INTEGRATING SATELLITE TECHNOLOGY INTO THE CANADIAN BROADCASTING SYSTEM:

A PRIMER ON SATELLITE TELEVISION

Prepared by

Philip T. Cheesman
Policy Analyst

Broadcasting Policy Division
Broadcasting and Cultural Industries Branch
Department of Communications

September, 1987

INTEGRATING SATELLITE TECHNOLOGY INTO THE CANADIAN BROADCASTING SYSTEM:

A PRIMER ON SATELLITE TELEVISION

Prepared by

Philip T. Cheesman
Policy Analyst

Broadcasting Policy Division
Broadcasting and Cultural Industries Branch
Department of Communications

September, 1987

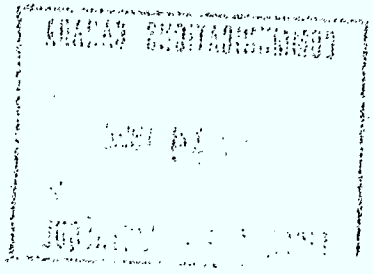

Table of Contents

PART II: SATELLITE TELEVISION POLICY AND REGULATION

PART III: THE SMATV ISSUE

PART IV: OTHER ISSUES AND GOVERNMENT APPROACHES

PART V: CONCLUSION

S U P P L E M E N T

INTRODUCTION AND PREAMBLE

INTRODUCTION AND PREAMBLE

Rationale for the Paper

The purpose of this paper is to provide a fundamental description of the use of satellite distribution technology in Canadian broadcasting, and to present an overview of some of the policy issues satellite technology has created for the Canadian broadcasting system.

With the Standing Committee on Communications and Culture planning to take a more far-reaching look at broadcasting than that taken by the Caplan-Sauvageau Task Force on Broadcasting Policy, it is expected that the matter of satellite broadcasting will become more and more topical. Moreover, some long-standing issues which have been festering regarding satellite television distribution and reception remain unresolved, largely because policy, legislation and regulation have not kept pace with the development of satellite broadcasting services.

Therefore, this paper has been prepared as a resource tool for researching and responding to questions which the public, other Departmental officials, and the Minister's Office may, from time to time, raise.

Objectives of the Paper

This "Satellite Primer", then, sets out to: provide a clear explanation of the fundamentals of television program distribution and reception by satellite; outline relevant government policies (and regulations); provide a clear explanation of the most pressing issue--how to deal with Satellite Master Antenna Television (SMATV) systems; and, provide a clear explanation of other long-standing issues related to individual home reception of satellite television signals.

This paper does not pretend to be the Bible of satellite television broadcasting, nor does it presume as part of its

mandate to resolve the complex issues it raises; the paper is, in essence, a backgrounder. The paper is intended as a reference resource for those of us who are attempting to keep up with developments in satellite-delivered television programming. It is hoped the paper will prepare the reader for possible, if not likely, discussions of satellite broadcasting which may arise in the context of the Standing Committee's more long-term study of broadcasting in Canada.

Format of the paper

The paper is divided into five parts: Part I provides background information; Part II examines satellite television policy and regulation; Part III discusses the SMATV issue; Part IV looks at other issues, including two issues concerning the availability of U.S. satellite television services in Canada that were raised by the Chairman of the CRTC, Mr. André Bureau, in a letter to the Minister; and, Part V is the conclusion.

Additional reference information is attached to the paper in the Supplement, which consists of a Glossary of Terms, a series of tables, and the four annexes to the paper.

PART I:

THE FUNDAMENTALS OF SATELLITE TELEVISION

1. THE DISTINCTION BETWEEN CONVENTIONAL TELEVISION BROADCASTING AND THE TRANSMISSION OF TELEVISION SIGNALS BY SATELLITE
2. THE SCRAMBLING OF SATELLITE TELEVISION SIGNALS
3. TYPES OF TELEVISION SIGNALS TRANSMITTED BY SATELLITE
4. SATELLITE TRANSMISSION FREQUENCIES: C-BAND VS. KU-BAND
5. INTERNATIONAL CONSIDERATIONS

PART I: THE FUNDAMENTALS OF SATELLITE TELEVISION

1. THE DISTINCTION BETWEEN CONVENTIONAL TELEVISION BROADCASTING AND THE TRANSMISSION OF TELEVISION SIGNALS BY SATELLITE

a) Conventional Television Broadcasting

b) The Transmission of Television Signals by Satellite

a) Conventional Television Broadcasting

A **conventional broadcasting**[1] signal by a local TV station, such as CBOT, Ottawa, is transmitted from an antenna mounted on a tower, often referred to as the transmission tower, for a range of about 100 kilometers. This is known as **over-the-air** transmission of television signals. Many conventional broadcasters have secondary transmitters, called rebroadcasters, outside the range of their main transmission antenna in order to extend the range of their signal. People receive these conventional broadcasting signals either by a home antenna, or by subscribing to the local cable company, which has a more sophisticated receiving antenna (the head-end) capable of receiving higher quality signals than the simpler home antenna. The reception of broadcasting signals transmitted by a conventional tower-mounted antenna is termed **off-air reception.**

It is equally possible, subject to CRTC approval, for a TV station (and its rebroadcasters) to operate as part of a network. A network is defined as a broadcasting undertaking in which control over part of the program schedule of more than two TV stations is delegated to a network operator, for example, the CBC. By linking together the local transmission capabilities of conventional TV stations across the country, networks such as the CBC and CTV are able to distribute their programming on a nation-wide basis. The network program is transmitted over-the-air by a series of **affiliated stations** (TV stations which have agreed to carry some of the network's programs) stretched across the country, such that the entire country is covered by the network.

---

1. The first reference in the text of terms that are defined in the Glossary (contained in the Supplement) are printed in bold-face type. Some terms are also defined in the text itself, and the Glossary may contain additional explanation.

b) The Transmission of Television Signals by Satellite

Unlike over-the-air television broadcasting, a television signal which is distributed by satellite can reach virtually any point in Canada, and the northern portion of the United States, from a single transmission point. There is no need for a television signal transmitted from satellite to use conventional television stations' over-the-air transmission towers to reach viewers.

For example, **pay-TV** and **specialty services**[2] are licensed in Canada as "networks", and their services are normally distributed to TV viewers by affiliated cable companies, whose role as a conveyor of network programming is analogous to the local TV stations of conventional networks. The cable company has **Television Receive Only earth stations (TVRO)**, more commonly known as satellite receiving **dishes**, that receive the satellite signals and then the cable company redistributes the signals along the cable to subscribers.

Canadian pay services are: Superchannel, the premium pay-TV movie service serving western Canada; First Choice, the eastern Canadian premium movie service; and, Super Écran, the French-language movie service available only in eastern Canada.

Canadian specialty networks are: The Sports Network (TSN), the 24-hour per day all-sports service available nationally; Much Music, the 24-hour per day all-music service, also available nationally; Musique Plus, Much Music's sister service in Quebec; Télé des Jeunes, a specialty youth service in Quebec; and, TVFQ99, which provides taped programming from France to Quebec cable viewers.

The CBC's House of Commons service and TV Ontario's (TVO) Ontario Legislature channel are also often referred to as specialty networks, although unlike most specialty services, they do not carry advertising and are free services, intended for all members of the viewing public.

---

2. There is a distinction between "pay-TV" and "specialty service": pay services are generally commercial-free, while specialty services are advertiser-supported services. Full definitions of these terms can be found in the Glossary.

As well, some condominium and apartment building (as well as hotel) owners purchase a single satellite dish, place it on the roof of the building, and then redistribute the signals that are received by the dish along wires in the building to all the residents, thereby by-passing the local cable company. These building-top dish-reception/wire **redistribution systems** are called **Satellite Master Antenna Television (SMATV)** systems. They perform essentially the same function as cable systems, but the area of service is generally restricted to the building itself.

Many commercial establishments in urban areas, such as taverns and hotels, have also by-passed the local cable company and purchased satellite dishes to provide satellite-delivered television signals for the benefit of their patrons and guests.

In addition, television programs transmitted by satellite are available to individuals willing to pay between $2,000 and $3,000 to purchase a satellite receiving dish of their own. Many Canadians who live in rural and remote areas and in urban areas where no cable is available have purchased satellite dishes. They are usually referred to as "home dish owners" or individual dish owners. (The satellite signals viewed by cable or SMATV subscribers are received by a dish owned by the cable or SMATV operator.) The distribution of satellite **programming services** to individuals is termed **Direct-To-Home (DTH)**, since, as the term implies, the satellite signal is received in the home directly from the satellite, and not by way of a cable company.

Some individuals in urban areas where cable is available own satellite dishes to receive satellite-delivered signals that the local cable company does not distribute to its subscribers. Satellite reception in built-up areas is, however, more problematic than in rural areas since satellite reception depends on direct line-of-sight reception; that is, the dish must have an unobstructed view of the satellite.

Thus, all television signals transmitted by satellite are receivable by any receiving dish on the ground, be it owned by a cable company, by a building complex (SMATV) or by an individual home dish owner. While they can be received by anyone with a dish, this does not necessarily mean that all signals transmitted are intended for viewing by everyone. Some satellite television signals are viewed without the permission, authorization, or intention of the signal transmitter simply because satellite technology makes them receivable by the satellite dish owner.

2. THE SCRAMBLING OF SATELLITE TELEVISION SIGNALS

a) Why Some Satellite Television Signals Are Scrambled

b) How Signals Are Scrambled

c) Types of Scrambling Technology

a) Why Some Satellite Television Signals Are Scrambled

Whereas some satellite-delivered TV signals such as the House of Commons service (also called the Parliamentary channel) are intended for reception by the public, many TV signals delivered by satellite are intended only for those members of the public willing to pay to receive the signal. Pay and specialty services that rely on payments from subscribers for all or part of their revenue are termed **discretionary services.** Most discretionary services scramble their signals, since they are not intended for free reception, but for reception only by those who are willing to pay for them.

Scrambling is designed to ensure the collection of revenues and to prevent the unauthorized reception of discretionary services, since a scrambled TV picture cannot be viewed without some kind of device--a **descrambler**, also called a decoder--to unscramble the signal to restore it to a normal television picture. The descrambler is purchased separately from the satellite dish and is attached to the television set, and only works when the viewer pays the **service provider**[3] a subscription fee.

The signals of some discretionary services, for example First Choice Pay-TV and The Sports Network, are scrambled during the actual satellite transmission of the signal to cable systems and home dish owners. The signals of other discretionary services, for instance, Superchannel Pay-TV and Much Music, are transmitted by satellite unscrambled (and are therefore viewable with any receiving satellite dish whether payment is made to the

---

3. A "service provider" is an entity that provides a **programming service** to the public. The term is used interchangeably with "programming service provider" throughout the paper.

service provider or not), but are scrambled by cable systems during the redistribution process to cable subscribers.

Thus, discretionary services scramble their signals to ensure payment from subscribers and to prevent unauthorized reception--reception of the service without paying for it.

Tables 1 and 2 in the Supplement to the paper indicate those Canadian and American services that are scrambled during satellite transmission.

b) How Signals Are Scrambled

When a service provider transmits its signal consisting of the scrambled TV picture and normal sound, it also sends a message which is unseen and unheard, intended for, and receivable only by, descramblers. The service provider is able to identify individually every descrambler manufactured, and is able to instruct each one individually through "the flick of a switch", to descramble. The person who wishes to pay for and receive the normal TV picture, buys a descrambler, then simply pays his subscription fee and tells the service provider the serial number--or "address"--of the descrambler he owns. The service provider sends a "PLEASE DESCRAMBLE" message in electronic form to all descrambler owners who have agreed to subscribe to the service. The message is not sent to descramblers that have not yet been sold or to descramblers owned by people who do not wish to receive the service provider's particular signal.

c) Types of Scrambling Technology

There are two main types of scrambling technology used in North America:

(1) the **Oak Orion** technology, and

(2) the **VideoCipher II** technology

The **Oak Orion** scrambling technology is used by CANCOM and by The Sports Network (TSN), the Canadian 24-hour per day discretionary sports programming service which transmits by satellite. An Oak Orion descrambler can be purchased directly from CANCOM, or from any TV or satellite equipment shop which carries it. The retail price is approximately $500, plus taxes.

The **VideoCipher II (VC II)** technology is used by all major U.S. pay and specialty services who scramble their signals, such as Home Box Office (HBO), and Cable Network News (CNN). One of the Canadian premium pay-TV movie channels, First Choice, also scrambles its signal using the VC II technology. The VC II descrambler is not manufactured in Canada, but is available for sale in Canada at a price of about $800 (Canadian).

The two scrambling technologies are incompatible. Oak decoders cannot descramble the signals of satellite services that use the VC II technology for scrambling. Similarly, VC II decoders cannot descramble signals scrambled by the Oak technology. Therefore, if a home dish owner wishes to subscribe to The Sports Network and to Cable Network News (or any available U.S. signal), the dish owner must purchase two descramblers, substantially raising the cost to receive television signals.

This incompatibility has been a sore point with many individual dish owners. It is, of course, up to the individual service provider to choose what it perceives to be the best scrambling technology for its purposes, although some dish owners have asked that a single standard be adopted, preferably the VC II. In the U.S., the **Federal Communications Commission (FCC)** decided not to impose a standard in that country since the VC II has become something of a de facto standard in any case. If the VC II achieved similar status in Canada, CANCOM and TSN could well find it difficult to market their services to Canadian dish owners. Subscribers would be more likely to be able to afford only one decoder and, with most services using VC II, they would likely opt for the VC II decoder, which cannot descramble the CANCOM or TSN signals.

The Oak technology preceded the VC II and is supposedly a more difficult scrambling system to break (which some unscrupulous dish owners do in order to receive services without paying for them), but the VC II is a more sophisticated decoder that permits such benefits as stereo audio, which the Oak does not. In addition, the makers of the VC II have been developing a more secure scrambling system to make it more difficult to tamper with the decoder in order to descramble services without authorization by the service provider.

3. TYPES OF TELEVISION SIGNALS TRANSMITTED BY SATELLITE

There are three main types of television signals transmitted by satellite:

a) Conventional TV Network Signals

b) Specialty Network Services

c) Satellite Programming Package Services

a) Conventional TV Network Signals

Conventional TV networks use satellites for distributing programming for three reasons. One is to deliver a live program across the country for simultaneous terrestrial transmission off-air by affiliates. An example of this is the live TV coverage of a sports event, such as the Grey Cup.

Conventional networks also use satellites to distribute their signal to cable systems which have no means of receiving the signal off-air. For instance, TV Ontario (TVO), the provincial educational TV service, uses satellite-to-cable distribution to reach areas of Ontario where it is too expensive or otherwise unfeasible to provide an over-the-air rebroadcaster.

Thirdly, conventional TV networks use satellites to transmit **network feeds**, which are parts of the conventional TV network's programming transmitted in unfinished form to affiliates. While the home dish owner is capable of receiving these signals, they are not intended for reception or viewing by the public, since they do not comprise the complete schedule intended for conventional transmission "over-the-air" by stations affiliated to the network.

b) Pay-TV and Specialty Network Services

Pay-TV and specialty network services use satellites to transmit their signals. For instance, First Choice and Superchannel deliver their premium movie pay services by satellite to cable systems for redistribution to cable subscribers. Similarly, the proceedings of the House of Commons is distributed live by satellite to cable companies around the country from Ottawa on the Parliamentary channel. The Parliamentary channel is one of the few satellite-delivered services which is intended for public viewing.

However, most specialty network services provide a single programming service, usually of a specific nature, such as all sports or all music, for a fee. As noted earlier, these services (as well as the pay-TV services) are also referred to as discretionary services, since they rely on payment from subscribers for part or all of their revenues. In short, it is up to the discretion of the viewer to receive the signal, if the viewer wishes to pay for it.

If a cable system chooses to redistribute a satellite-delivered discretionary specialty service, it signs an **affiliation agreement** with the service provider. The cable system generally pays the satellite programming service provider a wholesale fee, based on the number of cable subscribers who wish to pay to view the service. The cable company recovers this fee by charging a retail price to its subscribers who choose to take the satellite programming service. The retail fee also includes overhead costs and profit. Neither the wholesale fee charged by the service provider nor the retail fee charged by the cable company to its subscribers are regulated by the CRTC.

As part of the agreement, the cable system also undertakes to promote and market the pay and specialty services it chooses to carry, and of course, bill subscribers on behalf of the service provider. Essentially, the cable system, in its role as an affiliate, is a service provider's agent in dealing with cable subscribers in the territory served by the cable system.

SMATV systems are also supposed to sign affiliation agreements with those service providers that require it, but this is not always the case, as explained in more detail in Part III.

c) Satellite Programming Package Services

Satellite **programming package services** also use satellites to transmit their service. A programming package service groups, or packages, various conventional and specialty services together for distribution as a package. A subscription price is paid for all services contained in the "package", although in some cases, the package service may offer just some of the signals at a rate below what it would charge for the entire package of signals.

While each individual signal in the package requires a separate satellite channel for both transmission and reception, the package is "kept together" through the use of a scrambling

code common to all signals in the package. The package may contain solely conventional television stations, or it may contain some conventional signals and some specialty services, or it may contain only specialty services.

The only Canadian satellite programming package service is **Canadian Satellite Communications (CANCOM).** It takes the conventional broadcasting signals of four Canadian and six U.S. television stations[4], scrambles them, and retransmits them by satellite to northern and remote communities in Canada, to a number of Canadian urban cable companies, and to Canadian home dish owners.[5] Cable companies can choose individual signals from the package for redistribution; they do not have to redistribute all 10 signals, and they pay CANCOM for only the number of stations which they do in fact redistribute.

CANCOM's DTH service is somewhat different, in that it includes The Sports Network and Much Music. Individual home dish owners have to pay for all signals, whether they want all signals or not. The monthly subscription price was originally $21.95, but as of December 1, 1987, CANCOM will change its DTH marketing plan by wholesaling the DTH package for $10.95 to Selected Dealers, who will in turn retail the package for whatever price their market will bear. It is expected that this plan will reduce the DTH price somewhat, although the home dish owner must also buy a descrambler individually. (For cable subscribers, the cable system descrambles the CANCOM signals.)

Many home dish owners had been unhappy about the price of CANCOM's DTH service, and the anticipated price reduction under the new marketing plan should be welcomed. However, another criticism of CANCOM's DTH price is that individuals pay a higher per-signal rate on average than do cable comapnies. This aspect of CANCOM's DTH service, and of DTH marketing generally, is addressed in more detail in Part 4 of this paper.

---

4. The individual stations carried by CANCOM are listed by call letter and city of origin in Table 1, in the Supplement.

5. A brief history of CANCOM and current subscriber data are provided in the Glossary under the CANCOM heading.

4. SATELLITE TRANSMISSION FREQUENCIES: C-BAND VS. KU-BAND

a) The Distinction Between C-Band and Ku-Band Frequencies

b) Differences in Frequency Use in the U.S. and Canada

c) A Short Digression: DBS on the Horizon

a) The Distinction Between C-Band and Ku-Band Frequencies

Two different bands in the radio frequency spectrum are used in the transmission of television signals by satellites. These are:

1) **C-Band**, occupying the 6/4 GHz frequency range of the spectrum, and,

2) **Ku-Band**, occupying the 14/12 GHz frequency range of the spectrum.

Satellites transmitting on C-Band frequencies (for example, the Anik D satellites) are low-power satellites, and a large dish measuring about three meters in diameter is required to receive signals from a C-Band satellite. Ku-Band satellites have more power, and require a smaller (and less expensive) receiving dish ranging from 1.5 to 2 meters in diameter. (As well, reception of Ku-Band signals is generally subject to less interference than C-Band, since the latter shares frequencies in the 6/4 range with terrestrial microwave links of such carriers as Bell Canada and CNCP Telecommunications.)

A C-Band dish cannot receive signals transmitted by a Ku-Band satellite, nor can a Ku-Band dish receive C-Band signals.[6] It is, however, possible to modify a dish to make it capable of receiving signals transmitted on either frequency band. These types of dishes are said to have dual-band capability.

---

6. The distinction between C-Band and Ku-Band frequencies can be likened to the difference between AM and FM radio frequencies (excluding the different modulation types and differences in signal quality of the AM and FM frequencies). AM radio signals cannot be received on a radio's FM band, and FM signals cannot be received on a radio's AM band.

The development of C-Band transmission and reception technology preceded Ku-Band technology, so that most satellite-delivered signals are transmitted by C-Band satellites and most earth dishes are C-Band frequency receivers. Table 3 in the Supplement provides a comparison of C-Band and Ku-Band satellite use, demonstrating that the 6/4 low-power frequency technology is the dominant one at present in North America, especially in the United States.

b) Differences in Frequency Use in the U.S. and Canada

Most U.S. satellite-delivered services transmit on C-Band, since it was the only technology available when satellite delivery first started in the mid-1970s there. It is still, to a certain extent, the preferred technology, if only because it is the more established. Largely because of the amount of money already invested in C-Band, and the cost involved in changing to Ku-Band, many American service providers and satellite builders have ignored Ku-Band. Most U.S. cable systems own only C-Band dishes, as do most individual U.S. dish owners. Some companies, for example United States Communications Incorporated (USCI), experimented with Ku-Band (using Canada's Anik C2 satellite) but went bankrupt, essentially because there were few services being transmitted on Ku-Band in the United States, and therefore, subscriber interest was low. As long as C-Band ownership continues to prevail, satellite programming service providers will transmit on C-Band. And as long as service providers continue to transmit on C-Band frequencies, C-Band dish ownership will prevail.[7]

On the other hand, Canadian satellite-delivery of specialty services began in the 1980s, by which time, Ku-Band technology had been developed and Ku-Band satellites launched by Canada. Canada was the first country in the world to launch and

---

7. To extend the radio analogy one step farther, AM radio was the first radio broadcasting technology developed in North America, and therefore, radio services transmitted on AM and radio manufacturers built only AM receivers for the most part, even though FM broadcasting was possible. As FM technology was developed, more services began transmitting on FM, and more FM receivers were built. As more FM receivers were manufactured and purchased, even more services were transmitting on FM. Today, of course, FM is as popular as AM and most receivers have both AM and FM bands.

use Ku-Band satellites. The Department of Communications received a 1987 Emmy Award for engineering excellence for its work in research and development of Ku-Band satellite technology.

Today, although U.S. satellite-delivered services vastly outnumber Canadian services, more Canadian services transmit on Ku-Band than do American services. Only two satellite-delivered television services which commenced operation after Canadian Ku-Band satellite technology first became available (The Sports Network and Much Music) opted to transmit on 6/4 frequencies band, using the older, less powerful C-Band technology. The rest transmit on Ku-Band, the **Anik C3** satellite. Accordingly, Canadian cable and SMATV systems generally own both C-Band and Ku-Band dishes, although few Canadian individual dish owners have purchased a Ku-Band dish.

The different frequency bands present a difficulty for Canadian dish owners who own C-Band only dishes. C-Band owners already have no access to any Canadian movie services, since Superchannel, First Choice and Super Écran all transmit on Ku-Band (on Anik C3). As new Canadian satellite-delivered specialty services are established, most are expected to transmit on Ku-Band, in part because few C-Band frequencies are available. Thus, many dish owners will be deprived of Canadian specialty services, unless they can afford to buy new Ku-Band dishes. This is a point that the Satellite Communications Association of Canada (SCAC), an association representing dish manufacturers, dealers, distributors and individuals home dish owners, has raised with legitimate concern.

On the other hand, it might be time for manufacturers to begin developing dual band dishes, in the way that radio manufacturers began making AM-FM radios when FM radio began to emerge as a popular form of radio. That is, while C-Band dishes may predominate now, it does not necessarily mean that C-Band will always be the preferred band, or that service providers and dish manufacturers--and dish owners--can afford to ignore the Ku-Band. As well, **Telesat Canada** will launch in the early 1990s the Anik E series of satellites, which will be dual-band satellites.[8]

---

8. In fact, dual C- and Ku-Band receiving systems for the home are available now in the U.S.

c) A Short Digression: DBS on the Horizon

Current Ku-Band satellite technology itself is only an interim technology, since high-power Direct Broadcast Satellite (DBS) technology now exists and its capability, proven (among other things, by experiments conducted by the Department of Communications in the 1970s using the Hermes satellite). Although DBS is assigned frequencies on the Ku-Band and would provide essentially the same services as Direct-to-Home broadcasting presently does, it is distinguished from current C-Band and Ku-Band broadcasting in that DBS satellites will be more powerful than existing satellites. As a result, DBS reception requires dishes even smaller than existing Ku-Band dishes, less than one meter in diameter. This is expected to make direct reception of satellite television signals by individuals in urban areas more prevalent than is the case today. Reception is restrained now only because built-up areas do not generally afford the space required to accommodate 3-meter and 2-meter dishes for unobstructed view of the satellite.

Eventually, it is possible that very small satellite dishes will dot household rooftops in urban areas in much the same way that conventional antennae did in the 1950s and '60s. However, it is also expected that even in urban areas, DBS will not replace cable delivery of television services, but rather, it will complement cable delivery. Cable (and SMATV) systems will likely own DBS dishes to receive DBS signals for subsequent redistribution to subscribers in the same way that they now own low-power (C-Band) and medium-power (Ku-Band) dishes.

The development of DBS technology is being held back only by the cost of "refitting"--or replacing--the North American broadcasting technological infrastructure, devoted as it is to low- and medium-power satellite broadcasting, to make the risk of investment in high-power satellite transmission worthwhile in the first place. As well, the cost of a satellite system increases dramatically with increasing satellite power. The consensus in North America at the moment seems to be that the cost involved in changing over to DBS from older satellite technology does not make DBS commercially viable for at least another 10 years.

On the other hand, Europe, where satellite delivery of television signals occurred much later than in North America, and has less infrastructure dedicated to C-Band (or Ku-Band) technology, is moving toward DBS service on a commercial basis already, albeit with the help of government financing. High-power DBS presents new issues that fall beyond the scope of this paper, which, for purposes of simplicity, deals only with immediate issues. It could be argued, of course, that one immediate issue is how should the Canadian broadcasting system prepare for the next generation of high-power, DBS satellites[9].

5. INTERNATIONAL CONSIDERATIONS

a) International Telecommunications Union (ITU) Obligations

b) Canada - U.S. Transborder Agreement on Satellite Services

c) Program Distributor - Supplier Contracts

a) International Telecommunication Union (ITU) Obligations

The **International Telecommunication Union (ITU)** is a specialized agency of the United Nations with a membership of 161 countries, including Canada. The ITU is responsible for the development of international telecommunications regulations and standards, and for the rational use of the radio frequency spectrum and space resources throughout the world. The regulations established by the ITU are aimed at preventing harmful interference with radiocommunications among its members, but it recognizes the sovereign rights of each member.

The ITU Regulations stipulate that satellite broadcasting services should occupy the Ku-Band (currently used by Canada's Anik C satellites), not the C-Band, since the 6/4 Ghz C-Band is allocated to the fixed satellite service, not the broadcasting satellite service. The ITU defines broadcasting as any

---

9. All of which could well indicate that satellite technology is presently at the same stage of development that radio was in the 1940s...and radio has come a long way since then.

radiocommunication in which the transmissions are intended for the direct reception by the general public.

In Canada, many "broadcasting signals" (that is, conventional network feeds, pay-TV services, specialty services) are located in the C-Band. The rationale is that the satellite transmission of these signals is not intended for "direct reception by the general public", but rather, for those willing to pay for the service, or for affiliates of a network. This rationale was accepted by the ITU, although DBS services will have to be located in the Ku-Band.

b) Canada - U.S. Transborder Agreement on Satellite Services

In 1972, Canada and the United States exchanged letters which, among other things, stipulate the special circumstances where the satellites of one country could provide service in the other country. Specifically, the services were limited to assistance in the event of a catastrophic failure of a satellite system, or the extension of a service (for instance, a television programming service) where such service was incidental and peripheral to what is clearly and essentially a domestic service. For any of these conditions, the approval by the appropriate representatives of both governments is required.

In 1982, an additional series of letters was exchanged dealing with the use of domestic satellites for transborder services. This understanding also included an undertaking to consult with **Intelsat**, and support for the Intelsat global system. Since that time, all Canadian and U.S. satellites have been coordinated with Intelsat with respect to private line business services, point-to-point video services, and television programming reception. (Public telephone traffic is specifically excluded.) The 1972-1982 letters make all transborder satellite services subject to the approval of both governments (that is, the respective regulatory agencies), but does not spell out the approval procedure.

In Canada, Telesat Canada--the only commercial Canadian satellite carrier--requires CRTC approval to extend telecommunications services, including satellite-delivered television programming, to the United States; and U.S. satellite carriers require Federal Communications Commission (FCC) approval to extend their services to Canada. The CRTC can regulate the reception of signals provided by U.S. satellites by its cable

licensees, while the FCC can regulate the reception of Canadian satellite television services by U.S. cable undertakings.

Theoretically, therefore, the reception of a U.S. satellite television programming service in Canada is subject to both FCC approval allowing the service to be extended into Canada, and to CRTC approval permitting the service to be received.

In practice, however, Canada interprets the agreement simply to mean that each domestic regulatory agency has the right to regulate the reception of satellite television services originating from the other country. In other words, the CRTC has the right to refuse reception by its licensees of U.S. services, while the FCC has the right to refuse the reception of Canadian satellite television services by its licensees. (The FCC has chosen not to regulate the reception of signals by its cable licensees in any manner.)

However, regulatory approval for reception applies only to licensees of the regulator, whether the CRTC in Canada, or the FCC in the United States, and not to individuals (since individuals are not licensed by either regulator). Therefore, even if the CRTC does not allow a U.S. service to be received and redistributed by cable companies, that service is still able to sell to Canadian individuals, subject, in theory, to FCC approval for the U.S. service to be able to extend into Canada. Whereas initially the FCC took a hands-off approach to the extension of U.S. services into Canada, it now requires that a U.S. service provider seeks its permission to sell to Canada, and ensures adequate copyright protection (adequate compensation for the use of the program by the service provider) of the television program owners.

In many cases, the "viewability" of a U.S. service by Canadian cable subscribers and by individual home dish owners is also subject to program exhibition agreements signed between the satellite television service and its program suppliers.

c) Program Distributor - Supplier Contracts

The availability of American services on cable systems and to home dish owners is dependent in part on distribution agreements made between program makers and U.S. satellite programming services. That is, the availability is determined by agreements made between the production studios and distributors--

the people who make the programs and supply them to television stations/networks--and the people who purchase the programs--conventional television stations and the U.S. satellite programming services.

Some U.S. satellite services are not able to authorize reception of their service in Canada since they have not acquired the right to exhibit the programming in Canada from the program supplier; that is, the program supplier sells a program to the U.S. service on the condition that it is shown in the U.S. only. (Generally, the program supplier will sell the program to a Canadian specialty service for showing on Canadian television. The Canadian service is similarly not permitted to show the program in the United States.) Individual Canadians (and cable companies) cannot, therefore, subscribe to these services.

This is the case, for example, with Home Box Office (HBO), the popular American pay-TV movie service. Some of the movies shown on HBO are purchased by the Canadian pay-TV services, First Choice and Superchannel, for exhibition in Canada on an exclusive basis. Therefore, HBO is unable to authorize reception of its service in Canada because it has not acquired the Canadian exhibition rights to all of its programming from program suppliers. To authorize reception of its service in Canada would be violating the terms of its agreements with these suppliers, who, under U.S. law, could bring suit against HBO if the movie service knowingly sold its service to Canadians.

Similarly, the Disney Channel, the most popular pay-TV family service in the United States, would be hard-pressed to market its service in Canada, since some of the programming it airs has been purchased by Canadian service providers for Canadian exhibition. As well, some of the Disney Channel's programming comes from Canadian producers who have already sold the Canadian exhibition rights to Canadian service providers.

However, a U.S. satellite programming service provider is not always in a position to identify that a given dish owner resides in Canada, and there has been some fraudulent reception of U.S. services in Canada by individuals who have given U.S. service providers a false U.S. address. Nonetheless, no U.S. service provider knowingly authorizes the reception of its service in Canada if it does not have the Canadian rights for all of its programming.

PART II:

SATELLITE TELEVISION POLICY AND REGULATION

1. FUNDAMENTAL POLICY PRINCIPLES
2. HOME DISH SATELLITE RECEPTION
3. CABLE RECEPTION AND REDISTRIBUTION
4. UNDERSERVED COMMUNITIES

PART II: SATELLITE TELEVISION POLICY AND REGULATION

1. FUNDAMENTAL POLICY PRINCIPLES

a) Broadcasting Act, Section 3(c): Right to Receive Programs

b) Broadcasting Act, Section 3(j): Broadcasting System Should Be Adaptable to Technology

a) Broadcasting Act, Section 3(c): Right to Receive Programs

Section 3(c) of the Broadcasting Act declares that "...the right of persons to receive programs, subject only to generally applicable statutes and regulations, is unquestioned." It has been a fundamental policy principle in Canada that all Canadians should have access to a diversified range of broadcasting services, both Canadian and foreign.

b) Broadcasting Act, Section 3(j): Broadcasting System Should Be Adaptable to Technology

Section 3(j) of the Broadcasting Act states that the "regulation and supervision of the Canadian broadcasting system should be flexible and readily adaptable to scientific and technical advances." Recognizing the value of satellite dishes to receive television services in areas where cable reception was not possible, and recognizing the growing popularity of satellite dishes for individuals and commercial establishments such as taverns in urban areas of Canada, the government relaxed the regulation of home satellite dishes in 1983. It eliminated the requirement that individual dish owners and commercial establishments obtain a licence under the Radio Act to use their dishes to receive television signals, provided they did not redistribute the signals to others. Dish owners were reminded, however, that, where required by service providers, they were expected to obtain the necessary authorization to receive services.

2. HOME DISH SATELLITE RECEPTION

The Government places no restrictions on the availability of satellite television programming services or descrambling

equipment to individual dish owners and certain commercial establishments (taverns), provided they do not redistribute the signals to others. Similarly, the CRTC does not regulate the direct reception of satellite television signals by individuals in Canada provided that they do not redistribute the signals to others.

Individual home dish owners who wish to view a Canadian discretionary signal must pay the service provider. They must purchase a descrambler and subscribe to the service. While the CRTC does license programming service providers as networks, and while they are therefore subject to regulation, the CRTC does not regulate the rates they charge, or the marketing of their services, to individual dish owners. However, as discussed in more detail in Part IV, Section 1, individual home dish owners have had difficulty in subscribing to Canadian discretionary services because many of these services have generally concentrated their marketing approach on cable subscribers, by wholesaling to cable systems for subsequent retail sale to cable subscribers. As well, most Canadian discretionary services transmit on the Ku-Band frequency, whereas most individual dish owners own a C-Band dish incapable of receiving Ku-Band signals.

3. CABLE RECEPTION AND REDISTRIBUTION

The CRTC allows cable companies to redistribute most Canadian satellite programming services to their subscribers, provided they have entered into the necessary affiliation agreements with the service providers. The wholesale fee charged by the service provider and the retail fee charged by the cable company to its subscribers are not regulated by the CRTC.

Thus, the only restriction on viewing Canadian satellite signals by cable subscribers is whether the cable company can and does offer the signal, and whether the individual cable subscriber wishes to pay for it.

The CRTC also allows Canadian cable systems to redistribute a number of American satellite programming services, but excludes those services which compete, totally or partially, with Canadian discretionary satellite services and those which are incompatible with CRTC policies. The CRTC currently allows urban cable systems to select up to five U.S. services from a list of 15 CRTC-approved services for redistribution to subscribers. Attached in the Supplement as Annex 1 is the most

current list of U.S. (as well as Canadian) satellite programming services which larger, urban Canadian cable companies are permitted to distribute. However, the CRTC does have certain requirements for the way cable systems may carry U.S. services, in that it must be done so as not to hinder subscription to Canadian discretionary services.[10]

For smaller cable systems in non-urban areas, the regulations are less stringent, as explained in the next section below.

While both the CRTC and the government would like the cable regulations concerning satellite reception and redistribution to apply to SMATVs, since they are also redistribution systems, the reality is quite different from the policy intent. The SMATV situation is quite complex and is the most compelling problem regarding satellite broadcasting at this time. This complexity necessitates a more detailed discussion and analysis, which follows in Part III.

4. UNDERSERVED COMMUNITIES

In December, 1984 the Government announced a new policy approach to cable reception and redistribution of satellite signals in **underserved communities**, or "core" communities. Underserved communities, as defined by the CRTC, are those areas of Canada where there are less than two television stations available off-air by antenna. The Government's policy is that Canadians in underserved areas should have the opportunity to access the same range of viewing options, Canadian and foreign, available to urban viewers.

To assist in the implementation of this policy, the Government asked the CRTC to reduce the regulatory burden on small cable systems and to permit these systems more latitude in the signals they could offer to subscribers. It also maintained the integrity of the Canadian broadcasting system by requiring that small systems carry a minimal core of Canadian signals, and that all cable systems continue to be subject to CRTC licensing requirements and regulations concerning signals authorized for distribution.

---

10. The so-called "Tiering and Linkage" requirements are contained in CRTC Public Notice 1984-81 (April 2, 1984).

The CRTC implemented these policies[11]. Among other things, smaller cable systems in underserved areas of Canada are allowed to distribute an unlimited number of U.S. satellite services from a list of 23 CRTC-approved services. A list of these approved U.S. services is attached as Annex 2 in the Supplement. Smaller cable systems, can of course, also redistribute the signals provided by satellite to them by CANCOM, and Canadian discretionary services, as well as those satellite-delivered Canadian services that urban cable systems are permitted to carry.

---

11. The CRTC introduced new cable television regulations on August 1, 1986 (CRTC Public Notice 1986-182).

PART III:

THE SMATV ISSUE

1. WHAT IS A SATELLITE MASTER ANTENNA TELEVISION (SMATV) SYSTEM?

2. THE PROBLEM: WHERE DO SMATVs FIT IN THE BROADCASTING SYSTEM?

3. THE SMATV POLICY

4. DIFFICULTY IN POLICY IMPLEMENTATION: LACK OF LEVEL PLAYING FIELD

5. WHY PLAYING FIELD IS UNLEVEL

6. PRIVATE RIGHT OF ACTION

7. REGULATED APPROACH TO ESTABLISHING A LEVEL PLAYING FIELD

8. MARKET APPROACH TO ESTABLISHING A LEVEL PLAYING FIELD

PART III: THE SMATV ISSUE

1. WHAT IS A SATELLITE MASTER ANTENNA TELEVISION (SMATV) SYSTEM?

By way of review, Satellite Master Antenna Television (SMATV) systems receive satellite-delivered television services by equipment placed on building roof tops, such as apartment buildings, condominia and hotels, and redistribute them to people residing in the building. They also receive and distribute the locally-available over-the-air television stations. In short, they act as a distributor of television channels, and are not functionally much different from a cable television system. However, the area of service is generally restricted to the individual building.

2. THE PROBLEM: WHERE DO SMATVs FIT IN THE BROADCASTING SYSTEM?

When SMATV systems first appeared in the late 1970s, the government assumed that they were part of the broadcasting system, and were subject to the regulation and control of the CRTC. The CRTC supervised and regulated the broadcasting system based upon this assumption, and together with the Department of Communications, launched several prosecutions against SMATV systems which were operating without the required licences. The results of these court cases have raised some doubt as to whether the existing Broadcasting Act covers SMATV, and therefore, whether they are subject to the CRTC's jurisdiction.

One court case in particular stands out. The DOC and the CRTC took the Holiday Inn in Winnipeg to court for operating an SMATV system, arguing that the hotel was in contravention of the Radio Act and the Broadcasting Act for operating a broadcasting undertaking without a licence. The government lost the case and the appeal. The Federal Court decision (the Lount decision) in 1983 declared that a hotel cannot be considered a "broadcasting undertaking" if it does not charge a fee to hotel residents for distributing broadcast services received via satellite.[12] In effect, this decision means that SMATV systems which do not charge a fee for their service cannot be subject to an authority,

---

12. Lount Corporation v Attorney-General of Canada et. al. (1983) 77 C.P.R. 2d. 35 (Federal Court, T.D.)

namely the CRTC, whose mandate is to supervise and regulate "broadcasting undertakings".

Therefore, the CRTC, lacking the clear jurisdiction over such systems, considers itself unable to proceed with any regulatory or legal action against SMATVs. Many SMATV systems continue to operate outside of the regulatory control of the CRTC and therefore, outside of the Canadian broadcasting system.

3. THE SMATV POLICY

Based upon the assumption that SMATVs were part of the broadcasting system, the government announced in March, 1983, that competition with cable companies ought not be prevented, as long as the competition is fair. That is to say, SMATVs can play an important role in the Canadian broadcasting system, but they must operate under similar conditions and compete with cable systems under similar terms. In short, SMATVs and cable systems should play by the same rules; they should play on a level playing field.

This policy is meant to provide the opportunity for entrepreneurs to take advantage of satellite technology, for the orderly integration of SMATVs and other distribution modes into the broadcasting system, and to provide for viewers in multiple dwelling units to exercise their right to receive a wide range of television services. It also introduced a measure of competition, heretofore lacking, to the virtual monopoly redistribution of television stations by cable television systems.

The policy took on significance when the CRTC issued an Exemption Order for SMATV systems in November, 1983.[13] This Order established a list of criteria which, if fulfilled, exempt SMATV systems from requiring a licence under the Broadcasting Act. Among other things, these criteria stipulate that SMATVs do not require a broadcasting licence as long as they distribute only those signals authorized for distribution by the local cable company.

The policy measures gave SMATV operators a way to legitimize their status, while at the same time contribute to the

---

13. CRTC Public Notice 1983-255, November 10, 1983.

objectives of the Canadian broadcasting system by ensuring that Canadian services are given prominence. Unfortunately, many SMATVs have ignored, if not flagrantly opposed, this policy, as they are entitled to under the findings of the Lount decision. They have vigorously resisted attempts by successive Ministers of Communication to amend the Broadcasting and Radio Acts to include the so-called "deeming provision", which was designed in part to overcome the Lount precedent by clearly deeming SMATVs as broadcasting undertakings subject to the CRTC's jurisdiction.

There are, however, some SMATV operators who wish to operate in accordance with the policy but have been unable to do so, or have had tremendous difficulty in doing so, because the policy lacks reliable implementation measures. One such an SMATV operator is Mr. Ronald Bothwell, who operates Multi-Unit Cable Corporation (MUCC), a SMATV system in London, Ontario. His case is well known to this Department, and his case will be referred to periodically in the discussion that follows.

4. DIFFICULTY IN POLICY IMPLEMENTATION: LACK OF LEVEL PLAYING FIELD

a) For cable companies, the playing field is unlevel because they are competing with SMATV systems which do not pay to receive signals and which are distributing signals the cable companies are not permitted to.

b) For SMATV operators, the playing field is unlevel because, they claim, they cannot get equitable access to the same signals on similar terms as the cable companies, and therefore, resort to illegal means to obtain signals.

a) The Problem from Cable's Point of View

Some Canadian SMATV operators obtain access to both Canadian pay-TV signals (First Choice, for example) and some American services by various, illegal means. Some do it by conscious, willing choice. However, others, such as Mr. Bothwell, do it reluctantly, simply because they cannot legally obtain the Canadian signals from the Canadian service providers, or so they claim, and are therefore forced to obtain access without the permission of the service provider. This problem is discussed in more detail in subsection 4(b).

Those which acquire signals without payment to the signal provider are depriving legitimate Canadian services, such as First Choice, which do pay for the right to exhibit programming in Canada, of revenue. SMATV systems which redistribute signals not authorized for distribution by cable companies and which do not pay to receive discretionary signals, as cable systems must, are competing unfairly with cable systems.

Cable companies and satellite programming services warn that if SMATV systems are not stopped from such activity, the integrity and success of the Canadian broadcasting system will be the prime loser. They base their argument on the fact that specialty services and cable companies all contribute directly or indirectly to the production of Canadian television programming and all abide by regulations which are designed to enhance the achievement of the social and cultural objectives of the Broadcasting Act. Thus, if they are harmed financially by illegal competition as described in the paragraph above, then the contribution that the licensed, legal Canadian companies can make to the objectives of the broadcasting system are diminished, if indeed, they remain in business. Although not explicitly stated in their argument, it is worth pointing out that if subscriptions to **authorized services** decline, so too does the revenue collected for Canadian program production by the **Telecommunications Programming Services Tax** (the cable tax).

b) The Problem from SMATV's Point of View

On the other hand, some SMATV operators, such as Mr. Bothwell, feel that service providers such as First Choice have agreements with cable television systems that make it difficult, if not impossible, for SMATVs to obtain the same authorized services as cable systems at competitive rates which would thereby permit them to operate within the exemption criteria established by the CRTC.

Having originally given up on reaching agreements with Canadian suppliers to allow MUCC to operate legally, Mr. Bothwell began providing his customers with non-authorized U.S. services in order to compete with other SMATV operators who were already operating outside of the CRTC exemption criteria. Until First Choice started scrambling in mid-August, 1987, MUCC was also distributing the First Choice signal to subscribers, although it had not signed an affiliation agreement with First Choice.

The question, then, is: are Mr. Bothwell and other SMATV operators like him able to obtain the signals which the CRTC included in its exemption order? It is known that Mr. Bothwell has been talking with First Choice, CANCOM, The Sports Network and others to enter into legal agreements, and pay for receiving their services. Until recently, all had refused to offer him services, or were offering their services, but at prices so high as to make it impossible for him to do business. It is now known, however, that Mr. Bothwell has concluded an affiliation agreement with CANCOM, and with The Sports Network (TSN). However, Mr. Bothwell has been unable to make arrangements with First Choice to carry its signal. He has been carrying it on an unauthorized basis anyway, and this has resulted in legal action taken by First Choice. This case has not yet been resolved.

In sum, service providers, in this case, First Choice, rightfully claim that their legitimate businesses are being harmed by illegal redistribution systems--SMATVs--causing actual and potential financial loss. First Choice pays program suppliers for the right to exhibit programming in Canada, and its subscription fees must cover such costs. However, SMATV systems generally have not paid the service to receive and redistribute its programming. Cable systems, meanwhile, claim that SMATVs are competing unfairly with them, that they are, in any case, illegal and that, therefore, cable systems are deprived of legitimate potential revenue.

However, some SMATV operators claim that they have had difficulty attaining affiliation agreements with service providers. For example, MUCC claims that although it wants to operate within the SMATV policy, it can not because to do so requires that it distribute the First Choice Pay-TV signal, but, it says, First Choice has not offered to provide its signal to MUCC at a competitive rate.

In the initial stage of the evolution of Canadian pay and specialty services, the SMATV claim regarding difficult access to services may have been valid. That is, cable subscribers represented the largest single potential market for discretionary services. During the start-up phase of any commercial enterprise, the larger the potential pool of revenue, the better the chance for the enterprise to become established and thence, to expand its markets. Thus, cable subscribers became the focus of discretionary service's marketing efforts.

This is not to say, however, that SMATV systems were left entirely in the cold. For example, although First Choice was not initially actively pursuing SMATV systems (partly because of the concentration on establishing a viable cable market, substantially larger than the SMATV market), neither was it refusing to negotiate affiliate agreements with potential SMATV affiliates. The problem from the SMATV point of view was that the cost per unit of receiving First Choice was higher than for cable systems. On the other hand, this higher rate reflected First Choice's higher billing and administrative costs in serving the SMATV market. In addition, the lower cost to cable systems reflected its absorption of some of the promotional costs for First Choice.

Recently, however, First Choice has established new rates for SMATV systems which are the same as the rate charged to cable systems. Therefore, the SMATV claim that rates are unfair, in the case of First Choice at least, may no longer hold. On the other hand, it cannot be said that the non-cable market (SMATV systems and individuals) for pay and specialty services has yet reached the maturity that the cable market has. In other words, the playing field is not as level as it could be. This may be due in part to the fact that it has taken discretionary services longer to develop strategies to harness the potential of non-cable markets, but to some extent, it is also due to other factors, described below, which may or may not resolve themselves as the market matures.

5. WHY PLAYING FIELD IS UNLEVEL

a) SMATV status is unclear: CRTC cannot regulate; service providers are not certain if they should or could be legitimate affiliates.

b) Failure of existing mechanisms to ensure fair access to satellite programming services: legislative; judicial; market.

a) SMATV Status is Unclear

The Lount decision of 1983 has already brought into question whether SMATV systems are broadcasting undertakings and hence part of the Canadian broadcasting system. If the courts continue to hold that SMATV systems are not broadcasting

undertakings, then the assumptions upon which existing SMATV policy is built will no longer exist. The CRTC will continue to be forced to take a hands-off approach, and satellite programming service providers may continue to question the legitimacy of SMATVs as affiliates and refrain from doing business with them. For the most part, service providers justifiably prefer to do business only with SMATV systems that play by the rules.

On the other hand, despite assurance from service providers that they are making a concerted effort to establish a level playing field by providing fair access to their services, as long as the SMATV camp continues to perceive that access to services is not fair, they will argue that they are simply unable to play by the same rules, and continue to redistribute satellite-delivered services on an unauthorized basis. It is, to some extent, much like a "chicken and the egg" situation at the present time, exacerbated by the failure of existing mechanisms to be reliable agents in the implementation of the government's SMATV policy.

b) Failure of Existing Mechanisms to Ensure Fair Access

It was pointed out earlier in this paper how the courts have prevented implementation of the government's SMATV policy, and how the legislation's imprecision about the definition of "broadcasting undertaking" with regard to the reception of satellite-delivered signals, has also been an unsuccessful mechanism in the implementation of the policy.

However, the marketplace by itself has also, so far at least, been unable to provide the mechanism to implement the policy essentially because of the dominant position of cable systems as affiliates for the specialty services. The cable industry would prefer, of course, to protect its virtual monopoly over broadcast distribution. However, faced with the spectre of competition from SMATVs, they would rather it be legal competition operating under the same rules as cable.

The problem is that the only SMATV competitor thus far willing to play by the same rules, Mr. Bothwell, either refuses to or, as he claims, has been prevented from doing so. Although he has reached an agreement with Canadian Satellite Communications (CANCOM) and The Sports Network (TSN), the process has taken more than two years; he has not gained access to all services; service providers have shown no inclination to deal with all SMATVs. The situation is not perfect and the MUCC

system is so far the exception, rather than the rule. Ultimately, of course, the failure for MUCC and First Choice to come to terms demonstrates that the free market alone has not yet been able to establish a completely level playing field. It is difficult to assess at this early stage in the development of Canadian specialty services whether the marketplace alone will ever be a reliable mechanism for ensuring fair access to satellite signals by competing redistribution systems.

The reason for this is that the market for the distribution of discretionary satellite-delivered services has not fully developed, since the market lacks a mechanism to ensure that, in the first place, payment for the reception of services is made. The proposed amendment to the Radio Act described below would provide such a mechanism, and in so doing, address the problem of unauthorized reception by unscrupulous viewers and the problem of SMATV's unfair competition with cable.

6. PRIVATE RIGHT OF ACTION

a) Background

b) The Proposed Amendment

c) How a Private Right of Action Would Help

d) One Potential Problem

a) Background

There are currently no adequate legal remedies open to signal originators to enable them to control the reception and use of their signals. Existing criminal remedies are cumbersome, slow and do not provide remedies such as injunctions to restrain further repetitions of the problem. Prosecutions have proven to be slow, unpopular and, as in the Lount case, not particularly effective. This is essentially because present legislation under which CRTC authority is exercised--specifically, the Broadcasting Act--was put in place before satellite technology was envisioned, and it is therefore inadequate to deal with the unauthorized reception of satellite-delivered services.

All those involved in the provision and distribution of discretionary satellite-delivered television services (Canadian

and U.S. service providers, copyright owners of the programming being offered, licensed cable operators, SMATV systems, and individual dish owners) have asked the government for clear guidelines as to the "rules of the game."

One approach to this problem that had been advanced previously was the so-called "deeming provision" contained in the former Bill C-20. The effect of this provision would have been to deem the presently unlicensed (and hence, unregulated) SMATV systems and other unlicensed distribution systems to be broadcasting undertakings and therefore, under the CRTC's regulatory control. Once the CRTC's jurisdiction had been established, it would have presumably moved to ensure that these operations competed fairly with its cable licensees by, among other things, entering into affiliation agreements with the discretionary service providers whose services were being distributed.

This option, however, had two main disadvantages. The first drawback was that the "deeming provision" proved unpopular with some because it would have required regulation by the CRTC in a previously unregulated area. The second drawback was that the "deeming provision" would not have had any effect on the unauthorized interception of radiocommunication by individuals. As a result, the deeming provision contained in Bill C-20 was not revived after Parliament was prorogued in the summer of 1986.

Another option was proposed by the Standing Committee on Communications and Culture (and by the CRTC as well). In its interim report on legislative aspects of the Report of the Task Force on Broadcasting Policy, the Committee recommended that the Radio Act be amended to provide, among other things, a **private right of action** for aggrieved parties against those involved in the unauthorized reception and redistribution of satellite television signals.

b) The Proposed Amendment

The Standing Committee's recommendation for a proposed amendment to the Radio Act is attached in the Supplement as Annex 4. In brief, it recommended that section 9(2) of the Radio Act be amended: 1) to modernize the language to make the statutory offence of unauthorized reception more comprehensive; 2) to increase penalties in cases where the Crown decides to prosecute; and, most importantly, 3) to provide a private civil right of action to the originator of a satellite-delivered signal

(which is radiocommunication) whose service is received without payment or authorization, as well as to other "aggrieved" parties who are harmed by unauthorized interception of their signal.

c) How a Private Right of Action Would Help

The key features of the Standing Committee's recommendations would provide the originators of satellite-delivered television signals with the legal tools they need to prevent the unauthorized reception and use of their signals without having to rely on the government to catch and prosecute offenders. Essentially, satellite programming service providers, and cable companies, would be able both to obtain injunctions against unauthorized SMATVs and to sue them for damages. Presumably, the spectre of court challenges which they would likely lose, would deter many SMATV operators from operating illegally, and would therefore seek authorized access to services. In addition, U.S. service providers would be entitled to the same civil recourse as Canadian services.

The proposed amendment affects only programming signals. The measures proposed should have the effect of providing a firm legal basis to satellite-service originators who wish to market their services to individuals, cable companies and SMATV operations serving hotels, motels, apartment buildings and condominium complexes. At the same time, the proposed amendment would provide for the integrity of satellite delivery for program originators who have no desire to have their signals received by the public (for example, "network feeds" of programming to their affiliates).

This proposal would allow a market to develop in the retailing of satellite programming services that are intended for public reception only upon payment of a fee, for example Pay-TV and other discretionary services. The proposal envisages an increased reliance on private enterprise in an area that is almost free of governmental or CRTC regulation.

The Radio Act amendment offers the following advantages over the "deeming provision": 1) it involves no new governmental (or CRTC) regulation 2) it is more comprehensive because it includes unauthorized interception by individuals 3) the government would not be required to undertake expensive and unpopular prosecutions because the market would be given the tools it needs to regulate itself, and in the process, will allow Canadian businesses to compete fairly and to sell and buy

services in a competitive market. As well, it would provide a clear and consistent statement of the "rules of the game".

The Government has endorsed the recommendation of the Standing Committee on Communications and Culture to amend the Radio Act.

d) One Potential Problem

If service providers are in fact denying fair and equitable access to satellite-delivered television signals, as Mr. Bothwell claims, the private right of action could unduly penalize SMATV systems which are genuinely interested in becoming part of, and contributing to, the Canadian broadcasting system, but are prevented from doing so because they are unable to obtain legitimate access to signals.

Government policy intends that SMATVs and cable companies should be allowed to compete. However, just as no mechanism exists to clarify the legal status of SMATVs and thereby, the regulatory environment under which both would compete equitably, there is no guaranteed mechanism yet which ensures that both cable systems and SMATV systems have fair access to signals under equitable terms.

While the Radio Act amendment would address the situation from the service provider's and the cable system's point of view by providing them with some form of redress against illegal reception and redistribution of signals, it does not directly address cable's de facto dominant position as the primary, and some would argue, preferred, retailer of specialty services.

In recommending a private right of action amendment for Radio Act, the Standing Committee on Communications and Culture also recommended that the amendment be based on the principles in similar U.S. legislation, contained in section 705(a) of the U.S. Communications Act. Among other things, these principles stipulate that unless a service provider that scrambles its signal has a marketing scheme in place to permit legitimate, fair access to its service, the service provider is unable to take advantage of the private right of action allowed by the Act. In other words, the service provider cannot sue someone receiving its signal without permission, if the service provider does not make an effort to market the service to that person in the first place.

Whether or not, however, such a stipulation would eliminate the possibility that satellite programming services and cable companies could continue to make SMATV access to their services difficult, remains to be seen. It depends in large part on how "marketing scheme" is interpreted, and how "fair" a service's marketing scheme is perceived to be by the courts at any given time.

Thus, the private right of action by itself, may only be a partial solution to the problem of establishing a level competitive playing field for cable systems and other forms of distribution systems, such as SMATVs. Two approaches have been posited to ensure equitable access to services so that those SMATV operators who wish to compete legally and fairly can indeed do so. One approach relies on direct government involvement in the event that the Radio Act amendment alone is insufficient to ensure fair and equitable access (The Regulated Approach, Section 7), while the other relies on the marketplace (The Market Approach, Section 8).

7. THE REGULATED APPROACH TO ESTABLISHING A LEVEL PLAYING FIELD

Further action could be pursued by the government to reduce the potentially unjust implications of the Radio Act amendment and to allow full, fair implementation of the SMATV policy:

a) Use of the Power of Policy Direction

b) Implementation of Standing Committee recommendations for new legislative definitions of broadcasting and "distribution undertakings"

a) Use of the Power of Policy Direction

If the government assumed policy direction over the CRTC, it could instruct the Commission to establish the mechanisms which would permit SMATVs fair access to Canadian satellite program services under terms and prices similar to those available for cable systems. The use of the power of policy direction in this way would: provide the opportunity for SMATVs to operate according to the CRTC's exemption criteria; integrate SMATVs into the Canadian broadcasting system; and, permit such undertakings to contribute to the fulfillment of the system's cultural, economic and social objectives.

The Regulated Approach argues that (1) if the market and the judiciary continue to be unreliable mechanisms to ensure fair access and pricing of services; and, (2) if the government fails to take advantage of the power of policy direction in a manner as suggested above, then the private right of action in the Radio Act, without an accompanying measure to provide the opportunity for SMATVs to play fairly and equitably, would be perceived as a punitive measure by SMATV operators and their supporters in the satellite dish industry. The government would be viewed as being unfair and "out to get" all SMATV operators, when the real intent of the private right of action is to create a punitive deterrent to those SMATV operators who refuse to pay for the services they offer to their customers.

On the other hand, the proposed amendment ought to ensure that programming service providers market their service fairly, since a having fair marketing scheme in place would be a pre-condition for a service provider to take advantage of the private right of action in the first place.

In addition, the enactment of a power of policy direction by the government would add regulation to an area of broadcasting which is currently unregulated and would increase regulation at a time when the political environment envisages less government interference. Regulation would likely pre-empt any opportunity for the marketplace itself to solve the problem, and could be perceived as an unnecessary and premature intrusion into the market place.

b) New Legislative Definitions

As noted earlier, current legislation does not clearly define SMATVs as broadcasting undertakings and therefore, current legislation renders the CRTC virtually powerless in attempting to establish a level playing field for both SMATVs and cable systems. In its final report on the legislative aspects of the Caplan-Sauvageau Report on Broadcasting Policy issued in May, 1987, the Standing Committee on Communications and Culture recommended that a number of revised and new definitions related to broadcasting undertakings be adopted and included in new broadcasting legislation. For reference purposes, these recommendations are attached in the Supplement as Annex 3.

The Minister of Communications has already indicated the Government's intent to proceed with the introduction of legislative amendments to give the government the power of policy

direction over the CRTC. However, to fully implement the SMATV policy and to establish a level playing for both SMATVs and cable systems, SMATVs would have to be clearly defined as undertakings subject to the jurisdiction of the CRTC.

The adoption of definitions in legislation, as recommended by the Standing Committee, would clearly define SMATV systems as broadcasting undertakings, and more specifically, distribution undertakings, which would be subject to the regulation and supervision of the CRTC, and would give the CRTC the power to make all such distribution undertakings (including cable systems) subject to the same rules of play.

As a result, regulator, competitor, and supplier (service providers) would all be certain who was a legitimate affiliate, and who was not. It would also, of course, permit the establishment of a uniform regulatory environment for cable and SMATVs as distribution undertakings and thus, also address the unfair competition problem raised by cable companies, as described in subsection 4(a) of Part III of this paper.

However, the adoption of the Standing Committee's recommendations would not be without problems. For example, how would a hotel which operates an SMATV be treated? Would its entire activity, including providing food and accommodation among other things, be classified as an undertaking subject to CRTC jurisdiction? Obviously, this would be unlikely, as evidenced by the Lount decision that a hotel is not a broadcasting undertaking. On the other hand, how would the "broadcasting" aspect of its operation--the SMATV--be distinguished as the sole part of the hotel's activity subject to CRTC regulation and supervision? As well, the same opposition which effectively scuttled passage of the deeming provision contained in Bill C-20, could once again surface and give amendments based on these recommendations an equally hostile reception.

Therefore, if the adoption of some or all of the Standing Committee's recommended definitions is to be contemplated as a means of establishing a level playing field, due consideration must be given to the potential concomitant difficulties.

8. THE MARKET APPROACH TO ESTABLISHING A LEVEL PLAYING FIELD

The market approach is based on the premise that the mechanisms for establishing a level playing do exist, and that once these mechanisms are used, the marketplace itself will establish fair and equitable access to satellite-delivered television signals by competing distribution systems. There would thus be no need for government interference in the form suggested in the regulated approach.

The mechanics are provided by the new Competition Act, and the Competition Tribunal Act, passed in 1986. Briefly, these Acts permit those SMATV operators who claim they are treated unfairly in accessing satellite-delivered signals to request that the Director of Investigations and Research undertake an investigation into the selling practices of the service provider(s). If it was found that these providers were abusing their dominant position as suppliers, evidence would be presented to the Competition Tribunal in a civil hearing. If the Tribunal agreed with the evidence and if the service provider(s) failed to persuade it with the defence of its practices, the Tribunal is empowered to order the service provider(s) from engaging in the anti-competitive practices.

Because the Tribunal is a civil forum, service providers would not be able to rely on the defence, based in common law, that, as a regulated firm, competition law should not apply to their situation. Previously, behaviour to lessen competition in the marketplace was a criminal offence, and the prosecution had to prove criminal behaviour before any punitive action could be administered. As well, regulated firms could hide behind the above-noted common-law precedent in criminal court.

An order by the Competition Tribunal is, however, subject to appeal to the Federal Court of Appeal. In this forum, the argument that a firm is a regulated one and therefore, not subject to legislation concerning anti-competitive behaviour, would be usable. However, Consumer and Corporate Affairs Canada (CCAC), which administers the Competition Act, suggests that, in many regulated industries, regulations apply or need to apply only in certain areas. Once a line is drawn that clearly distinguishes what is regulated and what is not, the unregulated part of the industry could be subject to the provisions of the Competition Act.

The CRTC does not regulate the business practices of its licensees, including the wholesale rates charged by service providers. Therefore, CCAC suggests that if the Broadcasting Act specifically determined what areas of broadcasting are clearly subject to regulation, and what areas are not, the Act could further include a proviso that the Competition Act would apply in non-regulated areas of the business practices of CRTC licensees. This would, in effect, prevent the use of the regulated industry defence, even in the Federal Court of Appeal. This in itself would add teeth to the Tribunal's jurisdiction and in most cases, would prevent the need for a protracted investigation to present evidence to the Tribunal in the first place.

In most instances, the need for investigation would never arise; the existence of the Competition Act alone would suffice. When approached by CCAC, most companies would simply change their behaviour, even before an application was made to CCAC for an investigation to be undertaken. Indeed, CCAC takes credit for CANCOM's coming to terms with Mr. Bothwell at the mere suggestion of the provisions in the Act.

Thus, with the passage of a private right of action, the market approach envisions the following scenario: The threat of legal action would cause most SMATV operators to seek authorization from service providers to distribute their services under some form of affiliation agreement. If the service providers refused to do business, or engaged in anti-competitive behaviour by offering different terms than those offered to cable systems, SMATV operators could ask CCAC to investigate. If it found evidence to support the claim that service providers were abusing their dominant position, the Tribunal could issue an order effectively compelling them to play ball on the same terms as they play with cable systems.

If, on the other hand, no evidence could be found, it would be concluded that SMATV operators simply do not like the terms of agreement and the service operators could justifiably take legal action under the private right of action in the Radio Act. In most cases, agreements would be signed, since both supplier and SMATV operator (or individual home dish owner) would be aware of the costly alternatives.

The mechanisms to ensure that there is fair access to services do exist, then, in the marketplace; it just needs the chance to put the mechanisms to use, a chance that is provided by the private right of action amendment to the Radio Act.

PART IV:

OTHER ISSUES AND GOVERNMENT APPROACHES

1. THE HOME DISH OWNER
2. TWO ISSUES RAISED BY MR. BUREAU

PART IV: OTHER ISSUES AND GOVERNMENT APPROACHES

1. THE HOME DISH OWNER

a) The Issue: Individual home dish owners have paid up to $5,000 for a dish, plus the price of one or perhaps two descramblers (Oak Orion @ $500; VC II @ $800), and they have to pay to receive many satellite services. However, they usually have to pay more per service, on average, than does the cable subscriber, if in fact, the service they want is available to them in the first place.

b) Government Approach

a) The Issue: Cost and Availability of Services

Satellite programming services began operating in the United States some five years before Canadian services were introduced. When these services first started, their sole market was U.S. cable subscribers: cable systems received the signals with a dish and redistributed--retailed--them to their subscribers. It was thought that individuals or commercial establishments simply wouldn't go through the trouble or expense of purchasing a dish to receive the few satellite television signals that were being transmitted in the late 1970s. Also, it was mistakenly thought that ITU regulations precluded the sale of satellite-delivered television services to individuals. Hence, no service scrambled its signals and no service thought to pursue the potential home dish market; it was thought it would never materialize.

This thinking was wrong. Whereas the lack of TV service in remote parts of Canada was once one of the disadvantages of living in non-urbanized communities, the satellite transmission of U.S. discretionary television services suddenly opened up a whole new window of television entertainment. All that was needed was a satellite dish.

The availability of U.S. satellite services, then, provided much of the impetus for the purchase of a dish in the first place. Now, of course, there are many more U.S. services being transmitted by satellite and there are also Canadian

specialty services being transmitted by satellite, as well as the CANCOM package service.

However, because of the rapidly growing number of individuals and commercial establishments with dishes, many of the services scramble their signals to prevent unauthorized and uncompensated viewing. This has created frustration and disappointment for individuals who have invested in a satellite dish. Satellite television services that were perceived as being "free for the taking" are no longer so. At first, home dish owners did not seem to understand that scrambling was not necessarily intended to prevent them from receiving signals, it was meant to ensure that discretionary services received payment for their service.

Most Canadian home dish owners have begun to accept this. Many are still displeased, however, that they have to pay out another $800 for a VC II descrambler to receive those U.S. services which are able to authorize reception of their service in Canada, such as Cable Network News (CNN).

Moreover, many dish owners are upset that they cannot receive Canadian satellite services because these services have not concentrated on marketing their services to the individual home dish market. For instance, the Department of Communications has received a considerable amount of correspondence from disgruntled Canadians complaining that the all-sports Canadian satellite service, TSN, is not available as a stand-alone service to individuals. It is available to individuals only as part of the CANCOM package priced at $21.95 per month. However, TSN is available on a stand-alone basis to cable subscribers.

Nonetheless, individuals do have access to the CANCOM package service, and First Choice recently began to sell directly to individuals. Both companies have DTH marketing strategies and operations separate from their cable marketing operations.

Another concern of individual home dish owners is that, even if a service is available, the price is too high. For example, many complain that they should not have to pay for a descrambler in addition to paying a monthly subscription fee in order to receive CANCOM. They are especially upset that the conventional TV stations which it provides to individuals are available free in urban areas (because the signals originate there), or are available on basic cable in urban areas for a

small monthly payment, or are available through CANCOM for a small cable subscription fee in less remote parts of Canada.

For individuals who wish to subscribe to First Choice, the problem is not so much the rate ($149.95 annually) as the extra expense involved in converting their dishes to receive the service. Most home dish owners have a C-Band dish (essentially because most satellite-delivered services, especially American services, are delivered by C-Band satellites), but First Choice is transmitted by Ku-Band satellite (Anik C3). Therefore, First Choice is available only to those dish owners who have a Ku-Band dish, or to C-Band dish owners that have dual band receiving capability. The C-Band dish owner faces costs of up to $1,500 to convert the dish to dual-band capability, excluding the cost of purchasing a VC II decoder. And, because satellite receiving technology has changed so rapidly, a dish bought just one year ago may already be obsolete and unable to accommodate conversion. The solution to this is, unfortunately, to buy a new dish, which represents another $3,000 purchase.

In sum, home dish owners want fair access to satellite services at reasonable prices.

With regard to CANCOM, the point that home dish owners (and SMATV operators) fail to appreciate is that an individual subscriber will pay more per month for CANCOM services than a cable system subscriber, since the cable company can amortize the cost of receiving CANCOM services over a number of households. In addition, CANCOM's overhead costs in serving the individual home dish market are higher than for its cable markets. These same economies of scale apply to other satellite-delivered specialty services.

In the case of First Choice, the home dish owner is simply a victim of rapidly changing technology. Like the audiophile who purchased an eight-track player for his or her automobile in the mid-1960's, the appearance of cassette tape player/recorders shortly afterwards rendered eight-track systems virtually obsolete.

It should be kept in mind, however, that the Canadian Direct-To-Home (DTH) market is still young. Like the American services which preceded them, Canadian satellite programming services were not originally set up to handle demand from individual home dish owners immediately after start-up. These services first concentrated on serving demand from cable

subscribers, since the available pool of revenue from this market was required to finance initial losses and thence, to expand to serving the smaller, more dispersed DTH market.

Canadian services do, however, recognize the demand from individuals for their services, and have begun to respond to it. For instance, CANCOM and First Choice have established divisions which concentrate on the marketing of their service to individual dish owners. Still, the specialty services are still not actively sold directly to home dish owners.

b) Government Approach

There is not a lot the government can do to ensure that Canadian satellite services are available directly to individual dish owners at reasonable prices. With respect to CANCOM, the company is subject to the regulation and supervision of the CRTC. However, with regard to the price of CANCOM's services, the CRTC regulates the maximum rates charged to cable companies, but has chosen not to regulate the rate charged to individual subscribers. The CRTC has refrained from regulating the marketing of the Canadian specialty services to individuals as well.

The CRTC has been studying the regulation of DTH services for sometime. It has not, however, yet announced what it intends to do about them, if anything.

For the time being, the Department of Communications has been advising dish owners who have written to it on this matter to write to the Canadian specialty services and to CANCOM to explain the problem. In a sense, the Department is relying upon potential customers to let the service providers know more about the DTH market so that they can in turn, provide optimal service to individual dish owners. Given that the CRTC is still drawing up its regulatory approach to DTH, the Department is also forwarding copies of such correspondence to the Commission.

Ultimately, of course, some time must still be allowed to pass for the marketplace to solve any perceived or real problems in terms of access and price for the individual dish owner market. For example, as more and more discretionary services become available on Ku-Band satellites, the attractiveness of Ku-Band (or dual-band) receiving equipment will increase, leading to a price reduction. As well, as the rate of technological development in receiving equipment becomes more stable, any new

satellite dish purchased will be less susceptible to becoming obsolete, making less likely the necessity and accordant extra cost of converting existing equipment to take advantage of developments in satellite receiving equipment. However, there is more fancy than likelihood, at least at present, in there being a more stable rate of technological change in the near term.

2. TWO ISSUES RAISED BY MR. BUREAU

In a letter dated March 31, 1987, the Chairman of the CRTC, Mr. André Bureau, raised two issues of concern to the Commission related to the transmission of television services by satellite. These issues are:

a) Availability of the VideoCipher II (VC II) Descrambler

b) Availability of Low-priced U.S. Satellite Programming Service Packages

a) Availability of the VideoCipher (VC II) Descrambler

As described in Part I, subsection 4(c) of this paper, some U.S. services are not able to authorize reception of their service in Canada since they have not acquired the right to exhibit the programming in Canada from the program supplier. Individual Canadians (and cable companies) cannot, therefore, subscribe to these services.

However, many Canadian individuals have purchased the VideoCipher II (VC II) descrambler to receive those American services which are able to authorize reception of their service in Canada. In addition, First Choice Pay-TV is using the VC II scrambling technology. And, of course, many cable companies use the VC II decoder to acquire the signals of U.S. services which they are allowed to redistribute to their subscribers.

When American services first started scrambling in early 1986, there was a mistaken impression in Canada that the government was preventing the importation of the VC II decoder (they are not manufactured here) to prevent individuals from receiving U.S. satellite services on their satellite dish. As noted above, this was not--and is not--so at all.

However, it was also unclear whether U.S, suppliers could export the VC II to Canada. The confusion related to the sophisticated electronics in the decoder which are subject to export restrictions by the U.S. This is because the electronics have applications for things other than just descrambling TV signals, notably with respect to preserving the U.S. national security. However, these restrictions do not apply to export into Canada.

Thus, the VC II decoder is legally available for export into, and sale within, Canada.

Mr. Bureau raised the issue of availability of the VC II because of dishonest use of the descrambler by some dish owners, including SMATVs, and the implications which such use has on the Canadian broadcasting system. This is explained in the following paragraphs, but it is worth noting here that there is a second matter: the future use of the decoder to receive a whole new range of low-priced U.S. satellite programming services, the availability of which could have implications for the Canadian broadcasting system. This is the second issue raised by Mr. Bureau which is discussed in more detail in subsection 2(b).

As for current use of the VC II decoder, SMATV operators can purchase a single satellite dish to serve all the residents in their building, thus by-passing the cable company and depriving the cable operator of potential revenue. Since SMATV systems are beyond the regulatory control of the CRTC, they can offer to tenants more U.S. signals than the local cable company is allowed by the CRTC to offer to its subscribers, and use the VC II to acquire the signals. Obviously, the cable company is at a competitive disadvantage.

Moreover, some less scrupulous Canadian individuals tamper with the VC II decoder to enable them to receive U.S. signals without payment to the U.S, service provider. Some building-top dish owners also offer signals to their tenants for which they should rightfully pay a per subscriber fee to the U.S. service provider, but do not. This is sheer theft of service and a violation of the U.S. service's contract with program producers, but it is virtually impossible to police.

Thus, to prevent unfair and illegal competition to cable companies, and to prevent outright theft of service, it has been suggested that the government just not allow the VC II decoder into Canada.

This is not, however, a viable suggestion. The VC II technology has become a de facto industry standard in the U.S., as all programming services who are presently scrambling or have announced plans to do so, use the VC II technology. In addition, First Choice Pay-TV is using the VC II technology for scrambling its signals. Accordingly, Canadian cable companies carrying First Choice or any authorized U.S. service such as CNN require the VC II decoder in order to receive and subsequently redistribute some signals to their subscribers. In addition, individual satellite dish owners require the VC II to receive U.S. satellite-delivered services which own the right to show their programming in Canada. It is not government policy to deprive such legitimate access to satellite signals and the government could not, therefore, restrict the availability of the VC II decoder by denying its entry into Canada.

The problem of unfair and illegal competition for cable systems, and the problem of theft of service by individuals would, therefore, have to be addressed by other means, such as the legislative measures suggested in Part III, Section 6 of this paper.

b) Availability of Low-priced U.S. Satellite Programming Service Packages

Mr. Bureau also raised in his letter to the Minister, the CRTC's concern about unrestricted availability of U.S. satellite programming packages, which plan to use the VC II technology to scramble their signals.

As described in Part I, subsection 2(c) in this paper, a programming package service groups, or packages, various conventional and specialty services together for distribution as a package to cable systems and home dish owners.

The CANCOM service is the only Canadian satellite programming package service.

However, Mr. Bureau's concern is that American satellite program package services could be made available in Canada. One example is Netlink U.S.A., which proposes to assemble the signals of five conventional U.S. television stations, put them up on satellite, and distribute them to individuals all over the U.S.A. Mr. Bureau is concerned that this service, and others like it, will be made available to Canadian dish owners for a price substantially below the $21.95 per month fee charged by the only

Canadian packager, CANCOM. He is also concerned with specialty service packagers such as the service proposed by Viacom, which would make available two U.S. pay-TV services to individuals at a price barely above the fee charged to receive the Canadian movie services, First Choice and Superchannel.

Mr. Bureau is concerned that, if these types of services are allowed in Canada, individuals will choose them over their Canadian counterpart, thus threatening CANCOM's viability. He is also concerned that eventually, cable subscribers may start demanding equal access to these relatively inexpensive services with popular American programming and that this could have a deleterious effect on the stability and integrity of the Canadian broadcasting system.

As stated in Part III of this paper, neither the government nor the CRTC interfere in the reception of satellite television signals by Canadian home satellite dish owners. Neither does the government or the CRTC have clear jurisdiction over the reception and redistribution of these low-priced U.S. services by building-top dish operators (SMATVs) to their tenants. However, the CRTC does have the power to prevent cable systems from receiving and redistributing these signals since cable systems are broadcast licensees, subject to the regulations of the Commission.

If, then, the government desired to restrict the availability of these low-priced American satellite programming service packages to individual satellite dish owners--and this paper by no means advocates this--the only way this could be done would be for the government to request the U.S. Federal Communications Commission (FCC) not to authorize the carriers--the satellite owners--of the U.S. packagers from offering their services directly to Canadian individuals. This would be made possible by the Canada - U.S. exchange of letters, 1972, referred to earlier in this paper (Part I, Section 4).

On the other hand, it is uncertain at this point whether the program distribution arrangements made between the program suppliers and the program services carried by the U.S. packagers would permit distribution of the package service in Canada.

Thus, some U.S. specialty services are not able to authorize reception of their service in Canada since they have not acquired the right to exhibit the programming in Canada from the program supplier. Individual Canadians (and cable companies)

cannot, therefore, subscribe to these services. To the Department's knowledge, this is the case with the programming offered by the Viacom package.

However, this situation might not apply to U.S. services such as Netlink which packages only conventional American television stations. In fact, the question is still open. Even in the United States, the question of whether Netlink can legally retransmit to individuals, by satellite, the programming beyond the territory of normal antenna reception for each station has not been answered.

Nonetheless, a Canadian satellite trade magazine reported that a new Canadian packager, Tee-Com, reached an agreement with an American programming package service to provide some of the latter's program services, including the Netlink services, to Canadian home dish owners. It appears that Tee-Com would simply be the sales and marketing agent and would not, therefore, require any government or regulatory approval to act on Netlink's behalf in selling the service to Canadian individual dish owners. The CRTC would, however, be able to prevent cable systems from distributing the Netlink service.

Subsequent to this report, the Satellite Entertainment Guide, a kind of "TV Guide" for dish owners, reported in its August, 1987 issue that the giant American cable firm, TCI, purchased Netlink, and put plans to market the Netlink service in Canada on "indefinite hold". The magazine interpreted this to mean that TCI will not make Netlink available in Canada.

PART V:

CONCLUSION

1. BENEFITS OF SATELLITE TECHNOLOGY
2. PERCEPTIONS NEED TO CHANGE
3. POSSIBLE POLICY APPROACHES
4. CONCLUSION

PART V: CONCLUSION

1. BENEFITS OF SATELLITE TECHNOLOGY

The use of satellite technology in Canadian broadcasting has created a number of readily identifiable benefits. For conventional broadcasting networks, satellite delivery of programming feeds represents an economical way to ensure coverage of virtually the entire country with good quality television signals. For broadcasting entrepreneurs, satellite delivery made possible the establishment of pay-TV and specialty service networks in Canada. For viewers, satellites have made possible the extension of broadcasting services to areas of the country that were previously underserved; satellites have enabled the equalization of television viewing opportunity, regardless of an individual's geographic location. Of course, the growth in the number of services--the pay and specialty services--has benefitted all viewers. There is more programming available, some of which would otherwise be unavailable on traditional, conventional over-the-air television. These benefits have accrued in a remarkably short period of time, in less than six years at most.

The Canadian broadcasting system and the TV viewer can look forward to increased benefits in future, although as this paper has demonstrated, not before the adaptation of the technology has matured.

That is, this paper has illustrated that the arrival of satellite technology and its initial application to broadcasting has not occurred without problem. The issue of access to services perhaps best illustrates the most immediate problem with the technology: how best to harness the technology for the mutual benefit of new and existing programming services and the television viewer.

2. PERCEPTIONS NEED TO CHANGE

Satellite delivery of television signals has demonstrated that the distribution of television signals by cable TV systems--the most common form of TV reception in Canada--is not the only form. Other redistribution systems that perform essentially the same role as cable television systems, such as SMATVs, have been made viable by the availability of television signals by

satellite. And, viewers who rely solely on satellites for television reception do indeed exist outside of urban cabled areas, be they individual dish owners or subscribers to remote cable systems whose existence is made possible by satellite-delivered television signals.

Still, perhaps because of a status quo mentality focussed on the "old" technology of cable, urban cable systems and urban cable viewers were the first beneficiaries of satellite technology. The new satellite technology was initially adopted in a way that served the status quo. This resulted in allegations from some quarters that cable systems and satellite programming service providers were conspiring to inhibit the complete integration of satellite technology for the benefit of all. However, it is more likely that attitudes and perceptions based on existing technology were simply not quick enough to change, and may not have changed yet.

For example, when U.S. programming services first appeared on satellites, many individual dish owners perceived them to be like any conventional TV service: "free for the taking". However, as described in this paper, most satellite-delivered services are discretionary services, intended for paying audiences. It was not until scrambling began that most Canadian dish owners realized that satellite technology brought with it a new way of watching television: with a descrambler and with payment to a service provider. Although most dish owners have accepted this reality, albeit reluctantly to some extent, there are some who still refuse to accept that satellite programming service providers require, and are entitled to, payment for the provision of their service.

Moreover, and perhaps more instructive, the term "satellite-to-cable programming services" is often used in both Canada and the United States to refer to satellite-delivered specialty programming services. That is, the perception that cable is the only destination for these services still surfaces in broadcasting vocabulary. At the CRTC's marathon public hearing on new specialty services held in July, 1987, the term "satellite-to-cable" was used by broadcasters, cable operators, service providers, interest groups representing television viewers, and, the CRTC panel of commissioners itself. This may, unfortunately, be indicative that the "status quo" mentality has some way to go before it is replaced by a perception of satellite technology more appropriate to the emerging reality: reception and redistribution of satellite programming services is not the

sole domain of cable or of any other established broadcasting player, nor should it be. As this reality becomes more recognized, and more importantly, accepted, the less problematic will become the complete integration of satellite technology into the Canadian broadcasting system.

3. POSSIBLE POLICY APPROACHES

This paper briefly described the efforts of some programming service providers to respond to the non-cable viewer market (the home dish owner and SMATV systems). However, this market is evolving later than expected and somewhat more slowly than policy-makers would prefer. It is, however, evolving, doubtless to create new issues.

The policy question is whether to get the government directly involved to manage the integration of satellite technology through regulation, or whether to allow the broadcasting industry itself the freedom to adopt and accommodate the technology within the system.

The first approach may well ensure access to services at reasonable cost for individuals, and may well create equal opportunity and fair competition among competing redistribution systems. However, such an approach could impose yet another complicated and potentially inflexible form of control on an already heavily regulated broadcasting environment, and on a technology that may well prove to be impossible to regulate in any case. By stifling the broadcasting industry's own innovation to use satellite technology for the maximum benefit of the television viewer, and by predetermining the limits on the use to which the technology may be put, regulation could in turn pre-empt potential opportunities and benefits for the viewer that would otherwise be realizable in an unregulated environment.

The second, market-based approach could, on the other hand, permit the free reign of entrepreneurial creativity to unleash the promises of satellite technology. This approach, however, relies on the ability of broadcasters to recognize and seize the opportunities provided by satellite technology in a manner that broadens opportunities for new audiences. There is cause for cautious optimism in this regard, if the efforts of CANCOM and First Choice to serve the SMATV and individual home dish owner markets are an indication.

Nevertheless, the integration of satellite technology in the Canadian broadcasting system is still in its early stages. Although rather slow, still somewhat imperfect, and a little tardy, the market itself is managing the integration of satellite technology. The new Competition Act, which is capable of ensuring proper competitive behaviour, and the incipient private right of action amendment to the Radio Act, which will curb unauthorized reception, achieve the same purpose--a level playing field--that direct regulation otherwise could. As well, it is expected that the proposed private right of action amendment to the Radio Act will encourage satellite programming service providers to put good marketing schemes in place, since without a marketing scheme, they would not be able to take advantage of the private right of action.

The advisable approach, then, might be to permit the integration of satellite technology into the Canadian broadcasting system to be managed by the marketplace unless, or until, the free marketplace proves conclusively that it is unable to manage the process alone. If matters reach this point, which is not to say that they will, regulation may well become the desirable approach to ensure not only that the potential of satellite technology is realized and the benefits shared equitably, but that its potential dangers, such as to the preservation of Canada's cultural integrity and to the viability of existing broadcasters, are minimized.

4. CONCLUSION

The U.S. Congress is currently studying two bills calling for government action to ensure fair access to services at reasonable prices by individuals and SMATV systems. These bills, and earlier unsuccessful ones like them, arose out of a lack of faith on the part of some Congressman in the marketplace's ability to manage the integration of satellite technology for broadcasting in that country. This, in the nation that is the world's staunchest believer in, and defender of, free enterprise.

At a House of Representatives telecommunications subcommittee hearing on access to satellite-delivered programming services in June, 1987, subcommittee member Al Swift told the U.S. cable industry that:

> We're [Congressmen] dealing with public dissatisfaction. What the real problem is...you need to respond to it if you're going to keep us from going in and doing it for you.[14]

His words are as equally applicable to players in the Canadian broadcasting environment: if the Canadian broadcasting system is unable to adjust to, and harness satellite technology for the benefit of all television viewers, or if the players themselves refuse to compete on fair and equitable terms, the government may have to step in.

Who among Canada's broadcasting players or who among the millions of Canadians who receive at least some of their favourite television programs by satellite, really wants that?

---

14. As quoted in Broadcasting, July 20, 1987, page 58.