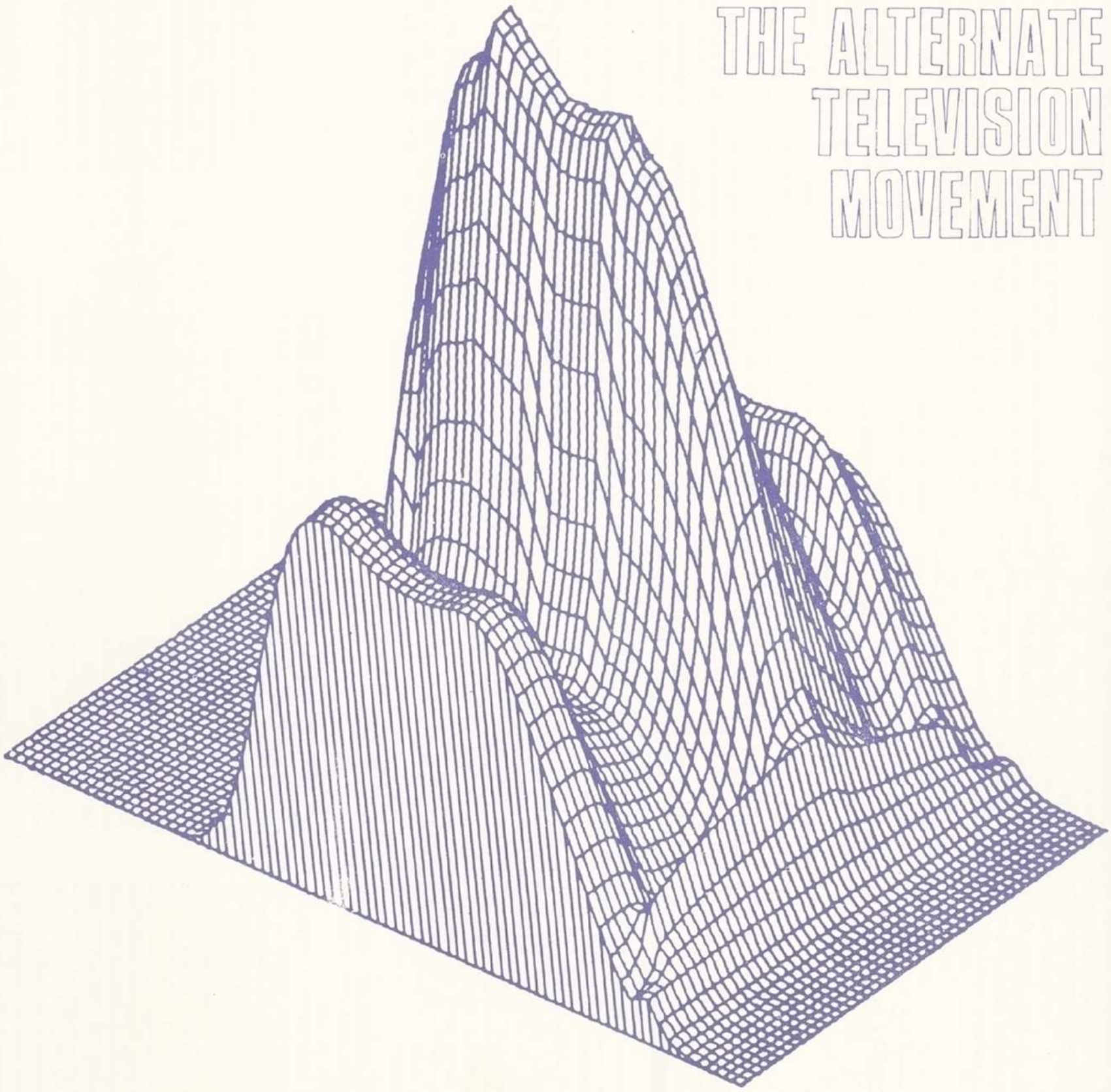
RADICAL SOFTWARE

THE ALTERNATE TELEVISION MOVEMENT



NUMBER 1

1970

As problem solvers we are a nation of hardware freaks. Some are into seizing property or destroying it. Others believe in protecting property at any cost—including life—or at least guarding it against spontaneous use. Meanwhile, unseen systems shape our lives.

Power is no longer measured in land, labor, or capital, but by access to information and the means to disseminate it. As long as the most powerful tools (not weapons) are in the hands of those who would hoard them, no alternative cultural vision can succeed. **Unless we design and implement alternate information structures which transcend and reconfigure the existing ones, other alternate systems and life styles will be no more than products of the existing process.**

Fortunately, new tools suggest new uses, especially to those who are dissatisfied with the uses to which old tools are being put. We are not a computerized version of some corrupted ideal culture of the early 1900's, but a whole new society because we are computerized. Television is not merely a better way to transmit the old culture, but an element in the foundation of a new one.

Our species will survive neither by totally rejecting nor unconditionally embracing technology—but by humanizing it; by allowing people access to the informational tools they need to shape and reassert control over their lives. There is no reason to expect technology to be disproportionately bad or good relative to other realms of natural selection. The automobile as a species, for example, was once a good thing. But it has now overrun its ecological niche and upset our balance or optimum living. Only by treating technology as ecology can we cure the split between ourselves and our extensions. We need to get good tools into good hands—not reject all tools because they have been misused to benefit only the few.

Even life styles as diverse as the urban political and the rural communal require complex technological support systems which create their own realities, realities which will either have to be considered as *part of the problem, or, better, part of the solution*, but which cannot be ignored.

Coming of age in America means electronic imprinting which has already conditioned many millions of us to a process, global awareness. And we intuitively know that there is too much centralization and too little feedback designed into our culture's current systems

The only pieces of public technology, for example, which are responsive to human choice are electric-eye doors and self-service elevators. Street-use patterns and building designs completely structure our experience rather than vice-versa. (*The people belong to the streets*). When you get into mass communications systems other than the telephone not only is control centralized, but decision-making is an institutional rather than a people process.

Fortunately, however, the trend of all technology is towards greater access through decreased size and cost. Low-cost, easy-to-use, portable videotape systems, may seem like "Polaroid home movies" to the technical perfectionists who broadcast "situation" comedies and "talk" shows, but to those of us with as few preconceptions as possible they are the seeds of a responsive, useful communications system.

Videotape can be to television what writing is to language. And television, in turn, has subsumed written language as the globe's dominant communications medium. **Soon, accessible VTR systems and video cassettes (even before CATV opens up) will make alternate networks a reality.**

Those of us making our own television know that the medium can be much more than "a radio with a screen" as it is still being used by the networks as they reinforce product oriented and outdated notions of fixed focal point, point of view, subject matter, topic, asserting their own passivity, and ours, giving us feedback of feedback of information rather than asserting the implicit immediacy of video, immunizing us to the impact of information by asking us to anticipate what already can be anticipated—the nightly dinnertime Vietnam reports to serialized single format shows. If information is our environment, why isn't our environment considered information?

So six months ago some of us who have been working in videotape got the idea for an information source which would bring together people who were already making their own television, attempt to turn on others to the idea as a means of social change and exchange, and serve as an introduction to an evolving handbook of technology.

Our working title was *The Video Newsletter* and the information herein was gathered mainly from people who responded to the questionaire at right. While some of the resulting contents may seem unnecessarily hardware-oriented or even esoteric, we felt that thrusting into the public space the concept of practical software design as social tool could not wait.

In future issues we plan to continue incorporating reader feedback to make this a process rather than a product publication. We especially hope to turn the interest and efforts of the second and third television generations on college campuses, whose enormous energies are often wasted by the traditional university way of structuring knowledge, towards the creation of their own alternate information centers. (We are of the first television generation ourselves.)

To encourage dissemination of the information in *Radical Software* we have created our own symbol of an *x* within a circle: Ⓧ. This is a Xerox mark, the antithesis of copyright, which means *DO* copy. (The only copyrighted contents in this issue are excerpted from published or soon-to-be published books and articles which are already copyrighted.)

The individuals and groups listed here are committed to the process of expanding television. It is our hope that what is printed here will help create exchanges and interconnections necessary to expedite this process.

Please enclose information pertaining to the following:

1. Personal Biography (publishable and for use in our own files, i.e., resume type information, past activities prior to video, or simultaneous with, etc.).
2. Experimentation with video.
   a. Why are you using video? How long have you been using it?
   b. What experiments have you made, are you presently making, and do you plan to make with this medium?
   c. Where do you see yourself going with video (in relationship to both hardware and software aspects)? Which are you personally more interested in developing? What are some of your overall concepts?
   d. What do you predict for the future of videotape and TV?
   e. How do you work (individually, collaboratively, both)?
   f. What equipment do you use? Own? Do you plan to continue to use this, or are you planning to switch to some other? Please comment on quality and efficiency of equipment now available to you.
   g. What equipment would you like to see manufactured?
   h. What information would you like to obtain from other people who are experimenting with videotape in this and other countries? (Do you have any solutions, questions, or information about compatability?)
   i. How do you think video can best be displayed publicly?
   j. How do you think videotape can best be used non-commercially for profit?
   k. What kind of information would you like to see included in this newsletter?

RADICAL SOFTWARE

Editors: Beryl Phyllis Korot Gershuny
Publisher: Michael Shamberg
Co-originator: Ira Schneider
Production: Phyllis Gershuny, Beryl Korot, Linda Nusser, Ira Schneider, Michael Shamberg
Photography: Louis Jaffe

Thank you, Pat Friedman, J. Hoffman, Richard Kahlenberg, Paul Ryan, Thea Sklover, John Wilcock, contributors.

RADICAL SOFTWARE
Published by Raindance Corporation
Editorial offices: 24 East 22 Street
New York City 10010
Tel: (212) 982-5566

CONTENTS

NUMBER 1 1970

HARDWARE

THE VIDEOSPHERE

by GENE YOUNGBLOOD

In 1948 approximately 200,000 American homes had television sets; fifteen television stations were broadcasting regularly. By 1958 some 520 stations were broadcasting to receivers in 42 million homes. Today there are tens of thousands of broadcasters and approximately 100 million homes have television sets. More than 95 per cent of American homes have TV sets today, approximately 14 million of which are color. In fact there are more TVs in U.S. homes than telephones, bathtubs or refrigerators. TV antennas bristle from the rooftops of ghetto shacks that don't even have plumbing. An estimated quarter-billion television receivers are in use around the world.

Television is the software of the Earth.

The videosphere is the *noosphere*–global organized intelligence–transformed into a perceivable state.

This implosive, self-revealing, consciousness-expanding process is irreversible. Global information is the natural enemy of local government, for it reveals the true context in which that government is operating. Global television is directly responsible for the political turmoil that is increasing around the world today. The political establishments sense this and are beginning to react. But it's too late. Television makes it impossible for governments to maintain the illusion of sovereignty and separatism which are essential for their existence. Television is one of the most revolutionary tools in the entire spectrum of technoanarchy

Television, like the computer, is a sleeping giant. But those who are beginning to use it in revolutionary new ways are very much awake. The first generation of television babies has reached maturity having watched 15,000 hours of television while completing only 10,000 hours of formal education through high school. Yet television itself still has not left the breast of commercial sponsorship. Just as cinema had imitated theater for seventy years, television has imitated cinema imitating theater for twenty years. But the new generation with its transnational interplanetary video consciousness will not tolerate the miniaturized vaudeville that is television as presently employed. We will liberate the media.

Cheap, mass-produced, personalized radar sets and house-to-house closed-circuit television broadcasting soon will be available . . .

Approximately 75 per cent of all TV homes in America are now "all channel," that is, receiving UHF as well as VHF programming. **It is estimated that 97 per cent will be all channel by 1974**. Meanwhile there are fewer than 100 communities of more than 2500 population that do not have CATV systems now operating or with applications under consideration.

. . . The FCC recently granted permission for Microwave Communications, Inc. to compete with AT&T by offering CATV systems for rent at parts of a circuit for part of a day. AT&T charges for a whole circuit 24 hours a day. The first lines were to be available between Chicago and St. Louis **by July 1970**.

. . . **a new way to transmit CATV** programs without laying down miles of cable has been developed . . . a "quasi-laser" broadcasting system with power requirements in the range of a flashlight battery. . . . the system transmits up to 15 miles and is "virtually impervious" to atmospheric conditions.

. . . the New York County Lawyers Association currently is studying the question of whether the public, as owners of the airwaves, have a right to compel TV stations to provide free CATV service since it is the clearest reception.

. . . a two-way television system that can measure audience reactions instantly via cable and computer interface.

By autumn of this year, Bell Telephone's first commercial Picturephone service will be available to the public. . . . AT&T will begin testing a variety of equipment that can read your gas and electric meters via the same lines.

. . . A laser videophone is now in operation at the headquarters of Nippon Electric Company in Japan, between buildings 300 yards apart.

. . . (Nippon Electric Company) has used lasers to transmit black-and-white television over a distance of three miles.

A laser-line telephone system that also carries black-and-white TV is now in operation in a high-rise office building in Moscow.

. . . "demand TV" or "telecommand" systems are expected by about **1978**. This system will allow an individual to telephone regional video library/switchboards, ordering programs from among thousands listed in catalogues. The programs will be transmitted immediately by cable, . . .

Two networks in Japan are now so automated that two computers in headquarters connect 26 TV stations, schedule production work on 600 to 700 shows at a time, operate master switching controls, warm up equipment, select films and tapes and put them on the air. They do much the same for 33 radio stations.

. . . "videofax" or "homofax" process of facsimile replication and distribution by which one will receive newspapers, magazines and educational documents over home facsimile receivers. Although **demonstrated as early as the 1930's** homefax systems are only now coming into commercial use. . . . the facsimile revolution challenges current FCC regulations of content of CATV programs. **Since the "content" of the facsimile system is a newspaper, present government rulings amount to an impairment of freedom of the press.**

The three major satellite networks–the Comsat/Intelsat series, the U.S. Defense Department series, and the Soviet Molniyas series– . . .

By 1972 no geographical area of the world will be without access to communications satellites.

Direct satellite-to-home TV is planned for NASA's Applications Technology Satellite-C scheduled for launch in **1974**. According to a study made for NASA by Sylvania, home TV sets could be modified to pick up the signal for $100 to $150. Spokesmen for General Electric, however, maintain that the average American TV set could be converted to direct-from-satellite reception for about $50 and (in black-and-white at least) deliver a better picture than most sets get now. Comsat claims its "local" satellite system would require no modifications of the home receiver.

Comsat officials say they can put a domestic satellite system into orbit within 24 months after receiving federal approval.

In September of 1969 the U.S. and India signed a pact which will bring direct satellite-to-village television for 5000 villages in India. Manually-operated generators in each village will provide electricity to operate one community TV set and a ten-foot dish antenna that will reach out 22,300 miles over the Indian Ocean to receive programs from two satellites. Next India hopes to have a TV satellite system that will reach directly into 560,000 villages **by 1975**, and for less than $200 million. Thus India has entered the television phase of the industrial equation considerably in advance of previous nations, having completely bypassed the ground relay stage and beginning with satellite television.

Within five years constant analysis of this planet via TV satellites will be a $2 billion industry . . . . Remote multispectral sensing capabilities of the satellites can distinguish between various types of crops such as wheat, oats, and corn, and can also provide an early-warning system for the spread of insect infestation or crop disease, lack of adequate water, livestock movements, changes in grazing patterns, in forest and water tables, and even wild animal and bird migrations may be continuously surveyed. By measuring light and heat emanations, the flows of traffic in and out of cities can be computed; patterns of human occupancy of buildings can be deduced from temperature changes–all from satellites thousands of miles above Earth.

Equipped with special high-resolution 5000-scanline cameras in a low 500-mile orbit, satellites have yielded picture resolution equivalent to 100 feet above ground. Higher resolution is possible, officials announced, but some countries would complain of "invasion of privacy."

The Nippon Electric Company of Tokyo has announced that its solid state flat TV set composed of light-emitting diodes will be released on the commercial market **next year**.

. . . it appears that flat wall TV sets will be on the commercial market **by 1978** at the latest.

It is estimated that **in 1975** your average color TV set will cost less than $50.

. . . a TV receiver only 5-½ inches thick with a 13-inch screen.

. . . a TV tube with a screen 4 x 6 feet but only one foot thick.

. . . a compact tubeless TV camera less than two cubic inches square (smaller than a man's hand) which utilizes solid-state light sensors instead of the conventional photo-cathode screen.

. . . a high-resolution TV camera less than one pound and small enough to carry in a pocket, . . .

. . . a half-dollar-size TV screen

. . . a two-dimensional laser color TV with a screen 10 x 6½ feet, composed of thousands of glass bars only two millimeters thick, . . .

. . . transistorized TV sets with rechargeable 500-hour batteries.

. . . a 200-scanline system with picture definition so sharp that it may be transferred to 35 to 70 mm film via laser for common movie theater use.

. . . "video Braille" . . . a TV camera scans an area and the picture code is transmitted to 400 solenoid stimulators on the blind person's back, where the picture is translated onto the skin through plastic-tipped vibrators.

. . . most observers estimate that TV cameras small enough to fit in a human eye socket will be developed **within the next 10 years**.

. . . television sets that translate foreign-language programs into the language of the receiver's local area . . .

By 1972 more than 200,000 low cost videotape recorders will be in use in the United States, and the video cassette image-publishing industry will be well on its way to blanketing the Earth with audio-visual information. The videosphere will alter the minds of men and the architecture of our dwellings. "There's a whole new story to be told," says video artist Scott Bartlett, "thanks to the new techniques. We must find out what we have to say because of our new technologies."

Excerpted from **THE VIDEOSPHERE** by Gene Youngblood, *copyrighted material*, to be published July, 1970, in *Show* Magazine.

Rolf-Ulrich Kaiser, at 5 Koln-Dellbruck, Bergisch Gladbacher Str., West Germany, is writing a book about the "Counter Media" in which he will have a section about videotape.

Expanded Cinema by Gene Youngblood, to be out in July by E.P. Dutton & Co.

CATV

by THEA SKLOVER

APRIL CONFERENCE IN CHICAGO

Cable television operators marched into Chicago on April 30 in order to learn about alternative software packages available for cable-casting. The meeting was planned in response to the Federal Communications Commission's rule requiring all CATV systems with over 3,500 subscribers to offer "a significant amount" of their own programming by January, 1971. At present, there are 270 systems that fall into this category.

The growth of the cable industry in recent years, which has resulted in this FCC edict, is testified to by the figures released by the National Cable Television Association, the sponsors of this convention. "There are now 2,400 community antenna systems operating in 49 states, serving 3,900 communities with an annual revenue of $300 million, employing 60,000 people and serving 4,500,000 homes. In addition to the 2,400 CATV systems that are presently in operation, as of January, 1970, about 2,100 additional communities had issued CATV permits to local operators and in 1,400 communities CATV applications were pending before local governing bodies." If all these systems were to become operational within the year there would be approximately 5,900 CATV systems operating throughout this country. The projected figures claim service in 30 million homes via 7,500 systems with an annual revenue of $3 billion by 1980. It certainly seems that this industry is well on its way to becoming a formidable component of the communications community.

Hand in hand with the programming considerations on the part of the cable operators, came concern and interest in advertising dollars. Now that the FCC has removed restrictions on the carrying of advertising commercials over the cable, the cable owners are turning their thoughts towards the potentials for advertising revenue. Concern and interest in advertisers came hand in hand with the programming considerations at the convention. Both the national advertiser as well as the "local yokel" were contemplated as sources of revenue to cover the costs of local origination. Information regarding sales promotion, marketing techniques and ratings charts were in as much demand as facts about costs of the software offerings. The cable operators were taking the plunge into that communications community formerly the exclusive property of the publisher and the broadcaster and were arming themselves with all the necessary facts and figures. They intend to become formidable competitors for that advertising dollar.

The convention was well attended, much better than anticipated, with over 230 cable system owners in attendance, including the small single system owner from Dixon, Illinois as well as the multi-system owner such as Teleprompter. In addition, many "interested parties," neither exhibitors of software materials nor cable owners made up a third group of those in attendance at the Palmer House in Chicago. This group represented a variety of interests and are a possible indication of potential alternative inputs into the industry. Amongst this group was UPI, Reuters, Ltd., The American Film Institute, Corporation for Public Broadcasting, Comsat, Dreyfus Corporation, Stanford Research of Palo Alto, Standard Rate & Data Service and some social interest types like myself.

Most of the meeting was devoted to presentations by the 24 software exhibitors. These programming choices ran the gamut of commercial fare, including old movies, re-runs of former network winners now in syndication, cartoons (lots of these, all fashionably stressing non-violence), an automated weather and news report coupled with a ticker tape, game shows

A Community Antenna or Cable Television system (CATV) consists of: 1) super antenna to pick up broadcasted signals, 2) a "head" or "headend" which processes these signals and can serve to process locally originated signals, 3) coaxial cable which is strung via telephone poles or city ducts to the home TV sets. Subscribers generally pay $5 a month for the hookup. Cable capacity is presently 12 or 20 channels and in San Jose, California a 42 channel capacity is being installed.

(BINGO) was the big news in this category along with a new version for kids, (LINGO), instructional materials for use exclusively on an educational channel, produced by National Instructional Television, and a package of NET productions All of these offerings obviously produced originally for broadcast purposes and aimed at the mass market.

There were three presentations that were geared specifically to the cable market; a series of short programs that could be integrated into a locally produced show by wrapping around them a local narrator or guest personality, format packages, which were offered by CBS and International Tele-Cable Productions, Inc., headed by Bert Claster of Romper Room fame, included full instructions for local originations right down to the hiring of personnel, the construction of sets, in addition to scripts, film inserts and ongoing seminars for the newly hired local "talent". (Really a do-it-yourself kit for smaller versions of the standard mediocre television fare now offered by over the air television.) The locally-originated packages, "Local and Live" as one supplier labeled them fit into the following programming descriptions:
Shows for the pre-schooler–these usually proport to teach as well as entertain, a la Sesame Street.
How–to shows–how to be more beautiful, have a more beautiful home, cook more beautiful food, have a more beautiful figure, play a more beautiful guitar, predict a more beautiful future, etc., etc.
Sports shows–about bowling, fishing, golf, etc., etc.
Travel formats–where to go on your next vacation.
Reviews–latest cultural offerings reviewed by famous personalities.
Game shows–applications of old techniques revamped for television.

The other locally oriented alternative was a plan for leasing channels outright to programmers. Kepler Television Productions, Inc., proposed to lease a channel from the cable operators which they would supply with 20 hours of programming per week. As part of their plan, they would create a local corporation in every town that subscribes to their service that will hire and train community residents to produce and sell local programming. The charge to the cable operator for this service is $1.00 per subscriber per year or 5% of the gross of advertising revenue. This plan is currently in effect in Glassport, Pennsylvania and Kingsport, Tennessee.

The local CATV system in Cherow, South Carolina has already been operating under a similar leasing situation. A former disc jockey leases a channel on this 1,000 subscriber system and produces and sells ads for his own record show. The Jefferson-Carolina Corp. is planning a similar arrangement for its 5,000 subscriber system in Greensboro, North Carolina, leasing a channel to a local radio station so that they can cablecast their DJ's. Many systems are leasing channels to the local school systems for their own productions. This leasing concept has been encouraged by the FCC in order to create a variety of programming choices as well as a diversity in those who control these new channels of communication. The presentation of this particualr alternative didn't seem to be met with great glee by the assembled cable owners.

In addition to all these program offerings there was advice as to the best way to market the shows, which neighborhood retailer would most likely buy which show, as well as promises of future sales forces that would sell the shows for the cablecaster in both the regional and national markets.

The price for all these programs and services ranges from $100 to $200 an hour for the majority of the cable systems presently in operation. However, due to the youth of the industry, most of the software suppliers were willing to make individual deals with individual cable systems rather than quote general rates. Most of the programmers were actually trying to determine what the market would bear and will probably be ready for more specific rate statements by next season.

It is important to note that after these 24 exhibitors finished giving their "pitches," had talked intimately with the cable people in their "hospitality suites" and shared a drink or two, most of the cable operators were not buying. Whether indeed this was due to a lack of funds, need for thinking time or the realization, as some claimed, that most of the materials presented would not satisfy the requirements for locally oriented fare time will tell. However, the first stage in the development of an ongoing marriage between cable caster and programmer had begun. As one official of the NCTA said, "These people will be living with each other for many years to come and so the first introductions had to be made." That indeed was the underlying rationale for the conference.

Quite obviously most of the presentations and discussions at the meeting reflected an overriding concern with the monetary potentials of cable, the advertising dollars and consequently the entertainment form of programming that has been geared to the tastes of the general mass market. There was isolated talk here and there about "a promising new technology," "two-way systems," "computer inputs," "new localized service," "de-centralized forms of communications," "means of giving voice to a cross-section of the community," etc., etc., however, they were only words hanging in the air, with no hard facts, no real program plans to give them credence. When pressed about the *promise* of cable, particularly in the area of service to the minority groups in the community, most would point with pride to Teleprompter and the excellent job they are doing in servicing the Harlem community. Yes it is true that Irving Kahn, President of Teleprompter, does talk a great deal about the ability of cable to broadcast its message to geographical units as small as one neighborhood and the service it can therefore provide for the minority community. However, its present programming for that community is limited to one show, *Lunch at Frank's* a black version of the old *Lunch at Sardi's* of early radio and television days, and is carried into the homes of all the Teleprompter subscribers, which includes most of uptown Manhattan. Obviously, the capability of a filtering system that allows you to address directly one segment of the larger wired community, one of the truly innovational aspects of cable, is not being utilized. Whatever is produced is sent to every home, relevant or not. In addition, the choice of this program as the first production to be offered to the black community leaves much to be desired. It would be easy to imagine over hundreds of alternative ideas that would certainly provide more honest service to the residents of the Harlem community.

The FCC edict declaring programming diversity and the recommendations in the President's Task Force on Communications Policy Report all suggest that a wide variety of needs, interests and tastes be served via television: "The structure of the industry should make it possible to cater to as wide a variety of tastes as possible, the tastes of small audiences and mass audiences, of cultural minorities and of cultural majorities. Ours is a pluralistic society, in cultures as well as in the ethnic origins and the life-styles of its people. A medium of expression as pervasive as television should reflect and enrich this cultural pluralism." The fact that the programming choices as well as the faces in attendance at this first programming convention–cable operators meeting in Chicago did not include any members of the black community, nor for that matter were there any brown or yellow faces in the crowd, is just another indication of the lack of involvement of minority groups in this new technology. This is true both of the representatives of the systems as well as the software suppliers and therefore strongly reflected in the programming fare being offered to the cable industry. Indeed, the only time a black face was in evidence during the two days of the convention was at mealtimes when waiters entered the conference rooms, or on one other occasion, a piece of film exhibited by NET showing excerpts from past productions. The strong implication that the programming choices were even less representative of minority groups than present day television programming cannot be ignored. A sorry beginning for the newest member of the communications industry.

But what is frightening is that this is happening in 1970, a decade marked by a growing extremism which threatens the very core of our society, an urban plight that continues to go unheeded, a growing sense of outrage, amongst the disadvantaged minorities who feel the lash of tokenism, an equally strong militance emerging from the white middle class sector reflecting their sense of impotence, a growing awareness of the desecration of our natural resources, cries for peace answered with fists, fears of economic failure evidenced in the de-escalating Dow Jones averages, and a general overriding feeling of despair and hopelessness for many of the inhabitants of this country. The need for the constructive development of this new form of communications is imperative. We can't afford to waste this new resource, we must find the way to utilize this technology to speak to some if not all of the ills of our gasping society.

CABLE TELEVISION: A NEW BALLGAME?

Present

Cable television has come to New York City! We've all seen the advertisements on the crosstown bus, the signs in bar windows–**WE ARE ON THE CABLE. COME IN AND SEE THE KNICKS AND RANGERS** opened our morning mail to offers of free installation and even a few month's of free service. Yes, New York City, along with most of the nation, is gradually growing into a Wired City, a place where many of its inhabitants will be sending off a $6.00 check once a month to his local cable company along with payments for telephone service, gas, rent and that ever present Bloomingdale's bill. Yes, it will soon become another given expenditure, a necessity, like air and water, something we will be hooked on. Irving Kahn, President of Teleprompter, one of the companies presently franchised to operate cable here in our town, described this phenomenon rather accurately when he said, " . . . cable is the next best thing to a legal narcotic. Once you get on the cable, you never get off."

Yes, we will be sold on the virtues of cable television, the fact that it can bring us studio quality reception on every channel, no more ghosts, no more snow, no interference, no frustrating flip-flops, 24 hour news, weather and stock reports, the matchless presence of today's natural high-fidelity colorcasting, locally oriented programs, old movies and in some parts of the city the already mentioned home games of the New York Rangers and the winning Knicks.

What a cheat! As usual we shall be taken, *had* if you will, shelling out our hard earned dollars for a service that is a pittance of the infinite possibilities that this new technology could bring into our lives. We shall be paying for a better picture of the same old garbage, the type of enlightened, innovational, inspired programming that is currently carried on over the air television . . . a clearer image of Johnny Carson's newest sport jacket . . . a truer rendition of Lucille Ball's red hair in those *I Love Lucy* reruns, or locally produced programs of a similar nature . . . not worth the six bucks a month. But so goes the fate of the inhabitants of this fair city and nation–*had* again.

My intention is not to harangue you, nor to make you angry or even resentful of this new "service" that has dropped into your snowy television picture, for that would be unfair and just add to the heavy bundle of frustrations that you already carry around with you daily. Nor for that matter is my intention to take pot shots at the cable industry, for that would create more hostility and not better use of the technology. No, my purpose is to show you some of the real services that the cable industry could perform, as well as ways that these services could come into being, and then hope that you will be inspired enough to go out and do something about getting them for yourself.

Contrary to many of the other frustrations plaguing the lives of city dwellers today, there really is something immediate and effective that all of us can do to guide the growth of the cable industry. The youth of the industry coupled with the fact that local municipalities have a great deal of the responsibility for the creation of the laws governing CATV, make it much more possible for the average citizen to have his say and be listened to. The youth of the industry means that the vested interests are not as strongly entrenched as they are in the more established service industries–telephone, gas and electric.

The local governments have become heir to this regulatory function to some degree because the cable operators require access to the public thorough-fare in order to lay or string their wires throughout the town. Therefore the cable operators must go to the city municipalities in order to gain franchises, or permission, to wire up the area. It is possible that in the future the FCC may well pre-empt all rule-making regarding CATV, as they did in regard to the origination requirements for all local cable systems. This ruling, requiring all systems with over 3,500 subscribers to begin local programming of significant degree by January, 1970 pre-empted New York City's ban on the showing of feature films by cable operators. However, the evidence is fairly clear that the FCC would welcome creative law making on the part of local governments and is indeed looking towards the cities for guidelines in certain specific areas. In fact, the Mayor's Task Force Report on Cable Television released in New York City during the winter of 1969 still serves as the most definitive statement regarding the development of franchise agreements that protect the rights of the citizens as well as the city and the cable system owner. Even though the recommendations of this report have still not been implemented it is often quoted in government circles and will most definitely affect the body of laws governing the industry.

The resident of New York City, as well as those of Chicago, and other cities, are in a particularly advantageous position for they will be able to make their desire for "full service" known to the city government within the next few months. In New York, franchises that had been awarded by the Bureau of Franchises to Teleprompter Corporation, Manhattan Cable Television, and CATV Enterprises, the three companies presently serving Manhattan and Riverdale, have expired and new agreements are in the offing. At the same time that service for Manhattan and Riverdale will be under examination the awarding of new franchises to serve the other parts of the country will also be under consideration. Whether indeed this will be done through a competitive bidding system or a procedure similar to that now required by the FCC in granting licenses to broadcast applicants, or some combination of both will be under *our* scrutiny *via public hearings*.

These combinations–laws that have still not been written, the absence of well entrenched, strong vested interests and the closeness of the local governing bodies implementing and developing these new ruling is the ray of hope that I offer to you. Of course, contrary to what Mr. Kahn has said regarding a legal narcotic, once hooked–always hooked, there is always the last alternative of cutting the new umbilical cord and also access to your dollars. But let's leave that as the last resort while we try to guide the cable industry down the path of public service as well as profits.

Past

The history of the cable industry begins in the small towns and rural areas of our country. Originally the systems were designed to provide service to these outlying areas that had difficulty in receiving over the air television signals. This service, the importation of distant signals and the improved reception described earlier, was accomplished by erecting a master antenna in a favorable location and running coaxial cable from the master into the homes where the receiving sets were housed. As these systems moved down from the hills and into the cities with improved equipment, they grew more sophisticated in regard to the future implications of such a service. Companies began building "headend" facilities where the signal is filtered and amplified, and then transmitted via the coaxial cable or microwave to the television receiving sets of subscribers. This filtering system makes it technologically feasible to directly address one segment of the larger wired community. Therefore such a system could be constructed to speak to the needs of one small community, one block or even one apartment house. Thus the diversity of programming so sadly lacking in over-the-air television could be theoretically accomplished through the multiplicity of channels.

Future

. . . potential capabilities of modern technology–newspapers that roll off your television set, home retailing services, computer data available through push buttons in your living room, interconnection of municipal governments throughout the country, and opportunity to participate in national and local referendums via the television screen . . . cable television could well be the practical realization through which these concepts can become a reality. Due to the broadband capability of cable which can carry voice, television and record information simultaneously into the home, office or classroom, what has appeared as plans for a tomorrowland may well be made available today.

The constructive use of television as an information system rather than exclusively as an entertainment medium becomes more and more possible as the miles of cable are laid throughout this country. Yet most of the evidence, a recent cable programming conference, the present systems in operation, the type of hardware that is presently being purchased by the cable operators for their systems, the fact that only two systems now under construction will have the capability of carrying 40 channels of video and audio information, while the majority of the systems have only a 12 channel capability with a few systems currently installing equipment with a 20 channel capability, and the type of programming presently offered on the cable, leads you to believe that cable is going down a different road from futuristic or social concerns . . . with its primary concern for profits like the present broadcast system . . .

The above cable articles by Thea Sklover are rough drafts for a broad report on cable she is preparing. This material is *copyrighted*.

VIDEO CASSETTE IMAGE PUBLISHING

by GENE YOUNGBLOOD

. . . As early as 1968 several firms in the United States demonstrated prototype low-cost home VTR systems for less than $1000. It is expected that by 1973 one will be able to purchase a color TV camera, color VTR unit and color display monitor for approximately $1000. By comparison, similar equipment today costs from $11,000 (Sony) to $50,000 (Ampex). The most one can expect to get for $1000 today is Sylvania's color tape display monitor, less camera and VTR. Craig's color VTR, less camera and display console, costs $1600.

At present, videotaped or filmed information can be electron-beam recorded onto low cost photosensitive material which, in the example of Columbia's EVR system, results in one-hour cartridges of 180,000 black-and-white frames or half-hour cartridges of 90,000 color frames. They can be displayed individually or sequentially in random-access or automatic modes on any television set with higher resolution than videotape systems or broadcast TV. The EVR process reduces broadcast videotape costs by a factor of fifty, home videotape costs by ten, and is approximately one-fifteenth as expensive as conventional filmmaking.

It is to be stressed that the EVR system is not electronic photography, per se, but rather is elecronic video or cinematic modes. However, several major research projects presently are under way to develop true electronic photography (the major obstacle is that a vacuum is necessary inside the camera). This will be the most important development in image-making since the invention of the photographic plate.

The Motorola Corporation, who'll manufacture and market EVR players, estimates they'll be making about 100,000 units per year by 1972 (Equitable Life Insurance already has ordered 1200 players). Meanwhile, the first serious competitor to the EVR system will be Sony's cassette for home VTRs, to be marketed by 1972. The Sony system, developed under a joint research project with Philips and Grundig, features 90-minute cartridges of color videotape with stereo sound. Pre-recorded tapes will cost about $28, non-recorded cassettes about $20. The color display console will cost approximately $500. Sony's cassettes will contain footage counters so that rental firms will be able to charge by the number of plays. For an additional $100 the system will record in color and black-and-white from any home TV set. The same capabilities are offered in a cartridge player to be marketed by North American Philips Norelco, also for about $500, with a portable TV camera at extra cost.

By 1973 RCA will introduce its "SelectaVision" VTR player that will play pre-recorded programs through any TV set, for about $400. The system will feature stereo sound. RCA soon will invest $10 million to buy rights to films, books, etc. They'll start off with a selection of 100 pre-recorded videotape cartridges priced at less than $10 per half hour. The process involves a color TV image recorded on film and then converted by laser into optical interference patterns. These holographic patterns are recorded on plastic tape which is scratch-proof, dust-proof, virtually industructible in normal home use. A safe low-power laser beam in the SelectVision unit converts the impressions back into a color TV picture.

Matsushita soon will introduce two competing videotape systems for the home: cassette and reel-to-reel players. The AVCO organization will release a cartridge home VTR system by 1972. They reportedly use quarter-inch audio tape instead of standard costly videotape. Meanwhile RCA is developing three-minute 8mm and 16mm rolls, will be high-density and will require no threading. The latest development in the burgeoning EVR process is a video "magazine" called *Computer Telejournal* to be published next year on EVR cartridges, a joint effort by Telegeneral Corp., Delta Books, and CBS.

Meanwhile, a new industry of feature film cartridge projection systems has developed to compete with the videotape market. By 1971 Kodak, Bell & Howell, Fairchild, Technicolor and others will introduce new movie cartridges for home projection. For example, Vidicord Holdings, Ltd., of England will market a home movie projector that operates through any TV set in Super 8mm format for $600. Their black-and-white version will be priced at $400.

A compact textbook-size movie cartridge projector has been developed by Zeiss-Ikon in West Germany for Panacolor Corp. in New York. The system uses 300 feet of 70mm film divided into 12 separate image tracks to produce two hours of color, sound movies. The tabletop projector provides stop-motion, slow-motion and, unlike EVR, reverse motion. The film runs continuously like a tape recorder without pull-down claws by using a rotating cylindrical prism lens which permits capstan drive.

Excerpted from **THE VIDEOSPHERE** by Gene Youngblood, *copyrighted material*, to be published July, 1970, in *Show* magazine.

EVR (Electronic Video Recorder) prints sound and image electronically on a master film (black and white and color) from which limitless copies can be printed. The prints are packaged in a circular cartridge seven inches in diameter with a maximum 50 minutes of running time for black and white cassettes and 25 minutes for color. The cartridge must be rewound after the first track is played and then reinserted in the player for the second 25 minute run. The cartridge can be played only on the EVR player, a briefcase-sized unit with wires that clamp onto the antenna terminals of standard TV sets. **The system has no recording capability**, *though any videotape, film or live television presentation can be transferred to the EVR system. The color capable EVR system was exhibited in March 1970 for marketing September 1, 1970.*

The first shipment will go to the marketplace September, 1970. The players intended for industrial and educational use will sell for $795.00 but a scaled-down home model is planned at a lower price. Cartridges of one half-hour of pre-recorded programming (black and white) will be $14.40. The selling price for color has not been announced but a rental fee of $5-6 for a feature film in an EVR Cartridge was suggested by one CBS spokesman.

The Sony videocassette system will be marketed in Japan late 1970, and in the United States early 1971. (Sony-Color Videocassette System bulletin)

This would include royalties to the producer.

The Sony system will sell as low as $350 in the States. Empty or non-recorded, 100 minute **reuseable** *videocassettes will sell for $20.* (Sony–Color Videocassette System bulletin)

Through litigations RCA has lost the name "SelectaVision" and will be replacing it with another.

At the Electronics Show in New York City, June 28, 1970, AVCO will demonstrate its new Cartri-Vision. *This is a ½" cartridge-cassette which is not compatible with any other manufacturers', and which will sell for $450. For $790 you get a complete system with color receiver and camera. By July, 1971, 38,000 units will be manufactured for AVCO by Admiral. AVCO supposedly is currently interested in programming to put on their system. Also, Shibaden is developing a video cassette player-recorder that will not be compatible with the Sony System. Details will be announced in the fall of 1970. Norton Simon, Inc. has also announced its intention to market a video recorder-playback. Significantly, the company is the corporate parent of Talent Associates and would, presumably, have an in-house source of program material to put into pre-recorded cassettes. In news from Germany, the combined publishing interests of Axel Springer, and the publishing firm of Bertlesmann GmbH aim, according to* The London Daily Telegraph, *to gain control of cassette television which they regard as the mass communications medium of the future. The* Variety *article of March 4, 1970, explains the West German interest in cartridge television as linked to domestic television's established dominance . . . the producers now see the advent of the cassette as their way around this monopoly (i.e. state owned TV situation, and they clearly aim to make it pay off). America's Time, Inc. has bought into a German combine, now called Windrose-Dumont-Time, Inc. to enter this same market.*

The above footnotes are excerpted from *Film and TV Cartridges: A Preliminary State of the Art Report*, by Richard Kahlenberg, American Film Institute Planning Coordinator, and Chloe Aaron, consultant. The article appears in its complete form in the **Journal of the Society for Cinema Studies**, published April 24, 1970. It is *copyrighted* by the American Film Institute, 1970.

STANDARDIZATION

Regarding reel-to-reel ½ inch videocorders Shibaden has issued a bulletin (vol. 1, no. 5; available from Shibaden Corp. of America, 58-25 Brooklyn-Queens Expressway, Woodside, N.Y. 11377) reporting that though standardization specifications are being deliberated through efforts of the Electronic Industries Association of Japan (EIAJ), complete compatibility (interchangeability) of tapes from one manufacturers' VTR to another is not foreseen. While there is an overall acceptance of a full field standard, two different head cylinder sizes are being employed–a large diameter cylinder (146mm in diameter) and a small diameter cylinder (115.8mm in diameter). Sony, Matsushita (Panasonic), Electric, and Toshiba all use cylinders which are almost equal in diameter to the small diameter cylinder being considered as the standard, whereas (see col. 1 of table) Shibaden and Victor (Craig) all use cylinders which are closer to the large diameter cylinder being considered as the standard, though not exactly equal (see col. 2 of table).

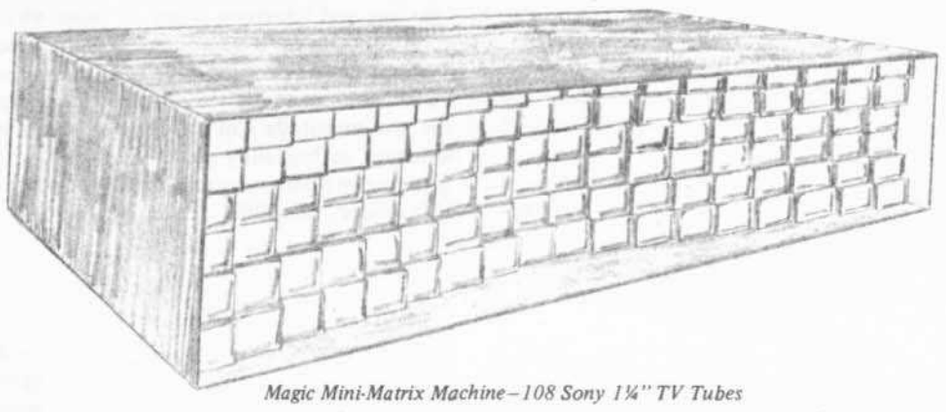
Standardized Specification (Agreement) for Home VTRs

Item \ Type		I	II
Recorded signals		The Japanese TV standard system is applied	The Japanese TV standard system is applied
Recording system	Video	Full field 2 head helical scanning frequency modulation	Full field 2 head helical scanning frequency modulation
	Audio	Single track, fixed head	Single track, fixed head
Tape width (mm)		12.7	12.7
Tape running speed (mm/sec)		190.5	240.0
Maximum recording time (min.)		60 or more (7" reel)	60 or more (8" reel)
Video frequency band (MHz/−20 dB)		2.5	3.0
Video S/N (dB)		40 or more	40 or more
Cylinder diameter (mm)		115.82	146.00
Video pitch (μm)		173	173
Video track angle (when tape is stopped)		3°11′	2°31′
Control track width (mm)		0.8	0.8
Audio track width (mm)		1.0	1.0

(Numerical values indicate standard values)

The media must be liberated, must be removed from private ownership and commercial sponsorship, must be placed in the service of all humanity. We must make the media believable. We must assume conscious control over the videosphere. We must wrench the intermedia network free from the archaic and corrupt intelligence that now dominates it!

THE MEDIA MUST BE LIBERATED, MUST BE REMOVED FROM PRIVATE OWNERSHIP AND COMMERCIAL SPONSORSHIP, MUST BE PLACED IN THE SERVICE OF ALL HUMANITY. WE MUST MAKE THE MEDIA BELIEVABLE. WE MUST ASSUME CONSCIOUS CONTROL OVER THE VIDEOSPHERE. WE MUST WRENCH THE INTERMEDIA NETWORK FREE FROM THE ARCHAIC AND CORRUPT INTELLIGENCE THAT NOW DOMINATES IT. GENE YOUNGBLOOD *The Videosphere*



Magic Mini-Matrix Machine–108 Sony 1¼" TV Tubes

A DEMAND ON THE NETWORKS: SERVE THE PEOPLE

With the killings of students at Kent State University, the moral bankruptcy resulting from the United States role in Indochina has been tragically highlighted.

The democratic forms of the American political life are in a state of impotence and near breakdown. The Administration's attacks upon dissent combined with unconstitutional presidential launchings of new military campaigns and escalation of the war have brought us to a crisis point in the history of the American nation.

The communications media, while reacting to the specific events such as the killings at Kent State, have not measured up to the immense scale of the crisis. This crisis–instead of receiving the amount of time called for by its gravity–has been squeezed into the standard programming and promotional plugs of "normal" TV practice.

We, the *Universities for Open Communications*, representing the following groups from colleges throughout the country, charge the media with failing to fulfill their stewardship of the public airwaves in not responding with sufficient seriousness to a "clear and present danger" to inalienable American rights.

Furthermore, we regard the student bodies and faculties of American universities as, at this time, representing a community–an "estate"–having the obligation and responsibility to speak up and act for the American conscience.

In light of these facts, we feel justified in demanding the following from the networks:

A. An immediate cessation of all regular programming for the duration of the current crisis–one of the gravest of recent times.
B. Continuous, live coverage of the march on Washington and all events which represent the dissenting voices against government policy.
C. A continuing opportunity for all dissenting spokesmen to represent their positions vis-a-vis the government with which we find ourselves in principled disagreement.

Only by meeting these demands will you fulfill your responsibility to the American people.

Introduction
"I believe that television–which provides most of the people of this country with their principal source of education, entertainment, information and opinion–bears perhaps more responsibility for (the) state of the nation than any other single institution." (p. 8)

The Crush of Television
"There are 60 million homes in the United States and over 95 percent of them are equipped with a television set. (More than 25 percent have two or more sets.) In the average home the television is turned on some five hours forty-five minutes a day. The average male viewer, between his second and sixty-fifth year, will watch television for over 3000 entire days— roughly nine full years of his life. During the average weekday winter evening nearly half of the American people are to be found silently seated with fixed gaze upon a phosphorescent screen." (p. 14)

"Water systems engineers must build city water supply systems to accommodate the drop in water pressure occasioned by the toilet-flushing during television commercials. (p. 27)

The Media Barons and the Public Interest
"Everybody's in 'cable television'–networks, book publishers, newspapers . . . so everybody's hedging their bets . . . Indeed, about all the vested interests can agree upon is that none of them want us to have direct, satellite-to-home radio and television." (p. 67)

CATV: Promise and Peril
"Once the investment is made (by private money) it heavily tips the scales against future innovation." (p. 162)

What you can do to improve TV
"A broadcast television station owner is using the public's property–the airwaves–and Congress has provided that he cannot 'own' this property in the sense that the corner druggist owns his drugstore. (p. 206)

How to Talk Back to Your Television Set

by Nicholas Johnson. Bantam Book, 95¢, 221 pp.

Nicholas Johnson is the most imaginative member of the 7-man Federal Communications Commission.

Johnson know what's happening, as well he should, though he fails to make some important connects in this book, a structural weakness probably due to the fact that it's really an anthology of published magazine articles.

Nevertheless, in one chapter Johnson incisively writes of television's financial over-centralization, while in the next he details technological trends which can overcome this, but he never ultimately suggests that the same people he encourages to write their Congressmen and the FCC might do better to organize and make their own television–or at least make sure their kids have the chance.

In short, Johnson sees the solution in changing the contents of broadcast television, without conceding that the system structures its content, instead of urging that the whole system be redesigned or abandoned.

Striving towards better content on broadcast TV is like building a healthy dinosaur. Better to decentralize the medium and get people into using it as their tool. There just isn't enough time to fool around with changing the broadcast mode of television when decentralized, portable VT systems can and are leapfrogging the old system.

e.g. The Ford Foundation gave $1,000,000 to KQED in San Francisco to produce 26 weeks of a video magazine off-the-air. The first thing KQED did was form committees to worry about how the series would handle obscene words.

e.g. All the money pumped into *Sesame Street* could have put 8,000 VTR systems directly into children's hands.

MICHAEL SHAMBERG

THIS ISSUE WAS ORIGINALLY PRINTED AND DISTRIBUTED AT OUR OWN EXPENSE. OUR AIM WAS NOT TO MAKE MONEY BUT TO MOVE INFORMATION. OUR FIRST RUN, OF 2000 COPIES, IS NOW GONE. THIS IS THE SECOND.

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.

Additional copies may be ordered by mailing $1.00 plus 25¢ handling to Radical Software.

Raindance Corporation 24 East 22 Street New York City 10010

ISSUE NO. 2 OF RADICAL SOFTWARE IS IN PROCESS.

If you would like to subscribe for one year (4 issues, postpaid), enclose this card in an envelope with a check for $5 payable to "Radical Software". Or send a subscription to a friend.

____ Begin subscription with Issue No. 1 (Summer 1970)

____ Begin subscription with Issue No. 2 (Fall 1970)

Name _____

Address _____

_____

ZIP CODE