

RAPPO: WHY AREN'T YOU FUCKING?

No intelligent discourse may take place which launches itself from repressed premises or misperceptions of the actual. If it is a fact that the human race has passed an ecological turning point and is now doomed by the laws of biopsychology to destroy itself, if we are indeed entering the Age of Scorpio Dementia and are stinging ourselves to death under the maddening heat of dawning truth, then all discussion of the present/future must begin from that point. It may be time to stop talking as though there were any chances for survival, and ask ourselves what we may do with our lives in the face of total species annihilation.

To look clearly at the condition of manwomankind, to see the full dimension of its inherent pathology, is to understand that it's probably curtains for our kind. And when I view the record of our history, I am tempted to say, "Hooray."

What was to have been the brightest jewel in the latest social disruption to call itself a "revolution," i.e. the shock troops of media ecology, has become the latest stale turd to be tossed on the proliferating tombstone of western civilization. In New York City, communications central, the v.t. gang is a gaggle of white and jewish, middleclass, twenty to thirty-five, longhaired hippy businessmen into dope. Who have not yet learned that all their complex equipment is just so much metal junk, toys and tools, which have no more worth than the hands and hearts of the people who work them.

Here there are frantic hustlings in lofts and storefronts, ripping factional gunfire, open warfare over the placatory chunks of breadmoney tossed into the pit by the State to keep the dissenters busy bickering. One sees no sexual honesty, one does not hear the questions of children, one does not sense that fierce inner passion for truth which alone purifies all activity. One feels one's tenderness drying up, one's silence invaded by the murmurs of people blinded by tissues of lies. They rarely touch one another, not with their hands or their eyes or their vibrations. The Invasion of the Sensitivity Snatchers.

Women are conspicuous by their absence or relegation to minor tasks. One sees no black faces; the gay have not been involved. Several Wall Street advisers are on the scene. No plants, four-footed animals, or parties. The rationalizations are all avant-garde, caressing each nuance of the current hip rhetoric. There is neither the focus of aim, nor the relaxation of aimlessness. Ritualized confusion reigns.

ME: *What about Fuller?*

GILLETTE: *He accounts for everything except rage. The one thing he doesn't mention in his raps is that millions of people are running around killing each other all the time, and that it's got nothing to do with distribution of food or the excellence of toilet bowls.*

ME: *What is the state of alternate television?*

GILLETTE: *It is wanting.*

ME: *Wanting what?*

GILLETTE: *Quality of content. (Pause) A lot of people have finally got the* idea, *but except for four or five video artists throughout the entire country, there is no infusion of consciousness through tape. There is no one with a comprehensive vision of tape as art.*

Two casualties of the early video wars chatting about the state of the scene while driving down east twenty-third in an open convertible on a captivating September afternoon. A butterfly wings its way between two buildings and no one stops to be amazed.

The *I Ching* says, NO BLAME. Agnew is the crystallization of the essential evil in the nature of civilization. He is the price we pay for telephones and LSD. He is absolute dues. The real politik he represents is an international clique of stone-age monkeys chattering insanely in the dark. They have crucial control over the survival possibilities of the species and perhaps of all life on earth. But like the rest of us, Spiro is jes' doin' the best he can. One accepts him or eliminates him. One does not attempt to come to terms with him.

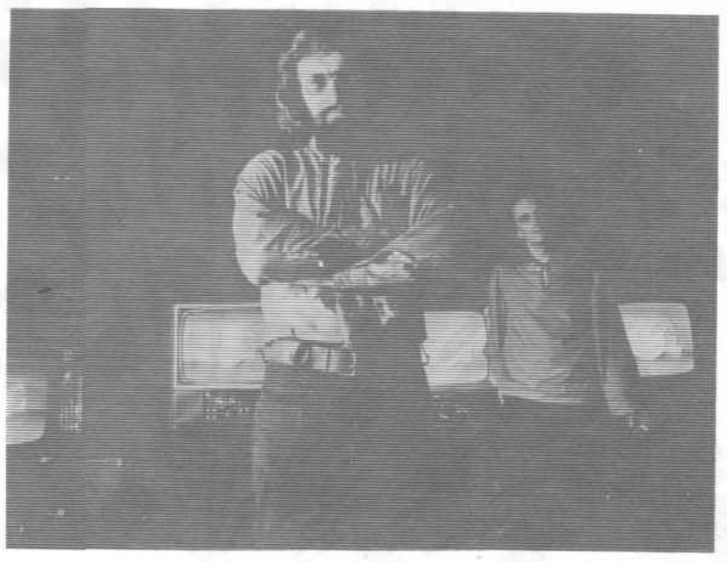


photo: Norman Snyder

But what of a more subtle phenomenon, such as Bucky Fuller, our very own dymaxion guru. A utopian fundamentalist, an ecological John the Baptist, the McMarx of the electronic ecstasy, he is supposed to know better, he is supposed to be *on our side.* But he understands everything about technology except the people who have created it.

He eats meat three times a day, and he travels a lot, and his wife is doing straight Krupskaya. He has a glittering array of mediocre metaphors which attempt to mask the fact that he is basically an elitist engineer. His utopia is the humming anthill and the happy beehive. He is really a Closet Clear, a secret admirer of L. Ron Hubbard's. He tells nice stories about how he was nearsighted as a child, joined the Navy, and found God to be Comprehensive. He and Krishnamurti used to go down on each other, but both still preserve the illusion of respectability, and have never let the shit stains on their underwear be televised.

He has attained a following by incessantly proclaiming that he has the plan to save the world, and has not the slightest trace of irony to underscore the pathos of his strident messianism. A large number of the theoretically hip young are coming to view his amiable blather as something viable, to the effect of atrophying whatever little ability they may have had for independent perception. He is outrageously energetic.

What hope can there be when "one of the foremost thinkers of the century" still operates on the assumption that reason has any bearing whatsoever on the nature of reality? Who doesn't seem to appreciate that technology is the materialized projection of thought, and that thought is merely an uncunningly wrought evolutionary tool and has the most meagre of roles to play in this passion called living?

Please, let us wake up totally, immediately, and let love flood our being. This existence is all we have. How dare we make it subservient to the endless, inane, self-cancelling activity of seeking profit? What sense of impunity do we allow ourselves to become shallow, unserious? At the brink of apocalypse, do we continue to refuse to admit and share the horror, the terror?

Raise up your hearts, children, and clear your minds. The lowest thing in this here universe is an animal who stood upright and lost his dignity. Be strong enough to be gentle, be gentle enough to be cruel, be alert enough to survive with beauty.

KIRA GALE

OMAHA, NEBRASKA

Gene Youngblood describes the work of Dr. Paul Bach-y-rita at the Institute of Medical Sciences in San Francisco as "video-braille". It is a poor choice of words because the exciting thing about Dr. Bach-y-rita's work is that it is *not* braille.

When the t.v. picture is "printed out" on the skin of a blind person's back, the blind subject actually SEES the picture in his vision center.

My husband teaches neuro-physiology at a medical school, and he teaches the current theory of "coding" for sensory information. It used to be believed that if you were touched on your leg, a "touch" nerve carried this information up to the brain. The coding theory says, instead, that the nerves are not specific for one sense or another and that they carry coded messages up to the brain where they are read out.

So, in the case of Bach-y-rita's experiments, it happens that the brain converts the pressure message of the 400 solenoid stimulators into a visual message, when the subject has practiced for enough hours. With ten hours training, a blind person can see simple objects and movements; with twenty hours training some blind subjects have been able to differentiate overlapping objects.

The implications of this theory are wide-ranging, beyond the hope it holds out for all sensory deprived persons (the blind can see, the deaf can hear with electronic sensory-substitution equipment). Perhaps this is a clue to the action of L.S.D., that it relaxes the brain's channels for de-coding messages. That when you listen to music, the brain goofs and sends it to the eye & ear instead of the ear alone, if the person is on acid.

There is the possibility that with intensive training, without the aid of drugs or hardware, a person could look at a painting and hear its music.

Readers interested in learning more about this should contact Dr. Paul Bach-y-rita, The Institute of Medical Sciences, Pacific Medical Center, Clay and Webster Sts., San Francisco, 94115, for reprints.

VENICE FILM FRICASSEE

VENICE, CALIFORNIA

ENVIRONMENTAL COMMUNICATIONS IN ASSOCIATION WITH THE LOS ANGELES FINE ARTS SQUAD (2 West Coast L.A. based groups concerned with media and environment) **WILL PRESENT THE 1st ANNUAL VENICE FILM FRICASSEE**—An Environmental Outdoor media festival open free to the public from dusk till dawn November 26-27-28, 1970. The festival will take place on a large vacant lot in Venice, California and will consist of 16mm., super 8 and ½" videotape. The films will be projected on huge walls and video tapes will be shown both on TV monitors and projected on walls with video systems equipment supplied by Odetics, Inc., an Orange County electronic systems equipment company.

The L.A. Fine Arts Squad is a group of young artists involved primarily with huge outdoor paintings—articles have appeared on them recently in Life and Newsweek.

Environmental Communications is an interdisciplinary group involved with all forms of media in documenting and communicating the quality of life in the environment and how it relates to man. They have been distributing slides to University Architecture, Planning and Art departments in the past and are presently embarking upon the distribution of films and video tapes.

For further information and entry blank for festival write: Venice Film Fricassee, 62 Windward Avenue, Venice, California. 213—392-5071 (David Greenberg, Bernard Perloff)

GLOBAL VILLAGE

VIDEO COMMUNITY DOESN'T YET = COMMUNITY VIDEO

The New York video community includes the following:

Jackie Cassen
Frank Cavestani
Frank Gillette
Global Village
Lee Kaminski
Les Levine
People's Video Theater
Nam June Paik
Raindance
Eric Siegel
David Silver
Videofreex
Joe Weintraub
AND OTHERS . . .

The existence of free, uncensored, independent, underground video is on the line. The hardware needed by this community is quite the same. Approaches, aesthetics (for what they currently might mean), and emphasis vary as they should and should continue to. Each group and individual struggles for hardware, fresh tape, overhead, survival. Recognition is important individually and collectively as a movement. The continued existence of each is important for the whole.

The last months have been destructive on all sides. The movement as a whole suffers because of it. The people who stand to gain from this dissension have motives that can sap its energy, vitality, and resources as a viable alternate means of communication.

Outside funding has become a necessity for everyone concerned. The pressures have been strong. A lot of negative energy has been expended all around.

Outside of this limited community lies a larger one. The talents, energies, and strengths of the craft community must serve collectively the larger one. The need for video is already widespread and can only become greater. It is so needed that all the above plus all those about to begin could not possibly fulfill the demand. It will take more energy and more resources than are now available or can be contemplated.

The realities seem to include the following:

1. Dissension and power politics among video artists and groups must stop.
2. Discussion and interchange must now begin with the present and work forward.
3. Each working video artist and group must be supported so that all can survive and continue their work.
4. Funding must aim towards collective support with respect for individual contributions.
5. Working, functioning, responsible committees should have meaningful input from the craft community and the community they are serving.
6. Video artists and groups should begin to talk about threats to the movement which have become more ominous by feeding on the discussion.
7. The power of "conduits" should be controlled by the video community.
8. That each group and individual recognizes fairly the input of the others for the good of the movement.

Let's all begin to put it together.
IF WE DON'T OTHERS WILL AND WE WON'T RECOGNIZE ITS SHAPE.
VIDEO FESTIVALS NEED HIGH, POSITIVE ENERGY.
AFFIRMATIONS AND SONGS OF LIFE.

J. KEARNEY NEW YORK CITY

Networks J. Kearney

A day of television programming as it may soon be

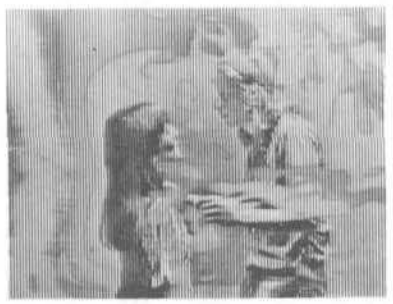
6 am	MORNING PRAYER holy men, chanters, musicians mantras, sunrise celebrations from tribes around the world
7 am	ORGANIC FARMER tapes made at farm communes
8 am	FOLK MUSIC known and unknown musicians taped in parks, concerts, boats, schools
Noon	POETRY, lightworks, talks with wisemen
1 pm	FREE UNIVERSITY teaching of skills
2 pm	COMEDY SHOW beat the reaper, monologues, old films, cartoons, politicians
3 pm	JAZZ, BLUES or COUNTRY MUSIC on locations
4 pm	CINEMA independent film-makers
5 pm	THEATRE independent theatre groups
6 pm	CHILDREN's PROGRAMS especially
8 pm	WORLDVIEW man in his environment
9 pm	ROCKGROUP live; splitscreens; international
Midnight	CINEMA features of highest quality
4 am	SEXUAL ART set to music

This is my idea of a balanced day of television programming. There could be occasional "spots" such as experimental one minute films to add more variety. A series of 10 or 20 such broadcast days could be taped and circulated (copied) around the world, shown through various private facilities. Then there's always the unpredictable situation with cable, educational, school, and satellite TV. Foreign networks or American public or commercial TV might even be interested, but of course their ads would have to be replaced by messages of some value to humankind.

The most promising development in V-T thus far to me are the pirate tapes from events like the Isle of Wight and the Video-freex balloon-screen. The worst rumor I've heard is that a major network soap opera is going to try to solve it's problems by—you guessed it—"stay tuned for T-GROUP, next on. . ."

TOM DeWITT

POUGHKEEPSIE, NY



HOMESKIN—A VIDEO COMMUNE SAN FRANCISCO

"The parasitic life has greatly reduced the danger from predators, and from the demand for competition . . . the life of parasitism is not as hard on the parasite as the free life is on the free-living animal."

Parasitology, E. & G. Noble

A REGULAR ROLLING EVENT SPIRIT FARE FAIR TRUCK RACE & TRAVELING RADIO

1) We all spend a day a week food-gathering.
   Buy, beg, steal, rustle, cultivate, hunt, pick it up off the ground or out of garbage cans.
   Go for weight.
2) Come to a central place (which changes), spread it out, check out everybody else, & take what you need.
   If anyone disagrees with you, decide it on the spot.
   Do you need it?
3) Get loaded.
4) Lay in the sun.
5) Badmouth lame gatherers & deadbeats.
6) Praise those who surprise & delight you with their vigor & imagination, especially if you've never seen them before.
7) Flirt.
8) Gossip.
9) Fix trucks well enough to do it again.

NEW YORK STATE COUNCIL

Subject to final program approval, the Creative Artists Public Service Program, sponsored by the New York State Council on the Arts, is now accepting applications for grants from individual artists.

The first deadline for receiving proposals is November 20, 1970. However, there will be a second deadline for submitting grants in this category.

Special consideration is given to the public service aspect of the proposal. We also understand that the more grants submitted to a particular division, the more money allocated to that division, i.e., the more grants received having to do with the use of media and its public service or community applications, the more money available for everyone.

For more information write to: Cultural Council Foundation—Creative Artists Public Service Program, 250 West 57th Street, Room 419, New York, N.Y. 10019, (212) 586-2040.

AN OPEN LETTER TO THE NATIONAL CITIZENS COMMITTEE FOR BROADCASTING

We are writing you because we believe that your organization is guilty of a glaring mis-assignment of its priorities. In an open letter of your own, published on October 4 in the New York Times, you openly and pointedly invited representatives from CBS, NBC, and ABC to attend today's conference at the Hotel Americana, even though you admitted that the three networks were doing very little to provide enlightened television in this country.

Yet you yourselves have failed to extend cordial or even perfunctory invitations to the most liberated and enlightened segment of television today, namely the new videotape community and the artists and critics of the Art Workers Coalition who realize the potential it holds for the future of this nation.

We are correcting this oversight on your part by coming to the conference anyway. We intend to distribute this leaflet, take part in the various panels and events, and to discuss with your members the growing crisis in this country.

We believe that the presence of Thomas P.F. Hoving as chairman of your conference is part of this growing crisis. We recently negotiated with the Metropolitan Museum over the ground rules of a public hearing held there last week and discovered that Mr. Hoving felt that both the museum and our group should supply "press observers" for this event. We discovered that what Mr. Hoving meant by "press observers" was in fact people to "correct" reporters in writing their stories and to "correct" cameramen who pointed their cameras in the wrong direction. Hoving also forbade his staff from attending this hearing—those curators who did try to attend were ordered away by museum guards.

We believe that Thomas Hoving and Spiro Agnew are the same problem—the difference between them is only one of degree, not of quality. Both are trying to stifle discussion of important cultural problems at a time when our nation's future desperately requires it.

We hope such discussion will take place during this conference. We will do everything in our power to make it take place.

Media Committee
Art Workers Coalition
October 25, 1970

CENTER FOR POLICY RESEARCH, INC., NEW YORK CITY

The main purpose of the Center for Policy Research is to provide facilities for and an intellectual environment conducive to research leading to the formulation and reformulation of public policy, especially with regard to social, domestic issues. Policy Research's chief aim is to serve policy-making bodies, including social movements and other groups of active citizens. The ultimate client of the Center is the society, and its needs guide the Center's work.

. . .The Center has developed a position on the public approach to CABLE TELEVISION. It favors setting up a public authority that would operate all cable television, set rates, and allocate channels. The Center has also examined the proposed contract for the franchise for cable television in Manhattan. On the basis of research conducted at the Center, Dr. Amitai Etzioni testified at the CATV hearings of the Board of Estimate of New York City on July 23, 1970, and met with city officials, the press, and the presidents of the firms involved to explain the Center's position.

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