

## FOREWORD

This analysis has been prepared by Messrs. H. I. Grousbeck and Amos B. Hostetter, Jr., to provide background information on the Community Antenna Television (CATV) Industry and on a proposed CATV installation in Tiffin and Fostoria, Ohio.

Most of the work preliminary to construction of these systems has already been completed. As will be developed in this analysis certain franchises, contracts, options, engineering services, and bank support have been arranged for the installations. These arrangements have been concluded by the authors through Continental Cablevision, Inc., a Delaware company which we formed in May, 1963 to own and operate properties in the CATV industry.

Following a discussion of the CATV industry we have presented in this analysis a review of CCI's management, objectives, and activities in sponsorship of the Tiffin and Fostoria systems. The concluding section of this study focuses on the contemplated financing of the Tiffin and Fostoria systems.

It is planned that the systems be owned and operated by an Ohio Corporation to be organized by a group of 10 or fewer individuals. This new Company will be capitalized by the investors with \$300,000 in common stock qualified for both Sub-chapter S and 1244 treatment. It is expected that as a result of the proposed financing the investors will be able to recoup a large portion of their original

investment within the first few years. Through an option arrangement CCI will have the right, between June 30, 1967 and August 31, 1974, to repurchase the Tiffin and Fostoria systems for either cash or stock of CCI. Regardless of whether or not this option is exercised and the form if exercised, we feel that within six years the value of the investors' position in the Tiffin and Fostoria systems will be several times the hard cost of their investment.

## I. DESCRIPTION AND DISCUSSION OF THE CATV INDUSTRY

	<u>page</u>
A. Broadcast Allocations - The Basis of the Industry	1.
B. The Mechanics of a CATV Installation	2.
C. The Economics of a CATV Installation	3.
1. Competitive Elements	3.
2. Revenue Characteristics	3.
3. Cost Characteristics	4.
4. Current Regulation	6.
D. Current Activity	8.
E. Outlook	9.
1. Risk Areas in the Industry's Future	10.
(a) Technical Obsolescence	10.
(b) Competition from the Established Utilities	13.
(c) Regulation by Federal, State or Municipal Authority	16.
(d) Taxation	20.
2. Conclusions	22.

## II. CONTINENTAL CABLEVISION, INC.

A. Management	23.
B. Objectives	24.
C. Selection of Tiffin and Fostoria	25.
1. Tiffin and Fostoria as CATV Sites	25.
2. CCI's Activity in Tiffin and Fostoria	27.
D. Financing the Proposed Installations	29.
1. General Format - An Independent Operating Company	29.
2. Forecasts and Capitalization	30.
3. Senior Financing	32.
4. Equity Financing	35.

## EXHIBITS

1. Map of Northern Ohio and Southern Michigan
2. Continental Cablevision, Inc. - Corporate Information
3. Summary of Operating Expenses
4. Cash Flow assuming "Minimum expected" Build-up
5. Cash Flow assuming "Most likely" Build-up
6. Summary of Data Pertinent to Investors' Interests, pre-June 30, 1967
7. Summary of Data Pertinent to Investors' Interests, post-June 30, 1967

## APPENDICES

### Appendix

1. Franchises awarded to Continental Cablevision, Inc. by The Cities of Tiffin and Fostoria, Ohio
2. Agreements of Ohio Bell Telephone Company and Ohio Power Company permitting Pole Attachments of CATV Distribution Equipment.
3. Sample Agreement offered by Equipment Manufacturers for Turnkey Construction of a CATV System
4. Information Relevant to Projected Subscriber Buildups
  - A. Saturation obtained since Formation by Broad Sample of CATV Systems
  - B. Growth of Six CATV Systems selected for Comparability to Tiffin and Fostoria in Free vs. Cable Signals
  - C. Growth of Tiffin and Fostoria Systems as Projected by some "Industry Experts."
5. Data on the Sales Prices of Systems which have recently changed Hands
6. Letter to Internal Revenue requesting and reply confirming the applicability of SubChapter S Status to Continental Cablevision, Inc.
7. Value Line Investment Survey of the CATV Industry
8. Television magazine article on the CATV Industry
9. Barron's commentary on the CATV industry
10. New York Herald Tribune article on the CATV industry
11. Business Week's coverage of a leading CATV industry broker.
12. Broadcasting magazine article on some aspects of the CATV industry's regulatory outlook
13. Television magazine article on Pay TV
14. Georgetown Law Journal survey of regulatory problems in the CATV industry
15. TelePrompTer Corporation: annual report
16. H & B American Corporation: proxy statement and annual report
17. Tower Antennas, Incorporated: offering statement
18. ABC Corporation [disguised]: balance sheet and income statement of a group owner of CATV systems

APPENDICES - page two -

19. XYZ Corporation [disguised]: balance sheet and income statement of another group owner of CATV systems
20. New England Merchants National Bank's letter outlining major terms of its loan offered to Continental Cablevision, Inc.
21. Note Describing Provisions of Subchapter S and Section 1244 Stock
22. Pre-incorporation and subscription agreement

## THE CATV INDUSTRY

CATV (Community Antenna Television) is a master antenna system designed to provide television signals through cables to cities and towns which, because of distance or intervening terrain, are unable to receive satisfactory signals through the use of ordinary roof-top antennas. By "pulling in" distant stations, the CATV systems provide additional programming to communities that otherwise would receive only one or two nearby stations.

The first CATV systems in this country were started in the hills of Pennsylvania, West Virginia, and Oregon in 1949-50. In the 14 intervening years CATV has evolved to an industry of major proportions. As of June 1963, there were more than 1,100 operating systems in the U.S. serving over one million homes (about 2% of the nation's TV homes). Total plant investment was estimated at \$450,000,000.

### A. Broadcast Allocations - The Basis of the Industry

The idea which underlies the CATV industry is derived from the geography of broadcast allocations. It is the responsibility of the FCC to allocate communication frequencies in such a way as to allow the greatest utilization of available frequencies without overlap and interference among signals. Thus it has become the FCC's responsibility to specify and control the broadcasting hours, frequency, power output, signal direction, etc., of signals sent through the air. While the resultant TV allocations (UHF and VHF) may provide six or seven possible

channels of television for a resident of New York or Los Angeles, they may also bring about certain holes in coverage. Since television signals are limited to line-of-sight transmission, these holes are a function both of distance and intervening terrain. Though 94% of the households in this country have TV sets, less than 50% are able to receive more than two "viewable" signals. The genus of the CATV industry is thus derived from the technical limitations of signal reception. As CATV has been able to extend television's entertainment and education facilities, it has found overwhelming acceptance from a TV-hungry public.

#### B. The Mechanics of a CATV Installation

The mechanics of a CATV installation are relatively simple. A master antenna is erected at a location and elevation where the signals of the desired stations are available in sufficient field strength to provide good quality pictures. A coaxial cable or other type of lead extends from the antenna to the community to be served. Where longer distances are to be covered, a point-to-point microwave relay service is utilized. The signals received from the distant television stations, as well as from the local stations, if any, are transmitted from the master antenna through amplifying equipment along the coaxial cable system to the television receivers in the homes. The antenna lead and distribution cable facilities are generally supported on the poles of the existing electric power or telephone companies. Rental payments are made under contract for such attachment rights. In a few cases, distribution facilities are placed underground or on privately-owned poles. Easements and rights-of-way to use streets and

alleys are obtained from the municipal governments where necessary. Such easements are referred to in the industry as a "franchise." This is in many respects a misnomer.

### C. The Economics of a CATV Installation

#### 1. Competitive Elements

CATV has many of the economic characteristics of a utility. It is a business with limited competition. CATV, of course, competes indirectly for discretionary income with all forms of entertainment and educational facilities. However, CATV basically competes only with "free signals." Thus a major factor in market selection is the comparison of free signals with signals which could be made available by cable. Only one or two cases exist where two CATV systems compete for the same subscribers. Even in the absence of an exclusive provision in its franchise a CATV system establishes an effective monopoly position by virtue of its pole contracts and plant installation. Since spacing regulations on utility poles usually allow room for only one ancillary service, a second entrant must set his own poles (\$25-\$40 per pole) as well as duplicating the installation. As is discussed later, the possibility of technical developments in television transmission which could replace a cable system seems slight.

#### 2. Revenue Characteristics

The installation and service rates in the CATV industry today vary over a wide range: \$0 - \$200 for installations and \$1.50 - \$15 per month for service charges. Such variations, reflecting differing



philosophies on recapture of original plant costs, have recently demonstrated some tendency toward convergence. Rates for systems installed in the past few years have averaged about \$20 for installation and \$5 per month for service. Despite rate variations, CATV revenues have generally shown characteristics similar to other utility services.

CATV systems seem to have a generally predictable pattern of growth. While this point will be developed in some detail in a subsequent section, it will suffice here to say that with a technically-sound installation, a well-chosen market and capable promotion and management, a 60-75% saturation can be expected in five to seven years. Further growth can be anticipated to correspond with increases in population within the cabled area.

A CATV system is also comparable to telephone, electric, and gas utilities in that its income seems relatively immune to business cycle fluctuations. Experience over the last decade with disconnection requests and bad debts in the coal-mining areas of West Virginia and Pennsylvania indicates that there is relatively little income elasticity for CATV service. In fact, some in the industry argue that within limits there is inverse income elasticity, as CATV probably provides one of the cheapest hourly forms of amusement.

### 3. Cost Characteristics

The CATV industry is characterized by the same high asset-sales and fixed-variable cost relationships as most utilities. Installation cost of a full channel system (Channels 2-13) approximates \$4,500/mile in today's markets. Considered in terms of the population

density typical in rural towns (perhaps 60-100 homes per mile), this amounts to an outlay of \$45-\$75 per potential subscriber. If 70% saturation is reached in five to seven years the plant cost is roughly \$65-\$105 per subscriber.

Operating costs independent of S.G.&A. generally range from \$750-\$1000 per mile per year. S.G.&A. will vary slightly with the size of the subscriber base. However, the major expenses are capital-associated and total expenses are relatively fixed in nature. Personnel requirements are small; the average system is operated by a manager, several technicians and linemen, and some clerical help.

There is thus considerable operating leverage (around a breakeven of 25-30% of potential or about 15-30 subscribers per mile). As mentioned above, the industry of late has tended to place installation charges at about \$20. The contribution on this installation is minimal, perhaps \$5-\$10, and is often foregone for promotions. Experience indicates that once a customer is installed the drop-off rate is amazingly low. By the time a system has reached 50-60% saturation it can often bring 50% of the \$60 service income per subscriber through to operating profit (before depreciation, financial charges and taxes).<sup>1/</sup>

At present the IRS recognizes a five-seven year life on equipment involved in a CATV installation. Thus, a CATV system rarely reports earnings for the first two or three years and does not pay income taxes for five or six years. The cash earnings over this period, however, are often sufficient to return the cost of installation free of taxes.

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<sup>1/</sup> See operating statements in Appendices 15, 16, 18 and 19.

To date, "real" life has been more a function of obsolescence through equipment advances than of physical fatigue. Based on the experience of a sample of the industry's best-managed systems with which we are familiar, the outlays for maintenance, repairs, capital addition and replacement (whether capitalized or expensed) appear to range between 5% and 8% of gross plant, implying a 12-to-20-year "real" life.

The point is in some respects academic. Since the tax life has stimulated resale of systems on a periodic basis, there is a well-defined market in operating systems. An established system in today's market commands a price of from five to eight times operating income (before depreciation, financial charges and taxes). The price is dependent in part on the amount of growth remaining in a system. Expressed in terms of price per subscriber, the market is presently valuing systems at \$200-\$250 per subscriber. Thus the market prices of fully-depreciated systems are generally well in excess of original plant costs. Given this set of circumstances one must conclude that a large part of cash earnings are in fact real earnings.

#### 4. Current Regulation

Despite the quasi-utility nature of the CATV industry it has been held not to be a public utility and consequently is not presently regulated by state or governmental agencies (except as regards certain mechanical guidelines, such as clearance over highways, methods of attachment to utility poles, spurious radiation from cables, etc.). CATV systems are not engaged in broadcasting and do not use the common air

for transmission. Until quite recently CATV has been viewed by the FCC as an extension of an individual's antenna, and has thus been held not to be under FCC jurisdiction.

Those systems which use microwave to relay distant signals are served by a common carrier microwave operator who is under FCC jurisdiction. There is ample evidence in the way the FCC has administered its authority in microwave allocations that it is covetous of broader regulatory powers over the CATV industry, particularly in areas of conflict between local broadcasters and CATV operators. In such cases of potential conflict, the FCC has stipulated as a condition of recently issued microwave certificates that the common carrier will not serve a CATV system unless that system agrees to carry the local television station, and also to avoid duplication of the local station's programming. The microwave certificates issued subject to these restrictions are to be reviewed following the outcome of FCC hearings on the CATV industry which are now in progress.

While at present, regulatory efforts have affected only systems using microwave, it should be assumed that the next few years will bring some legislation covering all CATV systems. The CATV industry's national association (NCTA) has mounted strong legislative opposition to the extension of the FCC's common carrier jurisdiction to regulate the end user (the CATV operator). It is the opinion of the association that regulation based on such questionable jurisdiction could produce numerous inequities. The NCTA has recently decided not to oppose regulation per se but to cooperate in determining a workable form and agent for regulation. Thus the NCTA staff is now cooperating with the FCC in a study of the industry and in the drafting of proposed legislation covering the area of

CATV-broadcaster conflicts. Such cooperation has been judged the best way to define and contain the scope of future regulation. The area of future regulation will be considered in detail in a subsequent section.

#### D. Current Activity

Fifteen years ago, CATV activities were fostered by homeowners in some communities who were bent on increasing by one or two channels the signals available for their families and neighbors. In other communities appliance dealers, desiring to promote the sale of television sets, built systems to provide satisfactory television reception for their markets. As the economics of the industry became clear, many wealthy patrons made installations, spurred not only by service and profit considerations but also by tax advantages.

Recently the industry has begun to attract the attention of major investing groups and has received more widespread commentary in the financial journals.<sup>1/</sup> While multiple-system ownership was a rarity five years ago, certain groups, particularly in allied industries, have become quite active of late in acquiring and operating properties.

Jerrold, Entron and Spencer-Kennedy Labs (equipment manufacturers), H & B American (diversified manufacturers), TelePrompter (sports promoters), RKO-General and General Theaters (originally movie producers and theater operators) and most major broadcasters began CATV operations as sidelines, but now all have evidenced increased interest in the steady and expanding earnings of system ownership. Other groups such

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<sup>1/</sup> See Appendices 7 - 13.

as the Rosenwald Estate (Television Communication Corp.), the Cox interests (Ohio) and the Johnson interests (Texas) are recent and active entrants into the field.

As conceived by its pioneers, CATV was probably limited to areas receiving no more than two good signals. Few in the industry today would recognize such limitations. Systems are now operating successfully in markets receiving three free signals, and the current flurry of activity in Connecticut suggests that installations in areas with even more than three free signals are considered both feasible and desirable. CATV seems to have evolved to a new point of merchandising emphasis. The present package includes (a) clarity and reliability of signals; (b) elimination of unsightly and hazardous roof-top antennas; (c) prompt professional service; (d) more and better programming, and (e) specialized programming such as educational service to schools, FM, weather, etc.

#### E. Outlook

Few if any of CATV's pioneers could have foreseen the strides which were taken in the industry's initial 15 years. There are many straws in the wind today which suggest that the potential of this industry has barely been scratched. A recent issue of "Television Digest," a broadcaster's organ, had this forecast:

Continued greater penetration into larger markets, offering more and more national hookups for special events. More efforts to impose federal controls. Operators will seek congressional help to tone down FCC's regulatory moves. Tougher and tougher battles for franchises. Greater and greater capital required. . . NAB [National Association of Broadcasters] will find its job increasingly tough as more and more of its influential members go into CATV while more and more members worry about potential CATV competition.

The accelerated growth of CATV has brought into focus several major questions which will affect the industry's future form and scope. While the final resolution of these questions will only be known over time, we consider it worthwhile here to highlight some of the problem areas for further consideration. Let us caution that particularly in this section this analysis must be recognized as highly subjective. While every effort has been made to substantiate our conclusions they remain in large part personal judgements.

#### 1. Risk Areas in the Industry's Future

Broadly speaking, we feel there are four major risks to the continued prosperity of the CATV industry. These risks involve the areas of: (a) technical obsolescence; (b) competition from other established utilities; (c) regulation by federal, state or municipal authority, and (d) taxation.

##### (a) Technical Obsolescence:

The risk contemplated here involves changes in present technology which could supplant cable systems with a wireless means of television transmission. While this risk will always exist from as yet unknown technical advances, we believe that economic and institutional factors argue against replacement by any foreseeable technical advances.

When a community has poor TV reception, the present alternatives to CATV systems are additional local television stations, devices called "boosters" and "translators," which are essentially slave rebroadcasting stations, and finally, the possibility of a satellite TV transmitter. All of these methods suffer from certain limitations.

As mentioned earlier, allocation of new broadcast frequencies is the responsibility of the FCC. At present all the available VHF (2-13) frequencies have been allocated and are operative.

The advent of the all-channel television set will probably result in construction of additional TV stations operating on UHF channels (14-83). Less than 100 such stations are now operative. It must be recognized, however, that the economics of television limits broadcast facilities to those areas where the high cost of operation can be justified by a sufficiently large audience (and resultant advertising income). Technical characteristics limit UHF broadcast coverage to less than one-half the distance (one-quarter the area) of VHF coverage. The slow rate of UHF station formation evidences the economic difficulties of such a limited market and has been of considerable concern to the FCC. It would thus seem that the area of competition between UHF and CATV will be extremely limited.

The economics of boosters and translators also seem to limit their threat to CATV. Though relatively inexpensive to install, they have proved extremely difficult for communities and civic associations to finance, due to their continuing maintenance and service requirements. There is no way that the signal of a booster or translator can be denied to households which refuse to pay for maintenance.

Satellite transmission of television signals capable of reception by home TV sets requires such large amounts of power as to be unfeasible at this time. More important, there is no foreseeable way of



pinpointing the propagation of satellite transmission. Given the limitation of frequency availability and the wide signal range of satellites, broadcasts direct to the individual TV set from a space vehicle would severely restrict the opportunities for local television. Since Congress and the FCC have historically been eager to foster and preserve autonomous local stations, such a frequency reallocation seems highly unlikely.

It seems appropriate here for us also to make a few comments on the relationship of "Pay TV" to CATV. "Pay TV" as used in the industry today differs from CATV in that it involves program origination and broadcasting (in some form) as opposed to an antenna service.

Although there are Pay TV experiments presently being conducted in Hartford and Denver, most observers feel that Pay TV will continue to be slow in development and will rely heavily for distribution on the CATV industry. The reasons for this conclusion are as follows. Pay TV depends for its revenue solely on its ability to offer certain programming to those who will pay and to deny that programming to non-payers. This involves two critical elements: (1) the ability to offer programming only to those who pay, and (2) the ability to produce programs for which there is sufficient demand to offset production costs in the absence of advertising revenue.

Two approaches presently seem feasible for meeting the first requirement. The first is to broadcast over cables, which is by definition a perfectly selective method and can be charged either to the system as a whole or to the individual subscriber by installation of a monitoring unit comparable to a water meter. The second approach involves

broadcasting through the air some form of "scrambled" signal. Reception of the signal requires an unscrambling unit which can be used as the basis of selection and billing. Such broadcasting, of course, falls under FCC authority. Though that agency has granted an experimental frequency in Denver, its posture has generally been one of opposition to the allocation of frequencies for Pay TV.

The second element critical to the progress of Pay TV involves the economics of programming. At present it appears that there are very few forms of programming for which there is sufficient potential subscription income to cover production costs. In the absence of advertising revenue, most observers feel that in the foreseeable future, only championship sports could attract a sufficiently large viewing audience.

Many indicators suggest that the future of Pay TV - if, in fact, it has a future - will be based on microwave and cable transmission and will bear a cooperative rather than competitive relationship with the CATV industry.<sup>1/</sup>

(b) Competition from the Established Utilities:

Over 95% of the CATV systems operating in the country today are supported on poles rented from the local power and telephone companies. This results from the attempt to minimize unsightly overhead obstructions as well as from the economics of pole plant construction. Some figures may be helpful here. A typical mile of system will require contact with about 50 poles. To set these poles would cost the CATV operator \$25-\$40 apiece, depending on the distance from a pole source. Assuming the CATV operator could obtain from local authorities the rights

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<sup>1/</sup> See Appendix 13 for a more detailed discussion of the problems confronting Pay TV.

and easements necessary to set poles, this would increase the cost of an installation by 22-44%. Since a pole plant serving all dwellings in an area already exists (often under joint use by both the telephone and power companies), it is logical for the CATV operator to use these poles where spacing allows, since rental charges seldom exceed \$5/year per pole.

The utilities generally refuse to execute any long-term contracts for fear of limiting control of their pole facilities; they prefer instead to use so-called "self-renewing" agreements. Since the CATV operator is rarely in a favorable negotiating position vis-a-vis the utilities, this is the form of almost all attachment agreements. The CATV operator is generally unable to make an installation without such agreements and in many respects he is a captive once the installation is made.

To date this situation has caused minimum difficulty for the industry. Telephone and power companies are particularly sensitive about their public relations and have refrained from abusing their position for fear of adverse public opinion which could result if CATV service were threatened. It seems unlikely that the future will raise any areas of potential conflict between CATV operators and the power companies. CATV systems are generally warmly received as steady and sizeable customers by the power industry.

There is, however, more cause for concern in the relationship of the CATV and telephone industries. First, there is not a particularly strong customer-supplier relationship. More important, a

sufficiently broad definition of the telephone industry's function could include distribution of CATV service. Until recently the telephone industry in this country seemed to regard CATV as a fad. This was not the case in Canada where the telephone companies generally refused to allow attachments and offered the alternative of leasing an appropriate installation to the CATV operator on a basis considerably less favorable than what the CATV operator could do if allowed attachment rights. Recently several of the small independent telephone companies in this country have taken an interest in installing and operating cable systems in their franchised areas.

Thus, under certain circumstances the telephone industry could be viewed as potential competition. It is our feeling that this situation could result in increased friction over the next five years. This would be particularly true if CATV interests were successful with plans to offer microwaved signals from New York and Chicago in other metropolitan areas. Such a success would highlight the remaining potential of CATV and certainly elicit attention from the major telephone interests.

At present, few conflicts have actually occurred, although pole rental rates of the telephone companies have increased noticeably above those of the power companies. It seems appropriate, however, to consider the impact of a decision by major telephone companies to enter the CATV field.

Ignoring the necessary justification and authorization of this extension of function, one can easily see that the telephone industry would represent formidable competition. Their entry on a major

scale would preempt most of the attractive franchises and, therefore, greatly reduce new construction by present operators. For existing operations, however, the effect would vary from case to case, depending on the degree of reliance on telephone vs. power facilities, the ability to obtain rights to set poles, and financial strength.

It seems unlikely to us that the telephone industry can react and expand its functions quickly, say within the next five years. It should also be noted that if such a move takes place, it will not necessarily be a setback for existing CATV operators. Such a move would increase the stature of and funds available for the CATV industry, and could considerably increase the value of existing CATV properties.

(c) Regulation by Federal, State or Municipal Authority:

A great deal has been written in the last year on what form, if any, regulation should take in the CATV industry. Most observers now feel that regulation is both necessary and desirable; the questions which arise relate to the form and agency of such regulation.

The scope of contemplated CATV regulation is focused on the areas of presumed broadcaster-CATV conflict.<sup>1/</sup> On several occasions during the mid and late 1950's, broadcasters brought before the FCC appeals which claimed that CATV systems were threatening the continued operation of local broadcasting. The FCC originally refused action for lack of jurisdiction but in the historic Carter Mountain case (1959),

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<sup>1/</sup> Appendix 8, a reprint from Television magazine, offers some insight into the broadcasters' view of CATV.

the Commission reversed this position and exercised their jurisdiction over the microwave company as a means of controlling the end user, i.e., the CATV operator. In the intervening years the FCC application of this indirect control has often been inconsistent and has appeared to many to be quite arbitrary. As CATV has shown the ability to penetrate increasingly large markets without the use of microwave, it has become clear that the FCC's attempt to regulate only CATV systems served by microwave will leave a regulatory vacuum in many areas of conflict.

A comprehensive review of the history of and outlook for CATV regulation recently appeared in the Georgetown Law Journal.<sup>1/</sup> The conclusions reached in that discussion support the recent decision made by the National Community Television Association. Following a history of opposition to all regulation, the NCTA wisely reversed its stand in 1963. Its present position is that regulation should be effected through new legislation. The NCTA staff is now assisting the FCC in the study and drafting of specific legislation which will apply in areas of broadcaster-CATV conflict. A summary of the two parties' positions at present may be helpful in pointing up the probable form of this legislation.

The FCC is seeking legislation which will require a CATV system to carry on its cables, without degradation, the signals of all stations whose A or B coverage (roughly 40 + 60 miles) reaches the CATV's market. Upon request from such stations, the CATV system will avoid

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<sup>1/</sup> See Appendix 13.

duplication of any programming from these stations for a period of 30 days before and after broadcast. The NCTA, on the other hand, is attempting to confine protection to truly "local" stations (i.e., those located in the same community with the CATV system). The NCTA proposed that all such local stations be carried on the CATV cable without degradation. The NCTA proposes to avoid only simultaneous duplication. Further, they proposed that this protection be granted only in the case of a market with one "local" station (i.e., the CATV system is clearly the only competitor), and only when the local broadcaster can demonstrate economic hardship. The burden of proof is to lie with the injured party. The pivotal issues are, of course, under what circumstances a broadcaster is to be afforded protection and what form that protection should take.

While the outcome of these discussions remains uncertain, we feel that certain conclusions regarding the form and agency of future regulation can be anticipated. It seems certain that jurisdiction in the CATV industry will fall to the FCC by means of legislation extending the Federal Communications Act. It also seems probable that the guiding principle will be one of economic impact, although the definition of market areas, the forms of protection offered and the responsibility for proof are less easily predicted. Our assessments are: that "A" coverage will be agreed upon as the definition of co-location; that protection will be limited to simultaneous duplication; that this protection will be required, if requested by the broadcaster, only in a one-station market (the burden of proof to be left to the CATV operator in such a case); and that in all other markets the broadcaster who appeals must show proof of economic injury.

It is our opinion that such regulation will not work extreme hardship on the CATV industry. It is useful to note that radio, television and common carrier microwave, now under FCC regulation, are extremely vital and profitable industries. Federal legislation based on a doctrine of economic impact should in theory result in equitable solutions, particularly when compared with alternative measures for filling the present regulatory vacuum.

We consider broad scale state and municipal regulation to be rather unlikely, particularly if federal regulation is enacted. As television reception has been held not to be a public necessity, it would appear that state utility regulation can be confined to requirements regarding plant construction and maintenance. While municipal regulation (in the form of covenants appearing in franchises) has shown a recent tendency to increase, we do not feel this will have any significant impact on CATV operators in the future.

It may occur to some that the quasi-utility characteristic of CATV makes it subject to the same possibilities of seizure or nationalization as exist for utilities in times of extreme extension of governmental authority. The industry's present attempt to cooperate in drafting legislation suggests a general sensitivity to the dangers of protracted conflicts which could bring on such governmental action. We consider seizure of CATV systems in any form highly unlikely and feel that if such action should occur, some recourse for equitable compensation would exist.



(d) Taxation:

CATV systems are presently subject to municipal and state property and income taxes. These constitute a normal cost of doing business. In some cases municipalities have also imposed so-called "franchise taxes." Like any direct tax on a monopoly (which within limits enjoys an inelastic demand) the incidence of this tax can be passed on to the ultimate consumer. We do not feel that any substantial problems will arise for the CATV industry as a result of such taxes.

As was noted earlier, the CATV industry historically has received extremely favorable Federal tax treatment. It is only reasonable to assume that possible changes in this tax treatment might occur. We feel that there are three areas in which possible alterations of the historical tax treatment should be considered: (1) the treatment of gains realized from sale of depreciable assets, (2) the right to amortize payments made for franchises, and (3) the taxable life of fixed assets.

The guidelines for the tax life in this industry now call for a five-seven year write-off of all fixed assets. It has previously been possible, on sale of a fully-depreciated system, to qualify all gains as capital gains. Since the going concern value of CATV properties is generally in excess of the fair market value of the fixed assets, the practice has been for the buyer to attribute this excess to the value of the franchise. This excess has then been recouped by amortization against taxes over the life of the franchise. In some cases this has involved requests to municipal authorities to shorten existing franchises.

Past and present practices notwithstanding, we feel that the recapture of depreciation on assets through sale is now taxable at an income rate and that franchise write-offs will be disallowed. (To our knowledge there is no case in which franchises have not been renewed upon request. Thus it is questionable that they do in fact have a fixed life.) With present federal fiscal policy placing a strong emphasis on stimuli to fixed asset investment, we do not foresee any immediate pressure to bring the taxable life of equipment more in line with real life. Even if such an adjustment is eventually made, its impact will not be as important as the other changes discussed above.

As a result of the changes noted above, we foresee a slower rate of transfer in ownership of systems as the sellers recognize the increased tax liability. We also foresee some temporary softening in prices. It is our opinion, however, that the industry has demonstrated sufficient stability and growth to render any adjustments in market valuations small and temporary.

We feel that the major impact of these changes in taxation, combined with other forces now at work in the industry, will be to focus analysis and pricing of CATV systems on earnings as opposed to cash flow. As the industry's stature grows, as multiple system ownership expands, as longer-term debt financing becomes available, and as the public market for equity capital broadens, earnings records will assume greater importance. We feel that the industry has now reached sufficient maturity to expand and prosper without the tax advantages which it historically has enjoyed.

## 2. Conclusion

We have discussed above several of the major areas of risk which surround the CATV industry's future. It is our conclusion that no events foreseeable at this time severely threaten the continued vitality of this industry.

CATV has developed from a "crackpot" idea into a service industry with over a million subscribers in less than 15 years; nonetheless, we feel that it is still an infant. Equipment design has begun to show marked improvement, with reliable transistorized systems appearing only recently. Major microwave possibilities are just beginning to be more than idle talk. New marketing techniques are still a rarity and many systems are sold as were the cooperative systems of the late 1940's, with high installation fees and only word-of-mouth promotion. Multiple system ownership and professional management are rare and new phenomena. Despite the substantial cash flows, no institutional loans of over six years have been made in this industry. There are presently only two publicly-held companies whose primary business is operating systems.<sup>1/</sup>

Considering the strides taken in the industry's initial 15 years and its present status and outlook, we feel that CATV has a most promising future. It is our opinion that over the next 10-20 years this industry will achieve the size and status of today's independent utilities.

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<sup>1/</sup> H & B American Corp. and TelePrompter, Inc. See Appendices 15 and 16.

## II. CONTINENTAL CABLEVISION, INC.

CCI was founded in the spring of 1963 by Messrs. Harold I. Grousbeck and Amos B. Hostetter, Jr., to own and operate CATV properties. (A summary of pertinent data on the Company is included as Exhibit 2.)

### A. Management

Mr. Grousbeck is presently an Instructor in the course Management of New Enterprises at the Harvard Graduate School of Business Administration. He is active in outside consulting and has been involved in the fields of consumer sales and promotion for the last ten years. His experience has ranged from mutual funds to the soap industry.

Prior to joining the Harvard faculty in 1962, he was associated with Graham & King, Inc., mutual fund distributors, initially as a direct salesman and eventually in sales management. In the latter capacity, he opened and managed a branch in Worcester, Massachusetts. During the first year and one-half he recruited, trained and supervised over 50 salesmen producing investment contracts in excess of \$1,500,000 annually. Recently he has planned and administered a sales training program for Cabot, Cabot and Forbes Company, a national real estate development firm.

Mr. Grousbeck is a graduate of Deerfield Academy and Amherst College, and holds a graduate business degree from Harvard. He presently resides in Weston, Massachusetts.

Mr. Hostetter is an associate of Cambridge Capital Corporation and is affiliated in a consulting capacity with Business Assistance Corporation, both Boston-based Small Business Investment companies. His training and experience are primarily in the field of financial management and planning.

In the period of 1958-60, Mr. Hostetter worked in the Special Studies Department, Finance Division, of American and Foreign Power Company, Inc. In this capacity he performed staff work for the financial vice president ranging from operations analysis and financial forecasting to preparation of rate and loan applications. Since Mr. Hostetter's affiliation with Cambridge Capital and Business Assistance, both SBIC's have made investments in the CATV industry. He has represented the two SBIC's on the board of the Keene, New Hampshire CATV system, and more recently on the board of CATV, Inc., a company created by the merger of five systems, with assets of over \$3,000,000.

Mr. Hostetter is a native of Short Hills, New Jersey, and a graduate of The Pingry School, Amherst College and Harvard Graduate School of Business Administration. He presently lives in Cambridge.

#### B. Objectives

As can be surmised from the conclusions of the foregoing analysis, we (the founders of CCI) feel that the CATV industry has an unusually promising future. We have been exposed in our present employment to a continuum of new and existing businesses in widely diverse industries. Within this sample we have concluded that the CATV industry offers the most promising relationship of risk to return.

As a result, we have established CCI with the objective of developing over the next 10 years a substantial position in the CATV industry (viewed now as on the order of 20,000 subscribers). It is our intention to build new systems rather than to buy operating properties, since there is a surplus of buyers in the present market.

Whether the Company can achieve its objective will in large part depend on our ability to locate promising markets, win franchise awards, create and use capital sources, and rapidly realize a given area's subscriber potential. It is our feeling that the critical management skills required lie in the areas of marketing and finance.

#### C. Selection of Tiffin and Fostoria

Last April, after several months of work with the propagation lobes of TV signals in five central and southern states, Mr. Grousbeck made a preliminary trip to several Ohio cities, including Tiffin and Fostoria. As a result of this and subsequent efforts, we selected Tiffin and Fostoria as the location for CCI's initial CATV installation.

##### 1. Tiffin and Fostoria as CATV cities

The cities of Tiffin and Fostoria, Ohio, are situated 11 miles apart in a location 50 miles southeast of Toledo, 90 miles south of Detroit, 85 miles west of Cleveland and 80 miles north of Columbus (see map, Exhibit 1). Their combined population is 39,000, Tiffin being the larger with 22,500 people. Because of their proximity the two towns can be operated as a single CATV system. Their combined subscriber potential places them within the largest 10% of CATV systems now operating in the United States.

Originally both towns were glass and farming centers. In recent years employment has been expanding by grain processors such as Swift and Excello and manufacturers including GE, Ford, National Carbon, American Radiator, Atlas Crankshaft, Electric Auto-Lite and National Machinery.

Each city has one local radio station and two movie theaters. No television station exists in either location. Two TV stations operate out of Toledo, carrying some ABC and CBS network programs, both of which are received with reasonable dependability in Tiffin and Fostoria through the use of ordinary roof-top antennas. Although a number of families have erected very elaborate antennas in an attempt to receive TV signals from Cleveland and Detroit, it is safe to say that no significant percentage of residents has succeeded in obtaining reliable reception from these locations. Consequently, Tiffin and Fostoria comprise a two-station market receiving no NBC programming and, therefore, no color television. It is hardly necessary to dwell on the support which a CATV system in such an area will receive from local appliance dealers.

Preliminary studies indicate that a CATV system operating in this area could pick up and distribute reliable signals from Cleveland, Columbus, Detroit and possibly Windsor, Ontario. This would provide an unusually wide range of program and signal choice for the subscriber. For example, the Columbus NBC station carries the Ohio State football and the Cincinnati Reds baseball games, in addition to the customary NBC network programs. Also, the Columbus CBS Station offers all of the Cleveland Browns' football games. These programs are not available

off-air from the Toledo stations, which carry only selected Detroit baseball. Since Cleveland is in a different time zone than Toledo, Detroit and Columbus, use of these signals will allow CATV subscribers to elect the most convenient time to view network programs.

The Windsor, Ontario station offers an entirely different set of programs because it is affiliated with the Canadian Broadcasting Corporation. The educational stations from Purdue and Bowling Green also appear within reach of the proposed system. It is our opinion that, choosing among available signals, a CATV system in this area could offer programming variety equal to any system in the country.

## 2. CCI's Activity in Tiffin and Fostoria

In May of last year, after retaining attorneys in each town, we contacted all members of the city councils and other interested parties to introduce ourselves and our project to them prior to formal submission to council. CCI's applications were formally made in late June. As soon as our applications became public, Miami Valley Broadcasting Company of Dayton (the Cox interests) who had been active in nearby Lima and Findlay, entered a competing application. In August the franchises were awarded to CCI.<sup>1/</sup>

Continental Cablevision has subsequently signed a contract with the Ohio Power Company, and reached substantial agreement on a contract with the Ohio Bell Telephone Company, by which those utilities

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<sup>1/</sup> See Appendix I. It should be noted that these franchises are non-exclusive. Ohio law does not recognize any franchise, including those under which telephone and power companies operate, as being exclusive.



will permit attachment of CCI's CATV cables to power and telephone poles.<sup>1/</sup> Continental Cablevision also has negotiated an option to lease approximately 11 acres of land in Bascom, Ohio, situated mid-way between Tiffin and Fostoria, to be used as the receiving-tower site, and has filed for necessary clearances from the Federal Aviation Agency.

System layout, design and engineering work completed in November, 1963 by Spencer-Kennedy Labs, Inc. indicates that 92 miles of distribution system will be required in order to serve 10,000 homes in the combined communities. The proposed layout will contact approximately 3,000 power poles (\$2/year each), and 1,200 telephone poles (\$4/yr. each).

Bids for construction, on a turnkey basis, of the entire system have been requested from four major firms in the CATV equipment industry.<sup>2/</sup> These firms are Ameco, Inc. of Phoenix, Arizona; Entron, Inc. of Silver Spring, Maryland; Jerrold Corporation of Philadelphia, Pennsylvania; and Spencer-Kennedy Labs, Inc. of Boston, Massachusetts. The in-place cost of tower, head-end equipment and cable network is expected to be approximately \$420,000. It is planned that construction will begin by early April and will be completed in late July, 1964.

Miami Valley Broadcasting Company has recently applied to the FCC for the licensing of microwave routes which would bring WGN, the Chicago independent; WPIX and WOR, the New York independents; and WOSU,

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<sup>1/</sup> See Appendix 2.

<sup>2/</sup> See Appendix 3 for a sample of the form of turnkey contract offered by one of these manufacturers.

the Ohio State educational channel; into northwestern Ohio. Our relationship with Miami Valley Broadcasting Company is now quite cordial and we are presently discussing with them the possible addition of such service to the Tiffin and Fostoria systems. While the timetable on this service is still indefinite, it is interesting to note that through the addition of such service Tiffin and Fostoria would receive greater programming variety than any cities in the country.

#### D. Financing the Proposed Installations

##### 1. General Format - an Independent Operating Company

CCI does not now have any franchises other than for Tiffin and Fostoria. It cannot be predicted at the present time whether franchises will be acquired in other areas and what type of financing will be most appropriate for other systems which CCI may wish to sponsor. Accordingly, in order to permit CCI a maximum amount of freedom for future ventures and at the same time give investors in the Tiffin-Fostoria system a substantial amount of protection, it is contemplated that the Tiffin-Fostoria system will be owned and operated by an independent Ohio corporation.

This "Operating Company" will be granted a sub-franchise by CCI. All of the Operating Company's earnings will go to its shareholders and of course, any losses must be borne by them. CCI will provide any supervision or management desired by the Operating Company. It will also retain an option to terminate the sub-franchise and to purchase the assets of the Operating Company either for voting convertible preferred stock of CCI or for cash. The terms of CCI's option and the effect on the stockholders of the Operating Company if exercised will be developed in detail in a later section.

## 2. Forecasts and Capitalization

As can be deduced from earlier comments on the cost and revenue characteristics of this industry, CATV systems, like other utilities, are somewhat more reliably forecast than the typical business. Reference to some of the operating figures contained in the appendices will confirm that the bulk of expenses are fixed in nature and bear well-defined relationships to system size.<sup>1/</sup> The variable of greatest significance in financial forecasting in this industry is the rate of subscriber buildup.

The rate of subscriber buildup and eventual point of saturation will, of course, vary with the number of free signals available, the signals offered on the cable, local consumption patterns, other local entertainment facilities, management's promotional ability and many other factors. It is safe to say that no two systems will show

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<sup>1/</sup> See Appendices 15, 16, 18 and 19.

the same pattern of subscriber buildup. The experience of over 1,000 systems built to date offers many unusual patterns. It has nonetheless contributed to a consensus within the industry that a properly promoted, technically sound system in a well chosen town should obtain penetration on the order of 20%, 20%, 10%, 10%, 5%, 5%, respectively, in each of the first six years.

We feel, however, that caution should be used in consideration of this so-called "normal" growth. Appendix 4-A presents some raw data taken from the TV Factbook and arranged to set out the saturation achieved by various systems in the period since installation. A comparison of this raw data with the "normal" development shows some substantial divergences. Appendix 4-B offers some raw data on the growth of selected systems including information on free signals vs. cabled signals. Again it should be noted that no single variable analysis is likely to offer a high correlation.

Appendix 4-C presents estimates of so-called "authorities" as to the subscriber buildup which can be expected in the Tiffin-Fostoria system. All of these must be considered in terms of the possible biases arising from contemplated relationships with the Tiffin-Fostoria system. Recognizing such biases, these estimates do represent a distillation of multivariable comparisons to a very large sample of the operating CATV systems, and as such we feel they are useful.

In the final analysis, however, such forecasting is highly subjective. As a result we have based our financial planning on what we have concluded, using all available information, is the "minimum expected"

subscriber buildup to be anticipated in Tiffin and Fostoria. This is 17.5%, 15%, 10%, 7.5%, 5%, 5%, respectively, for the first six years; a final saturation of 60% of the homes in the cabled area.

By offsetting liberal operating costs (Exhibit 3) against this buildup rate, we foresee cumulative cash operating losses of about \$120,000 until the systems break even (see Exhibit 4). This figure to estimated plant cost of \$420,000 and allowing for reasonable working capital, we conclude that a \$600,000 initial capitalization is appropriate.

### 3. Senior Financing

All major suppliers in this industry are now offering equipment financing by conditional sale (or lease). The terms for such financing vary only slightly. Generally speaking the buyer must make a down payment of 10-25% and pay the remainder over 5-6 years at effective rates of 10-14%. The paper is generally secured only by the assets - few incidents of default have occurred. The great majority of systems being built today are financed under these terms.

We have examined the terms of this kind of financing extremely carefully and have chosen an alternative route. While there are many reasons for this decision, they basically involve the operation's present and future flexibility rather than merely interest costs.

To provide senior financing for the Tiffin and Fostoria systems, we have negotiated a \$300,000 term loan with the New England Merchants National Bank of Boston. The basic elements of the loan

agreement are to be as follows:<sup>1/</sup>

- 1). The loan will become effective at any time between now and July 1964, as selected by the Company. It may be drawn down in any incremental amounts up to \$300,000 at the Company's discretion. The Company will pay interest at the annual rate of 7% on the balance taken down. The Company will pay a 1/2% commitment fee on any portion of the \$300,000 not drawn down until the Company advises the Bank that they no longer desire such standby credit.
- 2). The loan will be scheduled for quarterly amortizations of \$18,750 commencing in July, 1967 and continuing at the same rate until fully repaid. There will be no penalty for prepayment.
- 3). The loan will be secured by an assignment of all the stock of the Company, or some other arrangement which assures the Bank all going concern value in case of default and foreclosure.
- 4). The Company will limit investment in gross fixed assets to \$450,000.
- 5). The Company will not sell or dispose of assets without consent of the bank and in no case will allow any liens to be placed against the assets.

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<sup>1/</sup> See Appendix 20.

- 6). Each month the Company will provide the bank pertinent operating information, and will submit audited statements annually.
- 7). Messrs. Grousbeck and Hostetter will be limited to compensation of \$12,500 each per year.
- 8). The bank will have the right to declare the loan due and payable at any time should the cumulated operating losses of the Company (before financial charges, depreciation, and taxes) total more than \$150,000.<sup>1/</sup>
- 9). The bank will have the right to declare the loan due and payable at any time if the cumulative buildup in service income falls more than 10% or \$25,000 (whichever is greater) below projected "minimum" service income.<sup>2/</sup>
- 10). Accounts receivable will be maintained at less than 12-1/2% of billing.

It should be noted that CCI and its principals have had an unusually good working relationship with the New England Merchants National Bank. Their support during our applications for franchises was invaluable. The covenants of the loan agreement cited above should provide useful protections for the Bank as well as the Operating Company.

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<sup>1/</sup> This concept corresponds to the entry "net from operations" on Exhibits 4 and 5.

<sup>2/</sup> "Minimum" service income means the service income which would result from our assumed 17.5%, 15%, 10%, 7.5%, 5%, and 5% buildup for the first six operating years. As the first footnote to Exhibit 4 we have broken out this service income from gross income.

It is our opinion that as a result of this favorable working relationship, the bank will show some latitude in exercise of its rights should a default arise under these covenants.

#### 4. Equity Financing

As can be seen from the attached projections, the major portion of the original \$600,000 capitalization not expended for plant will be required to finance the operation until the subscribers rate has reached a cash break-even. Because of the early cash losses plus investment credits on the plant and an allowable 7-year life, the operation will probably show a substantial tax loss in the first two years.<sup>1/</sup> It is our opinion that this tax loss can be better utilized by selected individuals against personal income than by the Operating Company as a carry forward against future income.

Therefore it is intended that the Operating Company will be a Sub-chapter S company. The result of qualification and election for Sub-chapter S treatment is, among other things, that the shareholders in the Operating Company will be able to deduct from their personal income the losses which it is anticipated the Operating Company will incur in its early years. Sub-chapter S treatment is possible only if the income of the company, the capital structure of the company, and the number and nature of the stockholders meet the requirements of the Internal Revenue Code. We have obtained a ruling from the Internal Revenue Service that the anticipated income of the company is of an appropriate

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<sup>1/</sup> The amount of the tax loss will be dependent both on the cash loss and on the depreciation write-offs, which the attached projections show on a seven-year, straight-line basis. Some flexibility exists through use of accelerated depreciation.



character to permit a Sub-chapter S election.<sup>1/</sup> The capital structure of the company, in providing only for common stock, also meets the requirements of Sub-chapter S. The shareholder requirement of Sub-chapter S is that the stock must be held by ten or fewer shareholders who are either individuals (not including non-resident aliens) or estates. It is intended that the initial investors in the Operating Company will be such as to permit a Sub-chapter S election and restrictions will be placed on the transfer of the stock in the Operating Company so as to assure, to the extent possible, that the Sub-chapter S election will be continued for so long as the investors in the company desire.

The purpose of the Sub-chapter S election is to allow the Operating Company to "pass through" any tax loss to the individual investors who presumably can utilize such tax deductions from current income at rates at least as favorable as corporate income rates.

It is also planned that the stock of the Operating Company will be qualified as so-called Section 1244 stock. This will permit any individuals who are original purchasers of the stock of the Operating Company to deduct any loss on the sale of the stock of the Operating Company as an ordinary loss. The amount of this deduction cannot exceed \$25,000, or \$50,000 in the case of joint returns, in any year. Since under Sub-chapter S the basis of the investors' stock must be reduced by any losses passed through to them, Section 1244 will provide for ordinary loss treatment only if on final disposition of the stock the investors realize less than this reduced basis.<sup>2/</sup>

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<sup>1/</sup> See Appendix 6.

<sup>2/</sup> See Appendix 21 for a more complete description of Sub-chapter S and 1244 qualification.

Accordingly, this financing is to take the following form:

1). Continental Cablevision will grant a sub-franchise of its franchises, contracts, options, etc., to an Operating Company to be organized and owned 100% by the investors and qualified to do business in Ohio. This Operating Company will be capitalized with a \$300,000 senior loan and \$300,000 in paid-in capital. All stock of this Company will be qualified for both Sub-chapter S and Section 1244 treatment.<sup>1/</sup>

2). In consideration for this sub-franchise, CCI will maintain the right at any time after June 30, 1967, but before August 31, 1974, to terminate the sub-franchise with compensation to the Operating Company as specified in (3) below.

3). If CCI elects to terminate the sub-franchise agreement pursuant to (2) above, CCI must make compensation to the Operating Company by one of the following methods.

Either: (a) CCI must purchase for cash all the assets of the Operating Company at the then net book value and must, in addition, pay in cash a termination fee equal to

- \$350,000 if the termination occurs prior to June 30, 1968;
- \$300,000 if termination occurs between July 1, 1968 and June 30, 1969
- \$250,000 if termination occurs between July 1, 1969 and June 30, 1970
- \$200,000 if termination occurs between July 1, 1970 and June 30, 1971
- \$150,000 if termination occurs between July 1, 1971 and June 30, 1972
- \$100,000 if termination occurs between July 1, 1972 and June 30, 1973

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<sup>1/</sup> As a result of the limitation of the number of stockholders permitted in order to qualify for Sub-chapter S treatment, unit size for investment in the Operating Company has been set at \$30,000. Individual participation in an amount less than \$30,000 is not encouraged.

\$50,000 if termination occurs between July 1, 1973 and June 30, 1974<sup>1/</sup>  
 No fee if termination occurs between July 1, 1974 and August 31, 1974.

Or:

(b) CCI must purchase all the assets of the Operating Company with \$330,000 par value voting convertible preferred stock of CCI. The stock received by the Operating Company will have the following features:

i) it will be preferred in liquidation in the amount of \$330,000

ii) it will be callable at any time by CCI at \$335,000.

It must, however, be called before any refinancing of senior indebtedness above the balances contemplated in the original borrowing of the Operating Company

iii) it will be convertible at any time into 40% of the then outstanding common stock of CCI.<sup>2/</sup>

In the opinion of counsel, if CCI exercises the option to buy the assets for cash at book value and pays a stipulated fee for cancellation of the sub-franchise, under present law the gain to the Operating Company and its investors would be wholly or at least in large part taxable as long-term capital gain. If, on the other hand, the option is exercised in voting convertible preferred stock of CCI, the transaction

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<sup>1/</sup> Reference to Exhibit 7 will indicate that, based on the subscriber buildup anticipated, the total payment to investors under this alternative will increase over time. This is due to the fact that book value is increasing more rapidly than the termination fee is decreasing.

<sup>2/</sup> Appendix 22 contains the form of agreement by which these terms will be effected.

would under present law constitute a tax-free reorganization. The result of this is that any exchange of Operating Company stock for CCI stock in connection with this reorganization would be tax-free.

Exhibit 5 is presented in this analysis to indicate the financial progress of the operation based on what we consider the "most likely" rate of subscriber build-up that can be expected in Tiffin and Fostoria. <sup>1/</sup>

Exhibits 6 and 7 have been prepared from Exhibit 4 as a summary of the effect of the proposed financing on the investing interests. Exhibit 6 presents data pertinent to the investors' interest in the operation before June 30, 1967, the earliest date at which CCI's option could be exercised. Exhibit 7 presents comparable information for periods subsequent to July 1, 1967, during which time CCI's option is in effect. (These exhibits should be considered only in association with the assumptions and footnotes attached thereto.)

As is indicated in Exhibit 6, it seems likely that the investor group as a whole will be able to take deductions in excess of \$250,000 against personal income prior to June 30, 1966. These deductions should allow savings in personal taxes sufficient to recoup a major portion of the original investment. For example, a 70% tax-bracket individual could recoup \$18,000-\$20,000 of an original \$30,000 investment by June 30, 1966.

In Exhibits 6 and 7 we have attempted to specify the value of the CATV properties owned by the investors and the effect on the investors should CCI exercise its option to repurchase, either for cash

<sup>1/</sup>

This "most likely" differs from the "minimum expected" buildup used earlier in establishing the capitalization (Exhibit 4). Refer to Appendix A.

or stock. These values are based on our estimates of the market values of the fixed assets and franchise at the end of each year of projected operations. Appendix 5 presents selected information on recent sales of CATV properties which may be helpful to the reader in critically considering the estimates of plant and franchise values which appear in Exhibits 6 and 7.

It can be concluded from these exhibits that if the anticipated subscriber buildup is achieved, the internal cash generation and/or the borrowing capacity of the Tiffin-Fostoria systems will be sizeable and most probably sufficient to undertake the construction of additional systems. In this situation it is likely that CCI will exercise its option to take over the Tiffin and Fostoria properties.

Despite our intention and considerable optimism regarding the use of the Tiffin and Fostoria systems as a foundation for expansion in this industry, we consider it unfeasible to base this financing on possible future systems. We believe that independent of any expansion into new locations, the terms outlined above offer an attractive investment opportunity. Assuming the systems develop as anticipated, in 5-7 years the after-tax value of the investors' position, irrespective of any option election made by CCI, should be considerably in excess of the after-tax cost of that investment. Again let us note that one of the basic elements in this financing is the "passing through" of the operation's tax losses to the investors. For those who contemplate being taxed at higher than the corporate rate, this arrangement should hold special interest.

It should be stated that although CCI now intends to exercise its option if the Operating Company proves as successful as presently anticipated, no assurance can be given that the option will be exercised or when it will be exercised or whether it will be exercised either in cash or in CCI stock.

While the result of the exercise of the options would almost certainly assure the investors in the Operating Company a profit on their investment, their profit is not dependent on exercise of the option. The investment discussed here is to be made in a corporation intended solely to operate a CATV system in Tiffin and Fostoria, and any profit or loss will depend upon the results of that system's operation. The option is merely a device to permit CCI to share in any appreciation in value after the investors in the Tiffin and Fostoria systems have secured a position representing a profit on their investment.

Exhibit 1

MAP OF NORTHERN OHIO AND SOUTHERN MICHIGAN

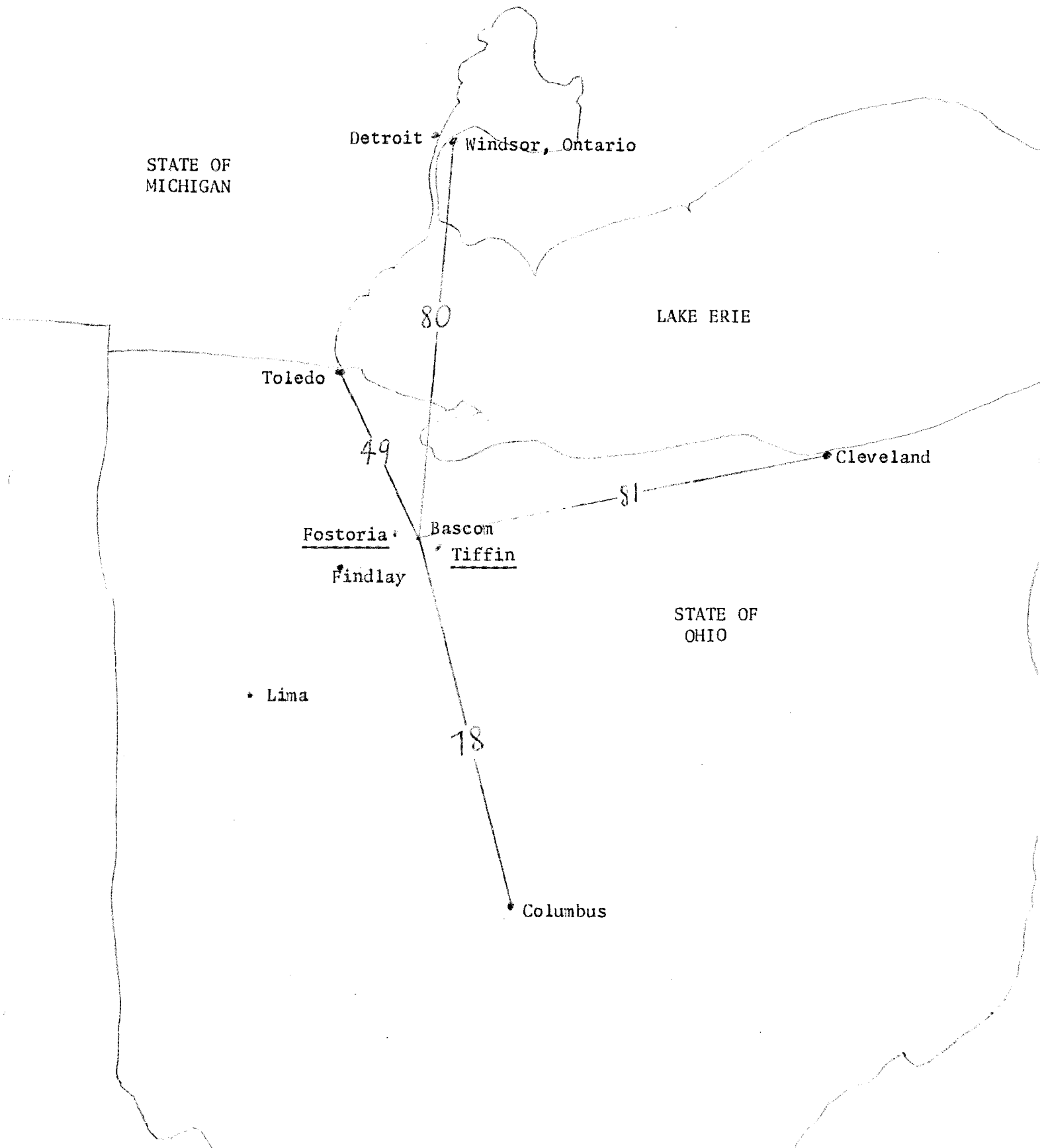


Exhibit 2

CORPORATE INFORMATION

NAME:	Continental Cablevision, Inc.
DATE OF INCORPORATION:	May 1963
STATE OF INCORPORATION:	Delaware
PRINCIPAL OFFICERS:	H. I. Grousbeck, President & Director Amos B. Hostetter, Jr., Vice President, Treasurer & Director
CORPORATE ATTORNEYS:	Sullivan & Worcester, Boston, Massachusetts Tomb & Hering, Tiffin, Ohio Gutknecht & Echelbarger, Fostoria, Ohio
AUDITORS:	To be selected
BANK OF ACCOUNT:	New England Merchants National Bank, Boston, Massachusetts Ohio bank to be selected



SUMMAR  
Excluding Dep

	<u>To June 1964</u>	<u>1964-1965</u>	<u>1965-1966</u>
Installation costs:			
Installers	\$ 10 per hookup ----->		
Installation material	10 per hookup ----->		
Cost of Operation:			
Managers salary	\$ 5,000	\$ 20,000	\$ 20,000
Chief technician	3,000	9,000	9,000
Technicians	2,000	16,5000	16,500
System repair & maintenance	-	2,500	2,500
Auto & truck exp.	-	8,000	8,000
Rental - pole & tower site	-	15,000	15,000
Power	-	7,500	7,500
Microwave	-	-	5,000
	<u>\$10,000</u>	<u>\$78,500</u>	<u>\$ 83,500</u>
Selling G & A			
Clerical salaries	\$ 1,500	\$10,500	\$ 14,000
Office & equip. rental			
(inc. HLP)	1,000	5,000	5,000
Office supplies & postage		3,000	4,000
Telephone		3,000	3,000
Travel & entertainment		4,000	4,500
Legal and audit		4,000	4,000
Insurance	7,500	3,000	3,000
Dues, subscrip., & contrib.		3,000	3,500
Bad debts		500	1,000
Taxes - other than income		5,000	5,000
Advertising and promotion	<u>5,000</u>	<u>20,000</u>	<u>15,000</u>
	<u>\$15,000</u>	<u>\$61,000</u>	<u>\$ 62,000</u>
	\$25,000	\$139,500	\$145,500

Exhibit 3

OF OPERATING EXPENSES  
Depreciation and Financial Charges

<u>1966-1967</u>	<u>1967-1968</u>	<u>1968-1969</u>	<u>1969-1970</u>	<u>1970-1971</u>
\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
9,500	9,500	9,500	10,000	10,000
18,000	18,000	24,000	24,000	26,000
3,000	3,500	4,000	4,500	5,000
7,500	7,500	7,000	7,000	7,000
15,000	17,500	17,500	17,500	17,500
8,000	8,000	8,500	8,500	9,000
<u>10,000</u>	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>
\$ 91,000	\$ 94,000	\$100,500	\$101,500	\$104,500
\$ 14,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
5,000	6,000	6,000	6,000	6,000
4,500	4,500	4,500	4,500	4,500
3,000	3,000	3,000	3,000	3,000
5,000	5,000	5,000	5,000	5,000
4,000	4,000	4,000	5,000	5,000
3,000	3,500	3,500	3,500	3,500
4,000	4,500	5,000	5,000	5,000
1,000	1,000	1,500	1,500	1,500
8,000	8,000	8,000	8,000	8,000
<u>12,500</u>	<u>10,000</u>	<u>7,500</u>	<u>5,000</u>	<u>5,000</u>
\$ 64,000	\$ 65,500	\$ 64,000	\$ 62,500	\$ 62,500
\$155,000	\$159,500	\$164,500	\$164,000	\$167,000

Assuming Subscriber

	Pre-June 1964	1964-1965 (1,750)	1965-1966 (1,500)
Subscribers added			
Gross income <sup>1</sup>	\$	\$ 87,500	\$180,000
Oper. Costs:* Instal.		35,000	30,000
Operat.		78,500	83,500
S, G & A		61,000	62,000
Net from Operat.	\$(25,000)	(87,000)	(5,500)
Depreciation <sup>2</sup>		80,000	60,000
Interest <sup>3</sup>		18,000	21,000
Net before tax	(25,000)	(185,000)	(86,500)
Taxes <sup>4</sup>		-	-
Net after tax	(25,000)	(185,000)	(86,500)
Net cash from operations	(25,000)	(105,000)	(26,500)
W/C required (additions) <sup>5</sup>		9,000	9,000
Addit. to Capt. Acct.	420,000	2,000	2,000
System cash flow	(445,000)	(116,000)	(37,500)
Bank loan	300,000		
Equity	300,000		
Cash balance	165,000	49,000	11,500 <sup>6</sup>

\*See Exhibit 3.

<sup>1</sup>Composed of connection income of \$20.00 per new subscriber and service Yearly service income beginning June 1964 runs: \$52,500; \$150,000; \$22

<sup>2</sup>Depreciation of all capital account entries has been taken on a 7-year 37% on balance outstanding, ½% on standby.

<sup>4</sup>Assumes a subchapter S election in first three years, i.e., through Jun

<sup>5</sup>Working capital to finance receivables has been taken as 10% of sales. Accounts payable have not been used as a source of funds; the additions

<sup>6</sup>The cash balances should be viewed in light of the assumptions on worki current liabilities by \$18,000, i.e., net working capital will be \$29,5

Exhibit 4

CASH FLOW

Build-up of 17.5%, 15%, 10%, 7.5%, 5%, 5%  
Minimum Expected"

<u>1966-1967</u> <u>(1,000)</u>	<u>1967-1968</u> <u>(750)</u>	<u>1968-1969</u> <u>(500)</u>	<u>1969-1970</u> <u>(500)</u>	<u>1970-1971</u> <u>-</u>
\$245,000	\$292,500	\$325,000	\$355,000	\$360,000
20,000	15,000	10,000	10,000	-
91,000	94,000	100,500	101,500	104,500
64,000	65,500	64,000	62,500	62,500
70,000	118,000	150,500	181,000	193,000
60,000	61,000	61,000	62,000	62,000
21,000	21,000	15,750	10,500	5,250
(11,000)	36,000	73,750	108,500	125,750
-	10,000	31,750	49,500	57,750
(11,000)	26,000	42,000	59,000	68,000
48,000	87,000	103,000	121,000	130,000
7,000	4,000	4,000	3,000	-
2,500	3,000	5,000	7,000	10,000
39,500	80,000	94,000	111,000	120,000
	(75,000)	(75,000)	(75,000)	(75,000)
51,000	56,000	75,000	111,000	156,000

Income of \$60.00 per average subscriber.

\$5,000; \$277,500; \$325,000; \$345,000; \$360,000.

Straight-line basis. A 7% investment credit has been claimed in year of investment.

66. The Company thus pays taxes in 1967-1968.

Billings are in advance and service will be discontinued after 60 days' delinquency.  
to W.C. are net of all payables.

ng capital. At the point of min. cash balance, receivables will exceed all  
00.

Assuming Subscriber

	<u>Pre-June 1964</u>	<u>1964-1965</u>	<u>1965-1966</u>
Subscribers added		(2,000)	(2,000)
Gross income	\$	\$ 100,000	\$220,000
Operating costs: instal.		40,000	40,000
operat.		78,500	83,500
S, G & A		61,000	62,000
Net from oper.	(25,000)	(79,500)	34,500
Depreciation <sup>2</sup>		80,000	60,000
Interest <sup>3</sup>		18,000	21,000
Net before tax	(25,000)	(177,500)	(46,500)
Taxes <sup>4</sup>	-	-	-
Net after tax	(25,000)	(177,500)	(46,500)
Net cash from operation	(25,000)	(97,500)	13,500
W/C required (additions) <sup>5</sup>		10,000	12,000
Addit. to Capt. Acct.	420,000	2,000	2,000
Systems cash flow	(445,000)	(109,500)	(500)
Instit. loan	300,000	-	-
Equity	300,000		
Cash balance	165,000	55,500	55,000

\*See Exhibit 3.

2, 3, 4, 5, - See notes given on Exhibit 4.

## Exhibit 5

## CASH FLOW

Build-up of 20%, 20%, 10%, 10%, 5%, 5%  
 "Most Likely"

<u>1966-1967</u>	<u>1967-1968</u>	<u>1968-1969</u>	<u>1969-1970</u>	<u>1970-1971</u>
<u>(1,000)</u>	<u>(1,000)</u>	<u>(500)</u>	<u>(500)</u>	
\$290,000	\$350,000	\$385,000	\$415,000	\$420,000
20,000	20,000	10,000	10,000	-
91,000	94,000	100,500	101,500	104,500
64,000	65,500	64,000	62,500	62,500
115,000	170,500	210,500	241,000	253,000
60,000	61,000	61,000	62,000	62,000
21,000	21,000	15,750	10,500	5,250
34,000	88,500	133,750	168,500	185,750
9,000	41,500	61,750	80,500	87,750
25,000	47,000	72,000	88,000	98,000
85,000	108,000	133,000	150,000	170,000
7,000	6,000	4,000	3,000	-
2,500	3,000	5,000	7,000	10,000
75,500	99,000	124,000	140,000	160,000
-	75,000	75,000	75,000	75,000
130,500	154,500	203,500	268,500	353,500

Exhibit 6

Summary of Data Pertinent to Investors' Interest (1)  
in Proposed Tiffin-Fostoria CATV pre June 30, 1967

	<u>Pre June 64</u>	<u>1964-65</u>	<u>1965-66</u>	<u>1966-67</u>
<u>Assumed Number of Subscribers, period end</u>	0	2,000	4,000	5,000
Net from Operations (Cash before dep. taxes and financial charges)	(25,000)	(79,500)	34,500	115,000
Net Taxable Income (2)	<u>(25,000)</u>	<u>(177,500)</u>	<u>(46,500)</u>	34,000
Earning After Tax per Tax Accounting (3)	(25,000)	(177,500)	(46,500)	25,000
Investors' Tax Basis of Securities (2)	275,000	97,500	<u>51,000</u>	<u>51,000</u>
Investors' "Hard Cost" of Securities (4)	282,500	158,300	<u>125,700</u>	<u>125,700</u>
Net Book Value of Investors Securities per Tax Accounting (3)	275,000	97,500	51,000	76,000
Estimated Market Value of Plant & Franchises (5)	450,000	550,000	750,000	900,000
Net Other Corporate Assets or Liabilities (6)	(135,000)	(234,500)	(223,000)	(140,500)
Total Estimated Net Equity (7)	<u>315,000</u>	<u>315,500</u>	<u>527,000</u>	<u>759,500</u>

Exhibit 7

Summary of Data Pertinent to Investors' Interest  
in Proposed Tiffin-Fostoria CATV post June 30, 1967 (1)

	<u>1967-68</u>	<u>1968-69</u>	<u>1969-70</u>	<u>1970-71</u>	<u>1971-72</u>
<u>Assumed</u> Number of Subscribers, period end	6,000	6,500	7,000	7,000	7,000
Net from Operations (cash before deprec., taxes and financial charges)	170,500	210,500	241,000	253,000	253,000
Earnings After Tax per Tax Accounting (3)	47,000	72,000	88,000	98,000	130,000
Investor Tax Basis of Securities (2)	<u>51,000</u>	<u>51,000</u>	<u>51,000</u>	<u>51,000</u>	<u>51,000</u>
Investors Hard Cost of Securities (4)	<u>125,700</u>	<u>125,700</u>	<u>125,700</u>	<u>125,700</u>	<u>125,700</u>
Net Book Value of Operation per Tax Accounting (3)	123,000	195,000	283,000	381,000	511,000
Estimated Market Value of Plant & Fran- chise (5)	1,100,000	1,250,000	1,400,000	1,400,000	1,400,000
Net other Corporate Assets or Liabi- lities	(35,500)	92,500	235,500	395,500	510,500
Total Estimated Net Equity (7)	<u>1,064,500</u>	<u>1,342,500</u>	<u>1,635,500</u>	<u>1,795,500</u>	<u>1,910,500</u>
<u>Assuming CCI Exercises Option for Cash Purchase</u>					
Payment to Investors: Net book	123,000	195,000	283,000	381,000	511,000
Cancellation Fee	350,000	300,000	250,000	200,000	150,000
Total Payment (before tax)	473,000	495,000	533,000	581,000	663,000
AT Value to Investors of Payment at time exercised (9)	<u>367,000</u>	<u>384,000</u>	<u>412,000</u>	<u>448,000</u>	<u>510,000</u>
<u>Assuming CCI Exercise Option for Stock Purchase</u>					
Resultant Coverage of Preferred Position (10)	3.2	4.1	4.9	5.2	5.8
AT Value of Preferred if Called & Tendered (11)	265,000	265,000	265,000	265,000	265,000
Estimated Before Tax Value of 40% of CCI stock if all preferred converted (12)	425,000	537,000	655,000	720,000	764,000
AT Value to Investors of 40% stock if liquidated in year shown (9)	<u>331,000</u>	<u>415,000</u>	<u>504,000</u>	<u>553,000</u>	<u>586,000</u>



Notes to Exhibits 6 and 7

- (1) All calculations are based on the total invested capital of \$300,000. Where applicable these calculations can be considered on a per unit basis by division by 10.
- (2) It is assumed that a Sub Chapter S election will be taken as long as the operation records a tax loss. The result of this election will be a pro rata deduction against personal income and an equal reduction in the tax basis of the investors securities. It is further assumed that the stockholder will elect to be taxed as a corporation at such time as recorded earnings become positive which, based on the assumption in Exhibits 6 and 7, will occur in the fiscal year 1966-67. Note that the tax loss afforded the investors is not exactly equal to the original subscription. To the extent possible, without jeopardizing the operations of the business, the management will attempt to record a loss as near as possible to the original \$300,000. Some flexibility can be achieved from the selection of the company's fiscal period and the depreciation schedule.
- (3) The notation "per tax accounting" is used in connection with earning and book value entries to emphasize the dependence of these entries of the depreciation schedules used in tax reporting (seven year straight line). Accounting for taxes or management purposes based on any other assumed life would, of course, result in alteration of earnings and book value entries.
- (4) Calculations of Investors Hard Cost represent the after tax cost of the securities of an investor assumed to be in a position to realize in tax savings 70% of the pro rata recorded losses of the operation.
- (5) Estimated Market Value of Plant and Franchises represents our subjective evaluation of the going concern value of the operations plant, franchises, etc. Caution should be used in consideration of these estimates. They are based on a consideration of the system's actual and potential subscriber base and cash flow at the conclusion of each year of operation in light of today's market. The reader should note Appendix 5 for information on recent sales of systems.
- (6) Net Other Corporate Assets or Liabilities represent the net balance sheet assets exclusive of plant and franchises, i.e., net working capital less long-term debt.
- (7) Total Estimated Net Equity represent the sum of our estimates of plant and franchise market values and so-called other net assets. Conceptually, these entries represent a revaluation of net worth based on a substitution of the estimated market value of plant and franchises for the net book value of these assets.
- (8) Total payment to investor if CCI exercises the repurchase option in cash is the sum of the then book value of appropriate cancellation fee.

- (9) After Tax Value to Investors calculated by taxing proceed above projected tax basis of securities (\$51,000) at capital gains rate of 25%.
- (10) Resultant Coverage of Preferred Position represents the Total Estimated Net Equity (based on estimate of market value of plant and franchises) divided by liquidation preference (\$330,000) of preferred.
- (11) After Tax Value of Preferred if Called and Tendered represent proceed to investors on call at \$335,000 after deducting tax at 25% capital gains rate on funds realized above \$51,000 projected basis of securities.
- (12) Estimated Before Tax Value of 40% of CCI stock if all preferred converted is taken as 40% of Total Estimated Net Equity above.