Television translators and the second class TV citizen: a Montana case study, 1955-1970
by Jeffrey Allen Sinnott

A thesis submitted in partial fulfillment of the requirements for the degree Of Master of Arts in History
Montana State University
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Abstract:
This is an initial study into the infrastructure of rural television, looking at the local, regional, and
national forces that have shaped rural viewing. Specifically, it takes the rebroadcast device of the
television translator station, and through a case study in Montana during the approximate period of
1955 to 1970 of actions affecting translator use, brings us closer to understanding how television has
served rural Americans. It follows the actions and policies of the Federal Communications Commission
(FCC), the regional and later national organization known today as the National Translator Association
(NTA), the U. S. Congress, and concerned special interest groups. It necessarily focuses on FCC
policies toward translator operators, small market television broadcasters, and Community Antenna
Television (CATV) system operators.

This study makes extensive use of the papers of Montana broadcaster Edmund B. Craney, which
include records of the NTA, the FCC, local translator associations, and other television interest groups.
It also utilizes television industry periodicals and recent historical works concerning television
programming and regulation during the period.

This study finds that rural television viewers had a marginal status compared to those in more densely
populated areas, with fewer choices in programming, little or no local access to television air time, and
an increased dependence on television as a source of news and entertainment, particularly in
geographically isolated areas.

The FCC had a shortsighted view of the role of translators in disseminating television signals to the
greatest audience, and an inconsistent policy as to how to regulate different technologies in order to
expand television service to rural areas.

This study concludes that the marginal status of rural television viewers was due to the dichotomy
governing FCC regulation of broadcast services, treating television as both a business and an essential
public service. For the most part, commercial interests have dictated FCC policies toward the
dissemination of television services. Free market forces, therefore, have placed rural viewers in such a
marginal status.
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A thesis submitted in partial fulfillment of the requirements for the degree of
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This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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ABSTRACT

This is an initial study into the infrastructure of rural television, looking at the local, regional, and national forces that have shaped rural viewing. Specifically, it takes the rebroadcast device of the television translator station, and through a case study in Montana during the approximate period of 1955 to 1970 of actions affecting translator use, brings us closer to understanding how television has served rural Americans. It follows the actions and policies of the Federal Communications Commission (FCC), the regional and later national organization known today as the National Translator Association (NTA), the U. S. Congress, and concerned special interest groups. It necessarily focuses on FCC policies toward translator operators, small market television broadcasters, and Community Antenna Television (CATV) system operators.

This study makes extensive use of the papers of Montana broadcaster Edmund B. Craney, which include records of the NTA, the FCC, local translator associations, and other television interest groups. It also utilizes television industry periodicals and recent historical works concerning television programming and regulation during the period.

This study finds that rural television viewers had a marginal status compared to those in more densely populated areas, with fewer choices in programming, little or no local access to television air time, and an increased dependence on television as a source of news and entertainment, particularly in geographically isolated areas. The FCC had a shortsighted view of the role of translators in disseminating television signals to the greatest audience, and an inconsistent policy as to how to regulate different technologies in order to expand television service to rural areas.

This study concludes that the marginal status of rural television viewers was due to the dichotomy governing FCC regulation of broadcast services, treating television as both a business and an essential public service. For the most part, commercial interests have dictated FCC policies toward the dissemination of television services. Free market forces, therefore, have placed rural viewers in such a marginal status.
CHAPTER 1

INTRODUCTION

It is indisputable that television has been a powerful social force in the United States since the inception of network broadcasting in 1948. By 1960, 87% of American homes had television receivers, and the average viewer watched over five hours of television each day. In the late 1950s and the 1960s network profits bloomed as advertisers discovered in television a remarkably effective way to present goods and services to eager consumers. The three television networks—the National Broadcasting Company, the Columbia Broadcasting Service, and the American Broadcasting Company—dominated air time on local stations, particularly during prime time evening hours. It is only logical, therefore, that network television programming, and its effects on Americans' behavior became major subjects of historical and psychological study over the last several years. Television as a medium has become part of our social fabric—a source of common experience that has bound Americans more closely together as a people. Television has been both a reflection of society and a shaper of it, as millions of Americans have sat down each night to watch a common body of prime time network offerings. Even with the expansion of sources for television viewing today, with special format cable channels, public and educational stations, premium movie channels, and video cassette
recordings among others, network television remains a powerful draw for many Americans.

This author acknowledges the impact that television has had on this society, and encourages study into the medium and its positive and negative effects on viewers. Television historians, however, have thus far tended to focus too much on programming, and very little on the infrastructure of television—the means by which the medium reaches the great mass of its viewers, from metropolis to isolated ranch house. Television service did not just magically happen. In the case of rural areas in the Mountain West, it was brought through the concerted efforts of rural citizens who decided to overcome the technical and physical barriers that excluded them from television viewing.

The following study is an initial look at rural television and the local, regional, and national forces that have shaped it. Specifically, it takes the rebroadcast device of the television translator station, and through a case study in the state of Montana of actions affecting the use of translators, brings us closer to an understanding of how television has served rural Americans, for good or ill.

Montana is an ideal place to center this story, because of its extremes of distance and terrain, its low population density, and because of the primacy of translator organizations founded in the state. What is now known as the National Translator Association (NTA), representing operators of TV and FM translators around the country, began in Helena in 1959 as the Tri-State TV Repeater Association, representing local translator groups from Montana, Idaho, and Wyoming.
The forces bearing on the proliferation of television stations and translators in Montana and the Mountain West included local groups supporting their own translators, the regional and later national organization of the NTA, the regulatory agency of the Federal Communications Commission (FCC), and the U. S. Congress, along with various competing interest groups. These interests included broadcasters in small television markets under 50,000 persons in size, operators of Community Antenna Television (CATV) systems, and television equipment manufacturers. This study will necessarily focus on the policies of the FCC toward television translator operators, small market TV station broadcasters, and operators of CATV systems otherwise known as cable television, and attempt to explain some of the commission's official actions.

The picture that develops from this examination of television shows us the many unpleasant realities of the medium in the rural West, realities that caused some TV viewers to refer to themselves as "Second Class TV Citizens." These realities included a more limited choice of programming than in other more populous regions, little or no local access to television air time, virtually no influence on network programming, and a much increased dependence on television as a source of news and entertainment, particularly in geographically isolated areas. Both economic and geographic forces contributed to the marginal status of the rural viewer, forces that even the maximum possible use of translator stations could not have changed. The truth is that rural Montanans understood the limitations of the television medium in their state and region, and decided to use
any means possible to receive television in their homes, legal or otherwise. Like the majority of their fellow Americans, this rural populace wanted commercial television and what it had to offer, regardless of its shortcomings.

The policies of the FCC in the 1950s and 1960s reflected a cautious, conservative, and shortsighted view toward the role of translators in disseminating television signals to the greatest viewing audience. Overly cautious concerns for preventing interference between translators and regular TV stations and other radio services caused less than adequate limits on transmitting power levels for translators. FCC policies also added up to an inconsistent position on the proliferation of television services to the greatest number of viewers. The commission could not put together an integrated approach to the role of different technologies in this goal of an expanded viewership. In the end, small market TV stations, CATV systems, and television translator stations were all used, sometimes in competition, sometimes not, to cater to the rural viewer, and not always in the public interest. The objective that the commission had tried to honor of fostering program choice through increasing the number of television stations on the air was effectively killed through its own inconsistency. As it turned out, Congress, as well as the commercial nature of television in the country, also contributed to the failure of television as a universal medium.

The following study will look at several aspects of the complex history of television translator stations and rural viewing in the crucial development period from about 1955 to 1970. These include
the FCC's sixth report and order of 1952 which defined the allocation system for television channels; early rebroadcast devices in Montana; the FCC inquiry into television in small markets in 1958; the Montana Legislative Assembly of 1959; and the Senate Communications Subcommittee hearings on CATV and VHF booster and repeater stations (terms often used interchangeably) in 1959. A second chapter will look at individual issues during the 1960s in television and translator regulation and operation, and how their handling reflected the attitudes and policies of the FCC and the NTA, as well as affected the quality of rural television.

Before beginning, however, it will be helpful for the reader to have some basic knowledge of the function of the FCC, and the technical standards and regulations for television in the United States, especially those concerning television translators.

The Federal Communications Commission, established by the Communications Act of 1934, "is an independent Government agency charged with regulating interstate and international communications by radio, television, wire, satellite and cable." The commission, during the period under study, was directed by seven presidentially appointed commissioners serving seven year terms. These appointments have often been made on a political basis rather than for technical or legal expertise in the communications field. The agency is responsible directly to Congress, and is subject to oversight not only by that body, but by the presidential administration and the federal courts. The FCC makes decisions concerning communications services through simple majority votes of its commissioners. In the
case of broadcasting, the agency sets all rules and regulations, and
approves all licenses for station construction, operation, and renewal.

Television technical standards are essentially the same today as
they were in the mid-1950s when network broadcasting in the West began.
Television receiver sets produce a picture with 525 lines of resolution
at a speed of 30 frames per second. Signals are broadcast over six
megahertz (MHz) or megacycle wide channels using frequency modulation
(FM) as the method of sound reproduction. The radio frequencies
assigned to American television include 12 Very High Frequency (VHF)
and 70 Ultra High Frequency (UHF) channels. Low band VHF channels
2-6 are located at 54 to 88 MHz below the FM radio band, and high band
VHF channels 7-13 are located at 174 to 216 MHz. UHF channels 14-70
are located at 470 to 890 MHz. Currently only UHF channels 14-69 are
being used to transmit television signals as the FCC resigned channels
70-83 to land mobile service in 1971. However, television receivers
are still manufactured with tuners capable of picking up all 70 UHF
channels. 4

Two rebroadcast devices are now used to extend the coverage areas
of television stations. One is the television translator station,
defined in the Television Engineering Handbook as

a station operated to retransmit the signals of a television
broadcast station without significantly altering any character­
istic of the original signal other than its frequency and
amplitude to extend coverage and service to the general public. 5

In other words, the translator receives a broadcast signal, converts
that signal to another frequency to minimize the possibility of
interference with other television signals, and retransmits the signal
at a strength capable of producing a satisfactory picture from a receiver in its service area. The other device is the translator signal booster, defined as a station . . . operated for the sole purpose of retransmitting the signals from a UHF translator station by amplifying and reradiating the signals received through space, without significantly altering any characteristic other than its amplitude.

Translators and translator signal boosters become necessary when the distance between television transmitters and receivers is too great or when "intervening terrain barriers," such as mountains, block signals. In the Mountain West, translators are used for both these reasons, though most particularly for the latter. VHF television translator stations have transmitting power limited to 10W (watts) effective radiated power (ERP) West of the Mississippi River, while UHF translators are limited to 100W ERP. These power limits are much lower than the maximum allowed for regular broadcast stations, which are in the several kW (kilowatt) range. Also, UHF translators are now being assigned to channels 55-69. Another class of high powered translators exists for communities listed on the FCC's Table of Assignments for regular broadcast service. In this case a community which cannot support its own broadcast station, can rebroadcast the signal of another, with a limit on power of 100W VHF or 1,000W UHF. Apart from distance separation and antenna height requirements for television stations, these are the essential standards and regulations for television use at present.7

How these technical regulations were arrived at, and why is part of the purpose of this study. In the following section, we will look at
the FCC's sixth report and order of 1952, which set up most of the current allocations for the entire country and had grave repercussions for rural television in the West.
CHAPTER 2

THE ACCEPTANCE OF TELEVISION TRANSLATORS

The Sixth Report and Order

On April 11, 1952, the FCC issued its sixth report and order, setting up a Table of Assignments for television stations throughout the United States. The commission, in carrying out its responsibility to license broadcast stations, had frozen the licensing of new television stations in September 1948. The basic reason for the freeze was that television had been limited to only the twelve VHF channels, placed in close proximity to other radio services. As a result, unacceptable levels of tropospheric interference between stations were taking place. It was therefore the duty of the FCC to find a solution to ease interference problems with the new medium and devise rules for the dissemination of television services to the country as a whole.¹

In the West the stakes were high, as only large metropolitan areas such as Los Angeles had television service. Even Denver, Colorado had no pre-freeze television stations. Montana, along with thirteen other mostly western states, had no stations broadcasting until after the licensing freeze.² However the FCC decided to allocate television frequencies, the new western broadcasters would
have to live with the commission's decisions for the foreseeable future, as broadcasters would be eager to set up stations and compete for profits in post-freeze television.

The FCC's first priority in setting up the new allocation scheme "was to provide at least one television service to all parts of the United States." This egalitarian commitment toward offering television to all Americans had fateful consequences for people in the rural West. The order gave frequency assignments to communities even with very small populations or television markets. Montana was assigned 18 station allocations, though most were in markets much smaller than the 50,000 persons thought necessary to support a station easily. The prospects for local television service in these small markets would be poor, and many such towns would remain without regular broadcast stations on their assignments.

To make their generous commitment to expand television service possible, the commission had to expand the number of channels available for assignment. The commission accomplished this through the use of UHF frequencies. The hope was that more stations would contribute to greater program choice. Television historian Andrew F. Inglis asserts that "the commission was attempting to achieve two conflicting objectives," through UHF allocations to commercial television. It was both "seeking to extend the interference-free coverage of the VHF channels and thereby improve service to rural areas," while also hoping "to increase competition among broadcasters by authorizing more stations." The problem with the FCC's plan to increase both coverage areas and station competition was that it was
all based on a UHF television technology that had no commercial history behind it. Any new UHF station would have to compete with proven VHF stations and a dominant VHF technology. What is more, UHF had several disadvantages compared to VHF television. Shorter wavelength UHF signals are "attenuated more rapidly by terrain, buildings, and vegetation." UHF receiving antennas did not work as well as VHF antennas. UHF transmitters required much more power than those in the VHF band to cover the same area. Also, no current television receivers had tuners to pick up UHF channels, and would need costly conversion kits to receive them. In effect, the commission was risking the success of its entire allocation plan on an unproven, more expensive, and technically inferior UHF technology, one that would encounter built-in resistance from the television industry and the public.

The commission's decision to use UHF channels had direct bearing on the development of rural television as the regulatory agency devised policies to aid UHF stations and equipment in the 1950s.

In 1955, the commission permitted, on an experimental basis, the operation of UHF on-channel boosters to fill in areas of coverage of UHF stations blocked or shadowed "by intervening terrain and so deprived of service." In a previous move to aid UHF, the commission in August 1954, had authorized the operation of satellite stations, which would essentially rebroadcast the programming of a controlling parent station, thus saving the expense of constructing and running extensive studio facilities while still broadcasting with the same power as a regular station.
In May 1956, the commission authorized the operation of the first television translators. They called this "new type of broadcast station . . . a UHF 'translator' station." Their purpose was to bring service to small rural towns and sparsely populated areas, primarily in the West, where TV signals were not received because of distance or intervening terrain features. These translators were to take the signals of existing UHF or VHF stations and convert them to the 14 highest UHF channels—70 to 83. The commission limited the new translators to a low power of 10W, and reasoned that placing their frequencies in the uncongested upper UHF range would minimize the possibility of interference with other radio services.

As will be seen, UHF translators were not as popular or as affordable as the FCC hoped. Most westerners preferred the use of boosters and translators in the more economical and effective VHF band. While the commission resisted the licensing or legalization of such devices, political and economic realities were at work to force the acceptance of these VHF devices, realities that would not and could not be ignored.

Early Television Boosters and/or Repeaters in Montana

The history of early television booster and translator stations is a hazy picture of individual and group efforts dedicated to bringing television into rural homes using any and all means available. Montanans, like other westerners, were ready and eager for the miracle
of television reception, and if it was at all possible, they would work and expend their hard-earned money to get it. Although rural Montanans preferred to operate within the laws and rules of the FCC and the state, the lure of the new medium proved too great to allow petty bureaucratic policies to deny them what was in their grasp. Television was coming their way, and if they needed to force the issue, they would.

The FCC began to consider the feasibility of low power VHF translators on an official basis on July 29, 1957. The commission, "On behalf of the Governors of a number of Western States, . . . proposed to consider" the use of what it called "repeater' stations since they would pick up the programs of outside stations and retransmit them locally on VHF or UHF channels." At about the same time on June 27, 1957, the commission ruled that on-channel signal boosters in the VHF band were not feasible because of "Interference and other technical problems." UHF boosters might be permitted only to fill in or improve the signals of UHF stations in their primary service areas. Because of the commission's actions, existing VHF boosters and repeaters remained in an illegal or unsanctioned status. These VHF devices would remain in legal limbo in 1959, when the commission estimated there were as many as "a thousand or more" such installations in existence. The commission continued the official sanction of UHF translators rather than VHF boosters or repeaters because of the risk of interference with other radio radio services and offered a grace period for their operators to apply for UHF licenses.
The FCC position did not decrease the demand for VHF rebroadcast stations, however, and the commission finally decided to look toward licensing them. The commission, led by Chairman John C. Doerfer, maintained that it was prohibited by law from licensing "broadcast facilities constructed without prior Commission authorization." Therefore, it would require Congressional amendment of the Communications Act of 1934 to permit the FCC to license the stations. The commission then submitted to Congress proposed amendments to Sections 318 and 319 of the Communications Act to permit licensing, and to allow station operation by less qualified, unlicensed operators. The proposed amendments were controversial because neither was absolutely necessary to legalize VHF booster operation. Commissioner Rosel Hyde, who visited Montana in 1959, believed the boosters could be "dismantled and reassembled" under commission requirements as new stations, thus avoiding violation of the Communications Act. It may also have been possible for the commission to have licensed radio operators to maintain these devices, provided they passed some limited qualification test. The commission's position did not seem so unreasonable, however, in view of the extreme scrutiny the agency was under at the time—circumstances that will be addressed later.

At this point, it is necessary to look at developments within the State of Montana to illustrate the attitudes and actions that made VHF booster or repeater stations a reality. In retrospect, the prospects for television reception outweighed concerns with the legality of the means used to obtain that reception. In the mid-1950s
commercial television was a reality in Montana, but only a limited one. By 1959 there were only 8 stations broadcasting within the state—less than the 18 allotted in the Table of Assignments. There were single stations in Butte, Missoula, Helena, and Glendive, along with two stations each in Great Falls and Billings. Two other stations transmitted signals into the state from Lethbridge, Alberta and Williston, North Dakota. Together, these ten stations provided a patchwork of television coverage in Montana, but one filled with many holes.

As television signals travel from transmitter to antenna or receiver in a basically line-of-sight path, there were many obstacles to satisfactory television reception. Intervening mountains, hills, or dense vegetation blocked signals. In many cases, in eastern as well as western Montana, small communities or residences were located in mountain or river valleys, and thus did not have direct reception from station transmitters. Especially in the east, some areas were too far from the nearest station, and the signals that reached them were too weak to provide a decent television picture. In order for people to receive television in these areas, they needed an electronic means to direct and amplify television signals.

Fortunately, such means were available in the form of low power VHF on-channel boosters or frequency converting repeaters, as well as the officially sanctioned UHF translator stations. While UHF translators were sometimes used, as witnessed by East Butte TV Club's operation of two such devices serving Shelby, this practice was not common. Although UHF translators performed satisfactorily, their
increased cost to purchase and maintain placed them out of the price range of most organizations. VHF devices, with their longer wavelengths, simpler components, and lower cost became the tools of choice throughout the state and the West. The main reason was economic, since the number of viewers boosters or repeaters served varied widely from a few households to small towns of 2,000 people or more. Therefore, the funds available for operation also varied greatly. The emphasis was always on economy, although television picture quality was an important issue.

VHF rebroadcast devices, which the FCC still considered illegal and refused to license, were not difficult to obtain regardless of their officially illicit status. A local TV club or booster group could purchase a VHF booster or repeater from an area electronics or electrical retailer without fear of prosecution. Large manufacturers of television transmitting equipment built and sold such equipment freely and without reservations. They were simply satisfying the demands of a growing market for their products. As a result, these devices gained a de facto legitimacy that no FCC policy could change. Such equipment was affordable, available, and increasingly in service throughout the West.  

Not all rural Montanans could afford even the cheaper manufactured boosters and repeaters, however, and resorted to building their own equipment. During the mid-1950s it was well known that Edmund B. Craney, the owner-operator of KXLF-TV in Butte and a supporter of VHF booster use, provided packets of information on the construction of such antennas and equipment. It is impossible to estimate just
how many people received this information or built their own devices. In the following years many unlicensed and unsanctioned boosters would go into operation in Montana. In geographically isolated areas there were booster operators who never sought official licensing from the FCC. To them it was an unnecessary inconvenience, for the only way that their existence would come to the attention of FCC authorities would be if someone suffering interference from such a booster wrote the agency and complained about its operation. Even then, official sanction or shut-down was unlikely.15

In addition to acquiring or building affordable equipment, finding an adequate signal to boost or translate, raising funds for equipment and maintenance, and actually erecting the facility and providing maintenance to it, were necessary to make booster operation a reality. Some histories of rural TV organizations holding membership in the Tri-State TV Repeater Association in 1959 are instructive in providing insight into just how VHF booster stations went into operation shortly after television came to Montana.

After acknowledging the desirability of receiving television, rural citizens had to find a suitable location to place a transmitting antenna, one where the signal was strong enough to amplify and direct toward the receiving area or community. This was perhaps the most difficult task facing a potential operator. Someone had to move test equipment from point to point measuring signal intensity. Different methods were employed to accomplish this task. In Harlem, citizens mounted "an antenna on a twenty foot mast, and using a pickup truck roamed the hills on the valley rim north of Harlem,
searching for a suitable signal."^{17} (see Figure 1) In the Martinsdale-
Lennep area "some local people mounted an antenna on a four-wheel-drive
truck." Using a portable power plant and receiver placed in the back
of the truck, they were able to make "extensive searches . . . of the
high ground in the surrounding area for signals."^{18} (see Figures 2
and 3) In other localities suitable locations were more easily found
on hills or mountains with unobstructed signals.

After finding an appropriate spot for a booster, a local group
raised money to buy, erect, power, and maintain the equipment. A VHF
repeater might cost anywhere from about $500 to $1,500, and some areas
required a series of boosters to bring in a signal. Erecting and
maintaining a booster entailed acquiring or providing a variety of
equipment and services. Receiving and transmitting antennas would
need to be mounted on metal towers or wooden poles, and small buildings
constructed to house and protect the electronic components of stations.
Power had to be supplied to the station either from a portable
generator, as might be done temporarily, or by using permanent power
lines. In the case of the Buffalo Mountain repeater station serving
Gardiner, the local repeater association employed a gas-powered
generator until a public power line could be constructed. The
Gardiner Community TV Association located their repeater seven miles
from town and local residents used horses or a jeep to bring fuel
up the mountainside to the station each day.^{19} (see Figure 4) Power
also needed to be turned on and off each day either manually, or
automatically using a time clock. Periodic maintenance was necessary
to ensure a booster performed correctly. Antennas might need
Figure 1. View from Translator Station Near Harlem, ca. 1959.
(Montana Historical Society, PAC 80-88, folder 34)
Figure 2. Booster Station on Hill in Foreground Overlooking Martinsdale, ca. 1959. (Montana Historical Society, PAC 80-88, folder 34)
Figure 3. Martinsdale Booster Station Including Antennas and Equipment Building, ca. 1959. (Montana Historical Society, PAC 80-88, folder 34)
Figure 4. Gardiner Repeater Station, ca. 1959. (Montana Historical Society, PAC 80-88, folder 34)
adjustment to correct their direction or to allow greater coverage. Fuses needed to be changed regularly, and qualified servicemen or engineers needed to repair electronic parts. As boosters were generally located on hill tops or mountainsides, the prospects of damage from wind, snow, rain, and even fire were substantial. All of these goods and services needed to be bought or provided, either through cash payment or on a voluntary basis. Because of the vastly different circumstances surrounding the construction and maintenance of any particular station, there was no typical cost of operation, but some individual examples are available. The Circle TV Booster Club, in a yearly financial statement dated January 25, 1961, listed their total expenses at $1,970.49. The Howard T.V. Club listed their expenses from April, 1958 to March, 1959 as $1,733.03, including $1,600 for the cost of their "Mid-America Relay System." The Gardiner Community TV Association spent a total of $5,000 from the fall of 1956 to 1959. The Milestown Television Club, Inc., serving the Miles City and Forsyth areas, paid $5,000 in 1957 for a "two-hop system" from Mid America Relay System. A translator serving the Polson area cost approximately $1,200.

Local groups used various schemes to pay for their rebroadcast stations. Although groups often solicited donations from area citizens, many sold subscriptions for their television services. The Howard T.V. Club, after searching for prospective members, decided to charge an initial fee of $60 to cover a five year period. The Tru-Vue Television Association, operating a co-channel booster serving White Sulphur Springs, began with a $50 service charge per set owner,
reduced later to $10 per year. Funds often came from a variety of sources. The Harlem T.V. Club funded their translator through "membership contributions, and various clubs and citizens contributed labor, money, and equipment." The Circle TV Booster Club, Inc. listed among their funding sources individual contributions, proceeds from a "Vet's Club dance," sales from a "V.F.W. Auxilliary lunch," and a contribution from the Brockway Commercial Club.

In general, fund raising, construction, and maintenance of booster facilities was a community effort. Although individual citizens may have spurred the initial stages of planning, substantial community support made successful booster operations possible. Not all groups, however, received universal support for their efforts. Individual television viewers would refuse to contribute or pay for membership. This problem ultimately lead to the institution of TV tax districts, made legal in Montana in 1961.

The Television Inquiry of 1958

1958 was a fateful year for television, from the networks down to the lowly translator station. That year the quiz show scandal broke, and Americans learned that sponsors and producers of popular programs including "Twenty-One" and "The $64,000 Question" were fixing the outcomes of the games for dramatic effect. Hearings in Congress probed the greed and corruption of network executives and advertisers in abusing the public trust. In the same year, the House Commerce Committee held an inquiry into the conduct of the FCC, unearthing charges of conflict of interest between individual commissioners.
and parties with cases before the commission. John C. Doerfer, FCC chairman since 1957, was found to have accepted broadcaster hospitality in the form of payments for travel, hotel, and incidental expenses. On May 22, 1958, the FCC announced that it was making its own inquiry into the "impact of community antenna TV systems and TV translator, satellite and booster operation on the orderly development of television broadcasting." The general purpose of the inquiry was to find out the effect of these auxiliary broadcast facilities on the spread of regular broadcasting stations. In particular, the commission wanted to know of the circumstances impeding the profitability or survival of small market television stations, and what measures could be taken to improve their chances of commercial success. The commission was becoming aware that local television stations were competing with cable systems, satellite stations, and even with translators to serve the same viewers, and individual stations were failing. In other cases, parties failed to apply for station construction permits and licenses because they would be at competitive disadvantage. CATV systems were at the heart of the problem, along with the harsh economic realities of operating small market television stations.

CATV systems, now known commonly as cable television, began operation around 1950. The Television Engineering Handbook describes their function as follows:

The original intent of CATV systems was to provide a means of advantageously receiving broadcast signals and distributing the signals to subscribers by means of a system of appropriate amplifiers and coaxial cables. Thus service could be provided to communities in which conventional service was either poor
or nonexistent. The service has expanded to include the provision of cable-delivered service in areas normally enjoying good reception to expand and enhance the total available television service by increasing the choice of programs to the subscriber.\textsuperscript{30}

In essence, CATV systems served much the same purpose as television translators, boosters, and repeaters. That is, they expanded the coverage areas of regular broadcast stations. This expansion of coverage areas on the surface could have been viewed as beneficial to the proliferation of television services in the United States. After all, cable subscribers received stations and programming that might not otherwise have been available, and the stations provided through the systems did not pay for this expanded coverage. In addition, CATV systems seldom competed with translators and repeaters in serving the same areas. Economic factors limited the type of television consumer CATV could reach, because of the great expense per mile of running coaxial cable from a system antenna to subscribers' homes. There needed to be sufficient "bunching" or concentration of subscribers, such as in a city residential district, to make a CATV system practical, as well as profitable. These limitations excluded cable service from rural areas with widely dispersed and less numerous residences, leaving to translators and repeaters the ability to provide television services to just such sparsely populated areas. In truth, CATV systems, translators, and repeaters could have peacefully coexisted if not for the open competition between cable companies and local stations in small television markets. Consequently, in threatening the economic viability and existence of local television stations, cable television threatened the existence
of translators and repeaters depending on local area stations for their originating signals. As the situation stood, small market broadcasters and operators of rebroadcast facilities became bitter enemies of cable companies, engaging in a highly volatile rhetorical battle between "free TV" and "pay TV."

The competition between local stations and CATV systems was not inevitable, but happened because there was no mechanism to stop it. FCC regulation of both broadcasters and CATV operators could have alleviated this endemic problem. As events unfolded, however, the FCC would not recognize its authority to regulate cable television until 1966, after cable companies had done considerable damage to small market broadcasting and the commission's goal of expanding television coverage to all Americans. The unregulated status of cable systems thus contributed to a mostly needless television problem.

The competition between cable systems and local television stations took the following basic form. A small market television station depended for the most part on the revenue it received from selling commercial time to local advertisers. Stations profited little directly from network affiliations, but they depended on affiliate status to draw much of their viewership and fill most of their air time. A cable company could come into such a television market, and because of its unregulated status, compete for the same advertising dollars. The cable company could gain an advantage over the local station, in one way, by charging its subscribers monthly service charges and selling their own advertising. In a second way, the company could refuse to carry a local station's signal, thus shrinking
the station's viewership and its revenue from advertising. The cable company could also bypass the local station by bringing in, with the help of microwave relay facilities, the signals of television stations from larger metropolitan markets. This practice was often referred to as "leapfrogging." A cable company could thus sap enough of the operating revenue from a local station through program duplication to drive it off the air. In a similar vein, if a cable company began operation in a television market before a local station could go on the air, that station might never begin broadcast or fail from lack of operating revenue. In markets with one operating station and a second unused channel assignment available, a potential licensee could be discouraged from pursuing that second license because of the perceived economic disadvantage with which such a station would start out. These same problems could plague satellite stations in communities with a frequency assignment but no regular broadcast station, and might even affect translators operating within such markets.

Under Chairman John C. Doerfer, the FCC was opposed to the regulation of CATV systems. The commission's position, set down in a ruling in April 1958, was that cable systems were neither common carriers nor broadcast services, and therefore the commission could not regulate them. A common carrier, by definition, "carries traffic determined by the user," as is true of telephone service. With CATV systems, "the signals put on the coaxial cable were determined by the operator of the antenna system, not by the subscriber." Doerfer's own view was that "if broadcasters seriously contend that they are
entitled to protection, they, in effect are asking for eventual regulation of their rates and services." Regardless of the commission's stand on CATV regulation, however, the agency still had the authority to regulate microwave facilities as common carriers. Thus it could forbid the relay of distant station signals into vulnerable small television markets, an authority it would take up in 1961.

Montana in 1958, as circumstances turned out, was the perfect place to observe the detrimental effects of unregulated cable competition. Through examination of broadcast industry journalism, testimony given before the U. S. Senate Communications Subcommittee of the Committee on Interstate and Foreign Commerce, and related sources, the true extent of the problem becomes evident.

In May, 1958, an article in Broadcasting magazine probed the issue of cable-small market television station competition. The author estimated the number of CATV systems in the country as "at least 600," serving half a million homes. In Montana, circumstances caused Senator Mike Mansfield to advance "the cause of small market telecasters plagued by CATV," and bring the problem before the FCC and the Commerce committees of both houses of Congress.  

Events in at least four Montana cities showed the depths of the problem. In April, 1958, the newly opened station KGEZ-AM-TV in Kalispell shut down operations. The local cable company had been the major culprit, and not for reasons of simple competition. Frank Reardon, a 70% stockholder in the Kalispell station, wanted to keep KGEZ operating, but the stockholder of the other 30% interest
refused to aid Reardon in this effort. That stockholder's major interest was in the local cable company. Clearly, it was in the minority stockholder's and the cable company's interest to have the station fail, thereby gaining new subscribers and increased profits.

In Helena, Edmund B. Craney operated station KXLJ-TV as a satellite of his station KXLF-TV in Butte. Craney announced that the station "ill be forced off the air if a CATV system is allowed to bring Spokane tv programs into the city." Craney's announcement was probably overdramatic, and more of a threat than a warning cry, but the satellite did eventually cease operation in early 1959. In Great Falls, the threat of a coming CATV system in the city providing signals from Spokane, Washington station, resulted in Craney and Idaho broadcaster A.W. Schwieder of Idaho Falls station KID-AM-TV, pulling out of a $600,000 deal to buy KFBB-TV. The sale fell through after the prospective buyers learned of Intermountain Microwave Company's application to feed the Spokane signals to a new CATV system. Craney and Schwieder even forfeited $50,000 to avoid buying the Great Falls station. In Missoula, the owner of KMSO-TV, who wanted to sell his station, could find no investors willing to buy due to a new CATV system bringing in signals from Spokane.

In addition to these specific instances, cable companies would at times purchase broadcast licenses, preventing their own competition. Station licensees would also give their broadcast licenses back to the FCC rather than compete with cable companies.

The overall result of CATV-small market station competition in Montana and the West was fewer broadcast stations, fewer signals for
translator stations to rebroadcast, and less coverage of local events. While CATV subscribers gained access to full complements of network programming from larger market stations, the unavailability of local programming must have reminded them of their relatively marginal status as television viewers. Also, as program duplication problems would later show, they were not receiving all that much for their money.

As it turned out, television translators could also be a threat to small market stations. As systems of translators brought the signals of two or three stations into a given city, town, or rural area, competition for viewership would grow. As many of these stations provided the same or similar program choices, viewers would have to decide which station or stations best met their needs.

In April, 1957, the FCC proposed to limit the authorization of television stations to communities and areas in which a regular assigned television station is not operating and to require . . . translator stations to cease operation upon the commencement of operation by a regularly authorized station in the community area.\textsuperscript{35}

The commission later rejected this proposal in August of that year, but its consideration further demonstrated small market broadcasters' fear of competition with outside stations.\textsuperscript{36}

In Butte, the issue of translators broadcasting signals from outside stations into urban areas came to light, as the City of Butte approved a project for a translator to bring in the signal of Missoula station KMSO-TV in late 1956. The FCC disapproved of the unlicensed VHF translator which converted the channel 13 signal to channel 7, and called for hearings considering the city's application for a UHF
translator on channel 70 to replace it. A.J. Mosby, president of KMSO-TV, wrote in December 1956, that he did not approve of Butte using his signal "since we found out that it was a translator and not a cable system." In this case, the local broadcaster was worried about losing profits he might otherwise make through an agreement with a cable company. As was usual in the broadcast industry, concerns about local station profits took precedence over service to television viewers wanting more program choices.

In total, the television inquiries in Congress and the FCC exposed the volatile competitive atmosphere between small market television broadcasters and cable companies as both sides fought for profits. Groups of allies and enemies had formed, and battle lines were being drawn. Meanwhile, acceptance for VHF translators was not yet won, an issue which required action in both state houses and the U. S. Congress.

The Montana Legislature Acts to Regulate VHF Boosters and CATV Systems

The sanction of VHF booster or repeater stations and the regulation of cable television became a focus of concern for the Montana State Legislature in early 1959. Television service in the state had reached a crisis point in the minds of many Montanans. The primary impetus for action was the closure of two local stations, one in Kalispell and the other in Helena. Both closures occurred during the legislative session and brought prompt action. The initial step both houses took in February was to pass House Joint Memorial No. 1 calling on the U. S. Congress, with its authority over the FCC,
to insure the continued operation of the free television stations in Montana, and the distinct prohibition of microwave signals to feed cable systems from outside the State of Montana, and the continued operation of low-power VHF booster stations.39

To make up for the FCC's reluctance to license VHF rebroadcast devices, the legislature passed Senate Bill No. 97, authorizing the Montana Railroad and Public Services Commission to license "VHF booster and VHF translator broadcast systems." In response to the FCC's failure to regulate cable companies or their microwave relays, the legislature also passed House Bill No. 208 proposing "to classify community antenna or microwave services as a public utility," and authorizing the same commission "to license and regulate cable systems." At the end of the session, however, Governor J. Hugo Aronson vetoed House Bill No. 208 and avoided a possible override vote.40 Aronson contended that the state had no authority to regulate CATV systems as public utilities as they were "in a preempted field of the United States government and the Interstate Commerce Commission and are regulated solely by the Federal Communications Commission to the exclusion of the states."41

The Montana Legislature's actions were a sign of frustration and a cry for help. There was little question the U. S. Congress, in its legislative authority over the FCC, had the ultimate say over the regulation of both VHF rebroadcast devices and cable television. It was now up to Congress to resolve these regulatory issues.
Although the FCC clearly favored the use of UHF translators, the popularity of low power VHF repeaters eventually forced the commission to consider rules under which it could permit the devices. In comparison with VHF repeaters and boosters, the use of UHF translators was small. In 1958 the FCC reported that it had authorized 156 such translators, with 92 currently on the air. By 1959 the commission estimated that the number of VHF repeaters in use was "as high as a thousand or more."  

In sticking with its decision to refuse licenses to VHF repeater operators, "the Commission in 1956 issued cease and desist orders against certain booster operators in Washington State." The District of Columbia Court of Appeals, which normally provided judicial oversight to the commission, reversed the action on May 3, 1957. The court ruled that the FCC had to consider in its decisions "whether, and on what basis, the operations could be authorized." Thus began proceedings in Docket No. 12116 to consider "Commission Rules and Regulations to permit the operation of Low Power Television Broadcast Repeater Stations."  

On December 30, 1958, after more than a year of consideration, the FCC issued a report and order stating that it would "limit TV repeater stations to the UHF band." It reaffirmed its opposition to VHF repeaters because of the "limited number of channels," and "the hazard of harmful interference" to other television and radio signals. The commission's ruling did not stop the proceedings, as western
broadcasters asked the body to reconsider.44

The FCC's attempt to force the acceptance and conversion to UHF translators served as a great incentive for VHF repeater operators and their supporters to organize in efforts to press the commission and Congress officially to sanction their installations. In Helena, the Tri-State TV Repeater Association organized at a meeting on January 25, 1959. The association represented 85 TV clubs in Montana, plus others in Idaho and Wyoming, serving approximately 200,000 television viewers.45 (see Figures 5 and 6) On March 15, the organization ratified its constitution as an "unincorporated non-profit association." Tri-State's members had a "common interest in receiving television by means of V.H.F. booster stations and similar means," and were dedicated "to preserve a property right of each group to continue receiving such programs by means of such stations." The organization desired to work toward "reasonable regulation" for television so that stations originating their signals "shall have reasonable and proper regulation of competing stations and services," to enable them to keep in operation. The constitution noted the reliance of the group on "booster stations to receive television programs which provide the viewers with the news, entertainment, financial and market reports and desirable education features." Most importantly, the association wished to affirm the right of citizens in a free enterprise system "to receive free television without discrimination as to media available for transmitting or reflecting programs to viewers."46 In general, Tri-State agreed with the egalitarian goals of the FCC's sixth report and order in
Figure 5. Tri-State TV Repeater Assoc. Map of VHF Booster Stations in Montana in 1959. (U. S. Senate, "VHF Booster and Community Antenna Legislation . . . Part II," facing p. 961)
<table>
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<th>No.</th>
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<th>Station received</th>
<th>Channel</th>
<th>Call</th>
<th>City</th>
<th>Channel transmitted</th>
<th>TV sets</th>
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<td>13</td>
<td>do</td>
<td>Missoula</td>
<td>194</td>
<td>1,000</td>
</tr>
<tr>
<td>43</td>
<td>Missoula</td>
<td>KEMM-TV</td>
<td>13</td>
<td>do</td>
<td>Missoula</td>
<td>199</td>
<td>1,000</td>
</tr>
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<td>Hamilton</td>
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<td>do</td>
<td>Missoula</td>
<td>204</td>
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<td>45</td>
<td>Great Falls</td>
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<td>13</td>
<td>do</td>
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<td>46</td>
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<td>do</td>
<td>Missoula</td>
<td>224</td>
<td>1,000</td>
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Figure 6. List of VHF Booster Stations in Montana in 1959. (U. S. Senate, "VHF Booster and Community Antenna Legislation . . . Part II," pp. 956-957)
asserting the right of all Americans to have access to television service. The organization was, however, dedicated to free commercial television rather than paid services, such as cable systems.

Primarily, Tri-State was a lobby for the interests of local repeater groups, pushing the FCC and Congress for reasonable laws and regulations for repeater stations. As a practical matter though, the association served as a clearing-house for information about how to apply for FCC licenses, what rebroadcast equipment was available and how to best employ it, how to finance operations, and other subjects of concern. Tri-State operated with an unpaid staff. James Beamer, an employee of the Northern Pacific Railroad in Livingston, served as secretary. Norman Voldseth, a Lennep area rancher, served as president. The association charged each member group a yearly fee of $20, plus an additional $1 per local group member. 47

While Tri-State represented a large number of local repeater associations, representing the owners of an estimated 25,000 television sets, not all such groups or operators belonged to the association. Some groups simply did not have the funds to pay for membership. J.W. Augenstein, president of West End TV Club at Haugen, claimed the group was too poor to pay its dues, relating that "At the present time we have about five sets operating off of this repeater. We have no money in the treasury and owe about $5 to an electrical company for repairs on our repeater. Doesn't sound very prosperous does it?" Augenstein also disparaged of meeting technical requirements in order to receive a station license, but wrote, "I haven't seen any law
officers around advising us to shut it off yet." In another case, John S. Stein, secretary-treasurer of the Loma TV Club, wrote James Beamer that his group had decided not to join Tri-State due to poverty and because the state legislature had already authorized the Railroad and Public Services Commission to issue licenses to translators. "Therefore," Stein wrote, "we cannot see why we should join any TV organization at this time." Despite such membership limitations, Tri-State managed effectively to voice its interests to the FCC and Congress.

On December 10, 1959 the FCC issued a notice of proposed rule making on Docket No. 12116. The commission's proposal set out strict rules for translator operation in the VHF band. Minimizing translator interference with regular broadcast signals and other radio services was again the primary concern of the commission. The proposed rules limited translator power to 1W, enabling a reduction in "the performance requirements for the equipment, and allow the routine operation of the apparatus to be carried on by a technically unskilled operator." Even with this low power, the commission would require translator licensees to "provide full interference protection to direct reception of all television broadcast stations, and to a limited extent to each other." If a translator operator wanted to reach an area larger than was possible with a 1W translator, the operator could employ a UHF translator, with an output power limit of 100W. Therefore, these proposed rules favored UHF translators, though they would permit the licensing of new VHF translators. VHF on-channel boosters would not be permitted. In addition, the proposed amendments
to FCC rules would cause considerable distress to translator operators. A translator could be monitored by remote control, but only by an operator holding "a valid Radiotelephone Operator Permit, or a first or Second Class Radiotelephone Operator license." In the rural West, such skilled technicians were rare or unavailable for monitoring. Translator antennas had to be accessible year round, a requirement that was difficult in mountain locations receiving many feet of snow over the winter. Also, translator identification rules required that stations transmit, using an automatic keying device, their call sign in Morse Code "within 5 minutes of the hour and half hour," while in operation. The mechanical devices that performed this identification were called code wheels, and as will be seen later, drew the ire of most translator groups.50

VHF repeater operators considered the commission's proposed rules as an assault on the existence of their television services. If the proposal was allowed to stand, many VHF translators would be unable to implement the new rules. The Tri-State TV Repeater Association estimated that the new rules "would cost existing boosters at least $500,000." The association complained of the cost and inconvenience of automatic keying devices, the over complication of application forms, and the impossibility of many operators financing monitoring requirements and paying licensed radio operators.51 Members of Tri-State also issued comments. James F. Goggins, secretary-treasurer of the Tru-Vue Television Association of White-Sulphur Springs, wrote that he believed "that all boosters now in operation should be allowed to continue 'as is' (provided there is no
record of any interference with other means of communication . . . )," with a three year transition period. Like other translator operators, Goggins saw no need for automatic keying devices or trained monitors as "the signal is monitored by all set owners." Goggins also did not see any reason to require a licensed operator to monitor and service translators, as "a third class radio telephone engineer and a citizens band permit would be sufficient." The Milestown Television Club, Inc. of Miles City issued lengthy comments on objectionable rules. The club thought that interference rules were too strict, that groups should be able to use translators as relays to other translators, and that power limitations "must be relaxed to allow more power, in difficult cases, on a case by case basis." The club also complained about remote control requirements and automatic keying devices. In general, the FCC's proposal would not allow translator licensees the flexibility and cost efficiency they felt was necessary to meet the service needs of their communities and still afford to stay on the air.

After Congress passed amendments to Sections 318 and 319 of the Communications Act on July 7, 1960, the FCC was able to authorize pre-existing VHF translators. The FCC then issued a report and order for Docket No. 12116. The commission gave existing VHF repeaters until October 31, 1960 to apply for "temporary authority to operate the station," until October 31, 1961. These existing stations would then have to apply to the commission by February 1, 1961 to construct or modify stations to meet with the standards of the new rules. These new rules were not much changed from the December 2,
1959 proposal. The commission still favored UHF translators, limited power for VHF translators to 1W, and served to favor regular broadcast stations in disputes over interference. Although operator requirements were eased, those concerning automatic keying devices and other costly operating equipment remained.\textsuperscript{54} In total, the new translator rules testified to the second class status the FCC wanted VHF translators to have in the U. S. Unfortunately, that second class status also referred to the rural citizens who viewed signals from translators. Their television service was of little importance when compared with the financial interests of television broadcasters, cable companies, and electronic manufacturers.

In reaching its decision, the FCC considered the comments of various special interests. Vulnerable UHF broadcast stations, and the broadcast group Association of Maximum Service Telecasters, opposed VHF translators operating within the service areas of existing stations as they might divert portions of their viewing audience. Manufacturers of UHF television equipment including Jerold Electronics Corporation and Adler Electronic, Incorporated, opposed any licensing of VHF translators, as VHF repeaters had "retarded the full development of UHF" receivers and transmitters as well as having "interfered with the installation of CATV systems and TV satellite stations."\textsuperscript{55} The National Community Television Association, a cable industry group, commented in 1958 that unauthorized VHF repeaters threatened the clear reception of direct broadcast signals. The NCTA had conducted an extensive engineering study of numerous repeaters in Montana and concluded that because of the increased risk of interference and the
improper identification, operation, and installation of such equipment, the FCC should stop their operation immediately. In response to these comments, and through its own initiative, the FCC accepted the legitimacy of low power VHF translators, but only so far as they did not interfere with the financial interests of area television broadcasters.

VHF Booster and Community Antenna Hearings, 1959

In 1959, the Communications Subcommittee of the Senate Committee on Interstate and Foreign Commerce held hearings concerning legislation to allow the licensing of existing VHF translators (also called boosters or repeaters), and to permit the FCC to license and regulate CATV systems. Along with these amendments to the Communications Act, the subcommittee was also to consider bills restricting the action of the FCC. In hearings before the House Legislative Oversight Committee of the Commerce Committee in 1958 to 1959, Congress found that the commission had used political favoritism in granting TV licenses, and individual commissioners had committed other illegal or improper acts. FCC Chairman John C. Doerfer would resign at the request of the president in 1960 for just such an indiscretion. In response, Warren Magnuson, Chairman of the Senate Commerce Committee, introduced legislation to forbid ex parte contacts of commissioners and staff with parties having cases before the commission, as well as honorarium payments to commissioners for their speeches and writings. At the FCC's request, Senator Magnuson also introduced bills to improve its regulatory efficiency, give it the power to issue fines, and most
importantly for our purposes, give it the authority to regulate microwave relay services.58

The hearings concerning VHF boosters and CATV systems, because of the previous congressional and FCC inquiries, along with matters pending in Docket No. 12116, became a high stakes battle over the future of rural television in the West. At the center of the controversy were the competing forces of small market television stations and cable companies, with VHF booster groups supporting the former. As the hearings wore on, however, it became apparent that cable and VHF booster interests were the most vociferous rivals. Tri-State TV Repeater Association labeled the contest a fight between free and pay TV, between the access of television viewing for all or just the few who could pay for it. Cable interests sought to protect their unregulated status and labeled VHF boosters as an interference threat to broadcast television and other radio services.

As events turned out, votes in Congress decided very little. Senator Frank Moss of Utah introduced S. 1886 along with Senator James Murray of Montana. The successful bill amended Sections 318 and 319 of the Communications Act, confirming the legitimacy of VHF translators. S. 1801, defining CATV systems and requiring cable operators to carry local stations and acquire the permission of stations carried on their systems, did not pass Congress.59 S. 2653, the bill authorizing the FCC to license and regulate CATV systems, did not receive congressional approval, failing by a single vote. Cable companies therefore avoided substantial scrutiny of their actions for a few more years.
Regardless of the outcome, the Senate hearings gave supporters of VHF repeaters and small market local broadcasters a chance to air their views before a national forum. Several Montanans spoke before or presented written statements to the Communications Subcommittee, and what they had to say was sincere, if sometimes infused with emotion or self interest.

The officers of the Tri-State TV Repeater Association issued persuasive statements. Secretary Jim Beamer gave voice to the attitudes and desires of local repeater groups around Montana in his statement before the subcommittee in Washington, D.C. in July. Beamer described how small rural communities "have banded together in the pioneer spirit that settled the West to again overcome an almost insurmountable obstacle and provide for themselves and their families the pleasures of television." He summarized the problems these communities faced in receiving television as those of "distance, terrain, lack of population, and absence of a usable TV signal at or near the housetop level." He further explained to the subcommittee that "Repeaters clubs in all instances were formed by people with an intense desire for TV and a willingness to spend the time necessary in locating a TV signal, constructing the necessary towers and buildings to house the equipment." He contended that "when the idea of constructing a booster was discussed, practically the whole community joined in the effort to see the job was completed," and that these repeaters had been the "work of many" people who "have a very intense and direct interest" in their performance. The reason these rural citizens desired television so intensely was that the
medium eased their isolation, and they depended "on it for weather conditions, entertainment, and education in the long winter months in our State." Beamer included with his statement letters he had received from local groups in Montana describing their histories, developments, and motives in operating television booster stations. Milton Hoiland, treasurer of the Gardiner Community TV Association, related that 150 of the 600 town members of Gardiner gathered to form the non-profit organization that served 140 television sets. The community depended on the "repeater station to bring them the educational, entertainment programs, the vital news of the country, the sports events, opera, music, and all other information provided by the wonderful invention of TV." Leonard Zellmer, vice president of the Big Flat TV association of Hogeland serving 560 people and about 700 television sets, wrote that the group operated a translator on a 150 foot tower that began service June 25, 1956. The translator signal "has proved itself a real source of information and enjoyment in this isolated community, especially in the winter months." (see Figure 7) Other repeater associations represented in the letters included the Boyes TV Club serving 206 people in the extreme south-eastern Montana communities of Boyes and Alzada, the Milestown TV Club, Inc. serving an estimated 4,000 families in Miles City and Forsyth, the Tru-Vue Television Association of White Sulphur Springs serving "at least 2,000 people," and a translator group in Polson serving "about 4,000 people." In every case, the letters attested to the enthusiasm, physical effort, and financial support rural Montanans put into bringing television to their homes.61
Figure 7. Big Flat TV Assoc. Translator Station Serving Hogeland in 1959. (Montana Historical Society, PAC 80-88, folder 34)
Before field hearings in Helena on October 27, Tri-State President Norman Voldseth presented the position of his organization in favor of VHF translators and against cable systems. He asserted that television had not expanded in Montana and other western states because of the "sparse population, the great distances, and rugged terrain." CATV "systems, UHF repeaters, and VHF repeaters" had therefore been employed to extend TV coverage. CATV use had been limited to larger communities. Voldseth described the UHF versus VHF problem as follows:

The heavy expense, coupled with the limited range of the UHF repeater installations, acted to retard installation of that device. Therefore it was natural that the extremely simple, low-cost VHF booster became the most popular means of extending TV stations' coverage.

He described the comparative cost of UHF and VHF repeaters as in the range of $5,000 and "less than $1,000" respectively. Voldseth also laid out the conflict between repeater operators and CATV interests. He inveighed that these cable operators had attempted to put booster stations "out of business" with a "campaign of misinformation and downright falsehoods . . . to establish the VHF repeater in the public eye as a menace to radio communications and air navigation aids."

The basic problem booster groups had with the CATV systems was their "practice of using microwave relays to transmit programs to compete with local TV stations." Voldseth used Helena and Kalispell as examples of "marginal cities" where cable competition had caused local stations to fail. In response to the problem he pleaded that the "television industry cannot go on with part of it regulated and part unregulated," and that "VHF booster groups welcome reasonable
regulations for themselves and demand that the CATV groups be regulated likewise." In taking this position, Voldseth acknowledged repeaters' utter dependence on local stations for their signals. He also argued that CATV interests opposed boosters because they at times usurped the role of cable systems, causing losses in revenue. 62

In retrospect, Tri-State's position supporting cable regulation was a valid one. Cable systems with microwave fed TV signals operated for the most part out of a simple profit motive, and were not concerned with bringing service to as many viewers as technically possible. Tri-State and other repeater groups had far less selfish motives, operating usually on a non-profit basis to bring television to a wider, more isolated viewership. Tri-State's support of the free versus pay TV argument, however, was of dubious value. If cable television would have been used simply as a means of expanding the coverage areas of local stations and bringing in a greater variety of programming, then local stations and many rural viewers would have been pleased. Viewers of signals from VHF translators could then have supplemented TV coverage for areas where CATV systems were not feasible. In any case, both cable subscribers and translator viewers paid extra for their reception, on top of buying products from TV advertisers. Economic limitations would always remain an obstacle to access to the widest variety of television programming. Outside of public responsibility for funding television for the masses, there was no choice but to let economic factors decide who would have the best TV service.
Edmund Craney of KXLF-TV in Butte, a life-long radio and television broadcaster, represented the interests of the small market television broadcaster. A co-founder of the Tri-State TV Repeater Association, Craney also supported the use of VHF boosters in expanding the coverage areas of local stations. Craney's statement before the Communications Subcommittee in Washington demonstrated his deep understanding of television regulation and the problems of broadcasting in the rural West. He understood the marginal profitability of small market stations, and the reality that only 25 percent of the communities with channel allocations at that time had operating stations. Craney argued that "since it is obvious that three quarters of the television stations on the air are located in the 200 larger cities, it seems clear that only some 10 percent of the smaller cities have any local service."63 His position was that the FCC had abandoned its responsibility under the Communications Act,

... for making available, so far as possible, to all of the people of the United States an efficient, nationwide radio communications service, and for making such distribution of facilities among the several States and communities as to provide a fair, efficient, and equitable distribution of radio services to each of them.64

Although the commission had set out in its sixth report and order to give priority to providing "at least one service to all parts of the United States," and "at least one television broadcast station" to each community, those goals had not been met. There were many reasons why smaller towns did not have television stations. The networks favored larger city stations as affiliates for their ability to reach
more viewers at less cost, barring small stations from access to network programs. Cable systems used microwave relays to bring in stations from larger cities and through program duplication split up the audiences that local stations depended on for selling advertising. FCC Chairman Doerfer also contributed to the problem through his opposition to CATV regulation. Craney summarized the "troubles of small city free television" as being due to "The small populations served as compared with larger cities . . . The difficulty of obtaining network programming at a reasonable rate," and "the action or lack of action of the Federal Communications Commission." Craney thought that the FCC's policy of allowing "pay cable and UHF devices" to bring television to smaller cities instead of permitting "free television to cooperate with VHF repeating devices" in providing the same service had aggravated the problem. Craney considered UHF translators unsatisfactory because of their greater cost of operation, the expense of converting television sets to receive UHF signals, and their insignificant contribution to television reception. He saw no reason for the commission's obstruction of VHF booster use, and noted Commissioner T.A.M. Craven's opposition to the agency's actions. At the bottom of the troubles of small city television stations was the double standard the FCC applied toward cable television at the expense of broadcast stations and VHF repeaters. CATV systems operated as completely unregulated entities, while broadcast stations and boosters struggled to provide free television services under the eye of the FCC. Worst of all, cable companies did not have to pay for the rights to show programming, while
broadcasters did pay. Craney saw television in the sparsely populated West as needing equal and fair regulation for all parties involved. 65

While Craney's position as a fairly well-to-do western broadcaster and substantially self interested party tended to discount the objectivity of his testimony, his assessment of the FCC's actions was accurate. Small market broadcasters were in trouble, and the commission's opposition to CATV regulation and promotion of UHF equipment were partly to blame. The goals of the Communications Act and the priorities of the FCC's sixth report and order's allocation plan were not being met in smaller cities and rural areas. What Craney failed to admit was that the economic forces operating on commercial television made those goals unrealistic. Because television broadcasting remained a business, rural viewers in the West would remain second class citizens compared to their eastern cousins.
CHAPTER 3

TRANSLATOR ISSUES IN THE 1960s

In the 1960s, Americans learned to live with the realities of the national system of commercial television. While innovations such as satellite telecasting and live broadcasts of manned space missions dazzled us, network television became a profitable and comfortable business. Television historian J. Fred MacDonald refers to this development as "streamlining." Television programming became less varied and more homogeneous as network executives zeroed in on popular formulas to appeal to the greatest number of viewers, attracting advertisers to the medium. The emphasis of programming was on entertainment value, not on quality or educational value. Network news was a minor concern, though it was prized for its ability to foster good will among the public. Newton Minow, the FCC chairman under President John F. Kennedy, became famous for his characterization of television as a "vaste wasteland" of mind numbing programs. Minow's efforts to pressure the networks to improve program quality drew brief but fruitful results, but failed ultimately because the American public as a whole was not much interested in quality television.  

In an effort to expand the number of television stations in operation, and station competition and program choice along with it,
Congress passed the All-Channel Receiver Law in 1962, requiring television manufacturers to produce receivers with tuners able to pick up UHF as well as VHF channels. In exchange for congressional passage of the measure, the FCC agreed not to deintermix VHF and UHF station frequency assignments within individual television markets. Deintermixture, by placing competing stations on a technically even footing, would have improved the poor prospects of UHF television stations in addition to the All-Channel Receiver Law. The FCC failed in its plan to limit advertising on television, as Congress passed a law to forbid such limits. Eventually the commission gave up on any hopes of improving commercial television in the public interest, and aided public or educational television by supporting the Public Broadcasting Act of 1967.2

During the 1960s the Tri-State TV Repeater Association grew into a national organization lobbying for television translator interests. Edmund B. Craney, a co-founder of Tri-State, assumed the presidency of the renamed Tri-State TV Translator Association in 1962, with Jim Beamer as secretary. The association reorganized into the National TV Translator Association in 1967, gaining members from across the U.S. Judge Nat Allen of Roundup, Montana, served as National president beginning in 1967. In 1970, National again changed its name to the National Broadcast Translator Association, as it grew to include FM translator operators.3

In 1963, Tri-State estimated that television translators in Montana served 30% of "TV Homes." (see Figure 8) The number of UHF and VHF translators operating in Montana was 206, while 2,024
translators operated throughout the country. (see Figure 9)

The translator lobby gained an ally during the decade in the person of Kenneth A. Cox. Cox served as special counsel to the Senate Communications Subcommittee in 1958 during the television inquiries. Later Cox served under FCC Chairman Newton Minow as Director of the Broadcast Bureau from 1961 to 1963, when he was appointed to serve a seven year term which he completed in 1970. A liberal voice on the commission, Cox sought the regulation of cable television, less stringent translator rules, as well as an end to application fees for translator licenses.

Television translator operators saw small improvements in their regulatory status. The FCC established its authority to regulate cable systems in 1966. Restrictive rules on translator power, ownership, economic support, identification, origination, and microwave relay use were eased. High power translators could operate in communities on assigned frequencies. The profitability of small market television stations in Montana and elsewhere did not improve markedly, however, as only nine stations in the state were on the air at the end of the decade.

TV Tax Districts in Montana

Funding television translator stations was always a major concern for local groups. Translators, as mentioned previously, required continuous attention to maintain service, and with changing FCC rules for LW VHF translators in 1960, new equipment as well. Translator operators could always depend on the voluntary good will
TOP FIGURES IN EACH COUNTY REPRESENT NUMBER OF TV HOMES IN COUNTY.

SECOND SET OF FIGURES IN BRACKETS REPRESENTS THE NUMBER OF TV HOMES RECEIVING TV VIA TRANSLATORS.

THIRD SET OF FIGURES REPRESENT PER CENT OF HOMES IN COUNTY RECEIVING TV VIA TRANSLATORS.

SOURCES: NEILISON DATA - SEPT. 1962
TV CLUB AND TV TAX DISTRICT ESTIMATES OF TV HOMES USING TRANSLATOR SIGNALS. JUNE 1963

NOTE: 1. TRANSLATOR TV HOME DATA SUPPLIED TO TRI STATE BY OFFICERS IN EACH CLUB OR TV TAX DISTRICT.
2. IN COUNTIES WHERE PER CENT EXCEEDS 100% THE EXCESS INCLUDES TV HOMES IN ADJOINING COUNTIES.
ADJOINING COUNTY FIGURES DO NOT REFLECT THIS EXCESS.

PREPARED BY
TRI STATE TV TRANSLATOR ASSOCIATION

Figure 8. Map of Montana Homes Using Translator Signals in 1963. (Montana Historical Society Archives, Craney Papers, box 277, folder 2)
Figure 9. Map of Television Translators in United States, ca. 1963. (Montana Historical Society Archives, Craney Papers, box 277, folder 2)
of the community of television viewers for financial support, and often
did just that by soliciting funds as needed. As time wore on, however,
it became clear that not all viewers paid toward the maintenance of
their local translator. James Beamer of the Tri-State TV Translator
Association knew the situation well. He estimated in January 1961,
that "In almost 100 percent of all the small clubs, and by that I mean
clubs with 75 set owners or fewer," near total cooperation was
possible. "This picture changes rapidly, however, when you reach
areas with 200 sets or more where we find there is only about 40 per
cent of the people giving financial support to the booster." Beamer
also contended that "the balance of the people not contributing, by
their snide remarks to people who have contributed, are tearing down
the good opinion and willingness to subscribe." A remedy, therefore,
had to be found to make support of local stations fair and equal.

The solution Tri-State put forward to deal with the translator
support problem was a legislative bill allowing local groups to set
up television tax districts. The proposal, House Bill 310, provided
for fair and equal support from television set owners in a defined
locality. After acquiring the consent of a number of set owners
equal to at least 51% of registered electors in a county through
signatures on a petition, a translator group could then present their
petition to the county board of commissioners for approval. The bill
provided that "the TV district commissioners must live within the
area and own a TV set," as well as limited the tax to no more than
$15.00 per year." Also, tax districts would be optional, and the
tax would only apply to television users receiving signals from a
translator. As James Beamer put it, "It gets rid of the free loaders in the area," and reduces the cost of translator support for each set owner. The bill also avoided the pitfalls of laws in Colorado and Utah that were levied on property taxes, not TV sets, and made no allowances for people not getting or using a translator signal. In general, the legislation was an ideal, if not universal, solution to funding for translators.7

House Bill 310 passed the Montana House on February 15, 1961, on its way to becoming law, ushering in a new era in television translator history. The Roy T.V. Club in Fergus County became the first group to establish a "Television Translator Tax District" in August 1961, providing 96 sets with a signal from Great Falls.8

While the club in Roy encountered little resistance from area residents, W.C. Kinser M.D. of Troy attracted bitter opposition from a local group supporting a CATV system in the small town in the northwest corner of the state. Kinser's translator group circulated their petition for a tax district only to have the cable group attempt to persuade residents to withdraw their names from that petition. A principal owner in the cable company even resorted to interfering with the translator's signal, and Kinser claimed in a letter to James Beamer that some of the cable owners in a panel truck "tried to ram me," forcing his vehicle off the highway. The story in Troy dramatically demonstrated the extremes of translator-cable competition in small western towns and the reason for Tri-State's animosity toward profit hungry "pay TV" interests.9
Regardless of opposition the use of tax districts for translators grew in the state. By 1963 there were 13 different tax districts in 12 counties in Montana, primarily in the northcentral and eastern parts of the state.\textsuperscript{10} (see Figure 10) The Montana Legislature even passed a law in that same year to allow television tax districts to expand their boundaries.\textsuperscript{11} The net effect of tax districts was to bring a degree of security and fairness to some Montanans depending on translators for television reception.

**Program Duplication**

One of the most annoying problems plaguing television viewers in Montana as elsewhere in the country was the duplication of programming from television signals received in the same area. At bottom, the three networks' domination of television programming was the problem. Without the special cable channels and superstations of today, TV viewers in the 1950s and 1960s made do for the most part by watching network shows. They did this because that was often all there was to watch. Consequently, if any individual television viewer could receive three different channels, each affiliated with a single network, that viewer had the opportunity to see most of the television programs available to him or her. Any other channels, such as educational stations, could be considered extra icing on the video cake. For local television stations, popular network programming was the primary force drawing local viewers, and this enabled stations to sell local advertising to make profit and remain on the air. Locally originated programs such as news and public affairs shows,
In Fergus County is a tax district. Circle in McCone County is a tax district. Glasgov-Nashua-Fort Peck in Valley Co. is a tax district. All of Phillips County is a tax district.

Joplin-Rudyard in Liberty and Hill Counties is a tax district. Butte in Silver Bow County is a City tax.

Figure 10. Map of TV Tax Districts in Montana, ca. 1963. (Montana Historical Society Archives, Craney Papers, box 277, folder 2)
however beneficial the FCC and certain others saw them, did not draw large audiences or pay the bills. Stations often minimized such programming, limitings news to ten or fifteen minutes in length, and avoided placing them in popular evening viewing hours. For example, in February, 1960, KXLF-TV in Butte broadcast news and weather programs weekdays at 2:00-2:15 PM, and for ten minutes at the end of the broadcast day starting anywhere from 11:00 PM to 12:30 AM. As one can easily see, local stations, especially those serving small markets, depended heavily on their network affiliate status for economic survival. Any station in the same area which broadcast programs duplicating the schedule of that local station would fragment the station's viewing audience and ultimately decrease its advertising revenue.

In the sparsely populated regions of the West, small market stations were vulnerable to program duplication from local CATV systems using microwave relays to bring in the signals of distant metropolitan stations to their subscribers. In the case of Helena in western Montana, the cable company in 1964 provided three Salt-Lake City, Utah channels, two Spokane, Washington channels, and the local Helena channel. A Helena TV schedule of that year demonstrated the potential of duplication, as a viewer at the time could watch the NBC sitcom, "Hazel," on four different channels during the same time period, and again later that evening on a fifth channel. KFBC-TV of Cheyenne, Wyoming conducted a study around 1960 of the Laramie cable system, and found that 68.1% of the station's programming was
duplicated on cable. Such instances exposed as false the myth of program diversity and choice on CATV systems.

In a letter to an associate in Washington, D.C., Edmund Craney, president of the Tri-State TV Translator Association, discussed the practice of television stations in single station markets carrying programming from all three networks. Craney wrote, "In small markets we must admit that it is necessary to have a primary network plus programming from a secondary network to 'fill' the time." Craney also admitted that the practice of carrying all three networks on one station, when compounded with other stations doing the same thing, "cut down materially on the number of hours a day of different programming from a station and a translator in each town." In this case he was referring to the Butte and Missoula stations.

The practice to which Craney referred, as well as cutting down on program choice, also left stations even more vulnerable to cable competition as it made cable viewing more attractive. This was because cable subscribers could pick the network shows they wanted to watch rather than the local station doing it for them, a small but important distinction.

CATV systems were not the only source of program duplication in communities, as television translators were also to blame. A translator could bring in the signal of a station from one city to another, in some cases duplicating programs. This duplication might be merely coincidental, or by design. In 1961, J.L. Warfield, president of a local translator group in Scottsbluff, Nebraska, wrote James Beamer about his problem with the local TV station, a
satellite of KFBC-TV in Cheyenne, Wyoming. The owner of KFBC wanted Warfield to stop duplicating CBS programs. Warfield related to Beamer that his group broadcast the signal of another station into Scottsbluff because viewers were not satisfied with the local station. The local satellite station suffered from frequent "Network Difficulty," did not broadcast certain popular network shows, and cut off parts of programs with local advertising. In this case program duplication was deliberate and beneficial to the community. In any case, local stations did not appreciate the competition for viewers.

In the 1960s the FCC began to take meaningful steps to limit program duplication. The commission, in setting regulatory policy, was guided by two principles. One was the responsibility to help provide even small towns with local television service. The other was to provide television viewers with greater choice in available programming. In attempting to fulfill these sometimes contradictory principles, the commission ended up with a set of new rules providing limited protection to local television stations from program duplication from cable systems and translators, and made possible a very limited expansion of program choice for viewers.

The Tri-State TV Translator Association favored policies which would protect the survival of local stations, while allowing translator stations to expand their viewers' options. Although Tri-State's goals were essentially the same as the FCC, the association's views were extremely hostile toward pay cable interests. The FCC, on the other hand, only sought to end certain
abuses of the public interest.

In December, 1961, the FCC ruled that it "can and must consider the impact of a microwave grant to service community antenna tv systems will have on an existing local tv station." The case involved station KWRB-TV in Riverton, Wyoming, and its protest of a microwave grant to serve area CATV systems. The commission decided to deny the application of Carter Mountain Transmission Corp. to operate microwave facilities for that purpose. In doing so, the FCC acted to safeguard the local station. Although the commission denied it, the decision implied that the problem of CATV duplication of local station programming was a prime reason for the application denial.  

In July 1962, the FCC issued a report and order effecting "Rules and Regulations Concerning Television Broadcast Translator Stations." The order prohibited translators from duplicating the programming of a local station with that station's Grade A contour. The FCC defined a Grade A contour as a station's primary service area, while defining a Grade B contour as a station's secondary service area. These two concentric boundaries of television service were determined through a calculation of a transmitting antenna's height over average terrain in a given area, along with the transmitter's effective radiated power. In a Grade A contour, given ideal receiving conditions, a station's "signal level is sufficiently strong to provide" an acceptable "picture at least 90 percent of the time, at the best 70 percent of receiving locations." In a Grade B contour, given ideal receiving conditions, a signal would provide
an acceptable "picture at least 90 percent of the time, at the best 50 percent of receiving locations." These contours were rough estimates, especially in mountain areas, of a station's actual coverage area, and the FCC used them for regulatory purposes. The commission's decision to forbid duplicate programming from translators in a station's primary service area was another move to protect local stations.

In 1964 the FCC formally moved toward regulation of microwave relay facilities servicing CATV systems. The commission's proposed rules were actually regulations for CATV systems themselves. These rules, protecting local television stations, provided two conditions for the approval of microwave grants to cable companies. One was that CATV systems within the Grade A contour of a local station "shall, on the request of the station, carry the signals of that station without material degradation of quality." The other was that "on the request of the station, the CATV system shall not duplicate programs carried by the TV station during a period 15 days before to 15 days after the broadcast of the station." These conditions were otherwise known as the carriage and non-duplication rules, and in effect forbid the practices of program duplication and "leapfrogging" of local stations. In comments concerning the proposal, Tri-State generally agreed with the intent of the new rules, but objected to the commission's permitting cable companies to receive the signals of distant stations far outside their assigned coverage areas. The association therefore proposed "that microwave relays be granted for cable companies only
between a cable company and its nearest network affiliate of any specified network.\footnote{21}

Although the FCC adopted the carriage and non-duplication rules on April 22, 1965, the agency later moved to modify the provisions for duplication, thus weakening protection to local stations. In September the commission ruled, in a case involving the renewal of licenses for microwave relay stations serving CATV systems in South-Dakota, that certain types of duplication were permissible. These included allowing CATVs "to present two network programs during each time segment or to carry network prime time programs in prime hours when not so carried by the local station," as well as denying exclusivity to satellite stations for network color programs they did not broadcast in color.\footnote{22} This ruling provided CATV subscribers with some extension of choice for programs and their viewing times.

The commission again weakened non-duplication rules when it agreed in February 1966 to lower local station exclusivity for programming from 30 days to only a single day. The action was a generous conciliatory gesture to cable companies. Commissioner Kenneth A. Cox strongly objected to the action, stating that he believed that the protection afforded local stations for non-duplication of programs was in his opinion "totally inadequate."\footnote{23}

Regarding translator duplication of programming of local television stations, the FCC agreed in 1965 to 30 day exclusivity, the same as for CATV systems.\footnote{24} The commission later ruled in June 1969 that television stations were entitled to exclusivity for programming in their "principal city served," but not in portions of
that city where it was proved that residents could not receive the station's signal. The decision was most likely a great relief to cities in mountain areas where terrain barriers blocked local signals in some locations.

In all, the FCC's actions concerning program duplication left local stations reasonably secure from translator competition, but hardly safe from cable competition. Local television viewers watching stations over the air gained little but the survival of their local stations, while CATV subscribers received some flexibility on when to watch certain programs. A much broader spectrum of program diversity, however, remained out of reach.

**CATV Regulation**

In 1960, cable television still enjoyed unregulated status. When Congress in 1959 failed to pass laws authorizing the FCC to license and regulate cable television, they remained neither communications common carriers nor broadcasters. As seen previously, FCC Chairman Doerfer opposed cable regulation in the late 1950s. For Doerfer and later commissioners, CATV expanded television service to many small communities that could not support a local broadcast station. That cable systems often thwarted the goal of local service to such communities was not always considered. Continued unregulated status for CATV was not an option, regardless of any personal views within the commission. Too many groups favored regulation of the cable industry—local broadcasters, the networks, and translator interests. The commission was compelled to move
forward with regulation of cable in the public interest, and slowly did so.

On January 9, 1961, in a speech before a seminar of the National Community Television Association in Washington, D.C., FCC Chairman Frederick W. Ford spoke to the cable group concerning small market television stations. Although Ford did not favor cable licensing, he asserted that local stations should be afforded carriage and non-duplication protection from cable systems to ensure their survival.27 The commission's decision to consider the impact of microwave relays to CATV systems on local stations in December gave official voice to this obligation toward protection of local service.

In 1962 Tri-State put out a flier aimed at local cable subscribers entitled "I AM A SECOND CLASS TV CITIZEN BECAUSE OF YOU." It lamented the fate of people depending on television translators for their reception as "microwave-fed pay cable" starved the life out of existing broadcast stations and prevented other stations from going on the air in Montana. The practice had "stopped us from having locally originated TV in Kalispell, Havre, Lewistown, Livingston and Miles City," as well as "killed the development of a second TV signal from Missoula, Helena and Butte." The message being given was that cable companies stifled multiple channels for all Montanans and made a mockery of the goal of local service.28

The FCC's adoption of carriage and non-duplication rules for microwave fed cable companies in 1965 went another step toward cable regulation, but did not assert the commission's authority to regulate all CATV systems. The commission did this in early 1966, following
an official inquiry that concluded the FCC did have jurisdiction over all CATV systems, could extend carriage and non-duplication rules to those systems without microwave fed cable, and could prohibit "leapfrogging" of local stations.  

The FCC's new rules for CATV regulation as announced on February 15, 1966, while a welcome move in the opinion of local stations and translator operators, was not adequate to protect rural viewers. The new rules still permitted "private agreements between CATV operators and local television stations which provide for a different type or degree of protection for the local station than do the Commission's rules." The rules did not require CATV systems in smaller television markets to acquire prior FCC approval before bringing in distant television signals, and only allowed petitions against such practices to be heard "on an ad-hoc basis."  

Beyond such regulation of CATV, another problem needed to be dealt with to protect television viewers. That problem was the common practice of television station licensees acquiring CATV systems serving the same television markets. Such joint ownership was certainly not in the public interest, raising charges of media monopoly and anticompetitive practices.  

On April 15, 1964, the FCC initiated an inquiry into TV station-CATV system joint ownership dealing with multiple station owners and station owners controlling CATV systems serving the same area. Tri-State's comments on the inquiry put matters plainly:  

We cannot understand how the FCC can compromise the development and building of TV broadcast stations,
satellite stations, and translators for the dissemination of television to all the peoples of an area in favor of service by cable TV to only a few subscribers for that service.  

The association believed that CATV systems thwarted the commission's own allocation plan for television service to local communities. Tri-State also contended "that common ownership tends toward monopoly and should not be permitted," as a station owner could use a CATV system "to build an audience for the owner's television station in preference to other stations." On July 27, 1965, the commission adopted its first report on the inquiry, refusing to forbid joint ownership. The commission's reasons for the decision were weak, arguing that the inquiry had "not disclosed any substantial evidence of widespread abuses," and that its adoption of carriage and non-duplication rules along with its general rules concerning broadcast signal quality would be sufficient to prevent abuses.  

FOC Chairman E. William Henry issued a strong dissenting statement with the report to which Commissioner Kenneth A. Cox agreed. He argued that joint ownership within the same local area made for "Less than maximum competition," provided for a "Lack of incentive to improve and expand the television signal," made possible a "Concentration of control over mass communications media," and gave a local station an unfair advantage over other local stations. While Henry did not prescribe prohibiting joint ownership in "smaller markets," he favored conditions to ensure protection of local television services.
The issue would not die, however, and the FCC gradually moved against broadcaster-CATV joint ownership in all areas. In 1970 the commission prohibited CATV ownership not only by local broadcasters, but also by locally operating telephone companies, the national television networks, and translator stations serving the same community. The commission had finally agreed that joint ownership in the cable field was not in the public interest.34

Higher Power for Television Translators

After the problem of cable competition threatening small market television stations, the need for higher power for television translators was the most pressing challenge to rural television and the Tri-State TV Translator Association. The FCC's translator rules adopted in 1960 left VHF translators with only 1W ERP, which was enough to cover a very limited local area, but not enough to provide much more widespread or universal rural coverage. The FCC's policy of favoring the more expensive UHF translators, with power limits at 100W, did not add to the popularity of such equipment.35 In 1962 the FCC estimated there were "nearly 1,500 translators (over 1,000 on VHF and over 400 in UHF)."36 As it became apparent in Montana that no new television stations would go on the air, alternatives had to be found to bring television signals into communities with channel assignments but no stations. The goal of providing all areas of the state and the nation with at least one television signal was becoming more and more illusory.
Tri-State came upon a model solution for the lack of local stations in the West. That model was Canada's system of high powered, unattended translators broadcasting signals over large viewing areas. An article in a 1962 issue of the journal Television Horizons, described the Canadian system. The author wrote that "Where a broadcasting station is not in prospect, and the licensing of a rebroadcasting or network repeater station will not impede further expansion of service, this is a valuable contribution to the development of broadcasting service." The Canadian Board of Broadcast Governors, the regulatory authority over broadcasting in Canada, formulated the system to assist in the proliferation of television reception throughout the nation. The author also wrote of the board's function for translators:

The Board considers the proper function of a VHF rebroadcasting station to be those of filling in gaps within the A and B contours of the primary broadcasting station, and of extending coverage into areas which neither received adequate Canadian television service nor, in the foreseeable future, will be able to support a television station.37

The board encouraged rebroadcast stations to construct satellite studios enabling them to broadcast live programming to "reflect the community interests and needs." The board permitted low and high power translators, with the low power units limited to 5W input, and the higher powered units operated "with power up to and above 5,000W ERP." Unlike in the U. S., where broadcast stations had the option of filling their service areas with translators, the board considered it an obligation. Local groups were therefore not forced to build and maintain translators where a signal could not be reached within
an originating station's assigned service area. Over all the Canadian system was an ideal model for the western U. S., as it would take the burden of local service out of the hands of local groups and place it with the broadcaster, where it belonged. Although Tri-State recommended the Canadian model to Congress and the FCC, such a broad-minded rebroadcast system did not take hold south of the border.

It was not until 1965 that the FCC agreed on a partial solution to the translator power problem. In February the commission "proposed licensing 100-watt translators on any VHF or UHF channel assignment not occupied by a regular TV station." The proposal was at the request of television broadcasters and other interested parties wanting to extend their coverage. Tri-State accepted the policy "Like a lost wanderer, dying of thirst on a desert as he spreads his tarp to catch a thimble of water from a fleeting shower," but did not think it adequate to serve isolated rural areas. In July, the commission adopted the proposal, and that same month Kalispell became the first Montana community serviced with the new type of translator.

In a matter related to high power translators, the FCC in January 1966 "proposed rules which would permit translators to use frequencies and equipment in the 2,000 Mc band for relay purposes." These microwave relays would serve the new 100W translator stations with signals from parent stations, which would financially support their operation. Tri-State supported the proposal, commenting that microwave relays were necessary to provide distant translators with strong enough signals, and that "With the advent of color it becomes
more necessary than ever for TV Translators to have a good input signal." The commission adopted the new rule soon afterward. 40

Low power VHF translators were not allowed higher power until 1968. In June 1967 the FCC proposed permitting "VHF translators west of the Mississippi to operate with 10w." When the commission adopted the new rule in June 1968, it referred to the cautious move as "a calculated risk," and "noted that translator service was not created to provide wide-area coverage but as a way for communities to obtain television reception at reasonable cost." 41

An issue closely related to higher power was that of ownership, operation, and support of translator stations by television station licensees. During the early 1960s, the FCC forbade station owners to operate translators "for the purpose of extending their signals beyond the authorized service area." The commission was worried that television stations would use translators as "competitive weapons" against other stations. 42 Program duplication was also an issue. With the advent of 100W translators on unoccupied assignments and microwave relays to serve them, station ownership or support became necessary to operate such facilities. Therefore, the commission proposed in 1967 and later adopted in 1968, rules to allow such ownership. Stations were permitted to use VHF translators to extend their signals outside their Grade B contours, but only when they did not lie within another station's coverage area. Station licensees could also "contribute to the maintenance and operating costs of community-owned VHF translators carrying their signals." 43 Tri-State was pleased with the new rules since it had long supported television
stations owning and operating translators to serve rural viewers, and welcomed station support for locally owned translators.

Identification Rules for Translators

Operators of television translators never liked the station identification rules which the FCC adopted in 1960, when it authorized the operation of 1W VHF translators. The rules stipulated that "The call sign of a television broadcast translator station shall be transmitted in international Morse Code, by means of an automatic keying device, at the beginning and end of each period of operation, within 5 minutes of the hour and half hour." The identification could be accomplished either by cutting the station's signal on and off, or "by superimposing an audio frequency tone" on the translator's signal. The mechanical automatic keying device that low power translators used for identification was a clock driven code wheel, which rotated at the proper speed to transmit the coded message every half hour. If the power to the translator station was for some reason cut or temporarily interrupted, the operator would need to manually reset the code wheel to operate in the proper time frame. Code wheel identification also periodically interrupted programming to local viewers. The commission insisted that such identification was necessary to detect translator interference with regular television broadcast signals. The rule was a particular burden on operators of low power translators, and largely superfluous because of the small areas these stations covered.
In April, 1966, the commission decided to exempt translators of 1W power or less from the requirement of using automatic keying devices. Tri-State petitioned the FCC to reconsider its decision and eliminate the rule for all translators. The association recommended that identification could be accomplished through arrangements with the originating station to broadcast a translator's call sign at the time of sign on and sign off, not every half hour.46

In November, 1968, Tri-State's successor, the National TV Translator Association, again filed a petition calling for a rule amendment "to eliminate the requirement that station identification be transmitted." National argued that translators were required to identify themselves "twice as often" as regular stations, and that code wheels were costly, mechanically imperfect, and served no true purpose. In December the Association of Maximum Service Telecasters, Inc. (AMST), a broadcasters' group, issued comments on National's petition. AMST urged that identification requirements for higher powered translators were needed, and offered a new method which would not interrupt or degrade the signal from a translator. That method was Frequency Shift Keying (FSK), which would transmit the code "by shifting the frequency of the audio and video carriers transmitted by the translator."47

In June 1969, the FCC considered changing the identification rules for translators over 1W to 100W in power. Although the commission looked favorably on FSK, it agreed to modify the rule to give translators a choice of identification "every hour within 5 minutes of the hour," or at half hour intervals. Along with this
compromise, the commission hinted that National's proposal of station identification of translators at sign on and sign off would be acceptable if certain conditions were met. These were that the translator licensee provide its originating station with information on how to contact a responsible party "at any time during the translator's operation." In December the commission agreed to such arrangements between stations and translators in the over 1W to 100W power range, and permitted FSK along with identification every 30 minutes. The decision was a substantial victory for National, eliminating an irritating feature of operating and viewing signals from most translators.

Origination from Translators

Although translator or booster stations in the 1950s and early 1960s were not used to transmit original local programming or announcements, the potential was there. Small low powered television stations serving communities with locally produced programs and providing a means for access to the television medium were also possible. Either would come closer to the Communications Act's mandate to promote local service across the country. Even if the FCC were only to permit translators to transmit brief commercial announcements or appeals for funds, some form of origination would be beneficial.

In June 1967 the FCC came up with a proposal for translator origination. The new rule would permit UHF translators to broadcast "slides or still pictures, with voice announcements, for no longer
than 20 seconds and no more often than once an hour." This modest step, the commission claimed, was aimed only at allowing these translators to support themselves financially. The brief spots could be used either for solicitations for funds or to provide commercial announcements for translator sponsors. There was no plan to provide VHF translators with the same privilege. The commission barred the lower frequency devices from origination, "chiefly because of the greater interference potential and also because they are substantially cheaper than UHF translators and the need for financial support is less." National President Judge Nat Allen of Roundup, Montana, was enthusiastic about origination. In an address before the All-Channel Television Society in Chicago on April 2, 1968, Allen spoke about the potential of using translators to sell local advertising, thus supporting themselves financially, and providing "a tremendous public service, for a people with no local TV voice today." The commission's decision to permit the 20 second spots in June, 1968, was meant as a boost to ailing UHF facilities.

The commission took no other action on translator origination until December, 1972, when the National Translator Association asked the agency to extend the length of announcements from 20 to 30 seconds. The added time was needed to match the 30 second length of most television commercials at the time. Though the commission approved the proposal, true local access to television would remain illusive for small communities in the rural West and elsewhere.
The Loss of Channels 70–83 to Land Mobile Service

A major inconvenience for the operators of UHF translators was the FCC’s decision in 1971 to remove television from the upper 14 channels of the band. The commission had assigned these channels for UHF translators in 1956, largely because these frequencies were not being used, and because such translators would not cause interference to other radio services. Although the commission attempted to aid in their use by permitting greater power for translators in UHF, this band of higher frequencies, along with the entire UHF band, remained under utilized. Even Congress’s passage of the All-Channel Receiver Law in 1962 was slow in providing acceptance for television reception of UHF channels. By 1967, the FCC was looking at ways to reallocate much of the entire UHF television band.

In April, 1967 the Commission began a formal examination of frequencies used for land mobile service, and looked toward either removing UHF frequencies from television to the other service, or sharing frequencies between the two services in certain geographical areas. Commissioner Robert E. Lee, who in 1961 had favored placing all of television in UHF, issued a dissenting statement to the examination. Lee believed that it was far too early to disrupt the "fledgling UHF-TV industry." He expected that the increased use of all-channel receivers would make that industry more profitable. Judge Nat Allen also opposed removal of UHF-TV channels, believing that such a move would decrease the possibility of giving all Americans access to multiple channel service. Allen also asked
that if channels 70-83 were removed to land mobile service, that translator operators be reimbursed for the cost of changing frequencies.  

Over the next few years the FCC would make several proposals concerning the UHF band. In February 1969 the commission proposed using channels 14-70 for direct satellite broadcasting. It looked at removing channels 14-20 as well as 70-83 to land mobile service. It proposed to relocate television translators to channels 14-69 where they were not being used by regular television stations.

The FCC finally decided to allocate the upper UHF channels to land mobile service in 1971. While the commission did not force translators on those frequencies to change to new channels where no conflict existed, the agency would not provide any new licenses there. The commission eventually settled on channels 55-69 as suitable to license UHF translators on unassigned frequencies. The UHF scare was finally over.

The Failure of Educational Television in Montana

In 1968 Montana gained the distinction of being the last state in the United States without an educational television station. That same year Vermont went on the air with an educational television (ETV) system using translators. In Utah, a system of translator stations provided nearly the entire state with over-the-air signals of station KUED in Salt Lake City. In Montana, the only way to receive any public or educational television was through subscription to local
microwave fed cable systems. This situation would not change until 1985, when station KUSM went on the air in Bozeman with a small 3,000W transmitter serving that single community.

The 1960s were generally a growth period for ETV, as the number of stations increased from 44 in 1960 to 128 in 1969. The Public Broadcasting Act of 1967 provided matching grants for the building or expansion of educational broadcasting facilities, as well as founding the Corporation for Public Broadcasting, providing grants to fund national programming. Although ETV was not competitive with the three commercial networks in terms of audience, at least it was an alternative.

In 1967 National TV Translator Association President Judge Nat Allen, lamented the state of rural television. In testimony before the Senate Commerce Committee's Subcommittee on Communications concerning the Public Broadcasting Act, Allen contended that "Even today, our system of TV Translators is about as decadent as the horse and buggy when compared with TV Translators in Canada and Japan." Allen claimed that the legislation was inadequate and should provide for "the need for TV Channels for the dissemination of Educational Television by both TV Transmitters and TV Translators, so that all people in the USA, Rural as well as City, may have the benefits of Educational Television." Allen went on to comment that the only way that rural Americans could participate in educational television was with the use of high powered, unattended translators capable of local origination. He stated emphatically "that we people of Rural America will object to the use of any of our tax dollars
for such a system that will not serve us." As president of National, Allen asked "that all people in communities down to 1,000 population be covered by a single Educational System before a second system be established for Metro U.S.A." In practice, this would be an all or nothing proposition. Allen also commented that CATV systems distributing educational channels were inadequate to meet the needs of all Americans. 65

Educational television remained an illusive goal in Montana. In 1974 the Montana State Legislature approved funding for a state wide system of translators to distribute the signal of a Bozeman public station. The system was never built, as the project dissolved due to charges of corruption within the state government. Judge Nat Allen, who had served on the Educational Telecommunications Commission, resigned from the body in disgust. The money appropriated for the system, totaling $250,000, was later disappropriated. All through this effort to create educational television service within the state, there were charges that many areas of Montana would not receive adequate signal strength. The all or nothing argument for ETV service was again alive and well, and able to dismantle hopes for a workable state wide system. The egalitarian dream of television for all had dually with reality and lost once again. 66
CHAPTER 4

THOUGHTS ON THE SECOND CLASS TV CITIZEN

There were many reasons for the marginal status of many rural television viewers in Montana as well as other states in the Mountain West, but they all come down to a single dichotomy. Television historian Andrew F. Inglis describes this dichotomy that has governed FCC regulation of broadcast services as follows:

On the one hand it is regarded as an essential public service, like the post office, to which every citizen is entitled. On the other hand, it has been regarded as a business that is regulated by the risks and rewards of the free market and is disciplined by the market to meet the needs and desires of the public. Broadcasting in the United States always has been suspended between these two worlds.\(^1\)

The FCC's regulation of television translator stations, CATV systems, and small market television stations has been governed by the same dichotomy. Television has been regarded as both a business and an essential public service. The commission's allocation plan in the sixth report and order of 1952 was an attempt to balance the goal of local service to all areas of the country with competition between stations in larger markets. That the FCC's allocation plan failed in providing local service to all Americans was not the commission's fault, but the fault of the free enterprise system. Market forces defined television broadcasting--
supply and demand, profit and loss, as well as economy of scale. Service to sparsely populated rural areas was not where profits were to be made in television, they were in national programming, population dense metropolitan markets, and low cost, high profit cable systems. If market forces had been removed as factors in the dissemination of American television services, then small communities might have had few problems in securing local stations. The federal government could have subsidized rural television just as it had done for agriculture, irrigation projects, and electrification during the New Deal era. After all, most countries in the western world outside the United States provided at least one public network for television service.

It is evident, however, that rural Montanans approved of commercial television and only wanted the FCC to regulate the medium in a way that would protect local service from undue competition. The NTA in its different guises was also looking at television as both a business and a public service. What the organization did not realize was that one could not have both at the same time—either television would be a business catering to popular demand, or it would be a public service under government control provided for the public's benefit. The FCC realized this when it gave up trying to improve program quality and choice on commercial television and aided in the inception of a separate system of noncommercial, government subsidized, public educational television begun with the Public Broadcasting Act of 1967.2
The FCC's policies toward television translator operation were instructive in showing the dichotomy of television regulation at work. The commission's Table of Assignments, first formulated in 1952, gave rural Montanans hopes of a widespread system of local stations even in smaller communities. The commission's failure to protect local stations from CATV competition negated the goal of local service but affirmed television's status as a business. The commission's conservative views on protecting regular broadcast stations and other radio services from interference from low power television translators confirmed its role as policeman of the commercial airwaves. At the same time these views threatened the right of rural citizens to television reception which was in the public interest.

On the whole, commercial interest dictated FCC policy. When push came to shove, television industry profits took precedence over the public interest. America was evolving into a society of TV haves and have nots, and the FCC was in no position to stop this trend. Historian James L. Baughman in his study, *Television Guardians: The FCC and the Politics of Programming, 1958-1967*, refers to the commission during this period as "a small toothless dog kept on a short leash," with a "dependency on congressional and presidential support." Congress viewed the so-called independent agency as under its authority while presidents viewed it as a part of the administration. In the end the commission became a political football with no mind of its own, second guessed or overruled when it made any kind of controversial decision.
Given the reality of television broadcasting as a business and the FCC as a regulatory agency unwilling or unable to change that essential fact, the marginal status of rural viewers was, for all practical purposes, inevitable. This situation did not negate the efforts of local translator groups or small market broadcasters in Montana who fought for wider television coverage areas and greater program choice. Their goals were limited and practical—the most service for the least cost. The NTA, in pursuing its battle in the name of "free TV" against the forces of "pay TV," was at once naive and realistic. It was naive in giving the impression that commercial interests did not govern over-the-air broadcasting as they did CATV systems and other paid subscription services. It was realistic in accepting that television broadcast services including translator stations was the only way many rural residents would ever receive the medium of television. Learning the realities and limitations of television in a free enterprise system was difficult for Montanans and other westerners. Finding out that your needs and desires carry little weight in the wider society is never pleasant. It is, however, a realization that most westerners have learned to deal with.
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34. FCC, annual report, fiscal year 1970, p. 67.


38. Ibid., pp. 22-23.


42. FCC, annual report, fiscal year 1963, p. 70.


44. FCC, 59-1211, 81034, docket no. 12116, notice of further proposed rule making, Dec. 4, 1959, p. 9, Craney Papers, box 276, folder 2.

45. Ibid., p. 9.


48. Ibid., p. 4.

50. FCC, annual report, fiscal year 1967, p. 41.

51. FCC, annual report, fiscal year 1968, p. 32.


54. Inglis, pp. 196-197.


65. Ibid. pp. 5-6.

Chapter 4

1. Inglis, p. 198.


3. MacDonald, pp. ix-xii.
