PAY TELEVISION:
A PROFILE IN REGULATION,
LEGISLATION AND OPERATION

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ABSTRACT

PAY TELEVISION: A PROFILE IN REGULATION,
LEGISLATION AND OPERATION

By

Anne Kathleen Warner

In November of 1973, a three-day Oral Argument took place before the Federal Communications Commission in which pay television advocates again renewed their challenge to the "free" broadcast industry. The 1973 Oral Argument was significant because it marked the first time that pay television interests had been represented in such numbers and by such powerful organizations in a confrontation situation with commercial broadcast interests before the Commission. But this was not the first time that the issue of pay television had surfaced. For the past twenty-five years the issue has been debated in public and in private.

Does pay television indeed represent an alternate choice for the viewer, as the pay television entrepreneurs claim, or is it a threat to the very existence of the broadcast industry as we know it today? What is the current status of the pay television industry? What kinds of uses do the proponents of pay television see for their systems in the future? I was employed by the National Association of Broadcasters for two and one-half years in public relations, and one phase of that job was concerned with pay television exclusively. I would like to

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explore this subject as the topic of my thesis--PAY TELEVISION: A PROFILE IN REGULATION, LEGISLATION AND OPERATION.

The main objective of this thesis is to examine the growth and development of pay television from its beginnings to its present state. The regulatory and legislative processes will be briefly discussed, as well as the basic operation of pay television systems--both over-the-air and by wire. I will conclude my discussion of pay television with some of the projections the pay television entrepreneurs have made with regard to the future uses of their systems. The thesis is expository and analytical in nature rather than argumentative.

The introductory section of the thesis includes a definition of the subject, a description of the scope of the subject, and a rationale for the undertaking of the project. The main body of the thesis is concerned with a discussion of the regulation, legislation and operation of the pay television industry. Chapter One explains what pay television is and how it works. Chapter Two describes the general regulatory process of the Federal Communications Commission, and recounts specific regulatory developments in the history of over-the-air pay (Subscription) television and pay cable television. A discussion of the current proceedings is also included in this section. Chapter Three explains the legislative process in general, and mentions various hearings that have taken place before Congress that concern pay television in particular. Chapter Four deals with a history of past experiments in the operation of pay television systems, and a description of the present facilities of pay television--focusing primarily on pay-cable television--including an analysis of ownership, nature of programs offered, subscription rates, and audience size. (Two Appendices are included following the conclusion which explain these systems in specific detail.) My concluding chapter (Chapter Five) summarizes the present state of the pay television industry, and discusses some of the predictions made with regard to the future of pay television in the United States, a brief description of the nature of the confrontation between commercial and pay television interests, and some of my own thoughts on the subject of pay television.

The thesis relies primarily on already existing information on the subject. I have explored articles from the broadcasting trade press, publications and other information on the subject from the National Association of Broadcasters and the National Cable Television Association, FCC information bulletins and press releases and Annual Reports, and various books on the subject of pay television as a part of broadcasting and cablecasting. I have also been fortunate enough to interview executive officials and staff members of the National Association of Broadcasters, the National Cable Television Association, and the Federal Communications Commission, and obtained information and ideas from them.

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The research was done in Washington using the facilities of the National Association of Broadcasters Library, the Broadcast Pioneers Library, the National Association of Broadcasters Legal Department Reference Room, the Library of Congress, the Federal Communications Commission Public Reference Room, the Federal Communications Commission Cable Bureau, the Cable Television Information Center, the National Cable Television Association, the Television Information Office, and the Washington offices of the commercial television networks.

In my experience with the National Association of Broadcasters Public Relations Department, I have found that the issues of "free" broadcasting, cablecasting, and pay television are not clear in the minds of the viewing public--nor even in the minds of some broadcasters. I hope that this thesis will be of use to the broadcasting and cablecasting industries as a source of information, and of interest to the general public in clarifying the issues and explaining the technology that could have a profound effect on their future television viewing habits.

PAY TELEVISION: A PROFILE IN REGULATION, LEGISLATION AND OPERATION

By

Anne Kathleen Warner

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INTRODUCTION

The issue of pay television has been a highly controversial one for more than 25 years. As early as 1941 Commander E. F. McDonald, Jr., President of Zenith Radio Corporation was quoted as saying:

> Nothing is wrong with television that money can't cure. As soon as we provide the box office, either by means of the telephone wire or some other way yet to be discovered, it will become a great and important industry and bring the American public a finer variety of visual entertainment than it has ever before enjoyed. (The Des Moines Sunday Register, October 12, 1941.)

In 1955, in comments before the Federal Communications Commission regarding Subscription Television Service, Zenith Radio Corporation and its subsidiary TECO, said that:

> ... Subscription television can supply box office programs to many more members of the public at a much lower admission price than is now being charged at present box offices. Thus, the value of the public's investment in receivers will be greatly enhanced by bringing those receivers the entire product of American creative ability. (Zenith Radio Corporation and TECO, comments before Federal Communications Commission in Docket No. 11279, June 9, 1955.)

But by 1959, pay television had developed some opposition in the Congress. In an article entitled "Why I'm Opposed to Pay TV" in the Journal of the Screen Producers Guild (June 1959, p. 9) Representative Emanuel Celler wrote:

> To preempt part of the air space to the exploitation of television at a price--to block the public from access to programs broadcast over certain channels unless a fee is paid--would work a wanton impairment of the rights of the people in the spectrum. It would turn the substantial cost of a TV set into

> a mere down-payment, to be followed by lifelong installment charges for the use of what has always been a freely accessible common resource.

On October 28, 1960, in an appearance before the FCC hearings on a proposed pay TV experiment to be set up in Hartford, Connecticut, the National Association of Broadcasters registered its objection to pay television in the following statement:

> Pay TV is promoted with the promise that it will provide an additional service to viewers; that is, a greater range of choice. Let no one be deceived by this promise. The fact of the matter is that if pay TV comes, the public is likely to have less choice and will pay a substantial premium to get it.
>
> Pay TV will provide greater range of choice only if it provides something not now available and only if it does so without reducing the capability of free TV to provide its present high level of service. We do not believe that pay TV will add much that is new or different. We do believe that pay TV, if it comes on a nationwide basis, may eat away at the ability of free television to provide its present quality of service.... The whole range of free television fare from straight education may well suffer. (National Association of Broadcasters, comments before the Federal Communication Commission in Docket No. 11279, October 28, 1960.)

Despite these words of caution, Bernard P. Gallagher in his Gallagher Report of December 10, 1962, announced in his lead story a:

> Pay TV Breakthrough. It's here. Public wants pay TV. Tests prove it works, can make money. Despite vigorous opposition from competing media, pay TV will transform the advertising and entertainment business. Will be biggest industry in communications field within 10 years.

Seven years later, after the FCC had begun regulation of pay television, then--Commissioner Kenneth A. Cox saw pay television:

> ... in the limited form in which we have approved it, as a competitive challenge which should enhance all television available to the public. (FCC News, November 18, 1969.)

Over the years, heated discussions concerning pay television have taken place in corporate and trade association board rooms, in congressional committee rooms and in federal agency hearing rooms. The public has also been brought into the controversy by being exposed to debates on the issue which have been aired in both the broadcast and print media. Volumes have been written on the potential of pay television both as a money-making proposition and as a public service.

The most recent confrontation between those in support of pay television and those in opposition to pay television occurred during an "oral argument" which lasted for three days before the Federal Communications Commission in November of 1973. The issue at stake was a proposal which would have permitted some relaxation of the existing rules which govern programming on pay television. Although the basic issue has not yet been resolved, the November oral argument was significant for a number of reasons.

First, it was a dramatic show of force on the part of pay television--and particularly pay cable television--advocates. Secondly, it was an indication of increased activity by pay television entrepreneurs. And third, it demonstrated that the issue of pay television was still hot.

But if the oral argument showed a renewed interest in the issue and a mounting industry awareness of the potential impact of pay television, it was not the only example of increased activity. In late November of 1973 the National Association of Broadcasters' Office for Free Television formally began operation with the appointment of an executive director. This office was an entity created specifically:

> To resist the removal of programming from free to pay television ... to massively inform the American public of the threat ... to seek proper governmental action to protect the rights of the public to our service. (NAB, Progress Report from the Special Committee on Pay TV, March 1974, p. 1.)

In December, 1973, NAB retained the services of Hill and Knowlton--a New York public relations agency with offices in Washington--to assist the Office for Free TV in its "anti-siphoning effort."

According to a recent issue of Broadcasting Magazine, the National Cable Television Association has also become active in the pay TV controversy by retaining its own New York public relations firm to present the case for pay television expansion. (Broadcasting, July 15, 1974, p. 55.) A related article in that same issue of Broadcasting also predicted that "television viewers are going to be hearing and seeing a lot about pay cablecasting in coming months" (p. 55). It went on to cite a survey showing that "since the issue heated up last November after FCC hearings, there have been 10 inter-industry discourses before various forums," and that additional debates have been scheduled.

But for all that has been said and written about pay television, there still exists a certain amount of confusion about the nature of pay television and how it works--not only on the part of the public, but even in the minds of some broadcasters, legislators and regulators. In view of this confusion, coupled with the fact that the issue of pay television is going to be appearing with greater frequency and intensity in the near future, I offer this analysis of the past and present pay

TV experience in three areas: regulation, legislation, and operation.

My discussion of pay television will be analytical and expository in nature and will be divided into four chapters. In the first chapter I will define several general terms which appear throughout this paper, and will present a general discussion of pay television technology. (Discussion of specific technology will be presented in Chapter IV.) The second chapter deals with the regulation of pay television, including a description of existing FCC rules that govern pay television and a regulatory history of pay television. The third chapter will describe past and present congressional action concerning pay television, and an examination of current pending pay television legislation. The fourth chapter will consist of an examination of existing pay television systems, including a discussion of past experiments in the field.

I have gathered my information from the following sources: the Federal Communications Commission, the National Association of Broadcasters, the National Cable Television Association, the Cable Television Information Center, the Television Information Office, articles in the trade press of the broadcasting and cablecasting industries, and books, pamphlets, and news releases on the subject of cable and pay television.

One final personal note: I first became interested in pay television when I was transferred to the National Association of Broadcasters' Office for Free Television as administrative assistant to the office's executive director. Through my association with that office

I became familiar with some of the history and controversy that has surrounded the issue of pay television since its inception in the early 1950's--a controversy which continues today. I mention my association with the NAB not as an indication of bias, for I have consciously avoided an approach which would cause me to take sides in the issue. I mention it merely to justify my interest in the topic and to support my authority to speak on the issue.

CHAPTER I

WHAT IS PAY TELEVISION AND HOW DOES IT WORK?

Before examining pay television's regulatory, legislative, and operative aspects in specific detail, it is necessary to define certain general terms and explain certain technical procedures which will be referred to in this paper. Briefly then, what is pay television and how does it work?

Pay television is a type of television system in which the viewer is assessed a special fee in order to receive certain programs not normally available on conventional television. The system is not advertiser-supported like regular commercial or "free" television, nor is it publically-supported like non-commercial or "public" television. Pay television is assessment-supported in that it relies on revenue generated by individual subscribers who are willing to pay extra for the service.

For the purpose of this paper I will confine my discussion of pay television to the two main categories that are of concern to the Federal Communications Commission: over-the-air pay television and pay cable television. In addition to these two pay television systems, there are two other types of systems in existence today which will not be discussed: the "closed circuit" system employed by hotels, theaters, and other special viewing areas and the "videotape Cassette and Cartridge" system which employs videotape and a playback device. These two systems do not make use of the "public airwaves" and hence do not fall under direct FCC jurisdiction. My discussion of pay television will concern the types of systems in which a video signal is originated, transmitted by broadcast or wire, and received on a standard television receiver.

The two pay television systems to be discussed can be further defined through an explanation of the means by which the video signal is transmitted from the point of origination to the point of reception.

Over-the-air pay television (hereafter referred to as "subscription television") is a system in which the video signal is sent out through the air making use of a standard television broadcast facility. As such, it makes use of the broadcast spectrum and must be licensed by the Federal Communications Commission. It is subject to all Commission rules and regulations governing regular broadcast operations regarding programming, technical, and engineering standards.

Pay cable television is a system which involves the use of one or more channels of an existing cable television operation. The signal is distributed by means of a coaxial cable and a "drop" from the main cable to an individual subscriber's home. The subscriber pays a special fee to watch certain programs on the pay channel over and above what he pays for the cable service alone. (In a broad sense, <u>all</u> cable is "pay television" in that it involves a charge for the service, but the distinction here is the additional fee necessary to view the special programs offered.)

Although the specific technologies vary between the different types of pay television systems, the basic procedure is the same. Ordinarily, a television signal is sent from a point of origination in two separate pieces: audio and video. It is then automatically reassembled in the television receiver into comprehensible sound and picture. In pay television, however, the video signal is distorted or "scrambled" at the transmission end by an "encoding" device, distributed over-the-air or by wire, and reassembled or "unscrambled" by a special "decoding" device at the receiving end. For the viewer without the capability to decode the signal, the program would appear as a jittered unintelligible picture and garbled unintelligible sound.

This has been a brief definition of what pay television is and a basic explanation of how it works. It is not a definitive statement of the nature of pay television (because even the FCC has not thoroughly defined it as yet) nor is it a complete description of the complex technology involved, but hopefully it will serve as a point of reference for the further discussion of pay television.

CHAPTER II

PAY TELEVISION REGULATION

Section 303(g) of the Communications Act of 1934 requires the Federal Communications Commission to "study new uses of radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective uses of radio in the public interest." As a result of this mandate the FCC has closely supervised the development of pay television from the first test authorizations in the early 1950's to the adoption of rules governing the operation of pay television systems in 1968 and 1969. Its interest in the issue of pay television has continued--especially in light of the proliferating pay cable operations which, in the opinion of some, may challenge the present broadcast industry by becoming an alternate communications medium.

Before examining the specific regulatory developments in the case of pay television, perhaps a general description of the FCC's regulatory procedure is appropriate.

The procedure does not always follow a fixed pattern, but in general the first step in the procedure is the consideration of a situation which merits a rule making or a rule change. The impetus for this consideration can come from the Commission itself or by petition or request from an outside interested party. The Commission then meets and prepares a "Notice of Proposed Rule Making" and/or a

"Notice of Inquiry". A file is then opened on the matter and a docket number is assigned to the file. All interested parties are invited to submit written comments and reply comments in support of or in opposition to the proposal. These comments and reply comments are filed in the appropriate docket and are retained for consideration by the Commission. Interested parties can also request oral hearings before the Commission to present their opinions in the matter in person.

After the Commission has considered the testimony of all interested parties, it then meets to decide the issue. The matter is discussed and a vote is taken. The Commission then issues a "Report and Order" disposing of the issue or part of the issue. Sometimes the "Report and Order" is accompanied by a "Memorandum Opinion" from each of the seven commissioners explaining his reasons for concurring or dissenting in the vote of the Commission.

If the Commission feels that there is not enough evidence to decide the issue, it may issue a "Further Notice of Inquiry" and/or "Further Notice of Proposed Rule Making" so that more testimony can be taken. A "Further Notice of Inquiry" can also be issued as a result of a "Petition for Reconsideration" by a party or parties who are not satisfied with the order (if just cause for reconsideration can be shown) and the whole process begins again.

Since the FCC is only empowered to make or amend its own rules, the action does not affect the Communications Act. Only an act of Congress can amend the Act. In the case of pay television, Congress has held hearings on several occasions in the past to determine whether or not an amendment to the Communications Act was necessary, but those instances will be described in detail in Chapter III.

Regulation of pay television by the FCC began in the 1950's with the authorization of a number of preliminary over-the-air experiments. These tests were of limited duration and "were made without general public participation, using a limited number of special receivers." (FCC Information, 1972, p. 4.) In 1950 the Skiatron Subscribervision system received permission to conduct an experiment using the facilities of WOR-TV in New York City. In 1951 the Telemeter system was tested over KTLA-TV in Los Angeles. That same year a test was also made of the Zenith Radio Corporation's Phonevision system over the Zenith experimental station in Chicago.

In 1952 Zenith Radio Corporation petitioned the Commission to consider authorizing pay television on a nationwide scale, and in the FCC Annual Report for fiscal year 1953 the FCC had given the issue enough consideration to make the following statement:

> An important problem is presented by current proposals with respect to subscription or 'pay-as-you-see' television. Several types of subscription systems have been the subject of experimentation under Commission authorization. They differ in both the techniques employed for sending 'scrambled' pictures to decoding receivers in the homes of subscribers and the methods of collecting fees for the program.
>
> In addition to the basic policy question whether the authorization of a subscription TV service would serve the public interest, substantial legal questions must be determined, particularly, whether such a specialized service is 'broadcasting' within the meaning of that term as defined in the Communications Act, or common carrier or some other special radio service not coming within either the broadcasting or common carrier categories. Also there is the engineering problem of where such a service could be squeezed into the crowded radio spectrum. (FCC Annual Report, 1958, p. 98.)

The Commission continued to authorize experimentation in the field while pursuing its study of related legal, technical and public interest questions until 1955. On February 10th of that year the Commission issued a Notice of Proposed Rule Making (20 Fed. Reg. 988 (1955)), "requesting the views of interested persons on the question of whether the Commission had the power to authorize subscription television and, if so, whether the exercise of such authority would be in the public interest." (Ledbetter and Greene, p. 132.)

Those filing comments in the proceeding were asked to direct their attention to certain questions. "Among these were whether subscription TV would encourage the larger and more effective use of radio; what impact it would have on advertiser-supported broadcasting; how it would affect broadcast of news and diverse views on controversial issues; what safeguards are necessary to insure that the public would continue to receive well-balanced TV programming without charge; what is necessary to prevent monopolistic control, and whether it should be open to all stations." (FCC Annual Report, 1955, p. 98.) The Commission also invited comments with regard to the nature and scope of regulations which might be necessary, and such technical questions as type of service, hours of operations, and the possibility of degradation and interference to the signals of regular television broadcast stations. It also requested opinions on the necessity of additional legislation to institute the service and to define the service (as "broadcasting", "common carrier", or other radio service) under the Communications Act.

Information was also requested on the "means and methods of those organizations intending to engage in subscription operations; the cost to the viewing audience; the needs of TV broadcasters for additional revenue and program resources from such a service; its anticipated capacity to increase the use of TV channels and bring the public programs now unavailable; the types of programs to be broadcast for a fee and who would control their production and distribution; patent control and licensing arrangements, and the role to be played by the motion picture industry and the networks." (p. 99.)

The Commission's call for comments brought "the greatest deluge of pro and con communications in FCC history" to that point. (Broadcasting, February 18, 1957.) More than 25,000 formal documents, letters, postcards, and brochures filling more than 70 reference volumes and 23 shelf-feet of space were received before the deadline date of September 9, 1955. This material expressed views both for and against subscription TV, different points of view with regard to authorization, limitations which should be imposed, and possible systems of operations. The FCC concluded that the many and difficult questions which were raised did not permit a prompt decision and decided to schedule further discussion of the issue.

On May 23, 1957, the FCC issued a "Notice of Further Proceedings" (22 Fed. Reg. 3758 (1957)) which kept the issue open until July of that year. The Commission at that time had reached "two preliminary conclusions: first, that it possessed the statuatory authority to authorize subscription TV, if it found it in the public interest to do so, and, second, that trial demonstrations of this new kind of service might provide useful information not (existing) on the record concerning questions which would help it make that public interest determination." (FCC Annual Report, 1957, p. 111.)

On October 17, 1957, the Commission issued its First Report (16 Pike and Fischer, R. R. 1509 (1957)) in the rule making proceeding on subscription television (Docket No. 11279) in which it listed conditions for considering applications for the operation of the service. These applications were not to be acted upon until March of 1958.

The FCC specified that the proceeding did not involve regulation of pay TV operations in "theaters and homes which employ common carrier or private cable facilities to carry programs especially prepared or selected for paying audiences. These and other localized 'closed circuit' TV operations, not being transmitted over the air, do not require Commission licensing. However, any extension of such non-broadcast service beyond State borders might require Commission consideration under its authority to regulate interstate electrical communications services." (FCC Annual Report, 1957, p. 112.)

The First Report listed the following conditions which were to be taken into consideration for subscription TV trial authorization:

1. Any system could be tested in up to three markets.
2. More than one system could be tried out in a single market.
3. Trials were limited to stations in cities with at least four commercial television services (including the applicant's station).

4. Trial authorizations were to be for three years with the possibility of renewal.

The release of the First Report brought strong opposition from broadcasters, theater owners, and some members of Congress. Yielding to a request from Congress, the Commission issued a Second Report (16 Pike and Fischer, R. R. 1539 (1958)) on February 26, 1958, which postponed final authorizations of the applications it had received to give Congress time to consider the matter. No congressional decision was reached and a request was made to further postpone Commission action. The Commission complied.

On March 23, 1959, the FCC issued its Third Report (16 Pike and Fischer, R. R. 154a (1959)) in which the requirements and limitations set out in the First Report were revised. Under the new standards the trial period would be set at a maximum of three years. Trials were still to be confined to cities with four existing television stations, but authorizations would be limited to the trial of any system in only one market, to one trial subscription system per market, and to subscription programs being broadcast over only one local TV station at a time. The Third Report also stipulated that the public not be called upon to purchase any special equipment required to receive the signals, and that any systems should take care to conform to FCC engineering standards to prevent interference with or degradation of the reception of free broadcast signals. (<u>Broadcasting</u>, February 29, 1960, p. 32.)

On June 22, 1960, WHCT-TV, Channel 18, Hartford, Connecticut, filed for authorization to conduct a trial subscription operation in that city. (<u>FCC Annual Report</u>, 1960, p. 50.) Groups opposing pay television protested WHCT's application and in October of 1960 the Commission held a five-day hearing in order to "assess the (WHCT) proposal's compliance with the conditions for trial operations set out in the Third Report on subscription TV..., and to hear objections by five Connecticut motion picture theater owners and the Connecticut Committee Against Pay TV." (p. 51.) The requested trial authorization was granted on February 23, 1961, after the Commission decided that the operation would pose no threat to the theater owners nor to the commercial television services available in the Hartford area. The protesting groups went to the court of appeals, but that court affirmed the Commission's decision in March of 1962, and in October of that year the Supreme Court refused to review the case. (Connecticut Committee Against Pay TV v. FCC, 301 F. 2d 835, cert. denied, 371 U.S. 816 (1962).)

One of the conditions for the experiment in Hartford was that it begin operations no later than six months after the FCC decision (by August, 1961), but the system was granted an extension on good cause shown, and the station actually began subscription operations on June 29, 1962.

A second pay TV trial was authorized by the Commission in 1962 for operation over the facilities of KTVR (later redesignated as KCTO), Channel 2 in Denver, Colorado. Due to technical difficulties the station never began operations and its authorization was permitted to lapse on May 1, 1964.

A third application was received by the Commission in April, 1963, for a trial operation over station KVUE-TV in Sacramento, California, but the application was "returned as unacceptable since it failed to comply with the conditions for trial operations" as prescribed in the Third Report. (FCC Annual Report, 1963, p. 69.)

On November 13, 1963, the Commission announced the formation of a Subscription Television Committee consisting of three of its own members to "follow closely and evaluate developments in the field of pay TV (both over-the-air and by wire or cable) and inform the Commission on the subject." (FCC Annual Report, 1964, p. 70.)

A pay cable television operation actually began in 1964 serving Los Angeles and San Francisco, but enough pressure was applied on the California legislature to bring the matter to a vote by referendum in the 1964 elections. It resulted in a ban on wired pay TV in that state, and wire pay television operations which had been planned for Atlanta, Houston, Miami and several other cities were abandoned.

In March of 1965 a request was filed to extend WHCT's authorization which would have expired in June 1965, and that same year Zenith filed a petition with the Commission for permanent nationwide over-the-air subscription television operations using some statistics in support of their position from the Hartford experiment. The Hartford trial was granted a three-year extension in May 1965, but Zenith's petition for permanent authorization (the second such action by that company in 10 years) stirred opposition--again from the theater owners. After studying the matter, the Commission issued a "Further Notice of Proposal Rule Making and Inquiry" in this same docket (11279) in March of 1966 (7 Pike and Fischer, R. R. 2d, 1501 (1966)), and invited testimony

on the issue of whether pay TV should be permitted in all markets, whether it should be allowed on more than one station in the community, whether it should be limited to only one technical system per market, and whether there should be a limit in hours of operations and type of programming allowed. The scope of the proceeding in Docket 11279 was enlarged to include "not only over-the-air subscription television, but also the question of what the appropriate role, if any, the Federal government should be with regard to wire or cable subscription television operations." (FCC Information, 1970, p. 8.)

On July 3, 1967, the Subscription Television Committee which had been named from the Commission in 1963 submitted for consideration a Fourth Report and Order in Docket 11279 (10 Pike and Fischer, R. R. 2d 1617 (1967)). The proposed Fourth Report and Order recommended the establishment of subscription television as a regular service and, in addition, issued a Second Further Notice of Proposed Rule Making (32 Fed. Reg. 10606 (1967)) inviting comments concerning standards for equipment and system performance. Oral Argument was held before the Commission on October 2 and 3, 1967, to aid the Commission in resolving the matter.

On November 16, 1967, Congress requested that the FCC delay final approval of subscription television as regular service for one year or until the Communications Act was amended. The FCC once again complied with the congressional request. Over a year later, the Commission adopted the final approved Fourth Report and Order in Docket No. 11279 (FCC 68-1174, December 12, 1968), which formally recognized subscription television as a permanent "supplemental" service to commercial broadcasting and established rules (other than technical standards) to govern its operations. (Technical rules governing equipment and system performance and application procedures were contained in a Fifth Report and Order in Docket No. 11279 (FCC 69-950, September 4, 1969) which was issued September of 1969.)

The Commission's decision to allow subscription television to become a permanent service had not gone unchallenged. The National Association of Theater Owners and the Joint Committee Against Toll TV (representing another theater group) appealed the FCC's decision before the D.C. Court of Appeals in September of 1969 but the court ruled in favor of the Commission. The matter reached the Supreme Court in 1970 but the court refused to rehear the case. (NATO v. FCC, 420 F. 2d 194, *cert. denied*, 397 U.S. 922 (1970).)

The rules contained on the Fourth Report governing the operation of subscription television set up certain restrictions to insure that the new service would not replace the service provided by commercial television. The main points of rules that were adopted in the Fourth Report and Order are summarized as follows:

1. STV systems will be allowed only in markets where subscribers receive at least four other commercial television services off the air.
2. Only one station in a community may be authorized to engage in pay TV operations. (This station may be a new station or an existing station, and may be in either VHF or UHF frequency range.)
3. Subscription service must be provided to all persons within the station's primary (Grade A) coverage area who request it.

4. Subscription rates will not be regulated directly, but all charges, terms, and conditions of service must be applied uniformly, and any subscriber classifications would have to be approved by the Commission.

5. All specialized decoding equipment attached to home receivers must be leased, not sold, to subscribers.

6. No commercial advertising may be carried on subscription channels.

7. The combination of movies and sports programming cannot comprise more than 90% of the subscription system's total program schedule.

8. Subscription systems may not show motion pictures that have been in general release for more than two years, unless they have been restricted from commercial broadcast presentation.

9. Subscription systems may show no more than twelve motion pictures more than 10 years old during the course of one year.

10. Subscription systems may not show any sports event which has been carried in the community of operation within the previous two years, with special provisions protecting longer term cyclical events such as the Olympic Games.

11. Subscription systems may now show "series programs" having either interconnected plots or a continuing cast of characters.

12. Subscription stations must broadcast at least the minimum number of hours of nonsubscription free programming required by FCC rules generally.

The rules contained in the Fourth Report are the rules which govern subscription television today with one exception in the category of sports. In 1972 the Commission ruled that sporting events which "have been presented on conventional television may not be presented on subscription systems live or on a same day delayed basis unless they have been off the air for a period of five years....

The Commission also extended to 10 years a prohibition against the showing of regular recurring sports events, such as the Olympic Games. New sports events like the Super Bowl, which result from the reconstructuring of an existing sport, may not be shown on subscription television until five years after the events have been introduced."
(FCC Annual Report, 1972, p. 49.)

These rules apply to subscription television service only. When the rules were adopted in 1968, the Commission recognized that "a form of pay TV might also develop within CATV systems", but it "declined to take any action or establish any rule with respect to such possible operations" (Kamen, p. 21) because it was then opening another proceeding (Docket 18397) which would deal specifically with all aspects of program origination by CATV systems. On October 10, 1969, the Commission released a "First Report and Order" in that proceeding (20 FCC 2d 201 (1969)) which permitted pay cable operations to function without the restrictions it has imposed on over-the-air pay television.
A storm of protest ensued from theater owners and commercial television broadcasters who were of the opinion that this action placed their services in jeopardy, and a "Petition for Reconsideration" was filed with the Commission.

On July 1, 1970, the FCC released a "Memorandum Opinion and Order" (23 FCC 2d 825 (1970)) which transferred all the rules that applied to subscription television over to "CATV cablecasts for which a per-channel or per-program fee is charged. This was done without conducting a formal rule making proceeding, and the second wave of protest which followed in the wake of that decision--this time on the part of pay cable interests--was instrumental in the institution of a third proceeding in July of 1972 (Notice of Proposed Rule Making and Memorandum Opinion and Order in Docket No.'s 19554, 18397, 18893, FCC 72-652, July 19, 1972), regarding rules which would apply to pay cable operations exclusively. The recent "oral argument" referred to in the introductory section of this paper is a part of this most recent proceeding instituted by the FCC with regard to pay television.

The present proceeding in the case of pay cable operations is still open. No formal decision has been reached because the FCC is still considering testimony, and until recently the significant number of vacancies on the Commission prevented any resolution of that issue. A decision will be withheld until the new Commission has had sufficient time to fully consider the issue. The issue will probably not be fully resolved until 1975, if indeed even then.

This chapter has attempted to trace the sequence of events in the development of present FCC regulation of pay television in chronological order. But the regulation of the broadcast industry does not involve just the Federal Communications Commission alone. Congress is very much a part of the process because it is the only body that can amend the Communications Act of 1934.

CHAPTER III

PAY TELEVISION LEGISLATION

Every session of Congress since 1958 has seen the appearance of bills proposing amendments to the Communications Act of 1934 to include the approval, the ban, or the limitation of pay television as a broadcast service. The Communications Act still does not contain any provisions directly affecting pay television as such, but three separate hearings have taken place in Congress since 1958 with regard to the question of public interest and the FCC's authority to institute the service on a nationwide scale.

Before discussing these hearings and their results, it is appropriate to briefly discuss the legislative process and the congressional committees which have jurisdiction over matters regarding communications in general and broadcasting in particular.

As in the case of regulation, the procedure is not fixed, but in general the procedure is this: Legislation can be introduced in either House of Congress by the submission of a proposal in the form of a "bill". The bill is referred to the appropriate full committee of the House in which the bill was introduced, and then assigned by the full committee to the appropriate subcommittee for study. The subcommittee then holds discussion on the matter in the form of hearings where written and oral testimony is heard. The bill is then passed on to the full committee accompanied by a report noting reasons for changes in the bill if any were made. The full committee then considers the matter and can also hold hearings. It can then report the bill out of committee or send it back to the subcommittee for further study. If the bill is reported out of committee, it is sent to the Rules Committee which establishes rules for debate and places the matter on the calendar. It is then discussed by the whole house of Congress in assembly and a vote can then be taken. If the measure passes, it is sent to the other house of Congress and the procedure begins again. If the measure passes that house it is transmitted to the President for his signature and the measure becomes law. If the same legislation is introduced in both houses, or if inter-house discussion of the measure is necessary the matter goes to a joint House and Senate Conference Committee where the measure is put in final form before sending it to the President.

The two committees and two subcommittees which have jurisdiction over matters related to broadcasting are the Senate Committee on Commerce (now chaired by Senator Warren G. Magnuson), the Senate Subcommittee on Communications (chaired by Senatore John O. Pastore), the House Interstate and Foreign Commerce Committee (chaired by Representative Harley O. Staggers) and the House Subcommittee on Communications and Power (chaired by Representative Torbert H. Macdonald). The three hearings with regard to pay television have taken place before the House Committee and subcommittee in discussion of other related issues.

The first of these hearings took place in January of 1956. After more than two years of deliberation, the House Interstate and Foreign Commerce Committee on February 6, 1958, adopted a resolution expressing its belief that subscription TV authorizations should not be granted unless and until the Communications Act of 1934 was amended to specifically empower the Commission to do so. This was in response to the Commission's First Report in Docket 11279 in which the FCC called for general comments on the feasibility and legality of authorizing pay TV as an alternate broadcast service at least on a trial basis. Two weeks later, the Senate adopted a similar resolution.

These resolutions initially requested this postponement of a Commission decision with regard to such authorization until the end of the 85th Congress in 1959, so that the House Committee could consider the problem. When a congressional decision still was not forthcoming, the Committee requested a further pontponement until after the first session of the next Congress in 1960. (FCC Annual Report, 1960, p. 63.) In the meantime, the Commission had issued its Third Report in which stringent conditions were specified for pay TV tests. Congress adopted a "wait and see" posture until the outcome of the test authorized by the Commission in Hartford, Connecticut, could be studied.

In October of 1967 a second consideration of the pay television situation was begun. Additional hearings were held and on November 16, 1967, the House Interstate and Foreign Commerce Committee adopted another resolution "asking the Commission to refrain from acting with regard to final authorization of pay TV on a nationwide scale for one year or until the Communications Act was amended to include subscription television." (FCC Annual Report, 1968, p. 32.)

As the one-year period approached and no final decision had been reached, nine members of the House Interstate and Foreign Commerce Committee sent the following letter to Rosel H. Hyde (then chairman of the FCC) on September 12, 1968:

> The commerce Committee resolution requesting the Commission to suspend any action in the area of pay TV represents the barest majority of those present at the Commerce Committee meeting on September 11, 1968.
>
> The failure of the Congress during 10 years of suspended activities in this important field to accept its responsibility to give legislative guidance is unexcusable, and we who voted against the resolution cannot condone a policy of endless and futile delay. In our opinion, the failure of the FCC to act promptly to decide the 13-year old rule making proceeding on subscription television would be inconsistent with your responsibility imposed by the Administrative Procedure Act and contrary to the public interest in an early ruling on this important subject. (Federal Register, 1968, p. 19106.)

Accordingly, the Fourth Report was adopted by the Commission subject to six months of congressional and judicial review.

In the meantime, renewed pressure was exerted on the House Communications Subcommittee and additional congressional hearings were scheduled. These hearings were held in November and December of 1969. The hearings resulted in a compromise between Congress and the FCC. Congress agreed to let the Commission's rules go unchallenged except for the provision regarding sports. The Commission's rules were amended to exclude from pay telecasting regular sports events which had been shown on commercial television during the previous 5 years (changed from 2 years).

Since 1969 several bills on the subject of pay TV have been brought to the attention of the House Interstate and Foreign Commerce Committee, but no additional hearings have been scheduled on the specific subject of pay TV. The latest bill on the subject is S. 2283, sponsored by Senator J. Glenn Beall of Maryland, proposing further limitations on pay TV, but this bill is not expected to receive consideration before the end of the present (93rd) Congress--and perhaps not even after then. This is not to say that the subject has been dropped. On the contrary, the issue is still very much alive and has been mentioned in Congress repeatedly since 1969--but it has usually been brought up in connection with other considerations such as the copyright issue and other matters relating to cable TV.

But for all the delays in regulatory and legislative areas, pay television operations have developed within FCC guidelines in increasing numbers since 1972--particularly in the field of pay cable television.

CHAPTER IV

PAY TELEVISION OPERATION

In Chapter I a brief general explanation of how pay television systems work was given. It is now necessary to describe the presently existing systems in detail, and to give a brief summary of past experiments with pay television.

The history of pay television operations until 1968 is largely the history of over-the-air pay television (subscription television). Experiments with scrambling and unscrambling television signals had been conducted as early as the 1930's, but it was not until 1951 that these experiments emerged from the laboratories and appeared on television screens owned by viewers. These tests, as noted in the second chapter, were of short duration and were made without general public participation using a limited number of receivers. In 1950 two systems were given authorization on an experimental basis by the FCC: Skiatron's system (later to be known as "subscriber-vision") and Zenith's "phonevision" system.

In testimony given before the FCC in 1954, Skiatron Electronics and Television Corporation gave the following description of its early tests in New York City:

> Skiatron Electronics has been very active in sponsoring experimental subscription TV broadcasts over WOR-TV beginning on November 30, 1950.

> On March 19, 1951, members of the Federal Communications Commission, accompanied by chiefs of the legal and engineering staffs, journeyed to New York to view the Skiatron demonstration at the WOR-TV transmitter. A special live program was telecast during regular broadcast hours for the commissioners and viewed by them at the Skiatron laboratories, which are five airline miles distant from the transmitter.
>
> A most successful series of 'over the air' and closed circuit demonstrations was held on the Belmont-Plaza Hotel from June 8 through June 17, 1953. These programs included films, sports events and educational programs.
>
> On October 21, 1953, a medical program sponsored by the New York Academy of Medicine was televised by Skiatron Electronics over station WOR-TV in New York City. Audiences of doctors were assembled and receivers, together with decoders, were installed in the Academy of Medicine, the New York Medical College, and the New Jersey Medical Center. The program presented the newest in medical science together with operative techniques which could be viewed by others only in scrambled form. (Skiatron Electronics and Television Corporation Comments before the Federal Communications Commission in Docket 11279, September 13, 1954.)

In 1951, International Telemeter Corporation (a subsidiary of Paramount Pictures) also received FCC permission to test its "telemeter" system over KTLA-TV in Los Angeles, but it is the Zenith "Phonevision" test conducted over Zenith's experimental station in Chicago in 1951 that is considered to be the first substantive test of a pay television system.

Zenith Radio Corporation began testing its system with a live audience on January 1, 1951, "after delays, complications, misunderstanding, and controversies that would make most private citizens throw up their hands in utter disgust." (Electrical Merchandising, 1951, p. 71.) The experiment lasted for three months and consisted of the showing of "what films they (Zenith) could inveigle out of a still hostile movie industry." (Electronics World, 1959, p. 145.)

Three hundred families in the Chicago area were chosen on a scientific basis and received one feature film per day at a subscription rate of $1 per show.

> According to Zenith, the 300 subscribing families saw a total of 2,561 movies during the first four weeks, an average of 8.5 shows per family. The novelty of the service produced the same reaction among subscribers as among new TV set owners: they stayed glued to their sets during the first week. In this period, (said) Zenith, the average family saw 3.1 movies, but for the last three weeks patronage steadied to a more normal 1.8 movies per week. (p. 145.)

The Phonevision system was so named because it operated by sending part of the television picture through the air and part over the telephone wire. The video signal was scrambled at the transmitter and in order to view the picture, the subscriber whose set had been equipped with a decoding device simply called the telephone operator and asked to see the film. The operator then completed a connection which activated the decoder, and made a record of the request. The Illinois Bell Telephone Company then added the charge(s) to the subscriber's monthly telephone bill.

This test was considered a success by Zenith in that it proved that people would pay to see movies they had not previously seen--even older films--on their home receivers. But there were technical difficulties to overcome in addition to the reluctance of the telephone company to tie up its operators and its accounting staff handling requests and billing for the service.

Pay cable television was also coming to life during this time. Beginning on November 28, 1953, with a telecast of the Notre Dame-USC football game, International Telemeter (which had experimented with over-the-air pay television over station KTLA-TV in Los Angeles) conducted the first operation of "a wired system with the public as customers" (MacNamara, p. 68) by relaying a signal "to the community antenna on the shoulder of Mt. San Jacinto on a line of sight to a Mt. Wilson antenna farm of Los Angeles stations 90 miles away. The community service (was) fed to subscribers by coaxial cable" (Broadcasting, May 3, 1954, p. 67) strung on telephone poles.

The Telemeter system featured a coin box decoding mechanism. A subscriber wishing to see a program offered in the pay TV channel would drop the required number of coins into the box and the picture would appear on the set.

But this experiment too, was short-lived because of lack of program material and the high cost of the service. "As a test of the mechanical features of the Telemeter system of coin box TV, the Palm Springs operation (had been) of unquestionable value" but "as a test of public acceptance of subscription TV, the Palm Springs venture is of less definite utility." (p. 67.)

Perhaps part of the "public acceptance" criticism can be traced to the fact that Palm Springs was (according to an October 29, 1955, article in The Saturday Evening Post):

> ... the least typical community in the Western Hemisphere. A highly fashionable winter resort--'three hours from Hollywood by Jaguar,' says one commentator--Palm Springs has as many kidney-shaped pools as television sets. (Lehman, p. 128.)

Although the Palm Springs experiment sent Telemeter engineers back to their drawing boards, pay cable entrepreneurs remained optimistic. While Zenith was perfecting its Phonevision system and the FCC and the Congress were arguing whether or not to authorize permanent over-the-air operations, a second wire operation was begun by Video Independent Theaters, Inc., in Bartlesville, Oklahoma, in 1957.

The experiment in Bartlesville was governed by the philosophy that "it is not television, but nothing more than an extension of the theater into the home." The programs which originated in a local theater converted for the purpose of pay cable distribution were brought into the homes of subscribers by 38 miles of coaxial cable installed by Jerrold Electronics Corporation. The system was called "TeleMovie", and offered 12 first run and 13 second run movies each month for a flat monthly rate of $9.79. "An isolation switch attached to the back of the TV receiver connect(ed) the subscriber's set to the system. By flipping the switch the subscriber (chose) between commercial TV programs or (pay) programs (Advertising Age, September 9, 1957, p. 1).

The experiment was projected to run for 18 months, but service was discontinued after 8 months due to lack of subscribers. The original projection had been 3000 subscriber homes. The actual number never exceeded 800. Even a reduction of the monthly fee after the first three months did not help, because a corresponding cutback in number and quality of films offered further reduced interest and participation in the service. By April of 1958 losses had reached $10,000 a month and a last-ditch effort was made to save the operation

by converting to a per-program meter system. This effort failed and the system ceased operation. "To each subscriber went a consolation gift: a free pass to any movie house in the city." (Changing Times, August, 1958, p. 35.)

Skiatron, whose pay television system called "Subscriber-Vision" was one of the first three systems to be tested in 1950-51, made an attempt to get a system started in Los Angeles and San Francisco in 1959 as a result of negotiations with the Los Angeles Dodgers and the San Francisco Giants to air their games on a pay basis. Agreements had also been reached with impressiario Sol Hurok for cultural events to be presented on the pay TV system, but Skiatron was not able to get the idea past the city council of Los Angeles so the Skiatron system was stalled for the moment.

None of these early experiments was financially successful. The broad market for such a service really did not exist, and there were engineering and programming improvements to be made in the systems. What these maiden tests did prove, however, was that a few people at least were willing to pay extra to see something not offered on regular commercial television. The tests also "suggested to Hollywood producers and sports promoters a possibly fabulous market in (pay) television--if only 10,000 sets were tuned in on one program for one dollar each, the promoters might gross $10 million in an evening!" (Lehman, p. 129.)

One other experiment was conducted using the Telemeter system which although it took place in Canada, deserves mention here.

The owners of the Telemeter system were confident that the system could turn a profit if it were run as a permanent installation--not just a test. Since this was not possible in the United States due to the absence of such authorization from the Federal Communications Commission, it was decided to use the company's existing wired facilities in Etobicoke (suburban Toronto). The test was tried in two phases. In 1962, the subscriber was charged $5 installation fee and thereafter on a per-program basis. Results of this test indicated that pay subscribers even willing to spend only $33 per year to use the service, while the cost to Telemeter per home was about $100. In 1964 the system was tried again, but this time subscribers were charged a flat monthly rate. The amount each subscriber paid for the service increased, but the number of subscribers fell off 12%--again, not enough to defray the cost of the operation. The operation was cancelled without demonstrating economic viability.

The definitive experiment in pay television which supplied the FCC with most of the data upon which it reached its decision to authorize pay TV as a permanent service was the subscription operation run in Hartford, Connecticut, from 1962 through 1969. The FCC wanted to see a pay system in operation, so they granted permission to the Zenith's Phonevision system to operate for three years. The operation was given a second 3-year authorization in 1965.

To obtain facilities to operate the system, Zenith joined with RKO General and acquired the facilities and bandwidth of WHCT-TV, Channel 18 in Hartford. The station continued to operate as a broadcast outlet, but engaged in pay TV operations at certain hours during the day and night. (Broadcasting, February 29, 1960, p. 35.)

The Phonevision system had undergone some technical changes since the early days of testing in Chicago. The system still broadcast monochrome signals over the air in scrambled form which were made visible by using a decoding device, but instead of calling the telephone operator to activate the decoding mechanism the subscriber inserted a computer-like card into the terminal attached to his receiver. The subscriber perorated the card by adjusting two knobs to a pre-set code which both activated the decoder and made a record for billing purposes when the card was mailed in at the end of each month. Programs were chosen from monthly viewing guides which listed program prices and dates and time when the program was offered.

Subscribers paid an initial fee of $10 for installation of the decoding device and $3.25 per month for the rental of the equipment. In order to view programs, the subscriber paid from 50¢ to $3 per program. (U.S. News and World Report, May 8, 1967, p. 97.) The major portion of the programming in the first two years of operation consisted of motion pictures (86.5%). Sports events provided 4.5% of the programming with educational and "special entertainment" (such as ballet, opera, Broadway plays) supplying the balance of the programming. During that period the station offered 599 different programs: Most of these were repeated so the station actually provided 1,776 separate presentations. (Ledbetter and Green, p. 132.)

The results of the six year operation were less than spectacular, yet the Commission felt that the Hartford experiment provided enough positive data to authorize the service on a nationwide scale. It is ironic to note at this point that when the FCC's authorization of subscription television finally went into effect in February of 1970--after withstanding litigation and congressional review--there were no subscription systems in operation. Zenith closed down the operation in Hartford in 1969.

Zenith's decision to cease operation was based on several factors. The system was sustaining heavy financial losses and it was felt that no new information could be gained by continuing. At its peak of operation, the system never had more than 7,000 subscribers out of a possible 275,000 TV homes. Furthermore, it was found that these subscribers required more instruction than was expected in operating the decoders. This slowed up the rate of installation. (Doan, p. 9.)

Another problem was in the decoder itself--it was expensive to manufacture and install and this cost could not be covered. Additionally, the Hartford operation encountered the same problem that had been plaguing previous systems: programming. The operators of the system had great difficulty persuading film producers to make their material available for pay broadcast, and since movies made up the major portion of viewing fare this was disastrous.

As previously mentioned in Chapter II, there was another large scale pay television experiment which was conducted in the 1960's. This was a test proposed by Skiatron of its Subscriber-Vision wired system in Los Angeles and San Francisco.

The proponents of this system had several motives for locating the operation in California. First, the state had already adopted legislation which authorized pay TV operations within its boundaries. Secondly, the owners of this operation had also reached agreement with sports and cultural interests which would provide programming. And, third, the state contained two large metropolitan areas which would make the wired system economically feasible and not necessitate crossing state lines.

The system consisted of three program channels and one information channel which were programmed simultaneously. The system provided for both monochrome and color transmission. Subscriber terminals could be interrogated electronically and billing was carried out by means of a centralized computer. Prices for programs ranged from $1.50 for sports events and movies to $3.50 for some special cultural events.

But despite the seemingly practical (and potentially lucrative) plan, this system was short-lived. The company closed down when pressure from broadcast and theater interests forced a referendum on pay TV in the November 1964 elections. The issue was voted down and pay TV was banned in the state. This ban was subsequently lifted when the courts ruled that the action was unconstitutional, but the damage had been done. The company had gone bankrupt after suffering losses estimated at $20,000,000.

Current Pay Television Operations

There has been a flurry of activity in the field of pay television in the years since the FCC established operating parameters in the Fourth and Fifth Reports. Instead of describing each separate operation in detail I will confine my discussion to the systems themselves and their locations. Additional information about the operations will be found in Appendices A and B.

Although there are at present no subscription (over-the-air) television systems currently in operation, there have been three subscription systems authorized by the FCC. These systems are Pay Television Corporation's Phonevision system, Blonder-Tongue Laboratories' BTVision system, and Teleglobe Pay TV System's Teleglobe '410' system. These systems all operate by scrambling the signal at the transmitter and send this signal over the air to a decoding unit attached to the home receiver. The decoding units in the Phonevision and Teleglobe systems are activated by inserting a card in an internal slot which is then punched with a viewing and billing code. Each month the subscriber mails in the card with payment and receives the following month's card. In the BTVision system, the charges are recorded on an internal card by pushing a button on the outside of the decoding unit set to a viewing code. Billing is accomplished by mail as in the case of Phonevision and Teleglobe.

The Phonevision system was the system originally patented by Zenith but now owned by Pay Television Corporation (formerly TECO). It was authorized by the Commission on August 25, 1970, and became the first system to receive such authorization since the Fourth and Fifth Reports were adopted. Although it has yet to begin operation, Pay Television Corporation has applied for permission to operate the Phonevision system over the facilities of Channel 52 in suburban Los Angeles. The company is presently involved in litigation with Kaiser Broadcasting over an aspect of the purchase agreement. Phonevision was also proposed for Chicago in cooperation with the Chicago Federation of Labor for the facilities of WCFL-TV, Channel 38, but the agreement fell through and the application has been dismissed. (Bentley, July 1974.)

The second system to be approved by the FCC (on August 5, 1971) was the BTVision system developed by Blonder-Tongue Laboratories. Blonder-Tongue has been granted two construction permits for stations in Boston, Massachusetts (Channel 63, WQTV) and Newark, New Jersey (Channel 68, WBTB-TV). In addition, the BTVision system has been proposed for Baltimore (Channel 54, WUHF-TV), Dallas (Channel 27, no call letters yet assigned), St. Louis (Channel 24, no call letters yet assigned), and San Francisco (Channel 20, KEMO-TV).

The third system approved by the Commission (on March 1, 1973) was the Teleglobe '410' system owned by Teleglobe Pay TV Systems, Inc. The company has been granted a construction permit to operate its system in Milwaukee, Wisconsin over Channel 24, WCGV-TV. The system has also been proposed for Los Angeles using the facilities of Channel 22, KWHY-TV, and for San Francisco using the facilities of Channel 26, KTSF-TV. The Los Angeles proposal is about to receive authorization to operate from the FCC.

Applications for subscription operations are on file for the cities of Detroit (Channel 20, WXON-TV), Philadelphia (2 applications for Channel 57), and Baltimore (Channel 50).

Of all the subscription systems proposed, Blonder-Tongue has the most likelihood of being the first on the air with its operation in Newark. This system will operate as a conventional broadcast facility at first and then begin pay operations later. But the promise of over-the-air pay television has yet to be realized. The area of pay television which has shown the most potential has been pay cable television.

There are currently 57 pay cable television operations in 49 locations serving some 70-75,000 subscribers. (Witheridge, July, 1974.) These figures become all the more impressive when it is realized that the first systems came into existence only as recently as 1972. During the past two years the industry has grown at an astounding rate due to the efforts of less than a dozen companies.

The technologies of pay cable are as diverse as the companies themselves, but in general all systems are designed to provide programming to subscribers on one or more otherwise empty channels on an existing wired system. (These are one-way systems for the most part, although some field testing has been conducted with two-way systems.) Charges for the programs are assessed in one of two ways: either on a per-program or a per-channel basis. Each of these has its own accompanying technological approach.

In the systems which assess fees on a per-channel basis, the video signal is carried unscrambled on the cable, but it is transmitted at a non-standard frequency that cannot be tuned in directly by standard TV receivers. Each subscriber who wants the service is furnished with a "converter" that enables him to tune in the special channels. The company charges an installation fee for the equipment (and sometimes a monthly service charge) and a flat monthly fee for all programs shown over that channel.

In the case of systems which assess fees on a per-program basis, the signal is scrambled (or otherwise encoded) at the cable system's head-end which makes the signals unintelligible for the ordinary TV set or converter. A special unscrambler or decoder is installed in each subscribers home which is activated by inserting a special "ticket" in the mechanism or by remote control. The subscriber pays an installation fee for the decoding mechanism (and sometimes a monthly service charge) and thereafter pays a separate fee for each pay program viewed.

According to a description of the financial structure of pay cable systems which appeared in NCTA's "Subscription Cablecasting Fact Sheet" (April, 1974, p. 2), there are at present three basic financial approaches available to the cable system operator who wants to include pay programs in the range of services offered by his cable operation. The most common of these approaches is the joint venture where the pay-TV entrepreneur provides programming to the cable system operator (who assumes the responsibility for capital equipment costs, marketing, and billing and technical functions). The second approach is the lease option where the pay TV operator leases a channel from the cable operator and assumes, in addition to program procurement, all capital equipment and origination costs, converter installation, and billing and ~~marketing~~. The third approach is the owner-operated system where the pay TV entrepreneur owns and operates both the cable system and the pay TV service. Typically in this arrangement the cable system owner/pay TV entrepreneur provides the programming and hardware to his cable systems which, in turn, handles converter installation, hardware maintenance, and marketing and billing functions.

Programming on the existing pay cable channels consists primarily of movies and sports events, with some systems offering in addition hobby, travel, education, and cultural programs. Most systems charge a flat rate for their programs ranging from $5-$8 a month. Only one system currently charges on a per-program basis (the system run by Viacom in Smithtown, New York) with rates beginning at $1 per event.

The first pay cable system to begin operation in 1972 was Home Box Office, a subsidiary of Sterling Communications. Home Box Office is primarily sports-oriented, controlling the pay TV rights to such teams as the New York Knickerbockers and Rangers, the Milwaukee Bucks and the Boston Celtics. The company charges $15 installation and $6 a month for their programs. It began operation in November of 1972 with facilities in Wilkes Barre, Hazelton and Allentown/Bethlehem, Pennsylvania. It has since expanded to include operations in Coplay, Ironton, Lansford, Mahanoy City, Mt. Carmel, Nazareth, Palmerton/ Leighton, Seatington, Stroundsburg, St. Clair, and Tamaqua, Pennsylvania;

Corning, Endicott, Hicksville, Ithaca, Mt. Vernon, Babylon, and Vestal, New York; and Wayne, New Jersey.

The second pay cable system to come into existence was Theater-VisioN in December 1972, with an operation run in conjunction with Storer Cable of Sarasota, Florida. This operation has since been bought out by Digital Communications, and the system, under the leadership of Dore Schary, has become more active in the program production field.

The third system to appear was Gridtronics--a subsidiary of Warner Communications--in February of 1973 with operations in Reston, Virginia; Olean, New York; and Clearfield and Pottsville, Pennsylvania. This system offers movies exclusively at prices ranging from $5-$6 a month. It now has operations in Bradford and Warren, Pennsylvania; Pittsfield, Massachusetts; Fayetteville, Arkansas; Coos Bay, Oregon, and Winter Haven, Florida.

The next system to begin operating was Optical Systems in March of 1973 with a facility in San Diego, California. The system offers primarily movies and sports, and other events not available on conventional television at a cost of $6.50 per month. This system is also in use in Santa Barbara, California; Harrisburg and Easton, Pennsylvania; Toledo, Ohio; and Quint Cities, Iowa.

Also in March of 1973, the Cinca Communications system began operation in Long Beach, California, showing movies at a cost of $19.50 for 13 weeks--or $1.50 a week. Subscribers are assessed $7.95 installation and $1 per month service charge. Cinca now has operations in Escondido and San Clemente, California.

In June of 1973, the American Multi-Cinema system was begun in Columbus, Ohio. A division of Coaxial Communications--this operation features movies exclusively. This is the system which has conducted field tests of a two-way cable operations, by enabling certain terminals to be interrogated electronically.

The next system to appear (in July of 1973) was the Digital Communications system showing movies to subscribers in Pensacola, Florida, and Decatur, Georgia. It has expanded its operations to include North Palm Beach, and has recently acquired the former TheaterVisioN operation in Sarasota, Florida, from Storer Cable.

Also in July of 1973, the Trans-World Communications system began operation showing movies over the facility in Smithtown, New York. Viacom has recently acquired this operation, and charges for the service are assessed on a per program basis. The Trans-World system also began an operation in 1973 in Commack, New York, showing films on two channels for $3 per film and $1.50 per month service charge.

Since the summer of 1973, there have been several other operations started including one in Fort Lauderdale, Florida (by American Video using its own system); Hamilton, Ohio (by Tele-Communications using its TCI system); Carrollton, Pennsylvania (by XtraVision), and 8 operations in areas of Los Angeles (by Theta Cable). Information on all these systems mentioned was taken from issues of Paul Kagan Associations Pay TV Newsletter and from a list given to me by Don Witheridge at NCTA.

CHAPTER V

CONCLUSION

My purpose thus far in this discussion of pay television has been to examine the growth and development of the industry from its earliest beginnings to its present state in the areas of regulation, legislation, and operation. In this concluding chapter I would like to briefly summarize the current status of the pay television industry, to discuss some projections made by pay cable entrepreneurs with regard to future uses of their systems, and to describe conditions which must exist for these predictions to be realized. I believe it is also appropriate, in light of the present controversy between proponents of commercial television and pay television, to include a very brief discussion of both sides of the issue. Finally, I would like to include my own thoughts as to the future of pay television in the United States.

That the pay <u>cable</u> television industry is growing rapidly is evident, but <u>over-the-air</u> pay television has yet to fulfill its early promise. Growth in the area of over-the-air systems is almost nonexistent when compared to the number of pay cable television systems that are appearing. FCC Docket 19554 is still open, and the Commission is expected to move soon on the matter of establishing operating parameters for pay cable as soon as the new commissioners can be brought up to date on the issue. Congress has not yet amended the Communications Act of 1934 to specifically include pay television (nor is it expected that it will), but it is anticipated that Congress may again enter the issue by holding more hearings during the next legislative session on the question of whether or not the "public interest, convenience, and necessity" would be served by the establishment of such a service--a question which Congress (and not the Commission) may ultimately have to resolve.

The future of pay television in the United States seems more closely linked with the development of cable systems than with subscription systems. Pay cable utilizes an already existing wired system which means that there is no need to deal with the FCC regarding allotment of broadcast frequencies. Also, since the cable system by its very nature eliminates the difference in signal strength and stability between VHF and UHF frequencies, the picture quality is uniform on all channels. Since cable systems are not subject to the same FCC rules governing content of program and non-program material, films could be run without editing out controversial segments and uninterrupted by commercial messages. Still another advantage can be found in the fact that customer billing procedures are already established on an existing cable system.

Pay cable entrepreneurs have attempted to obtain subscriber and investor support by making optimistic predictions about the future uses of pay television hardware and software. One of the things they have envisioned is a pay television system based on hardware with two-way capacity that can be interrogated to select desired programs, information, and services. At the present time, the cost of equipment capable of two-way communication is prohibitive and not easily adaptable for home use. Until a way can be found to make two-way systems more economically feasible, this prediction is not capable of being realized in the near future.

Another prediction made by some pay cable interests is head-end local programming of sporting, educational, and cultural events to be shown on a pay-as-you-see basis. Due to the expensive nature of television production in general, a lack of head-end crew and studio facilities on the part of most cable companies, and limited audiences that might be expected, this prediction seems unrealistic.

The area of software for pay television systems is the subject of much debate. Pay television promoters have made much of the idea of program diversity and increased choices of programs for viewers, but software is expensive, and extensive production would not be possible on the local level. It is possible to increase the amount of educational and cultural programming available on pay television, but arrangements would have to be made with regard to copyrighting of programs and payment of residuals if the program is to be shown more than once. Tentative plans have been made for the showing of programs that appeal to minority interests, but by the very nature of these programs audiences would be limited and profits would be small. The basic draw of pay television seems to be in the categories of movies and sports. These two categories comprised most of the program material carried by the experimental subscription systems and are the programs gaining widest audience support on existing pay cable operations. These are also the two categories which have aroused the most opposition from the broadcast industry.

It is not the purpose of this thesis to support or defend either the pro-pay TV or anti-pay TV factions, but in light of the continuing controversy it may be appropriate to review certain aspects of both sides of the issue.

At the November 1973 Oral Argument before the Federal Communications Commission, writer Edward Anhalt stated that--

> ... the three television networks have imposed what amounts to a cultural totalitarianism on this country in which any program that is not seen in a minimum of 15 million homes is doomed either to extinction, obscurity or transmission exclusively to insomniacs. (NCTA, Subscription Cablecasting and Consumer Choice, 1974, p. 6.)

Pay cable advocates add that--

> ... there are a great many programs--sports events, movies, cultural productions and other special programs--that seldom or never appear on commercial television because they do not appeal to a mass audience. These are programs that pay cablecasting can provide if consumers want to see them. Viewers should at least be given the opportunity to make a choice. (Foster, TV Guide, May 4, 1974, p. 12.)

The service offered by pay television systems is described as being--

> ... an alternative or supplement to broadcast TV, not as a replacement. Pay cable subscribers (would) still receive all the TV stations they did before, but they (would) have more TV from which to choose. (Foster, TV Guide, May 4, 1974, p. 11.)

These arguments for increased program diversity and consumer choice may be valid, but those who support the present commercial system argue the cost to the average wage earner would be too great.

Further, a substantial number of American TV households would never have access to the service because they live in rural areas which would be too expensive to wire. Opponents also contend that the poor and others living on fixed incomes would never be able to afford the service even if it existed on a national scale because it would take more money out of the family budget than would normally be spent on entertainment. They argue that pay cable companies could outbid commercial television for special events and first-run movies if FCC rules were relaxed, and the entire American viewing public could be forced to pay for what it now receives "free of charge", or do without.

Many claims have been made by pay television entrepreneurs about the tremendous growth potential of their industry, the potential variety of services they can offer, and potential profits that can be realized by investors. Still other claims have been made by broadcasters and others that the emergence of pay television could cost the American TV viewer a lot more than just dollars--it might cost him his present free broadcasting service. Questions have been raised by regulators of the broadcast industry as to whether or not the public interest would be served by even offering such a service. Such questions and claims are not easily answered, and I have not tried to do so in this thesis.

In the final analysis, the success of pay television depends on two things: public acceptance and public policy. At the present time, there are too many forces at work which are impeding these important factors in the development of pay television. Present FCC regulations protect existing commercial interests as well as the public interest. In addition, there are FCC dockets concerning subscription television, cable television, pay cable television, and copyright which are still open, and legal and public interest questions which are as yet unresolved. The pay television entrepreneurs themselves are having problems with expensive hardware and restricted software. Finally, present economic conditions in society as a whole make the American public reluctant to accept an additional drain on the family budget--especially for a service which is already provided. The issue of pay television will continue to be argued before the Congress, the Commission, and the American people for years to come. Further research would be necessary to study the full implications of future technological advances and government policy decisions, but if the day arrives when pay television can have mass-audience appeal and is economically feasible, the broadcast industry as we know it today will have to be re-structured to meet the challenge.

APPENDICES

APPENDIX A

SUBSCRIPTION TELEVISION SYSTEMS

System Owner	System Name	Date Authorized	City, Channel, Call	Disposal
Pay Television Corp.	Phonevision	August 25, 1970	Los Angeles, 52, KBSC-TV	Application in process
Blonder-Tongue	BTVision	August 5, 1971	Boston, 63, WQTV	CP approved
			Newark, 68, WBTB-TV	CP approved
			San Francisco, 20, KEMO-TV	Application in process
			Baltimore, 54, WUHF-TV	Application in process
			St. Louis, 24, no calls	Application in process
			Dallas, 27, no calls	Application in process
Teleglobe	Teleglobe 410	March 1, 1973	Milwaukee, 24, WCGV-TV	CP approved on condition
			San Francisco, 26, KTSF-TV	Application in process
			Los Angeles, 22, KWHY-TV	Application in process
Vue-Metric	Vue-Metric		Philadelphia, 57, no calls	Application in process

continued

APPENDIX A--continued

System Owner	System Name	Date Authorized	City, Channel, Call	Disposal
WXON-TV	None proposed		Detroit, 20, WXON	Application in process
Radio Broadcasting Co.	None proposed		Philadelphia, 57, no calls	Application in process
Individual/Estate	None proposed		Washington, D.C., 50, no calls	Application in process

APPENDIX B

PAY CABLE TELEVISION SYSTEMS

State	City	Pay TV System	System Owner	No. of Subscribers
Arkansas	Fayetteville	Gridtronics	Warner	1,700
California	Escondito	Cinca	Times-Mirror	1,300
	Long Beach	Cinca	Times-Mirror	1,200
	San Clemente	Cinca	Times-Mirror	N.A.
	San Diego	Optical Systems	Cox Cable	10,000
	Los Angeles (8)	Theta Cable	TelePrompTer/Hughes	10,000
Florida	Fort Lauderdale	American Video	American Video	1,500
	North Palm Beach	Digital Comm.	Independent	600
	Pensacola	Digital Comm.	Davis Comm.	400
	Sarasota	Digital Comm.	Storer Cable	1,100
	Winter Haven	Gridtronics	Warner	700
Georgia	Decatur	Digital Comm.	Davis Comm.	1,000
Illinois	Moline	N.A.	Cox Cable	N.A.

continued

APPENDIX B--continued

State	City	Pay TV System	System Owner	No. of Subscribers
Massachusetts	Pittsfield	Gridtronics	Warner	2,000
New Jersey	Wayne	Optical System	UA-Columbia	2,500
New York	Babylon	Home Box Office	TelePrompTer	650
	Corning	Home Box Office	New Channels	250
	Endicott/Vestal	Home Box Office	Pioneer	800
	Hicksville	Home Box Office	Independent	1,600
	Ithaca	Home Box Office	Independent	1,400
	Mt. Vernon	Home Box Office	TelePrompTer	1,300
	Olean	Gridtronics	Warner	1,000
	Smithtown	ViaCode	Viacom	2,000
Ohio	Columbus	Telecinema	Coaxial Comm.	900
	Hamilton	Tele-Communications	Tele-Communications	700
	Toledo	Optical Systems	ToledoBlade/Cox	7,500
Oregon	Coos Bay	Gridtronics	Warner	1,500
Pennsylvania	Allentown/Bethlehem	Home Box Office	Service Electric	2,000

continued

APPENDIX B--continued

State	City	Pay TV System	System Owner	No. of Subscribers
Pennsylvania	Bradfore	Gridtronics	Warner	1,100
	Clearfield	Gridtronics	Warner	600
	Coplay/Ironton	Home Box Office	Independent	300
	Easton	Optical Systems	Sammons	1,200
	Harrisburg	Optical Systems	Sammons	3,000
	Hazelton/St. Clair	Home Box Office	Service Electric	1,100
	(Lansford Lehighton Palmerton Slatington Stroudsburg)	Home Box Office	Independent	700
	Mahonay City	Home Box Office	Service Electric	1,100
	Mt. Carmel	Home Box Office	Service Electric	300
	Nazareth	Home Box Office	Independent	100
	Pottsville	Gridtronics	Warner	1,400
	Tamaqua	Home Box Office	Warner	N.A.
	Warren	Gridtronics	Warner	1,000
	Wilkes-Barre	Home Box Office	Service Electric	2,350
Virginia	Reston	Gridtronics	Warner	1,000

BIBLIOGRAPHY

BIBLIOGRAPHY

References Cited

Advertising Age, "Jerrold Starts First Pay-TV System Via Cable," September 9, 1957.

Bernsohn, A. W., "Pay TV Today," Electronics World, September, 1959.

Broadcasting, "Pay As You See in Palm Springs," May 3, 1954.

Broadcasting, "Toll TV Near in Oklahoma," February 18, 1957.

Broadcasting, "Battle of Pay TV: Air vs. Wire," February 29, 1960.

Broadcasting, "NCTA Signs on Moynihan PR Firm for Pay Campaign," July 15, 1974.

Broadcasting, "More Pay TV Rhetoric on Tap," July 15, 1974.

Celler, Emanuel, "Why I'm Opposed to Pay TV," Journal of the Screen Producers Guild, Volume 6, Number 2, June, 1959.

Changing Times, "Pay TV: Pro and Con," August 1958.

Doan, Richard K., "A Look at Pay TV After Year's Test," New York Times, June 30, 1963.

Electrical Merchandising, "Phonevision Gets Its First Test," April 1951.

Federal Communications Commission, Annual Report, 1955.

Federal Communications Commission, Annual Report, 1957.

Federal Communications Commission, Annual Report, 1958.

Federal Communications Commission, Annual Report, 1960.

Federal Communications Commission, Annual Report, 1963.

Federal Communications Commission, Annual Report, 1964.

Federal Communications Commission, Annual Report, 1968.

Federal Communications Commission, Annual Report, 1972.

Federal Communications Commission, Information, September 10, 1957.

Federal Communications Commission, Information, 1970.

Federal Communications Commission, News, November 18, 1969.

Federal Register, "Notice of Proposed Rule Making" in Docket 11279, Volume 20, page 988 (1955).

Federal Register, "Notice of Further Proceedings" in Docket 11279, Volume 22, page 3758 (1957).

Federal Register, Reports, Volume 20 (Second Series), page 201 (1969).

Federal Register, Reports, Volume 23 (Second Series), page 825 (1970).

Gallagher, Bernard P., "Pay TV Breakthrough," Gallagher Report, December 10, 1962.

Kamen, Ira, Questions and Answers About Pay TV (Indianapolis: Howard W. Sams and Company, Inc., 1973).

Ledbetter, Theodore S., Jr. and Susan C. Greene, "An Overview of Pay Cable Television," Talking Back: Citizen Feedback and Cable Technology, DeSola Pool, Ithiel, ed. (Cambridge: MIT Press, 1973).

Lehman, Milton, "TV's Colossal Hassel," Saturday Evening Post, October 29, 1955.

McDonald, E. F., Jr., Des Moines Sunday Register, October 12, 1941.

National Association of Broadcasters, Comments before the FCC in Docket 11279, October 28, 1960.

National Association of Broadcasters, Progress Report, NAB Special Committee on Pay Television, March, 1974.

National Cable Television Association, "Subscription Cablecasting Fact Sheet," April, 1974.

Pike and Fischer, "First Report and Order" in Docket 11279, Volume 16, page 1509 (1957).

Pike and Fischer, "Second Report" in Docket 11279, Volume 16, page 1539 (1958).

Pike and Fischer, "Third Report" in Docket 11279, Volume 16, page 154a (1959).

Pike and Fischer, "Further Notice of Proposed Rule Making and Inquiry" in Docket 11279, Volume 7 (Second Series), page 1501 (1966).

Pike and Fischer, "Fourth Report and Order" in Docket 11279, Volume 10 (Second Series), page 1617 (1967).

Skiatron TV, Inc., Comments before FCC in Docket 11279, September 13, 1954.

U. S. News and World Report, "Pay TV: Better Entertainment or Trouble for the Industry?" May 8, 1967.

Zenith Radio Corporation and TECO, Comments before the FCC in Docket 11279, June 9, 1955.

General References

Adler, Richard and Walter S. Baer, eds., The Electronic Box Office: The Humanities and Arts on the Cable (New York: Praeger, 1974).

Broadcasting, "Everybody's Talking About Closed Circuit Pay TV," June 10, 1957.

Broadcasting, "Benchmark in Bartlesville," September 9, 1957.

Broadcasting, "Bartlesville Revisited, November 4, 1957.

Broadcasting, "Long Wait for Toll TV," April 14, 1958.

Broadcasting, "A Real Test of On-Air Toll TV?" April 4, 1960.

Broadcasting, "Pay TV by Wire or On the Air," June 20, 1960.

Business Week, "Wired Pay TV is the Comer," June 15, 1957.

Congressional Digest, "The Question of Pay Television," Volume 46, Number 12, December, 1967.

Federal Communications Commission, Annual Report, 1950.

Federal Communications Commission, Annual Report, 1951.

Federal Communications Commission, Annual Report, 1952.

Federal Communications Commission, Annual Report, 1953.

Federal Communications Commission, Annual Report, 1954.

Federal Communications Commission, Annual Report, 1956.

Federal Communications Commission, Annual Report, 1959.

Federal Communications Commission, Annual Report, 1961.

Federal Communications Commission, Annual Report, 1971.

Horton, Robert W., "To Pay or Not to Pay," A Report on Subscription Television (Santa Barbara: Fund for the Republic Inc., 1960).

Lowe, Walter, "Oklahoma Experiment Jogs Movie and Video Industries," Christian Science Monitor, September 17, 1957.

MacNamara, Paul, "You ... and Pay TV," Street and Smith's Baseball Yearbook, 1959.

McDonald, E. F., Jr., "Television and the Motion Picture Industry" (a brief on Phonevision at the Request of Metro Goldwyn Mayer), February 10, 1948.

National Association of Broadcasters, "Factsheet on Regulating and Legislative Aspects of Siphoning," NAB Legal Department, July 9, 1974.

National Association of Broadcasters, Questions and Answers on Pay Cable TV and Program Siphoning," NAB Special Committee on Pay Television, 1974.

National Cable Television Association, Pay Cablecasting and Consumer Choice, January, 1974.

Noll, Roger G., Merton J. Peck and John J. McGowan, Economic Aspects of Television Regulation (Washington: The Brookings Institution, 1973).

Paul Kagan Associates, "Special Report on Pay TV," April 1, 1973.

Paul Kagan Associates, Pay TV Newsletter, May 25, 1974.

Report to the President, The Cabinet Committee on Cable Communications, Cable (Washington, D.C.: Office of Telecommunications Policy, 1974).

Saturday Evening Post, "Why Not Let Pay TV Have a Trial Run?" (editorial), January 31, 1959.

Television Age, "Now It Can Be Tolled," May 16, 1960.

TV Guide, "The Issue of Pay TV," May 4, 1974.

Wall Street Journal, "Zenith Plans to Start Testing Phonevision September 1 in Chicago," March 27, 1950.

Zenith Radio Corporation, Press Release on Phonevision Survey, April 11, 1949.

Zenith Radio Corporation, Press Release on Phonevision test in Chicago, February 8, 1951.

Personal Interviews

Bentley, John G., Broadcast Bureau, Federal Communications Commission, Washington, D.C., July 12, 1974.

Resor, Robert, Executive Director, Office for Free Television, National Association of Broadcasters, Washington, D.C., January-May, 1974.

Summers, John, General Counsel, National Association of Broadcasters, Washington, D.C., May 1974.

Witheridge, Donald E., Director of Subscription Cablecasting, National Cable Television Association, Washington, D.C., July 10, 1974.

Zeifang, Donald, Government Relations, National Association of Broadcasters, Washington, D.C., May, 1974.