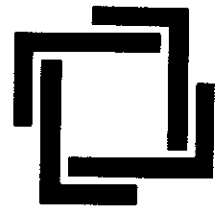


(i)



SATELLITE DISTRIBUTION OF
TBS RADIO SIGNALS

REPORT ON CABLE TV COMPANY
COOPERATION AND THE POSITION OF
TELESAT AND CANCOM

Work carried out for

Telemedia Broadcast Services Inc.
1300 Yonge Street
Suite 500
Toronto, Ontario
M5T 1X3

by

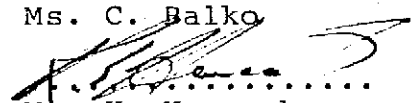
Philip A. Lapp Limited

CONSULTANTS TO INDUSTRY AND GOVERNMENTS

Report No. 12/83
June 6, 1983

Work carried out by: Mr. K. Hancock
Dr. John Barry
Ms. C. Balko

Approved by:


Mr. K. Hancock
Senior Vice President

THIS BOOK IS THE PROPERTY OF
PHILIP A. LAPP

HEAD OFFICE: SUITE 302, 14A HAZELTON AVENUE, TORONTO, ONTARIO, CANADA M5R 2E2
Phone (416) 920-1994

OTTAWA OFFICE: SUITE 904, 280 ALBERT STREET, OTTAWA, ONTARIO, CANADA K1P 5G8
Phone (613) 238-2452, Telex 053-3314

CONTENTS SHEET

	Page
Frontispiece	(i)
Contents Sheet	(ii)
1. BACKGROUND	1
2. OBJECTIVE	2
3. APPROACH	2
4. RESPONSE OF THE CABLE TELEVISION INDUSTRY	3
5. THE SUPPLY OF THE SPACE SEGMENT AND UPLINK BY CANCOM	5
6. SUPPLY OF EQUIPMENT	6
APPENDICES	
A - DRAFT AGREEMENT	
B - COPIES OF SIGNED LETTERS OF INTENT	

SATELLITE DISTRIBUTION OF TBS RADIO SIGNALS REPORT ON
CABLE TV COMPANY COOPERATION AND THE POSITION OF
TELESAT AND CANCOM

1. BACKGROUND

Telemedia Broadcast Services Incorporated (TBS) has a requirement to distribute its radio network services to its affiliates throughout Canada. This distribution is currently carried out using terrestrial distribution services provided by the telephone companies. The main disadvantages of this approach are poor quality (in many cases a limited bandwidth of 2.9 KHz), and high cost.

TBS is therefore investigating an alternate method of distribution using an uplink provided by Telesat Canada from their Brampton site, to the ANIK D satellite using audio sub-carriers on the Canadian Satellite Communications Incorporated (CANCOM) transponder used for the distribution of the CHCH television program. Reception would be by TVROs currently owned by cable television companies in the towns and cities in which TBS affiliates are located. Equipment for the reception of such sub-carriers would be purchased by TBS, installed in the cable television company's TVROs, and the radio signal transmitted from the TVRO to the local affiliate by conditioned landlines leased from local telephone companies.

Such an approach would improve quality (increasing bandwidth to 7.5 KHz) and significantly decrease costs. It is proposed to use two sub-carriers each of 7.5 KHz in a configuration permitting the use of two separate channels, or their combination for stereo transmission.

A feasibility study has shown that the approach is technically and economically feasible subject to the resolution of the following questions:

- . Are the cable television companies definitely willing to cooperate with such an approach for a fee acceptable to TBS?
- . Can the space segment meeting the quality and reliability requirements of TBS be provided by CANCOM at an acceptable cost?
- . Will Telesat be willing to provide the additional facilities required for sub-carrier transmission at its Brampton uplink? It should be noted that the current tariff requires Telesat approval of the assignment of any services by CANCOM, such approval not being reasonably withheld.

2. OBJECTIVE

The objective of the work covered by this report is to provide the following information to the board of TBS:

- * Confirm that the cable companies in the majority of the markets will lease the use of their TVROs for reception of TBS services, and provide space and power for TBS's satellite receiver. The cost of such leasing to be identified.

At the request of Mr. Sole, this portion of the study excluded cable television companies owned by MacLean Hunter Limited, and whilst not excluding the smaller companies in British Columbia, gave least priority to such companies pending a re-evaluation of the markets to be served.

- * Confirm whether or not the cable companies will, in general, provide installation, test, and maintenance service for TBS's equipment.
- * Confirm with CANCOM the technical viability and reasonableness of uplink and space segments. As part of this, affirm that Telsat is willing to provide uplink services to CANCOM for TBS's audio sub-carriers.

3. APPROACH

The following approach was devised to carry out this work:

- * Cable companies in the 60 markets identified were contacted, their general interest in the project reaffirmed and arrangements made to meet their representatives at the CCTA Convention in Calgary.
- * A letter of intent and a draft contract between TBS and each of the individual cable companies was drawn up, discussed with TBS representatives and three copies of each produced.

- * Mr. Hancock and Mr. Sole attended the CCTA Convention in Calgary between the 17th and 20th of May 1983, contacted the majority of cable company representatives concerned and discussed the project in detail.
- * Representatives of CANCOM were contacted, the technical, financial and contractual approaches to the space segment discussed, including cooperation on the draft letter to Telesat.
- * The matter of the space segment was also discussed with Mr. Peter Norman, Director of Marketing of Telesat.
- * Representatives of the equipment suppliers were contacted and pricing, delivery and reliability discussed.

4. RESPONSE OF THE CABLE TELEVISION INDUSTRY

Representatives of the majority of the cable television companies proposed to be involved in the project were contacted personally in Calgary.

In all cases the response to the project was positive. The representatives contacted were in all cases of senior executive level and besides giving a positive response to the concept, in most cases they gave considerable cooperative thought to the matter, outlining a number of possible problems as well as suggesting a number of jointly beneficial approaches. The major points brought up at these one-on-one discussions were:

- * The concept appeared to be a mutually beneficial one, and one that tied in with the cable industry's policy of making maximum use of its facilities.
- * The current prime use of 4 GHz TVROs in the cable industry was for the transmission of the House of Commons. It was pointed out by a number of executives that the cable industry was under considerable pressure by non-licensed MATV systems using 4 GHz TVROs to receive programming from US satellites. The CRTC was not permitting such reception by the cable TV industry, who were thus placed in a non-competitive position by this approach. There was some possibility that the cable industry would jointly make the decision to

receive and distribute programming from the US 4 GHz satellites in defiance of CRTC regulations. If such a decision was made, cable companies could no longer guarantee that their 4 GHz TVROs would be directed to ANIK D, and thus available for reception of TBS sub-carriers. However, whilst the TVROs still pointed at ANIK D, the unanimous position was that they would be willing to receive DBS signals.

- * With one exception, a "C List" company, all executives spoken to felt that the fee proposed by TBS was not unreasonable.
- * The vast majority of those contacted were interested in an installation, test and maintenance agreement in addition to the "lease of space" agreement. In many cases this concept was raised by the cable companies themselves. Many suggested that in the interest of reliability, battery stand-by power should be included in the installation to overcome the possibility of power failure.
- * Many cable companies brought up the possibility of distributing TBS's signal to the broadcast affiliate over the cable TV network. Whilst this is a very interesting and cost-effective approach which had been previously identified as a possibility, it is recommended that, as this approach is likely to have regulatory implications, it should be looked upon as a future improvement rather than being included in the initial network.
- * The executives interviewed included Jean-Charles Dagenais, Vice President Engineering, Videotron Communications Limitee, Canada's second largest cable TV company, and one that owns many cable companies throughout Quebec. Whilst our discussions were limited to the distribution of TBS English language programming in the Montreal area, Jean-Charles expressed himself most interested in similar French language distribution in Montreal, Quebec City, Sherbrooke and other major cities in Quebec.
- * TBS's requirements were also discussed with Mr. Nick Hamilton-Piercy, Corporate Vice President of Engineering and Operations for Rogers Cablesystems Incorporated, Canada largest cable TV company, and one with systems throughout Canada. Mr. Hamilton-Piercy was very positive

on behalf of all Rogers Systems but emphasized the possibility of the TVROs being moved to US satellites either for a brief period during the summer or, depending upon CRTC response, permanently. Mr. Hamilton-Piercy is now discussing the matter with his system managers and with Mr. Ted Rogers.

5. THE SUPPLY OF THE SPACE SEGMENT AND UPLINK BY CANCOM AND TELESAT

Several meetings have been held with Mr. John Underhill, Vice President Operations of CANCOM, to discuss provision and pricing of the space segment and uplink.

The performance specifications for the 6/4 GHz optional multiple-access audio transmit services have been studied, and it is felt that they will adequately meet the needs of TBS. CANCOM plans to provide two low-level audio sub-carriers to minimize the impact on their current clients. This is the approach recommended in a earlier report, and is agreed with.

Regarding the quoted cost of the satellite segment, as proposed in CANCOM's letter of the 26th of January, 1983 addressed to Mr. Len Branson, i.e. \$6,000 per month, CANCOM is now taking a fully distributed cost approach based upon the proportional use of the overall transponder bandwidth by TBS, as compared with their own use and the overall cost of the transponder. The result of this is that CANCOM is taking the position that the price should stand. It is felt that there are grounds for negotiation here, insomuch that CANCOM's cost projections and rates must surely have been based upon the full bandwidth, without additional revenues, and there is certainly an argument against fully distributed cost. In addition, the initial feeling of John Underhill in our discussions was that they had overpriced the space segment in their letter of the 26th of January.

With regard to the one time charge, Mr. Underhill sees this being reduced to under \$6,000. While I feel that this is more reasonable, it still gives an ample mark-up to CANCOM.

Perhaps the most serious problem that has arisen is that of the tariff restrictions on "assignment", i.e. third party resale. The general tariff regulations of the CRTC controlling Telesat's terms has recently been modified to permit assignment with the written approval of the Company (Telesat) which approval shall not be unreasonably withheld (emphasis added).

The understanding of both Mr. Underhill and of Mr. Ross Charles of CANCOM was that Telesat would permit the use of CANCOM sub carriers by TBS. In addition, Mr. Underhill submitted the draft of CANCOM's letter requesting this approval to Philip A. Lapp Limited for comment, and the fact that TBS was a parent company of CANCOM was emphasized as was the fact that payments would be a manner of internal accounting were recommended for addition to the draft, and were in fact added by CANCOM.

During the CCTA Convention, the matter of delivery times for the uplink was broached with Mr. Peter Norman, Director of Satellite Services of Telesat. Mr. Norman expressed surprise at the question as he stated he was taking the firm position that the use of CANCOM's sub-carriers by TBS was "assignment" and as such Telesat would not enter into such an agreement with CANCOM. His position was rigid and inflexible and he stated that if CANCOM and TBS disagreed with this position they should ask the CRTC for a hearing. Such a hearing would obviously be extremely time consuming, and costly.

Mr. Norman in his discussion of the position mentioned that he felt that the situation was exacerbated by the fact that there was "no value added" by CANCOM in providing the service to TBS.

The matter was discussed with Mr. Bernie D'Lima, Manager of Broadcasting Services of Telesat. Mr. D'Lima took a less extreme attitude, suggesting that the "internal transfer" between CANCOM and TBS should be further emphasized in another letter. In addition, if it could be arranged so that no direct funds would be transferred, this would further ease the matter. Mr. D'Lima was requested not to send CANCOM a formal letter of rejection pending further discussions between Telsat, TBS and CANCOM.

In discussions with John Underhill on how this problem can be resolved, it was agreed that Mr. Jean Baby, Vice President of Government and Regulatory Matters of Telesat, should be approached on an informal basis to see how this problem could be alleviated.

6. SUPPLY OF EQUIPMENT

Discussions were held with Mr. Placek, President of Wagman Communications regarding equipment availability, delivery times and reliability of the various audio products required.

The information received was very positive with small quantities being available essentially off-the-shelf in approximately one month of receipt of order, with large quantities being available in approximately two months. Products discussed were the series 1600 audio transmission system, the model 1606 sub-carrier receiver, and methods of transmitting audio over the spare VHF video sections of a cable system network.

Mr. Placek is forwarding to us calculations and actual figures of reliability of the various devices required for the TBS system.

A full and up-to-date Wagman communications product catalogue, including technical information and price lists is now held on file.

* * *

APPENDIX A

DRAFT AGREEMENT

THIS AGREEMENT made this day of
A.D. 1983.

BETWEEN:

TELEMEDIA BROADCAST SERVICES INC., of
1300 Yonge Street, Suite 500, Toronto, Ontario,
M4T 1X3, hereinafter called the "Lessee"

OF THE FIRST PART

AND:

HEREINAFTER CALLED THE "Lessor"

OF THE SECOND PART

WHEREAS, the Lessee wishes to receive, and distribute to its affiliates, certain of its radio programming carried on audio sub-carriers of video television channels distributed by Telesat's Anik D satellite and,

WHEREAS, the Lessor owns, maintains and uses a Receive Only Satellite Earth Station (ROSES), currently receiving signals from the Anik D satellite and,

WHEREAS, the Lessee wishes to place additional equipment on the ROSES of the Lessor to permit it to receive the radio signals carried on the audio sub-carrier and,

WHEREAS, the Lessor is willing to permit the placing of such equipment on the Lessor's facilities and to permit the connection of distribution facilities, such as but not necessarily restricted to telephone cables, for the further

distribution of the radio signal between the ROSES and the affiliate of the Lessee.

NOW THEREFORE, in consideration of the covenants, provisions and agreements herein contained to be performed and the payments to be made hereinafter, the parties hereto mutually agree as follows:

1. TERM OF AGREEMENT

- (a) The term of this Agreement shall be for a period from 1983 to 1st April 1986, unless terminated by either party giving the other six (6) months' notice in writing.
- (b) After 1 April 1986 the agreement shall continue to remain in force for a period of five years, and thereafter at five year intervals, unless terminated by either party giving the other six (6) months' notice in writing.
- (c) Upon termination of the Agreement, the Lessee shall within six months remove its equipment and facilities from the facilities of the Lessor. If not so removed the Lessor shall have the right to remove the Lessee's equipment from his Receive Only Satellite Earth Station.

2. PERMISSION TO ATTACH LESSEE'S EQUIPMENT TO LESSOR'S RECEIVE ONLY SATELLITE EARTH STATION

- (a) The Lessee, may at any time after the commencement of this Agreement, install, test and put into operation attachments to the Lessor's ROSES to permit the reception of the Lessee's radio programming from the appropriate Anik D video channel.

Alternatively the Lessee may contract with the Lessor to install, test and put into operation such equipment, or contract with a mutually agreeable third party to do this work.

- (b) The installation, test and operation of such equipment shall be arranged by the Lessee, with the cooperation and assistance of the Lessor, so that it doesn't interfere, either electrically or mechanically with the equipment or operations of the Lessee's facilities. However, the Lessee agrees to make available on its racks or other equipment, space for the Lessee's receiving equipment.
- (c) The Lessor will make available to the Lessee's equipment, at no extra cost, suitable nominal 117 volt electrical power to drive such equipment on a 24 hour, seven day a week basis. The Lessee undertakes to ensure that the power consumption of its equipment, whilst typically being of the order of 100 watts or less, would not exceed 400 watts, exclusive of test equipment required on a temporary basis.
- (d) The Lessor will take all reasonable steps to provide the same physical security and electrical protection to the equipment of the Lessee as it provides to its own ROSES equipment.
- (e) The output of the Lessor's receiving equipment will be connected to a dedicated telephone terminal supplied by the local telephone company, such arrangements to be made by the Lessee and permitted by the Lessor. If mutually agreed between the

Lessee and Lessor alternate arrangements for distributing the radio signals from the Lessor's facility to the facilities of the Lessee's affiliate may be made.

3. FEES

(a) The Lessee shall pay to the Lessor a facilities attachment charge of per annum, payable quarterly, and in advance, for the right to install its equipment and to connect it to the ROSES of the Lessor to receive the Lessee's radio signals.

4. RIGHT TO INSPECT AND TEST EQUIPMENT

(a) The Lessor shall permit the Lessee to inspect and test his equipment at any reasonable time upon prior notification that the Lessee wishes to carry out such checks, tests or inspections.

5. NOTIFICATION OF UNSERVICEABILITY

(a) The Lessor undertakes to inform the Lessee by telephone, charges to the account of the Lessee, if during the normal operation of the Lessor's equipment, the Lessor's service or other staff identifies that a fault light or other indication of unserviceability is indicated from the Lessee's equipment.

6. LICENCES AND REGULATIONS

(a) The Lessee undertakes to ensure that all licences to carry the radio programming received by the Lessor's equipment on the Lessee's behalf are held.

(b) It is understood from the Canadian Radio-Television and Telecommunications Commission (CRTC) that no licences are required by the Lessor to permit reception of the Lessor's radio signals; nor is an amendment to the Lessor's Broadcast Receiving Undertaking licence required for such reception.

In the event that this situation will change, the Lessee undertakes to assist the Lessor in any reasonable way possible to obtain such licence amendments or licences. Where such activities are required solely for the reception of the Lessee's signals, the cost of such activities would be to the Lessee.

Agreement reached on the day and year first above written.

SIGNED, SEALED AND DELIVERED)
in the presence of:)

_____)

_____)

TELEMEDIA BROADCAST SERVICES INC.)

Per: _____)

Title: _____)

Per: _____)

Title: _____)

APPENDIX B

COPIES OF SIGNED LETTERS OF INTENT

LETTER OF INTENT

Reception of TBS Radio Signals by TVRO Anik D Equipment

This Letter of Intent will confirm agreement in principle on behalf of PEMBROKE CABLEVISION LIMITED to provide at its Anik D TVRO site, facilities to TELEMEDIA BROADCAST SERVICES INCORPORATED (TBS) to install suitable equipment to receive audio subcarriers from Canadian Satellite Communications Incorporated video signals carrying TBS radio signals on such audio subcarriers.

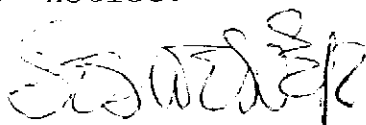
It is understood that TBS will supply all such equipment and will make separate arrangements, either through PEMBROKE CABLEVISION LIMITED or by another mutually acceptable arrangement, to install, test and maintain this equipment. PEMBROKE CABLEVISION LIMITED would undertake to supply suitable power to the equipment on a 24 hour basis, and to take all reasonable steps to provide the same physical security to the equipment that it provides to its own equipment.

The output of TBS's receiving equipment would be connected to 8 kHz twisted pair lines to be supplied by the local telephone company, such arrangements to be made by TELEMEDIA BROADCAST SERVICES INC.

TBS undertakes to ensure that its equipment will not interfere electrically with the equipment of PEMBROKE CABLEVISION LIMITED.

TELEMEDIA BROADCAST SERVICES INC. in turn will pay PEMBROKE CABLEVISION LIMITED the sum of \$1,000 per annum, payable quarterly, and in advance, for the right to install such equipment and to connect it to PEMBROKE CABLEVISION LIMITED's TVRO to receive TELEMEDIA BROADCAST SERVICES INC. radio signals.

It is envisaged that the agreement emanating from this Letter of Intent would run for an initial period of 3 years, and thence be renewable for 5 year periods. Each party would have the right to cancel the agreement by giving six months' notice.

signed 
Mr. Leslie Sole
TELEMEDIA BROADCAST
SERVICES INC.

signed 

Dated 17 May, 1983

LETTER OF INTENT

Reception of TBS Radio Signals by TVRO Anik D Equipment

This Letter of Intent will confirm agreement in principle on behalf of OTTAWA CABLEVISION LIMITED to provide at its Anik D TVRO site, facilities to TELEMEDIA BROADCAST SERVICES INCORPORATED (TBS) to install suitable equipment to receive audio subcarriers from Canadian Satellite Communications Incorporated video signals carrying TBS radio signals on such audio subcarriers.


It is understood that TBS will supply all such equipment and will make separate arrangements, either through OTTAWA CABLEVISION LIMITED or by another mutually acceptable arrangement, to install, test and maintain this equipment. OTTAWA CABLEVISION LIMITED would undertake to supply suitable power to the equipment on a 24 hour basis, and to take all reasonable steps to provide the same physical security to the equipment that it provides to its own equipment.

The output of TBS's receiving equipment would be connected to 8 kHz twisted pair lines to be supplied by the local telephone company, such arrangements to be made by TELEMEDIA BROADCAST SERVICES INC.

TBS undertakes to ensure that its equipment will not interfere electrically with the equipment of OTTAWA CABLEVISION LIMITED.

TELEMEDIA BROADCAST SERVICES INC. in turn will pay OTTAWA CABLEVISION LIMITED the sum of \$2,000 per annum, payable quarterly, and in advance, for the right to install such equipment and to connect it to OTTAWA CABLEVISION LIMITED's TVRO to receive TELEMEDIA BROADCAST SERVICES INC. radio signals.

It is envisaged that the agreement emanating from this Letter of Intent would run for an initial period of 3 years, and thence be renewable for 5 year periods. Each party would have the right to cancel the agreement by giving six months' notice.

signed 
Mr. Leslie Sole
TELEMEDIA BROADCAST
SERVICES INC.

signed 

Dated 17 May, 1983

LETTER OF INTENT

Reception of TBS Radio Signals by TVRO Anik D Equipment

This Letter of Intent will confirm agreement in principle on behalf of EASTERN CABLEVISION LIMITED to provide at its Anik D TVRO site, facilities to TELEMEDIA BROADCAST SERVICES INCORPORATED (TBS) to install suitable equipment to receive audio subcarriers from Canadian Satellite Communications Incorporated video signals carrying TBS radio signals on such audio subcarriers.

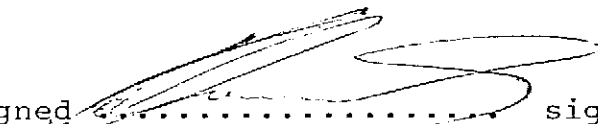
It is understood that TBS will supply all such equipment and will make separate arrangements, either through EASTERN CABLEVISION LIMITED or by another mutually acceptable arrangement, to install, test and maintain this equipment. EASTERN CABLEVISION LIMITED would undertake to supply suitable power to the equipment on a 24 hour basis, and to take all reasonable steps to provide the same physical security to the equipment that it provides to its own equipment.

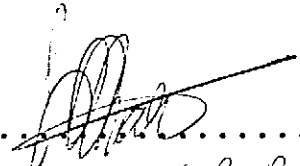
The output of TBS's receiving equipment would be connected to 8 kHz twisted pair lines to be supplied by the local telephone company, such arrangements to be made by TELEMEDIA BROADCAST SERVICES INC.

TBS undertakes to ensure that its equipment will not interfere electrically with the equipment of EASTERN CABLEVISION LIMITED.

TELEMEDIA BROADCAST SERVICES INC. in turn will pay EASTERN CABLEVISION LIMITED the sum of \$1,500 per annum, payable quarterly, and in advance, for the right to install such equipment and to connect it to EASTERN CABLEVISION LIMITED's TVRO to receive TELEMEDIA BROADCAST SERVICES INC. radio signals.

It is envisaged that the agreement emanating from this Letter of Intent would run for an initial period of 3 years, and thence be renewable for 5 year periods. Each party would have the right to cancel the agreement by giving six months' notice.

signed 
Mr. Leslie Sole
TELEMEDIA BROADCAST
SERVICES INC.

signed 
Stuart P. Rath

Dated 17th May, 1983

LETTER OF INTENT

Reception of TBS Radio Signals by TVRO Anik D Equipment

This Letter of Intent will confirm agreement in principle on behalf of KINGSTON CABLENET to provide at its Anik D TVRO site, facilities to TELEMEDIA BROADCAST SERVICES INCORPORATED (TBS) to install suitable equipment to receive audio subcarriers from Canadian Satellite Communications Incorporated video signals carrying TBS radio signals on such audio subcarriers.

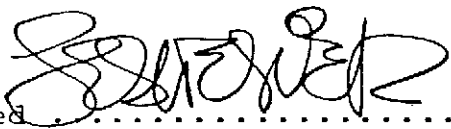
It is understood that TBS will supply all such equipment and will make separate arrangements, either through KINGSTON CABLENET or by another mutually acceptable arrangement, to install, test and maintain this equipment. KINGSTON CABLENET would undertake to supply suitable power to the equipment on a 24 hour basis, and to take all reasonable steps to provide the same physical security to the equipment that it provides to its own equipment.

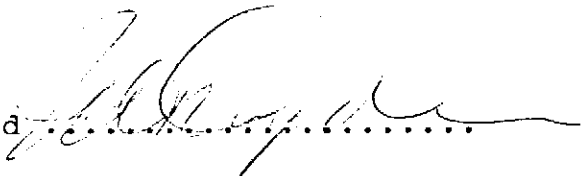
The output of TBS's receiving equipment would be connected to 8 KHz twisted pair lines to be supplied by the local telephone company, such arrangements to be made by TELEMEDIA BROADCAST SERVICES INC.

TBS undertakes to ensure that its equipment will not interfere electrically with the equipment of KINGSTON CABLENET.

TELEMEDIA BROADCAST SERVICES INC. in turn will pay KINGSTON CABLENET the sum of \$2,000 per annum, payable quarterly, and in advance, for the right to install such equipment and to connect it to KINGSTON CABLENET's TVRO to receive TELEMEDIA BROADCAST SERVICES INC. radio signals.

It is envisaged that the agreement emanating from this Letter of Intent would run for an initial period of 3 years, and thence be renewable for 5 year periods. Each party would have the right to cancel the agreement by giving six months' notice.


signed
Mr. Leslie Sole
TELEMEDIA BROADCAST
SERVICES INC.


signed

Dated 16 May, 1983

LETTER OF INTENT

Reception of TBS Radio Signals by TVRO Anik D Equipment

This Letter of Intent will confirm agreement in principle on behalf of ISLAND CABLEVISION LIMITED to provide at its Anik D TVRO site, facilities to TELEMEDIA BROADCAST SERVICES INCORPORATED (TBS) to install suitable equipment to receive audio subcarriers from Canadian Satellite Communications Incorporated video signals carrying TBS radio signals on such audio subcarriers.

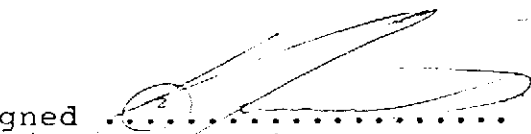
It is understood that TBS will supply all such equipment and will make separate arrangements, either through ISLAND CABLEVISION LIMITED or by another mutually acceptable arrangement, to install, test and maintain this equipment. ISLAND CABLEVISION LIMITED would undertake to supply suitable power to the equipment on a 24 hour basis, and to take all reasonable steps to provide the same physical security to the equipment that it provides to its own equipment.


The output of TBS's receiving equipment would be connected to 8 kHz twisted pair lines to be supplied by the local telephone company, such arrangements to be made by TELEMEDIA BROADCAST SERVICES INC.

TBS undertakes to ensure that its equipment will not interfere electrically with the equipment of ISLAND CABLEVISION LIMITED.

TELEMEDIA BROADCAST SERVICES INC. in turn will pay ISLAND CABLEVISION LIMITED the sum of \$2,000 per annum, payable quarterly, and in advance, for the right to install such equipment and to connect it to ISLAND CABLEVISION LIMITED's TVRO to receive TELEMEDIA BROADCAST SERVICES INC. radio signals.

It is envisaged that the agreement emanating from this Letter of Intent would run for an initial period of 3 years, and thence be renewable for 5 year periods. Each party would have the right to cancel the agreement by giving six months' notice.

signed 
Mr. Leslie Sole
TELEMEDIA BROADCAST
SERVICES INC.

signed 

Dated *17* May, 1983

LETTER OF INTENT

Reception of TBS Radio Signals by TVRO Anik D Equipment

This Letter of Intent will confirm agreement in principle on behalf of COWICHAN CABLEVISION LIMITED to provide at its Anik D TVRO site, facilities to TELEMEDIA BROADCAST SERVICES INCORPORATED (TBS) to install suitable equipment to receive audio subcarriers from Canadian Satellite Communications Incorporated video signals carrying TBS radio signals on such audio subcarriers.


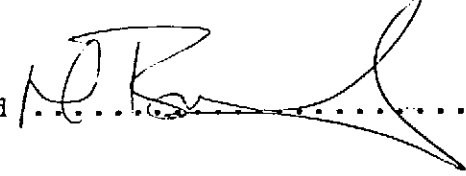
It is understood that TBS will supply all such equipment and will make separate arrangements, either through COWICHAN CABLEVISION LIMITED or by another mutually acceptable arrangement, to install, test and maintain this equipment. COWICHAN CABLEVISION LIMITED would undertake to supply suitable power to the equipment on a 24 hour basis, and to take all reasonable steps to provide the same physical security to the equipment that it provides to its own equipment.

The output of TBS's receiving equipment would be connected to 8 kHz twisted pair lines to be supplied by the local telephone company, such arrangements to be made by TELEMEDIA BROADCAST SERVICES INC.

TBS undertakes to ensure that its equipment will not interfere electrically with the equipment of COWICHAN CABLEVISION LIMITED.

TELEMEDIA BROADCAST SERVICES INC. in turn will pay COWICHAN CABLEVISION LIMITED the sum of \$1,000 per annum, payable quarterly, and in advance, for the right to install such equipment and to connect it to COWICHAN CABLEVISION LIMITED's TVRO to receive TELEMEDIA BROADCAST SERVICES INC. radio signals.

It is envisaged that the agreement emanating from this Letter of Intent would run for an initial period of 3 years, and thence be renewable for 5 year periods. Each party would have the right to cancel the agreement by giving six months' notice.

signed  signed 
Mr. Leslie Sole
TELEMEDIA BROADCAST
SERVICES INC.

Dated 17 May, 1983