

INTEGRATING SATELLITE TECHNOLOGY
INTO THE CANADIAN BROADCASTING SYSTEM:

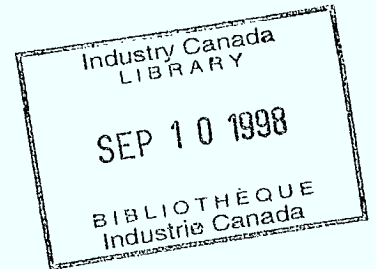
A PRIMER ON SATELLITE TELEVISION

S U P P L E M E N T

September, 1987

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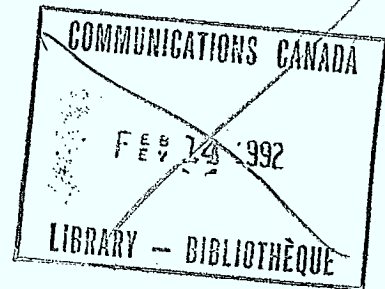


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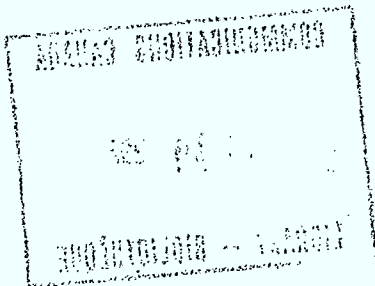
A PRIMER ON SATELLITE TELEVISION

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S U P P L E M E N T

<u>GLOSSARY OF TERMS</u>	2
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TABLES

Table 1: Canadian Programming Services on Satellite	13
Table 2: American (and Mexican) Programming Services on Satellite	16
Table 3: North American Satellites Carrying TV Programming	28
Table 4: Directory, Canada	30
Table 5: Directory, U.S.A.	35

ANNEXES

Annex 1: List of Canadian and U.S. Satellite Services Approved by the CRTC for Distribution by Urban Cable Systems	42
Annex 2: List of U.S. Satellite Services Approved by the CRTC for Distribution by Smaller Cable Systems in Underserved (Core) Communities	44
Annex 3: Recommendations of the Standing Committee on Communications and Culture Proposing Amendments to the Radio Act for a Private Right of Action	45
Annex 4: Recommendations of the Standing Committee on Communications and Culture Concerning New Definitions to be Included in New Broadcasting Legislation	46

GLOSSARY

Glossary of Terms

Affiliate

A TV (or radio) station which agrees to carry the programming of a network. Also applies to cable systems in carrying specialty and pay programming services.

Affiliation agreement

In conventional broadcasting, the agreement made between an affiliate and the network operator establishing the terms of program carriage, compensation paid to the affiliate for the network's use of the affiliate's air time, and commercial revenue sharing and payments for advertisements aired during the network's programs.

The affiliation agreement made between cable systems and satellite programming service providers is different from the agreement made between conventional networks and over-the-air affiliates. The agreement between a cable system and a specialty service authorizes the cable system to receive and redistribute the service's programming to subscribers in return for a per-subscriber fee paid to the specialty service provider (the wholesale price). Cable systems in turn charge a retail fee to subscribers which includes overhead and a profit margin. Generally, the affiliation agreement also includes a commitment on the part of the cable system to promote and market the specialty service in its licensed territory.

Anik C3

The name given to Telesat Canada's medium-power Ku-Band satellite which carries television signals. Anik C3 was launched in November, 1982 by the space shuttle Columbia. See also Ku-Band.

Anik D1

The name given to Telesat Canada's less powerful C-Band satellite which carries television signals. Anik D1 was launched in August, 1982. See also C-Band.

Available services

Term used to denote satellite programming services that are legally available to individual satellite dish owners. There are two kinds: (i) "free" services, which are available simply by tuning the satellite signal receiver, and (ii) discretionary services, which require the individual to subscribe to the service through the payment of a monthly fee to the service provider.

Authorized services

Satellite programming services that are permitted carriage on Canadian cable systems by the CRTC.

Beam

The directional pattern of a satellite's antenna. The Anik D1 satellite has a single beam covering virtually all of Canada (and northern U.S.). The Anik C3 satellite has two beams, one covering western Canada, and the other covering eastern Canada.

C-Band Satellite

Low-power satellite using the 6/4 GHz frequencies. The 5.925 - 6.425 GHz band is used to transmit signals from earth to the satellite (**uplink**), while the 3.7 - 4.2 GHz band is used for space-to-earth transmissions (**downlink**). Susceptible to terrestrial interference, particularly in urban areas. Nonetheless, most satellites used for television distribution today are C-Band. Because of the low power, large dishes of up to three meters in diameter are required to receive signals transmitted by C-Band satellites.

Canadian Satellite Communications (CANCOM)

Licensed by the CRTC in 1981 to provide broadcast services to rural and remote communities (underserved communities) by satellite. The need for such a service had been identified by the Therrien Committee on Extension of Services to Northern and Remote Communities. The Committee had recommended in its report to the Chairman of the CRTC in July, 1980, that the CRTC proceed to licence such a service on an urgent basis. CANCOM also provides U.S. signals to some urban cable systems which would not otherwise receive all U.S. network signals (ABC, CBS, NBC, plus PBS) or which were otherwise receiving poor-quality signals delivered by terrestrial means, such as microwave. As of August, 1987, CANCOM was providing service to 1.4 million households in over 1,000 communities via cable and community rebroadcasting systems, and to 4,200 individual home dish owners (DTH service).

Conventional Broadcasting Signals

Signals transmitted by television and radio stations over-the-air for reception by home antenna. The "original" kind of broadcasting transmission. See also over-the-air transmission and off-air reception.

Core Community

See underserved community.

Direct-to-Home Broadcasting (DTH)

The sale of a satellite-delivered programming services directly to individuals who own satellite dishes.

Descrambler

Also called a decoder. A device used by television viewers to restore a scrambled television signal to a normal TV picture to enable viewing.

Discretionary service

A programming service delivered (usually, but not always, by satellite) to redistribution systems and to individuals for which payment of a fee to allow viewing is required.

Dish

See TVRO.

Downlink

A signal transmitted from a satellite down to receiving dishes on earth.

Footprint

Term used to describe the geographical coverage area of a satellite's transmission.

Geostationary orbit

The circular orbit about 36,000 km above the equator where satellites have an orbital period of 24 hours and therefore appear stationary from any point on earth. That is, the position of the satellite relative to the earth does not change.

Gigahertz (GHz)

A Gigahertz is a unit of frequency in the radio spectrum. One GHz is one billion hertz. The 6/4 GHz and 14/12 GHz frequencies are used by satellites that transmit television programming.

International Telecommunications Union (ITU)

The ITU establishes technical regulations for the operation of telecommunications services across international frontiers, including satellite-delivered television programming. It is a specialized agency of the United Nations with a membership of 161 countries, including Canada.

Ku-Band Satellite

Medium-power, second generation of satellites using the 14/12 GHz frequencies. The 14.0 - 14.5 GHz band is used to transmit signals from earth to the satellite (uplink), while the 11.7 - 12.2 GHz band is used for space-to-earth transmissions (downlink). More powerful and less susceptible to terrestrial interference (save for "rain fade") than C-Band, and a smaller dish of less than 2 meters in diameter is all that is needed to receive TV signals. However, Ku-Band transmission are susceptible to "rain fade", interference caused by heavy rainfall. Many Canadian services transmit on the Anik C3 Ku-Band satellite. It is estimated that only 5% of home dish owners own a Ku-Band dish.

Network Feed

Part of a conventional TV network's programming transmitted in unfinished form to affiliates. Satellites are used by many networks to deliver both taped and live programming to affiliates, where the latter inserts commercials, and either airs the program as received (live), inserting commercials where necessary, or records the program for playback at some other time. 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.

Oak Orion

The **encryption** system used by CANCOM and TSN for scrambling their signals.

Off-air Reception

The reception of conventional broadcasting signals by home antenna transmitted by a terrestrial-based TV transmission tower.

Over-the-air Transmission

The transmission of a conventional broadcasting signal by a terrestrial-based transmission tower.

Pay-Per-View

Discretionary programming that is requested and paid for by subscribers on a per-program basis.

Pay-TV Service

A programming service for which viewers pay directly and that generally focusses on a particular type of programming, such as sports or movies, but that also features some variety and premium entertainment specials not available on advertiser-supported television. Pay services are generally distinguished from discretionary specialty services in that they are commercial-free and rely solely on subscriber revenue for revenues. First Choice, Superchannel and Super Écran are the Canadian Pay-TV services.

Private Right of Action

A right of a service provider to launch a civil suit for damages for unauthorized reception and/or redistribution of a programming service which causes a loss, or the right to obtain an injunction against such activity.

Programming Service

A service that is licensed by the CRTC to use the airwaves to provide TV programming to the public.

Redistribution System

Collective term used to denote systems, such as Cable TV and SMATVs, that receive programming service transmissions and redistribute them to subscribers.

Satellite Master Antenna Television (SMATV) System

A redistribution system serving a multiple-dwelling unit (for example, a hotel, an apartment building, or a condominium), with building-top receiving equipment, such as a satellite dish, and a distribution link by wire throughout the building. SMATVs perform essentially the same function as cable systems, but the area of service is generally restricted to the building itself.

Satellite Program Packaging Service

A programming service that groups, or packages, various separate programming services together for distribution as a package. 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).

Scrambler

A device used by service providers to electronically alter a signal so that it can only be viewed on a TV set equipped with a decoder. The actual process of scrambling the signal is called encryption.

Service Provider

Also referred to as programming service provider. An entity that provides a programming service to the public.

Specialty Service

A programming service featuring one specific kind of programming, such as all-sports or all-music. Most specialty services are discretionary, and rely on both commercials and subscriptions for revenue. Accordingly, the monthly subscription to a specialty service generally costs less than a subscription to a Pay-TV service.

Spillover

Satellite signal coverage pattern beyond the intended primary coverage area. For example, satellite signals consisting of television programming intended for audiences in Canada that are carried by Canadian satellites, also spillover into much of the U.S.

Super station

Local conventional TV station which achieves national distribution through the use of a satellite.

Telecommunications Programming Services Tax

More commonly referred to as the "cable tax". In general, the tax applies to the amount charged for the provision of a television or radio programming service, including installation, where that service is provided by means of telecommunications, and is payable by the person providing the service. The tax also applies to equipment used to receive programming services provided by telecommunications, including satellite dishes and descramblers.

The tax is currently 8%, but will rise to 10% effective January 1, 1988.

The tax applies regardless of whether the service is authorized or not, and regardless of the technology used to provide the service. In addition to cable, pay television and specialty services, the following services are also taxable: SMATV, if a separate charge is made for the provision of that service; and, movies provided on televisions in hotel rooms for a separate charge where the movie is provided by means of telecommunications.

Although the tax was established to help finance the assistance to producers provided by the Broadcast Fund, it is not a dedicated tax. Rather, the revenues flow into the Consolidated Revenues Fund in common with most other taxes.

Telesat Canada

Telesat Canada is the company created by Parliament in 1969 to develop, own and operate a commercial satellite system for national telecommunications. Its ownership is shared by the government of Canada and Canadian telecommunications common carriers. Currently, it is a monopoly: all commercial Canadian satellites are owned and operated by Telesat.

Transponder

The electronic package for one satellite radio channel, typically with a bandwidth of 36 MHz to 54 MHz.

TVRO

TV Receive Only earth station. A parabolic dish capable of receiving TV signals from a satellite. More commonly known as a satellite dish.

Underserved community

As defined by the CRTC, those areas of Canada where there are less than two television stations available "off-air" (i.e., through the use of a conventional TV antenna).

Uplink

A signal transmitted from earth up to a satellite.

VideoCipher II (VC II)

A sophisticated type of encryption system used to scramble television programming transmissions. Used by First Choice in Canada, and by most U.S. discretionary programming services that scramble. It has become the de facto standard of encryption in the U.S.

TABLES

TABLE 1: CANADIAN PROGRAMMING SERVICES ON SATELLITE

TABLE 2: AMERICAN (AND MEXICAN) PROGRAMMING SERVICES ON SATELLITE

TABLE 3: NORTH AMERICAN SATELLITES CARRYING TV PROGRAMMING

TABLE 4: DIRECTORY, CANADA

TABLE 5: DIRECTORY, U.S.A.

Table 1:

**CANADIAN PROGRAMMING SERVICES ON SATELLITE
C-BAND (6/4 GHz) AND KU-BAND (14/12 GHz)**

Bold-face type denotes scrambled services

Service	Type of Service	Description	Satellite
Access Network	Conventional	Educational programming service for the province of Alberta	Anik C3, western beam only
Atlantic Television System (ASN)	Specialty	Children's, educational, and some CTV programming	Anik C3, eastern beam only
Canadian Home Shopping Network (CHSN)	Non-programming	Home shopping service. Two transponders for English-language service; one transponder for the French-language service (CHSC) [Daily, 24 hours]	Anik C3
CANCOM	Packager	Distributes 10 TV services to remote community cable systems and to individuals: via Anik D1: CHAN, Vancouver (CTV) CHCH, Hamilton (Ind.) CITV, Edmonton (Ind.) TCTV, Montreal (TVA) WJBK, Detroit (CBS) WDIV, Detroit (NBC) WXYZ, Detroit (ABC) WTVS, Detroit (PBS) via Anik C3: KING, Seattle (NBC) KOMO, Seattle (ABC)	Anik D1 Anik C3, western beam only

Service	Type of Service	Description	Satellite
CBC	Conventional	CBC uses four transponders for program feeds to English- and French-language affiliates	Anik D1
CBC: North	Conventional	The CBC Northern service	Anik D1
CBC: House of Commons	Specialty	Two transponders are used to deliver proceedings of the House of Commons (the Parliamentary Channel) in English and in French	Anik D1
CBC: CBMT-TV	Conventional	CBC's English-language owned and operated station in Montreal	Anik D1
La Chaîne Française (TVO)	Conventional	French-language educational programming service for the province of Ontario	Anik C3, eastern beam only
First Choice	Pay	First-run movies; specials [Daily; 24 hours]	Anik C3, eastern beam only
Global Television Network	Conventional	Occasional feeds of programming to western independent TV stations	Anik D1
Knowledge Network	Conventional	Educational programming service for the province of British Columbia	Anik C3, western beam only
Much Music	Specialty	Music videos [Daily; 24 hours]	Anik D1

Service	Type of Service	Description	Satellite
Musique Plus	Specialty	French-language music video service	Anik C3
Radio Québec	Conventional	French-language educational programming service for the province of Quebec	Anik C3, eastern beam only
La Sette (TVFQ99)	Specialty	Taped programming originating from France	Anik C3, eastern beam only
The Sports Network (TSN)	Specialty	Sports programming [Daily; 24 hours]	Anik D1
Superchannel	Pay	First-run movies; specials. Sister service to first choice, serving Western Canada [Daily; 24 hours]	Anik C3, western beam only
Super Écran	Pay	First-run movies, specials in French [Daily; 24 hours]	Anik C3, eastern beam only
Télé des Jeunes	Specialty	French-language youth programming	Anik C3, eastern beam only
Télévision Quatre Saisons	Conventional	Program feeds to affiliates	Anik C3, eastern beam only
TV Ontario (TVO)	Conventional	English-language educational programming service for the province of Ontario	Anik C3, eastern beam only
TVO: Ontario Legislature	Specialty	Proceedings of the Ontario legislature [Daily, when legislature is sitting]	Anik C3, eastern beam only

Table 2:

**AMERICAN (AND MEXICAN) PROGRAMMING SERVICES ON SATELLITE
C-BAND (6/4 GHz) AND KU-BAND (14/12 GHz)**

Bold-face type denotes scrambled services

Service	Type of Service	Description	Satellite
ABC	Conventional	ABC uses a total of five transponders on two satellites for affiliate feeds of live/taped network programming	Telstar 301 Telstar 302
ACTS	Specialty	Christian/family programming [Daily; 8 a.m - 2 a.m]	Spacenet 1
After Dark Video	Specialty	Overnight Adult entertainment service	Spacenet 1
Alaska Satellite Television Project	Conventional	Various network feeds and independent programming	Aurora
American Exxtasy	Specialty	Prime-time and overnight adult entertainment	Spacenet 1
American Movie Classics	Pay	"Vintage classic movies with daily theme presentation." [Daily; 8 p.m - 6 a.m]	Satcom F4
America's Shopping Place	Specialty	Home shopping service [Daily; 24 hours]	Westar 5

Service	Type of Service	Description	Satellite
America's Value Network	Specialty	Home shopping service [Daily; 24 hours]	Satcom F4
Armed Forces Satellite Network	Conventional	Various network feeds [Occasional]	Satcom F2R
Arts and Entertainment (A&E)	Specialty	Broadway, serials, performing arts, cultural programming [Daily; 8 p.m - 4 a.m]	Satcom F3R
Baptist Television Network (BTN)	Specialty	Religious programming available to churches [Daily; 8 a.m - 2 a.m]	Spacenet
Black Entertainment Television	Specialty	Black programming [Daily; 8 p.m - 2 a.m]	Satcom F3R
BizNet	Specialty	Business and public affairs programming [Mon. - Fri. 7 a.m to 2 p.m]	Satcom F4
Bravo	Pay	Performing and cultural arts [Mon. - Fri. 8 p.m to 6 a.m; Sat. and Sun. 5 p.m - 6 a.m]	Satcom F4
Cable News Network (CNN)	Specialty	News, features, investigative reporting [Daily; 24 hours]	Galaxy 1
Cable Value Network	Specialty	Home shopping service [Daily; 24 hours]	Satcom F1R Satcom F3R
Cable Video Store	Specialty	Home shopping [Daily; 24 hours]	Satcom F4
Caravan of Values	Specialty	Home shopping [Occasional]	Satcom F4

Service	Type of Service	Description	Satellite
Caribbean Super Station	Conventional	Family movies, news, sports from Aruba	Westar 5
Catholic Telecommunications Network of America	Specialty	Religious programming [Daily; 1 p.m - 4 p.m]	Westar 4
CBN Cable Network	Specialty	Family programming [Daily; 24 hours]	Galaxy 1
CBS	Conventional	CBS uses a total of five transponders on three satellites for affiliate feeds of live/taped network programming	Telstar 301 Telstar 302 Westar 5
Christian Television Network	Specialty	Religious programming [Daily; Noon - midnight]	Spacenet 1
Cinemax	Pay	Movie service designed specifically to complement HBO [Daily; 24 hours]	Galaxy 1 (East) Satcom F3R (West)
CNN Headline News (HNN)	Specialty	News headlines; hard news continuously updated [Daily; 24 hours]	Galaxy 1
Country Music Television (CMTV)	Specialty	Country music videos [Daily; 24 hours]	Telstar 303
C-SPAN	Specialty	Public affairs; U.S. Congress coverage [Daily; 24 hours]	Galaxy 1
C-SPAN II	Specialty	U.S. Senate proceedings [Daily; 24 hours]	Satcom F4

Service	Type of Service	Description	Satellite
The Discovery Network (TDN)	Specialty	Non-fiction programming in areas such as nature, science, history, technology and geography [Daily; 24 hours]	Galaxy 1
The Disney Channel	Pay	Children's and family programming [Daily; 6 a.m - 1 a.m]	Galaxy 1
ESPN	Specialty	Sports, some alternate entertainment programming [Daily; 24 hours]	Galaxy 1
ESPN Blackout Network	Specialty	Occasional programming that can be used in place of sporting events that are blacked out	Satcom F3R
Eternal World Television	Specialty	Catholic programming [Daily; 8 p.m - midnight]	Satcom F3R
Financial News Network (FNN)	Specialty	Business news and programming [Mon. - Fri. 6 a.m - 8 p.m]	Satcom F3R
First Run	Pay	Pay-per-view movie service [Daily; 24 hours]	Spacenet 1
Fox Broadcasting Corporation	Conventional	Fox uses a total of 4 transponders on two satellites for feeds of first-run syndicated programming to Fox "affiliates"	Satcom F1R Telstar 301
Galavision	Specialty	Spanish-language programming from Mexico, Latin America and Spain [Weekdays 4 p.m to 4 a.m; Sat. and Sun. 11 p.m to 4 a.m]	Galaxy 1

Service	Type of Service	Description	Satellite
Golden Gate Fields	Closed-circuit	Horse racing from Golden Gate Fields, California [Occasional]	Westar 4
Hispanic Broadcasting Corporation	Conventional	Program feeds to affiliates	Westar 4
Hit Video USA	Specialty	Music videos [Daily; 24 hours]	Satcom F4
Home Box Office (HBO)	Pay	Entertainment, sports and first-run movies [Daily; 24 hours]	Galaxy 1 (East) Satcom F3R (West)
Home Shopping Network 1 (HSN1)	Specialty	Home shopping service [Daily; 24 hours]	Satcom F3R
Home Shopping Network 2 (HSN2)	Specialty	Home shopping service [Daily; 24 hours]	Satcom F4
Home Sports Entertainment (HSE)	Specialty	Regional cable sports network affiliate feeds	Satcom F4
Hospital Satellite Network	Specialty	"A network for the hospital community... professional and patient programming as well as access to the national health community." [Daily; 24 hours]	Spacenet 1
Home Team Sports (HTS)	Specialty	Sports service from Washington, D.C. area	Satcom F4

Service	Type of Service	Description	Satellite
Independent Network News	Conventional	National news program for independent broadcasters [Daily; occasional]	Westar 3
KCNC	Conventional	NBC Affiliate, Denver	Satcom F1R
KDVR	Conventional	CBS Affiliate, Denver	Satcom F1R
KFMB	Conventional	CBS Affiliate, San Diego	Morelos 1
KMGH	Conventional	Independent, Denver	Satcom F1R
KRMA	Conventional	PBS Affiliate, Denver	Satcom F1R
KSCI	Conventional	Computer technology and financial programming from Los Angeles [Mon. and Tue. 10 p.m - 11 p.m]	Westar 4
KSPN	Conventional	Independent, Denver	Satcom F1R
KTVT	Conventional	Independent, Dallas	Telstar 303
KUSA	Conventional	ABC Affiliate, Denver	Satcom F1R
The Learning Channel	Specialty	Educational programming and college credit courses for adults [Daily; 6 a.m - 4 p.m]	Satcom F3R
Liberty Broadcasting	Specialty	Religious programming [Daily; 24 hours]	Satcom F4
Lifetime	Specialty	Family and health programming [Daily; 24 hours]	Satcom F3R
Madison Square Garden	Specialty	Live events from the Garden and syndicated programming [Mon. - Fri. 7 p.m - 11 p.m; Sat. and Sun. 3:30 p.m. - 4 a.m]	Satcom F4

Service	Type of Service	Description	Satellite
Meadowlands Horse Racing	Closed-circuit	Live horse racing [Occasional]	Galaxy 3
Meadows Racing Network (MNR)	Closed-circuit	Harness racing [Occasional]	Galaxy 3
The Movie Channel (TMC)	Pay	First-run movies [Daily; 24 hours]	Galaxy 1
MTV Music Television	Specialty	Music videos [Daily; 24 hours]	Satcom F3R
NASA	Specialty	Live NASA missions and events [Occasional]	Satcom F2R
The Nashville Network (TNN)	Specialty	Country music and programming [Daily; 9 a.m - 3 a.m]	Galaxy 1
NBC	Conventional	NBC uses one C-Band satellite transponder on Satcom F1R and seven Ku-Band transponders on Satcom K2 for affiliate feeds of network programming. NBC is the only TV network to use Ku-Band for this purpose.	Satcom F1R Satcom K2
New England Sports Network (NESN)	Specialty	Regional sports network featuring Boston Red Sox (baseball) and the Boston Bruins (hockey) [Occasional]	Satcom F4
Nickelodeon	Specialty	"Designed for pre-school through teen-age audiences. Advertiser-supported, non-violent, pre-social programming." [Daily; 24 hours]	Satcom F3R (East) Satcom F4 (West)

Service	Type of Service	Description	Satellite
Niteline Television Network	Specialty	Late-night and overnight religious programming service	Westar 5
The Nostalgia Network	Specialty	Nostalgic variety entertainment; classic movies [Daily; 24 hours]	Satcom F4
PASS (Pro-Am Sports System)	Specialty	Regional sports service from Michigan, Ohio and Indiana [Occasional]	Westar 5
PBS	Conventional	PBS uses a total of four transponders on one satellite for network programming feeds to affiliates	Westar 4
Penn National Racing	Closed-circuit	Horse racing [Occasional]	Westar 5
The Playboy Channel	Pay	Adult entertainment	Satcom F4
Prime Ticket	Specialty	Sports events from the Los Angeles Forum [Occasional]	Satcom F4
PTL--People That Love	Specialty	Christian programming [Daily; 24 hours]	Galaxy 1
QVC	Specialty	Home shopping "Quality, Value, Convenience" [Daily; 24 hours]	Satcom F3R
Request TV	Pay	Pay-per-view movies [Daily; 9 a.m - 5 p.m]	Galaxy 1
Rock Christian Network (RCN)	Specialty	Religious programming and gospel music videos [Daily; 24 hours]	Satcom F4

Service	Type of Service	Description	Satellite
Selec-TV	Pay	First-run movies, specials and late-night adult movies [Daily; 24 hours]	Spacenet 1
Senate Republican Conference News	Specialty	Republican conference news and related events from the Senate [Daily; 3:45 p.m - 4:45 p.m]	Galaxy 3
Shop at Home	Specialty	"Low-key" home shopping service [Daily; 11 a.m to 11 p.m]	Satcom F4
Shopping Line	Specialty	Home shopping [Daily; 24 hours]	Westar 3
Showtime	Pay	Blockbuster movies; serials; concerts [Daily; 24 hours]	Galaxy 1 (East) Satcom F3R (West)
Sky Merchant	Specialty	Home shopping service	Galaxy 3
Sports Channel	Specialty	Regional sports coverage; New York and New Jersey	Satcom F4
Sports Vision	Specialty	Regional network featuring Chicago area sports events [Occasional]	Satcom F4
Taft	Conventional	Taft Broadcasting, a program syndicator, uses one transponder to deliver programs to stations which buy its programs	Westar 5
Tele-mart Home Shopping	Specialty	Home shopping [Mid-day only]	Satcom F4

Service	Type of Service	Description	Satellite
Telstar Preview Channel	Specialty	Pay-per-view movie previews [Occasional]	Spacenet 1
Telshop	Specialty	Home shopping [Occasional]	Satcom F3R
Tempo TV	Specialty	Movies, entertainment, "How-to"s [Daily; 24 hours]	Satcom F3R
Three Angels Broadcasting	Specialty	Religious programming [Daily; 24 hours]	Satcom F1R
The Travel Channel (TTC)	Specialty	Travel programming [Daily; 4 p.m - 4 a.m]	Satcom F3R
Trinity Broadcasting Network (TBN)	Specialty	Religious programming [Daily; 24 hours]	Satcom F3R
TV Globo	Specialty	??? [Occasional]	Satcom F1R
The University Network	Specialty	"Nonsecular programming" [Daily; 24 hours]	westar 5
Univision	Specialty	Spanish-language movies, sports and music [Daily; 24 hours]	Galaxy 1
USA Cable Network	Specialty	Sports is the focus; also some variety and special-interest programming [Daily; 24 hours]	Galaxy 1 (East) Satcom F3R (West)
Video Hits One (VH1)	Specialty	Music videos, news and concerts [Daily; 24 hours]	Satcom F3R
Viewer's Choice	Pay	Pay-per-view movie service [Occasional]	Satcom F3R

Service	Type of Service	Description	Satellite
Viewers Choice 2	Pay	Pay-per-view movie service	Galaxy 1
WABC	Conventional	ABC Affiliate, New York	Satcom F2R
WBBM	Conventional	CBS Affiliate, Chicago	Satcom F2R
The Weather Channel	Specialty	Live national, regional and local weather [Daily; 24 hours]	Satcom F3R
WGN	Conventional	Independent super station, Chicago	Galaxy 1
WOR-TV	Conventional	Independent super station, New York	Galaxy 1
World Faith Satellite Network	Specialty	Interdenominational, family programming [Occasional]	Westar 4
World Satellite Network	Conventional	World Communications, like Taft, is a program syndicator, and uses two satellite transponders to deliver programs to stations which buy its programs	Telstar 301
WPIX	Conventional	Independent super station, New York City	Satcom F4
WTBS	Conventional	Independent super station, Atlanta	Galaxy 1
WXIA	Conventional	NBC Affiliate, Atlanta	Satcom F2R
XEW	Conventional	Spanish-language programming, Mexico City	Morelos 1
XHDF	Conventional	Spanish-language programming, Mexico City	Morelos 1

Service	Type of Service	Description	Satellite
XHITM	Conventional	Spanish-language educational programming originating from Mexico City	Morelos 1
XHGE	Conventional	Mexico City Televisa Network	Morelos 1

Source: Satellite Entertainment Guide, August 1987

Table 3:

**NORTH AMERICAN SATELLITES USED TO CARRY
TELEVISION SERVICES (INCLUDING NETWORK FEEDS)**

C-Band (6/4 GHz) Satellites

Satellite	Country	Orbital Position	Number of Transponders Used (of 24)
Anik D1	Canada	104.5° W	21
Aurora	USA	143° W	3
Galaxy 1	USA	134° W	23
Galaxy 2	USA	74° W	2
Galaxy 3	USA	93.5° W	5
Morelos 1	Mexico	113.5° W	5
Satcom F1R	USA	139° W	12
Satcom F2R	USA	72° W	5
Satcom F3R	USA	131° W	23
Satcom F4	USA	74° W	23
Spacenet 1	USA	120° W	9
Telstar 301	USA	96° W	11
Telstar 302	USA	87° W	3
Telstar 303	USA	125° W	2
Westar 3	USA	91° W	3
Westar 4	USA	99° W	11
Westar 5	USA	122.5° W	9

Ku-Band Satellites

<u>Satellite</u>	<u>Country</u>	<u>Orbital Position</u>	<u>Number of Transponders Used (of 32)</u>
Anik C3	Canada	117.5° W	19
Gstar 1	USA	103° W	3
SBS3	USA	95° W	6
Satcom K1	USA	85° W	3
Satcom K2	USA	81° W	9

31 July 1987

Table 4:
DIRECTORY: CANADA

Atlantic Television System Ltd. (ASN)

P.O. Box 1653
Halifax, Nova Scotia
(902) 453-4000

Canadian Association of Broadcasters (CAB)

P.O. Box 627, Station B
Ottawa, Ontario
K1P 5S2
(613) 233-4305

Canadian Broadcasting Corporation (CBC)

P.O. Box 8478
Ottawa, Ontario
K1G 3J5
(613) 724-1200

Canadian Cable Television Association (CCTA)

85 Albert Street, 4th Floor
Ottawa, Ontario
K1P 6A4
(613) 232-2631

Canadian Satellite Communications Inc. (CANCOM)

54 Village Centre Place
Mississauga, Ontario
L4Z 1V9
(416) 272-6960

**Canadian Radio-television and
Telecommunications Commission (CRTC)**

Ottawa, Ontario
K1A 0N2
(819) 997-0313

**La Chaîne Française
(L'Office de Télécommunication Éducative de L'Ontario)**

2180 Yonge Street
Toronto, Ontario
M4T 2T1
(416) 484-2600

CTV Television Network Ltd.

42 Charles Street
Toronto, Ontario
M4Y 1T5
(416) 928-6000

Department of Communications (DOC)

300 Slater Street
Ottawa, Ontario
K1A 0C8
(613) 990-4900

First Choice Pay-TV (First Choice Canadian Communications Corp.)

98 Queen Street East
Toronto, Ontario
(416) 364-9115

Global Television Network

81 Barber Greene Road
Don Mills, Ontario
M3C 2A2
(416) 446-5211

Much Music

299 Queen Street W.
Toronto, Ontario
M5V 1S6
(416) 591-5757

Musique Plus

3518 rue St. Laurent
Montréal (Québec)
H2X 2V2
(514) 284-7587

Premier Choix: TVEC Inc. (Super Écran)

666 rue Sherbrooke Ouest
15e étage
Montréal (Québec)
H3A 1E7
(514) 288-2188

Radio Québec (Société de Radio-Télévision du Québec)

800 rue Fullum
Montréal (Québec)
H2K 3L7
(514) 521-2424

Satellite Communications Association of Canada (SCAC)

P.O. Box 160, Station L
Toronto, Ontario
M6E 4Y5
(416) 736-0352

Sette Ltée (TVFQ99)

Édifice Téléport de Montréal
1755 boulevard Dorchester est
Bureau 002
Montréal (Québec)
H2K 4P6
(514) 525-1245

The Sports Network (TSN)

155 Leslie Street
Don Mills, Ontario
M3C 2J6
(416) 449-2244

Superchannel Pay-TV (Allarcom Pay Television Limited)

#200 - 5324 Calgary Trail
Edmonton, Alberta
T6H 4J8
(403) 437-7744

Super Écran -- voir Premier Choix: TVEC Inc.

Télé des Jeunes (Vidéotron Ltée)

2000 rue Berri
Montréal (Québec)
H2L 4V7
(514) 281-1232

Telesat Canada

333 River Road
Ottawa, Ontario
K1L 8B9
(613) 746-5920

Télévision Quatre Saisons

405 rue Ogilvy
Montréal (Québec)
H3N 1M4
(514) 271-3535

TV Ontario (Ontario Educational Communications Authority)

2180 Yonge Street
Toronto, Ontario
M4T 2T1
(416) 484-2600

31 April 1987

Table 5:

DIRECTORY: UNITED STATES

ABC (American Broadcasting Corporation)

1330 Avenue of the Americas
New York, N.Y. 10019
(212) 887-7777

Arts & Entertainment Network (A&E)

555 5th Avenue
New York, N.Y. 10017
(212) 661-4500

AT&T (American Telephone and Telegraph)

32 Avenue of the Americas
New York, N.Y. 10013
(212) 219-7800

AT&T owns the Telstar series of satellites.

Cable Network News (CNN)

1050 Techwood Drive, N.W.
Atlanta, Georgia 30318
(404) 827-1547

CBS (Columbia Broadcasting System)

51 West 52nd Street
New York, N.Y. 10019
(212) 975-4321

Cinemax -- See Home Box Office

The Discovery Channel

8201 Corporate Drive
Suite 1260
Landover, Maryland 20785
(301) 577-1999

The Disney Channel

4111 W. Alameda
Burbank, California 91505
(818) 846-6661

ESPN (Entertainment and Sports Programming Network)

ESPN Plaza
Bristol, Connecticut 06010
(203) 584-8477

Federal Communications Commission (FCC)

1919 M Street, N.W.
Washington, D.C. 20554
(202) 632-7260

The FCC is the U.S. broadcasting regulator.

Financial News Network (FNN)

2525 Ocean Park Blvd.
Santa Monica, California 90405
(213) 450-2412

Fox Broadcasting Company

P.O. Box 900
Beverly Hills, California 90213
(213) 277-2211

Fox distributes first-run syndicated programming, making extensive use of satellites to distribute its programming.

GTE Spacenet Corporation

1700 Old Meadow Road
McLean, Virginia 22102
(703) 790-7700

GTE owns the Spacenet (hybrid C- and Ku-Band) and GSTAR (Ku-Band only) series of satellites.

Home Box Office Inc.

100 Avenue of the Americas
New York, N.Y. 10036
(212) 512-1000

Hughes Television Network

260 Madison Avenue
19th Floor
New York, N.Y. 10016
(212) 684-7900

Hughes Television, a division of Madison Square Garden Communications Network, is a leading supplier of satellite time for various events, including live sports. Not to be confused with the Hughes Communications Inc., which builds and owns the Galaxy series of satellites.

The Learning Channel

1414 22nd Street, N.W.
Suite 200
Washington, D.C. 20037
(202) 331-8100

MTV Networks Inc. (MTV-The Music Channel; Nickelodeon; Video Hits One)

75 Rockefeller Plaza
New York, N.Y. 10019
(212) 484-8680

The Nashville Network

Group W Satellite Communications
Box 10210
Harbor Plaza Drive
Stamford, Connecticut 06904
(203) 965-6000

National Association of Broadcasters (NAB)

1771 N Street, N.W.
Washington, D.C. 20036
(202) 429-5300

National Cable Television Association (NCTA)

1724 Massachusetts Avenue, N.W.
Washington, D.C. 20036
(202) 775-3550

National Satellite Cable Association

888 16th Street, N.W.
Washington, D.C. 20006
(202) 659-2928

NBC (National Broadcasting Company)

30 Rockefeller Plaza
New York, N.Y. 10112
(212) 664-4444

Nickelodeon -- See MTV Networks Inc.

RCA Americom

4 Research Way
Princeton, N.J. 08540
(609) 987-4000

RCA Americom owns the Satcom series of satellites.

Satellite Broadcasters Association

10 Hancock Drive
Florham Park, N.J. 07932
(201) 822-0685

**Satellite Broadcasting and Communications
Association of America**

1800 M Street, N.W.
Suite 400 North
Washington, D.C. 20036
(202) 822-4297

Showtime/The Movie Channel Inc.

1633 Broadway
New York, N.Y. 10019
(212) 708-1600

Taft Broadcasting Company

85 Merrimac Street
Suite 502
Boston, Mass. 02114
(617) 720-1557

Taft uses satellites to distribute syndicated programming and is also a satellite transponder time broker.

Western Union Broadcast Services

1 Lake Street
Upper Saddle River, N.J. 07458
(201) 825-5000

Western Union owns the Westar series of satellites.

Wold Communications

10880 Wiltshire Blvd.
Suite 2204
Los Angeles, California 90024
(213) 474-3500

Wold provides a number of programming (syndication; time broker) and hardware services for broadcast satellite users.

1 January 1987

ANNEXES

- ANNEX 1: LIST OF CANADIAN AND U.S. SATELLITE SERVICES APPROVED BY THE CRTC FOR DISTRIBUTION BY URBAN CABLE SYSTEMS
- ANNEX 2: LIST OF U.S. SATELLITE SERVICES APPROVED BY THE CRTC FOR DISTRIBUTION BY SMALLER CABLE SYSTEMS IN UNDERSERVED (CORE) COMMUNITIES
- ANNEX 3: RECOMMENDATIONS OF THE STANDING COMMITTEE ON COMMUNICATIONS AND CULTURE PROPOSING AMENDMENTS TO THE RADIO ACT FOR A PRIVATE RIGHT OF ACTION
- ANNEX 4: RECOMMENDATIONS OF THE STANDING COMMITTEE ON COMMUNICATIONS AND CULTURE CONCERNING NEW DEFINITIONS TO BE INCLUDED IN NEW BROADCASTING LEGISLATION

Annex 1

**List of Canadian and U.S. Satellite Services
Approved by the CRTC for Distribution by Urban Cable Systems*
[List of Part II Eligible Satellite Services
(Cable Television Regulations, s.10)]**

Canadian Services

Access Alberta
Atlantic Television Network (ASN)
CANCOM
- CHCH-TV Hamilton (Ind.)
- TCTV Montreal (TVA)
- CITY-TV Edmonton (Ind.)
- CHAN-TV Vancouver (CTV)
- WXYZ-TV Detroit (ABC)
- WJBK-TV Detroit (CBS)
- WDIV-TV Detroit (NBC)
- WTVS-TV Detroit (PBS)
- KOMO-TV Seattle (ABC)
- KING-TV Seattle (NBC)
CBC English Language Television Service
CBC French Language Television Service
First Choice Pay-TV
House of Commons Proceedings (CBC)
Knowledge Network
Much Music
Musique Plus
Ontario Legislature Proceedings (TVO)
The Sports Network
Radio Quebec
Superchannel
Super Écran
Télé des Jeunes
TVFQ99

U.S. Services

AP News Cable
Arts and Entertainment Network
BizNet

Cable News Network (CNN)
Cable Satellite Public Affairs Network (C-SPAN)
CNN Headline News
Country Music Television
Dow Jones Cable News
Financial News Network (FNN)
The Learning Channel
The Nashville Network
Reuters News View
The Silent Network
UPI Data Cable
The Weather Channel

* Subject to entering into necessary contractual arrangements (affiliation agreements) that may be required by the service provider.

Date of Issue: 1 August 1986

Annex 2

**List of U.S. Satellite Services Approved
by the CRTC for Distribution by Smaller Cable Systems
in Underserved (Core) Communities***
[List of Part III Eligible Non-Canadian Satellite Services
(Cable Television Regulations, s. 24)]

AP News Cable
Arts and Entertainment Network
BizNet
Cable News Network (CNN)
Cable Satellite Public Affairs Network (C-SPAN)
CNN Headline News
Country Music Television
Dow Jones Cable News
Financial News Network (FNN)
The Learning Channel
The Nashville Network
Reuters News View
The Silent Network
UPI Data Cable
The Weather Channel

PLUS

Black Entertainment Television
Genesis Storytime
Modern Satellite Network
Satellite Program Network
WGN-TV Chicago
WOR-TV New York City
WPIX-TV New York City
WTBS-TV Atlanta

* Subject to entering into necessary contractual arrangements (affiliation agreements) that may be required by the service provider.

Date of Issue: 1 August 1986

Annex 3

**Recommendations of the Standing Committee
on Communications and Culture Proposing Amendments
to the Radio Act for a Private Right of Action
(Interim Report, April 1987)**

Recommendation 18

Section 9(2) of the Radio Act should be amended to require that authorization be obtained for the reception and use of radiocommunication, except where transmissions are by a broadcasting undertaking and are intended primarily for the direct reception by the general public without further authorization or without the payment of a charge therefore.

Recommendation 19

The legislation should incorporate the principles of section 705(a) of the U.S. Communications Act that there be a distinction between persons who breach the section for purposes of direct or indirect commercial advantage or private financial gain, who would be subject to serious penal sanctions and civil remedies, and others, who would be subject to lesser penalties.

Recommendation 20

The legislation should permit aggrieved persons to enforce the section through private legal action, including a cause of action in damages and a claim of relief by injunction against anyone taking a service without authorization.

Recommendation 21

The legislation should make it clear that the term "authorization means an authorization to receive and utilize a radiocommunication at the location and for the purpose for which it was granted.

Annex 4**Recommendations of the Standing Committee
on Communications and Culture Concerning New Definitions
to be Included in New Broadcasting Legislation*****Recommendation 9**

The term "broadcasting" should be defined so as to extend to any radiocommunication in which the transmissions are intended for reception by the public, including not only conventional radio and television stations but also satellite operations, where the signals are intended to be received only by cable television systems or other distribution undertakings that redistribute such signals to their subscribers.

Recommendation 10

The term "broadcasting" should be defined so as to extend to pay television, specialty and other program services intended for reception by the public, where the signals are scrambled and the services is intended to be received only by members of the public paying for such services.

Recommendation 11

The [Broadcasting] Act should state that any person who transmits or distributes by means of telecommunication, other than solely as a telecommunications common carrier, any programming received by radiocommunication, should be considered to be carrying on a broadcasting undertaking.

Recommendation 12

A person should be considered to be carrying on a broadcasting undertaking under the Act regardless of whether the undertaking is carried on for consideration or profit...

Recommendation 14

The power [of the CRTC] to exempt undertakings from the requirement to obtain a licence should be subject to a right to impose terms and conditions, and regulations applicable to licensees should also be able to be applied to exempted persons. This will permit the CRTC, for example, when exempting [S]MATV systems, to require such systems to meet the same obligations or requirements related to the carriage of services or any other matters as would apply to cable television systems or other comparable licensed undertakings.

Recommendation 15

The term "distribution undertaking" should be defined in the new legislation to mean a broadcasting undertaking that provides a service consisting in whole or in part of the distribution to the public of programming services originating by one or more broadcasters or network operators.

*** Reprinted from RECOMMENDATIONS FOR A NEW BROADCASTING ACT: A Review of the Legislative recommendations made by The Task Force on Broadcasting Policy. A report of the Standing Committee on Communications and Culture, May, 1987, page 129.**

